

A Study on Working Capital Management of Commercial Banks

(With Reference to Nepal Credit and Commerce Bank and Kumari Bank)

A THESIS

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(With Reference to NCC and KBL)

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Researcher

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LIST OF ABBREVIATION

CDE	=	Central Department of economics
CDM	=	Central Department of Management
CO.	=	Company
e.g.	=	For Example
KBL	=	Kumari Bank Limited
NCC	=	Nepal Credit and Commerce Bank
ed	=	Edition
ES	=	Enterprises
et al.	=	and others
etc	=	etcetera
FOM	=	Faculty of Management
FY	=	Fiscal Year
HMG/N	=	His Majesty government of Nepal
i.e.	=	That is
IMF	=	International Monetary Fund
Ltd	=	Limited
NEPSE Ltd.	=	Nepal Stock Exchange Limited
NCC	=	Nepal Investment Bank
No.	=	Number
NRB	=	Nepal Rastra Bank
RIS	=	Research and Information System
Rs.	=	Rupees
S.N.	=	Serial Number
SEBON	=	Securities Board Nepal
UN	=	United Nations
Vol.	=	Volume
Vs	=	"Versus"; against

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Nepal has adopted mixed and liberal economic policy with the implicit objective to help the state and the private sector. Especially after restoration of the democracy, the concept of the liberalization policies has been incorporated as directive principal and state policies. This liberalization has helped in establishing many companies, banks, finance companies and manufacturing industries. Thus these establishments help the country for its development.

Banking sector is the most vibrant part of economy which has been playing very vital role in mobilizing the financial resources from the saver to users. It, in general, collects the idle funds from different savers and accumulated funds is further proceeds to the needy centers like households sectors, business sectors. It is the heart of trade, commerce and industry. It makes the smooth flow of funds in the circulation body of the economy. It makes various functions like assets and liabilities transformation, security trading, agency functions, and economies of scale, corporate social responsibilities, and other day to day banking functions.

Banking plays a significant role to the development of national economy. Bank is a financial institution, which primary deals in borrowing and leading. Modern bank performs many other varieties of function. Therefore it is difficult to define the functions of a modern bank because of their complexity and veracity in operation.

The word “Bank” is derived from the Italian word “BANCA” which means a counter tables or bench used by medieval money exchange. Oxford dictionary defines bank as “an establishment for the custody of Money”. The banks operate in the modern and complete business environment. It is an account of this reason that different economists have offered different definitions, such as:

“A Bank is an institution whose debts (bank deposits) are widely accepted in settlement of their people’s debts to each other”.

“A Bank is one who is the ordinary course of his business, receives money which he repays by honoring cheque of persons from whom or on whose account he receive it”. Although, there are various types of banks, only commercial banks are considered here, for the purpose of present study. They are the hearts of the modern financial system.

Commercial banks are legally formed financial institution, which accept deposits and makes loan for commercial and non commercial purpose. The history of commercial bank is not very long. The growth of commercial banks lasts two decades remained phenomenal particularly financial sector reformation in 1990's. The concept of the banking was formally executed after the establishment of the Nepal bank Ltd. in 1994 B.S. In 2014 B.S., the central bank named Nepal Rastra Bank was established with the objective of supervising, guiding and protecting the functions of banking sectors. As a result, the growth of commercial banks in Nepal has been mushroomed. The number of banks has been increased as per the requirement under the different acts like Agriculture development bank under the Agriculture development Acts in 2024 B.S. Commercial banks under the commercial Acts in 2031 B.S. Nepal Arab bank Ltd. is the first join venture bank in Nepal which was established in 2041 B.S. Presently, there are 28 commercial banks with hundreds of branches over the national frontier operating in Nepal. Last commercial bank is Kist Bank upgraded to commercial bank in year 2066. There are altogether 63 development banks, 77 finance companies, 15 micro credit development banks and 16 saving and credit cooperatives registered with Nepal Rastra Bank.

Economic development is the foundation development of any country. Economic development is supported by the financial infrastructure of that country. Financial institution constitutes an important part of the financial infrastructure. The main function of the bank is the collection of idle funds and mobilizes them to productive sector causing overall economic development, which finally leads to national development of the country. Bank pools the fund through deposit and mobilize them to productive sector in the form of loans and advances. Bank is the financial institution which deals with money by accepting various types of deposits, disbursing loan and rendering various types of financial services. It is the intermediary between the deficit and surplus of financial sources.

It cannot be denied that the issue of development rest upon the mobilization of resources and the bank deals in process channelising the available resources in the

needed sectors. Commercial bank collects deposits from the public and the largest portion of deposited funds is utilized by disbursing loan and advances. The balance sheet of a commercial bank reflects deposit constitutes a major portion of the liabilities and the loan and advances constitutes a major portion of the asset side. Similarly the profit of the bank depends upon the spreads that it enjoys between the interest it receives from the borrowers and that to be paid to the depositors. An average bank generates about 70% of its revenue through its lending. The return that the bank enjoys of deposit mobilization through loan and advances is very attractive but they do not come free of cost and free of risk. There is risk in lending. The bank faces number of risks like interest rate risk, liquidity risk, credit risk, borrower risks etc. such risks in excess have led many banks to go bankrupt in number of countries.

Among many risks that a bank faces one of the most critical is borrower risk—the risk of non-payment of the disbursed loan. Failure to collect funds disbursed may sometimes result in the bank's inability to make repayment of the money to depositors and return to the shareholders. The bankers have the responsibility of safeguarding the interest of the depositors, shareholders and society they are serving. If a bank behaves unresponsively the cost borne by the economy is enormous. Banking sector is a volatile and sensitive sector of national economy, which requires effective monitoring and efficient supervision. Smooth and effective operation of banking activities is most for sustainable economic growth of a country. The regulatory agency should always be watchful of banking activities carried out by government and non-governmental banking and financial institutions.

To start with, performance in terms of profitability is a benchmark for any business enterprise including the banking industry. Extension of credit is one of the major activities of banks and financial institutions. Credit represents the bulk of the bank and financial institution's asset portfolio. However, increasing NPAs have a direct impact on banks' profitability as well. Banks are not allowed to book income on such accounts and at the same time banks are forced to make provision on such assets as per the central bank guidelines. Also, with increasing deposits made by the public in the banking system, the banking industry cannot afford defaults by borrowers since NPAs affect the repayment capacity of banks. Further, the central bank successfully creates excess liquidity in the system through various rate cuts and banks fail to utilize. This is a benefit to its advantage due to the fear of burgeoning non-performing assets.

Working capital is the life blood of every organization. Working capital management refers to the proper management of the firm's current assets and current liabilities. It is concerned with all decisions and acts that influence the determination of appropriate level of current assets and their efficient use as well as choice of the method of financing them, keeping in view of liquidity. If a company's current assets do not exceed its current liabilities, then it may run into trouble paying back creditors in the short term. The worst-case scenario is bankruptcy. A declining working capital ratio over a longer time period could also be a red flag that warrants further analysis.

Working capital also gives investors an idea of the company's underlying operational efficiency. Money that is tied up in inventory or money that customers still owe to the company cannot be used to pay off any of the company's obligations. So, if a company is not operating in the most efficient manner (slow collection), it will show up as an increase in the working capital. This can be seen by comparing the working capital from one period to another; slow collection may signal an underlying problem in the company's operations.

No area of business is so intimately related to its other areas as the area of working capital management. Working capital policies affect marketing, personnel, production and other functions. Almost every activity of business or every thing that happens in the business is related to working capital decision.

The inefficient management of working capital will lead to loss of profit in short run but it will ultimately lead to the downfall of the enterprise in long run. A deeper understanding of the important of working capital can lead not only to material savings in the economical use of capital but can also assert in furthering the ultimate aim of business. An excessive investment in working capital will lower the rate of return while inadequate investment will hamper the solvency position and growth, thereby affecting the smooth operation of the business. A measure of both a company's efficiency and its short-term financial health. The working capotal ratio is calculated as follows.

Working Capital = Current Assets - Current Liabilities

Positive working capital means that the company is able to pay off its short-term liabilities. Negative working capital means that a company currently is unable to meet its short-term liabilities with its current assets (cash, accounts receivable and inventory). Also known as "networking capital, or the "working capital ratio".

Working capital is a measurement of an entity's current assets, after subtracting its liabilities. Sometimes referred to as operating capital, it is a valuation of the amount of liquidity a business or organization has for the running and building of the business. Generally speaking, companies with higher amounts of working capital are better positioned for success. They have the liquid assets needed to expand their business operations as desired.

Sometimes, a company will have a large amount of assets, but have very little with which to build the business and improve processes. Even a profitable company may have this problem. This can occur when a company has assets that are not easy to convert into cash.

Working capital can be expressed as a positive or negative number. When a company has more debts than current assets, it has negative working capital. When current assets outweigh debts, a company has positive working capital.

Changes in working capital will impact a business' cash flow. When working capital increases, the effect on cash flow is negative. This is often caused by the liquidation of inventory or the drawing of money from accounts that are due to be paid by the business. On the other hand, a decrease in working capital translates into less money to settle short-term debts.

Working capital is among the many important things that contribute to the success of a business. Without it, a business may cease to function properly or at all. Not only does a lack of working capital render a company unable to build and grow, but it may also leave a company with too little cash to pay its short-term obligations. Simply put, a company with a very low amount of working capital may be at risk of running out of money.

When a company has too little working capital, it can face financial difficulties and may even be forced toward bankruptcy. This is true of both very small companies and billion-dollar organizations. A company with this problem may pay creditors late or even skip payments. It may borrow money in an attempt to remain afloat. If late payments have affected the company's credit rating, it may have difficulty obtaining a loan at an affordable interest rate.

In some types of businesses, it isn't as much of a problem to have a lower amount of working capital. Companies that are operated on a cash basis, have fast inventory turnovers, and can generate cash quickly don't necessarily need as much working capital. For example, a grocery store might meet these requirements and do well with less working capital. **Working capital**, also known as **net working capital** or NWC, is a financial metric which represents operating liquidity available to a business. Along with fixed assets such as plant and equipment, working capital is considered a part of operating capital. It is calculated as current assets minus current liabilities. If current assets are less than current liabilities, an entity has a **working capital deficiency**, also called a **working capital deficit**.

Working Capital = Current Assets – Current Liabilities

A company can be endowed with assets and profitability but short of liquidity if its assets cannot readily be converted into cash. Positive working capital is required to ensure that a firm is able to continue its operations and that it has sufficient funds to satisfy both maturing short-term debt and upcoming operational expenses. The management of working capital involves managing inventories, accounts receivable and payable and cash.

1.2 Statement of the Problems

Working capital management is also one of the conditioning factors in the decision-making issues. The management of working capital is synonymous to the management of short-term liquidity. Working capital is regarded as the life blood and nerve of a business concern and is essential to accommodate the smooth operations of any organizations. Under and over allocation of working capital is harmful to an enterprise to achieve its primary objectives. Therefore, maintaining optimal level of working capital is the crux of the problem as it is strongly related to the trade off between risk and return. But, it is difficult to point out as to how much working capital needed by a particular business organization. An organization which is not willing to take more financial risks can go for more short-term liquidity. The more of short-term liquidity means more of current assets and less of current liabilities. The less current liabilities implies less short-term financing heading to the lower returns resulting from the use of more high cost long-term financing. So it is very essential to analyze and find out problems and its solutions to make efficient use of funds for minimizing the risk of loss

to attain profit objective. Inadequate investment in working capital threatens the solvency of enterprise as well as affects its growth. On the other hand, excessive investment in working capital yields nothing. Therefore, working capital should be determined in such a way that total cost i.e. cost of liquidity and cost of non-liquidity is minimum. Hence, the goal of working capital management is to manage the firm's current assets and current liabilities in such a way that it should maintain satisfactory level. Working capital management of banks is more difficult than that of manufacturing and non-manufacturing business organizations. Commercial banks are great monetary institutions which are playing important role to general welfare of the economy. To get higher return, banks must try to increase funds from deposits as well as their investment. The first motive of banking business is to borrow public saving and lend to needy people. But commercial banks always face the problem for utilizing more deposits as investment fully and productively. The gap between collection of deposits and disbursement of loans increase the cash balance on bank, which require paying its large amount of liabilities on its depositors' demand without notice. But large amount of idle cash balance also decrease profitability of banks.

NCC and KBL seen well in comparison to other commercial banks on the account of their performance and profitability as well. It is the question of the study that whether there is any relationship of working capital management with regard to their performance and profitability among these banks.

So, following are the major problems that have been identified for the purpose of this study.

- What is the bank's image in relation to working capital?
- What are the major factors affecting the management of working capital of sample banks?
- Which of the current assets are more problematic in sample banks?
- What is the lending pattern of loan and advances and other investment?
- What are the components of working capital, which affect the operating income of sample banks?

1.3 Objectives of the Study

The primary objective of the present study is to analyze capital structure and profitability management of Kumari Bank Ltd. and Nepal Credit and Commerce Bank Ltd. The specific objectives of the present study are listed down as follows:

- To analyze composition of working capital, assets utilization and profitability.
- To analyze the comparative study of working capital management of KBL and NCC.
- To examine and evaluate the position of current assets and current liabilities, and their impact on liquidity Position.
- To provide recommendation and suggestions on the basis of major findings.

1.4 Significance of the Study

Working capital is regarded as the life blood and nerve of a business concern and is essential to accommodate the smooth operations of any organizations. Under and over allocation of working capital is harmful to an enterprise to achieve its primary objectives. Inadequate investment in working capital threatens the solvency of enterprise as well as affects its growth. On the other hand, excessive investment in working capital yields nothing. Nepalese commercial banks are operating in the competitive environment. In this situation, banks have to adopt suitable strategies for their existence. They should balance and coordinate the different functional areas of business concern. The success or failure of any organization depends upon its strategy, which is affected by working capital management. Working capital management is the crux of problem to prepare the proper strategy on its favors. So the study might be helpful for the management of the concerned bank as well as it might be valuable for the researcher, scholars, student who wants to study into the working capital management of the joint venture banks.

1.5 Limitations of the Study

None of the study can go beyond the boundary of some limitations and this study is also not an exception. The scope of the present study has been limited in terms of period of study as well as sources and nature of data. The following are the major limitations of the study.

- This study is basically depended on secondary data.
- The whole study is based on the current five years (F/Y 2006/07 to F/Y 2010/11) data and conclusion drawn confines only to the above period.
- Out of various commercial banks, this study is concerned with the first three commercial joint venture banks viz. sample banks.
- The truth of research is based upon the available data from the banks

- Although there are various aspects of financial management, this study is mainly concerned with the working capital aspect of the sample banks.
- This study is basically done as the requirement for the partial fulfillment of Master's of Business Studies (MBS) of Tribhuvan University (TU).

1.6 Organization of the study

The study has been divided into five chapters. They are:

1. Chapter One: Introduction
2. Chapter Two: Literature Review
3. Chapter Three: Research Methodology
4. Chapter Four: Presentation and Analysis of Data and Findings
5. Chapter Five: Summary, Conclusion and Recommendations

The first chapter covers background of the study, overview of national economy, evolution of banking sector in Nepal, about the institutions under study, focus of the study, statement of the problem, objectives of the study, research hypothesis, and significance of the study, limitation of the study and organization of the study. Therefore, this chapter is for brief introduction of the topic and it highlights the fundamental objectives.

The second chapter is for pertinent literature and studies. This chapter is the backbone of study, where relevant studies have been reviewed.

The third chapter presents the research methodology used in the study. It encompasses research design, nature and sources of data, data processing procedure, tools and techniques of analysis.

The fourth chapter is the main part of this research that deals with the presentation, analysis and interpretation of data. Different types of tools and technique have been used to analyze the available data in order to achieve the set objectives.

The last chapter presents the summary and conclusion of the study based on the analysis of data and also provides recommendation to the sample banks viz. NCC, KBL and SCBNL.

After all, the bibliography and appendices are included.

CHAPTER - 2

REVIEW OF LITERATURE

This chapter is concerned with the review of relevant literatures available in the books, journals, articles, research reports, newspapers, magazines, policy documents which are published or unpublished. Every study is very much based on past knowledge, study and experiences. The past knowledge or the previous studies should not be ignored as it provides foundation to the present study. Various thesis works have done in different aspects of working capital of different organization are also reviewed for the purpose of justifying the study.

2.1 Conceptual Framework

2.1.1 Meaning of Working Capital

A bank must always have cash balances in hand in order to pay its depositors upon demand or when the amounts credited to them become due. It must also keep a proportion of its assets in forms that can readily be converted into cash. Only in this way can confidence in the banking system be maintained. Working capital is regarded as the life blood and nerve of a business concern and is essential to accommodate the smooth operations of any organizations. To sustain the belief of the people & customer, the organization should always get ready to meet the obligations.

According to I.M. Pandey, there are two concepts of working capital gross concept and net concept. The gross working capital, simply called as working capital, refers to the firm's investment in current assets. Current assets are the assets which can be converted into cash within an accounting year (or operating cycle) and include cash, short-term securities, debtors, bill receivable and stocks. The term net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditors, bills payable, bank overdraft and outstanding expenses or accrued income. A positive net working capital will arise when current assets exceed current liabilities and a negative net working capital occurs when current liabilities are in excess of current assets. Net working capital concept also covers the question of judicious mix of long-term and short-term funds for financing current assets (Pandey, 1992:796-797).

Working Capital refers to the resources of the firm that are used to conduct day-to-day operation that makes business successful. Without cash, bills cannot be paid, without receivable the firm can not allow timing different between delivering goods to services and collecting the money to pay for them, without inventories the firm cannot engage in production nor can it stock goods to provide immediate deliveries. As a result of the critical nature of current assets the management of working capital is one of the most important areas in determining whether a firm will be successful. Need of working capital is directly related to firms growth. The term working capital refers to the current assets of the firm's those items that can be converted into cash with in the year. Net working capital is defined as the difference between current assets and current liabilities (Hampton and Wagner, 1989:34).

"Working capital may be defined as the funds deployed by the company in the form of cash, stock, sundry debtors and other currents assets. The total sum of funds deployed in such assets is termed as gross working capital. Net working capital is defined as the difference between gross working capital and current liabilities. The term working capital generally means net working capital. The liquidity position of a company is dependent of the investment in the working capital." (Mahat, Volume 2, Number 2, P. 22).

2.1.2 Issues of Working Capital

In the management of working capital, the most posing questions are how much working capital to maintain? What type of financing to use? How to adjust the working capital when there is a change in the level of business activities? In particular, they face the following issues with respect to the management of working capital, (Pradhan, 1992:148).

- Size of working capital to maintain size of each type of current assets
- Size of permanent & seasonal working capital investment
- Source of financing: Short-term or Long-term Financing
- Cost of financing: Cost of Short-term Vs Long-term Financing
- Risk associate with types of financing: Trade-off between cost and risk
- Maintenance of current ratio: Minimizing the risk of cash flow problem

2.1.3 Objectives of Working Capital in Banks

A bank undertakes many transactions daily. Sometimes, customers deposit large quantity and sometimes customers withdraw from their deposits in high quantity. Investment fund of bank is covered by deposit collections of different types of account

holder. A bank should have to pay the money to depositors when they want to withdraw. For daily operation of office and to meet the administrative expenses, a bank should have certain level of working capital. Working capital is required to run the business smoothly and efficiently in the context of the set objectives. It is no doubt that no company can achieve its goals without proper use of working capital. Therefore, it can compare as lifeblood to the organization. The main objectives of arranging capital are as follows;

- To pay to depositors,
- To maintain Cash Reserve Ratio (CRR) & Statutory Liquidity Ratio (SLR),
- To satisfy the customers by granting loans promptly and increase the attraction of business etc.,
- To meet the administrative expenses, perform the task as per objectives of business and run the business smoothly,
- To fulfill the present need of business as well as get ready for risk & economic fluctuation in future.

2.1.4 Determinants of Working Capital of Banks

Working capital in banks is basically concerned with the liquidity management. Thus, the working capital of banks is synonymous to liquidity of banks. Many factors affect the liquidity or working capital of banks. They are:

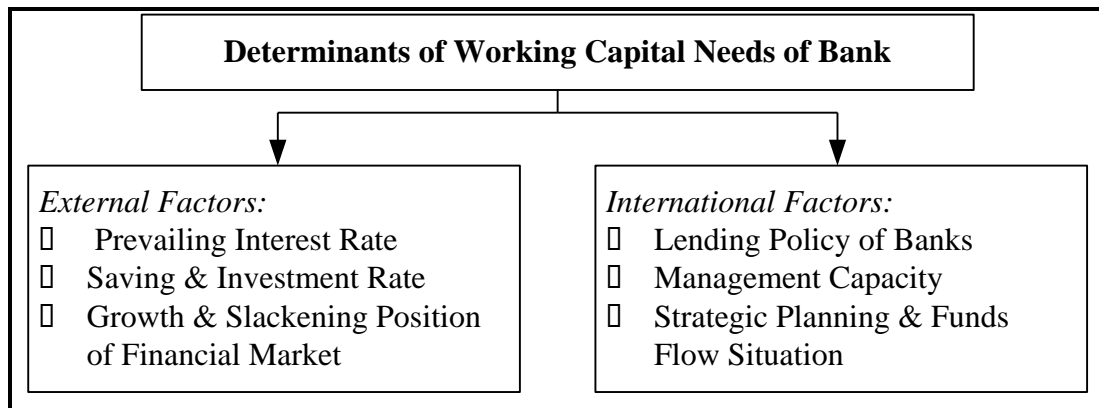
a. *External Factors:*

- Prevailing interest rate of bank: If interest rate is high cash demand is low & liquidity need is low.
- Savings & investment situation: If income & saving scale of people is high, low liquidity. If investment in commercial field is high, high liquidity.
- Growth & scheming position of the financial market: If financial market of bank is in growth & prosperity, then low liquidity and if opposite, high liquidity.

b. *Internal Factors:*

- Lending policy of bank: Great quantity for long-term investment needs high liquidity and if short-term loan policy, low liquidity.
- Management capacity: If management is efficient & ready to bear risk, low liquidity.
- Strategic planning & funds flow situation: Liquidity depends upon planning, & strategy. Current A/C needs high liquidity & payment. On the other hand fixed deposit needs low liquidity.

Figure 1: Determinants of Working Capital Needs of Bank

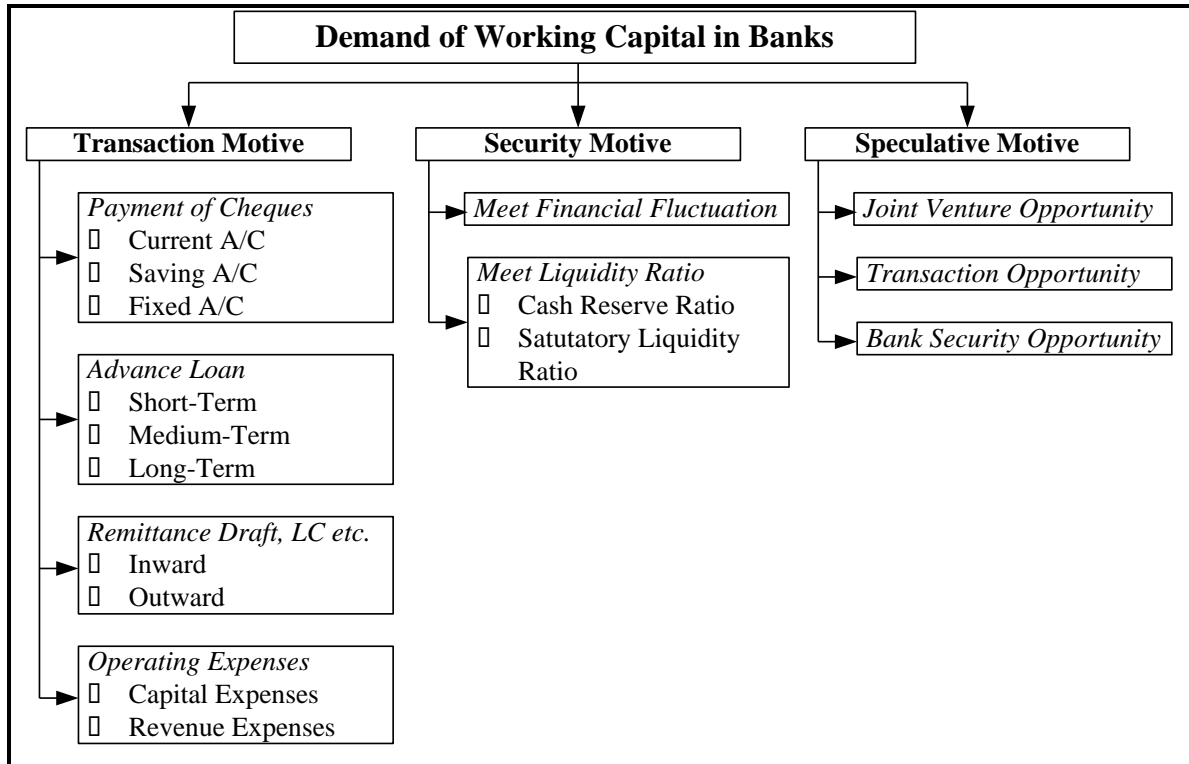


2.1.5 Demand of Working Capital in Banks

Working capital is maintained at bank by current saving, & fixed deposit collection. Specially, to grant loan and to pay cheques, creditors & account holders demand the liquidity. Generally, banks need liquidity for maintaining following goals

- Transaction motive
- Security motive
- Speculative motive

Figure 2: Demand of Working Capital in Banks



2.1.6 An Overview of Working Capital Management

Working Capital Management refers to the administration of all aspects of current assets, namely cash, marketable securities, stock and current liabilities. It is the functional area of finance that covers all the current accounts of the firm. It is concerned with the adequacy of current assets as well as the level of risk posed by current liabilities. It is a discipline that seeks proper policies for managing current assets by current liabilities and practical technique for maximizing the benefits from managing working capital.

In the words of K.V. Smith, The term working capital management closely relates with short-term financing; it is concerned with collection and allocation of resources. Working capital management relates to problems that arise in attempting to manage the current assets, the current liabilities and interrelationships that exist between them (Smith, 1974:5).

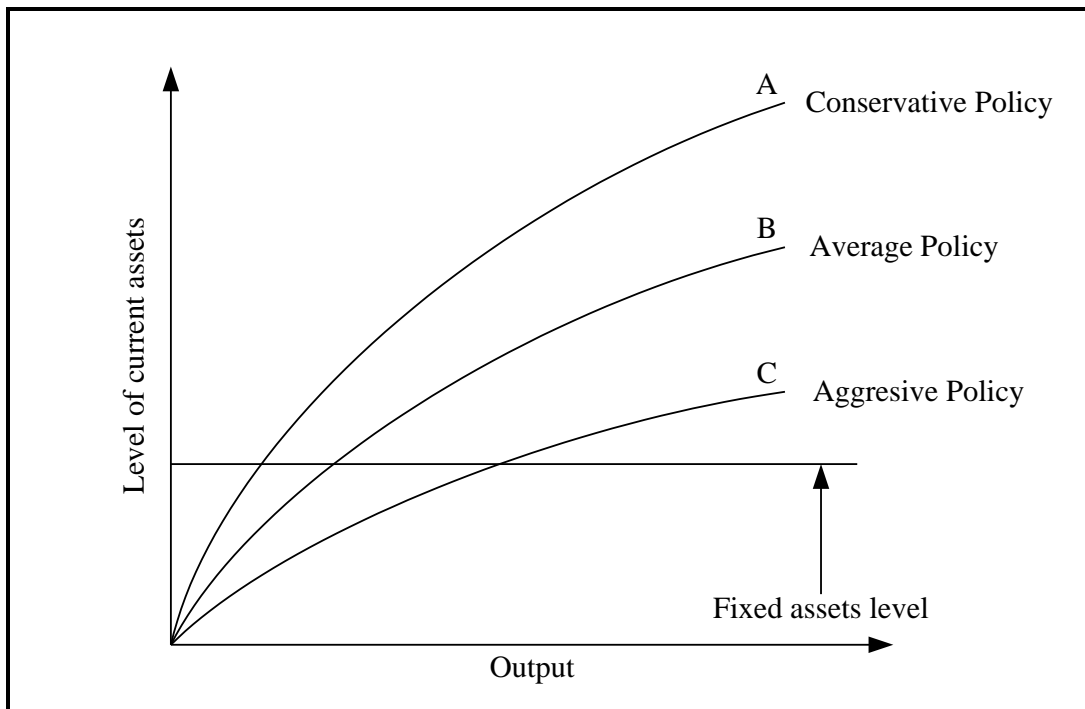
Working capital management is the crucial aspect of the financial management. It is the life-blood and controlling nerve center for any types or business organization because without the proper control upon it no business can run smoothly. The management of current assets and current liabilities is necessary for daily operations of any organizations. Thus, it plays the vital role in the success and failure of the organizations as it deals with the part of assets, which are transformed from one form to another form during the course of manufacturing cycle. Therefore, the role of working capital

management is more significant for every business organization irrespective to their nature.

By the definition of various experts of working capital management, we conclude that, all institution, whether private or public, financial institution, manufacturing or non-manufacturing that need just adequate working capital to compete with competitive market. It is because over or under adequacy of working capital is dangerous from the firms objective points of view. Over investment on working capital affects the firm's profitability just as idle investment. On the other hand, under investment on working capital affects the liquidity position of the firm and causes to financial hindrance and failure of the company. It is therefore, a recognized fact that any mistake made in management of working capital can cause to adverse effects in business and reduces the liquidity, turnover and profitability and increases the cost of financing of the organization.

Need of working capital is directly related to firms growth. A firm can have different level of current assets to support the same level of output. The level of current assets can be measured by relating current assets to fixed assets. Its proportion upon the fixed assets of the firm indicates the working capital policy of the firm namely conservative and aggressive in two extreme ends. Dividing current assets by fixed assets gives Current Assets to Fixed Assets (CA/FA) ratio. Assuming a constant level of fixed assets, a higher CA/FA ratio indicates a conservative current assets policy and a lower CA/FA ratio means an aggressive current assets policy assuming other factors to be constant. A conservative policy implies greater liquidity or lower risk, while an aggressive policy indicates higher risk and poor liquidity, (Panday, 1992:822). Higher level of current assets implies greater liquidity and solvency of the firm. There is less risk of technical insolvency, but a considerable amount of funds will be tied up in current assets, which causes to lower the profitability. On the other side, to have a higher profitability, a firm can take an aggressive current assets policy maintaining lower lever of current assets, which will lower the solvency of the firm and the level of risk in the same manner. Thus the reasonable approach is to balance the cost of maintaining current assets and risk associated in such a way that the trade off between risk and return is minimized.

Figure 3: Alternative Current Assets Policies



Source: I. M. Panday, *Financial Management*, New Delhi: Vikash Publishing House, 1992, P. 822

When the firm follows the matching policy or average policy long-term financing will be used to finance fixed assets and permanent current assets and short-term financing to finance temporary or variable current assets (Pandey, 1992: 828).

The financing policy of the firm is said to be conservative when it depends more on long-term funds for financing needs. Under a conservative plan, the firm finances its permanent assets and a part of temporary current assets with long-term financing (Pandey, 1992: 828).

An aggressive policy is said to be followed by the firm when it uses more short-term financing than warranted by the matching plan. Under an aggressive policy, the firm finances a part of its permanent current assets with short-term financing (Pandey, 1992:828).

Proper management of working capital must ensure, adequate amount of working capital as per need of business firms. It should be in good health and efficiently circulated. To have adequate healthy and efficient circulation of working capital it is necessary that working capital be properly determined and allocated to its various segments, effectively controlled and regularly reviewed.

The objective of managing working capital is to aid in the value maximization of the firm by minimizing the cost of working capital. The level of working capital also differs by the types and nature of the business. The cost of maintaining the working capital depends on the source of finance used. The short-term sources generally cost less than the long-term sources, but they are riskier, (Pradhan, 1992:148).

2.1.7 Review of Books

The well known professors, *Weston and Brigham 1984*, in their book “Managerial Finance” have given theoretical insights into working capital management. The bond conceptual findings of their study provide sound knowledge and guidance for the further study in the field of management of working capital of any enterprise and naturally to this study as well. They explain, in the beginning, the importance of working capital, concept of working capital, financing of working capital, the use of short term versus long-term debt, relationship of current assets to fixed assets. In the next chapter they have dealt with the various components of working capitals and their effective management techniques. The components of working capital they have dealt with the cash, marketable securities, receivable and inventory for the efficient management of cash, they have explained the different cash management models. They have also explained the major sources and forms of short term financing, such as trade credit, loans from commercial banks and commercial paper.

Van Horne, 2000, another well known expert of financial management and writer in his book “Financial Management and Policy”, has given the concept of capital management, it is usually described as involving the administration of these assets namely cash, marketable securities, receivables, inventories and the administration of current liabilities. It means the working capital management is concerned with the problem that arises in attempting to manage the current assets, the current liabilities and the inter-relationship that exist between them. He has also described the different methods for efficient management of cash and marketable securities and various models for balancing cash and marketable securities. For the management of receivable, different credit and collection policies have been described and various principles of inventory have been examined for inventory management and control.

Shrestha 1995, has published “Portfolio Behavior of Commercial Banks in Nepal” based on the study of two local commercial banks, three joint-venture banks and one development bank as a sample for the study. Some major findings of her study are hereunder.

- Total deposits have been the major sources of fund for all the banks.
- Capital and reserve funds do not seem to have changed much over the year.
- The user of fund analysis shows that the resources of commercial banks are allocated in the liquid funds, investment on securities, loans and advances. Bills purchased and discounted.
- Among the portfolio, for Nepalese banks loan and advances share highest volume of the resources and the bills purchased and discounted the least over the year.
- The excess reserves of the commercial banks show unused resource. The cash reserve exceeds much more than the required cash reserve.

Pradhan, 1986, has published a book on management of working capital in Nepalese PEs. This book is based on the study of nine manufacturing public enterprises of Nepal for the duration of ten years from 1973 to 1982 AD. In his study, he aimed at examining the various aspects of management of working capital in selected manufacturing public enterprises of Nepal. The specific objectives undertaken in his study were:

- To conduct risk return analysis of liquidity of working capital position.
- To assess the short term financial liquidity position of the enterprises.
- To assess the structure and utilization of working capital and
- To estimate the transaction demand functions of working capital and its various components.
- His study has mentioned the following findings.
- It was found that most of the selected enterprises have been activating a trade off between risk and return thereby following neither an aggressive nor a conservative approach.
- It has showed a poor liquidity position of most of the enterprises. This poor liquidity position has been noticed as the enterprises have either negative cash flows or negative earnings before tax or they have excessive net current debts which cannot be paid within a year.
- The Nepalese manufacturing public enterprises have on an average half of their total assets in the form of current assets. Of all the different components of current assets, on an average, the share of inventories in total assets is the largest followed by receivables and cash in most of the selected enterprises.
- The economics of scale have been highest for inventories followed by cash and gross working capital, receivable and net working capital.

- The regression results also show that the level of working capital and its components and enterprise desires to hold depend not only on sales but on holding costs also.

His study is concerned with interrelationships that exist between managing current assets and current liabilities. The study manages to focus on net working capital concept. The study has employed ratio analysis, discriminate analysis and econometric models for its analysis.

2.2 Review of Related Journals/Articles

Shrestha, (ISDOC Bulletin, Vol.8, No.1-4, July 1982 - June 1983), in his study “Working capital management in public enterprises”, based on ten selected public enterprises, states that manager often lacks basic knowledge of working capital and its overall impact on the operative efficiency and financial viability of public enterprises. The sample public enterprises are Birgunj Sugar Factory, Janakpur Cigarette Factory, Raghupati Jute Mills, Dairy Development Corporation, National Trading Ltd., Royal Drugs Ltd., National Construction Company of Nepal, Harisiddhi Brick and Tile Factory, Nepal Cheeuri Ghee Industry Ltd., and Chandeswori Textile Ltd. Specially, his study is focused on the liquidity turnover and profitability position of those enterprises. In this analysis, he found that four public enterprises have maintained adequate liquidity position, two public enterprises have excessive and remaining others public enterprises had failed to maintain desirable liquidity position. On the turn over side, two public enterprises had negative turnover, four had adequate turnover, and one had higher turnover on net working capital. He had also found that out of ten public enterprises six were operating in loss while only four were setting some percentage of profit. With the reference of his findings, he has pointed certain policy flaws such as deficient financial planning, negligence of working capital management, deviation between liquidity and turnover of assets and iEBLity to show the positive relationship between turnover and return on net working capital. At the end, he has made some suggestive measures to overcome from the above policy issues. These are identification of management information system, positive attitude towards risk and profit and determination of right combinations of short-term and long-term sources of funds to finance working capital needs.

Acharya, (ISDOC Bulletin, Vol. 10, No. 3, Jan - Mar, 1985), has published an article relating on working capital management. He has defined the two major problem i.e. operational problems and organizational problems, regarding the working capital

management in Nepalese public enterprises. The operational problems; he found were increase of current liabilities than current assets, not allowing the current ratio 2:1 and slow turnover of inventories. Similarly, change in working capital in relation to fixed capital had very low impacts over the profitability, than transmutation of working capital employed to sales, absent of apathetic management information system. Break-even analysis, funds flow analysis and ratio analysis were either undone or ineffective for performance evaluation. Finally, monitoring of the proper functioning of working capital management has never been considered as managerial job.

In the second part, he has listed the organizational problems in the public enterprises. In most of the public enterprises, there is lack of regular internal and external audit system as well as evaluation of financial results. Similarly very few public enterprises have been able to present their capital requirement functioning of finance department is not satisfactory and some public enterprises are even facing the under utilization of capacity.

Pradhan, (Vol.8, No. 1, 1988), has published another article relating to working capital management. He studied on 'the demand for working capital by Nepalese corporation'. He analyzed the selected nine manufacturing public corporation with the 12 years data from 1973-1984. Regression equation has been adopted for the analysis. His study has summarized that the earlier studies concerning about the demand for cash and inventories by business firm did not report unanimous findings. A lot of controversies exist in respect to the presence of economics of scale, roles of capital cost, capacity utilization rates and the speed with which actual cash and inventories adjusted to describe cash and inventories respectively. To pooled regression, result shows the presence of economics of scale with respect to the demand for working capital and its various components. The regression results suggest strongly that the demand for working capital and its components is function of both sales and their capital cost. The estimated results show that the inclusion of capacity utilization variable in model seems to have contributed to the demand function cash and net working capital only. The effect of capacity utilization on the demand for inventories, receivables and gross working capital is doubtful.

Mahat (Vol. XII, No. 98, May 26 2004), also has published article relating to spontaneous resources working capital management. He has defined the three major sources of working capital i.e. equity financing, debt financing and spontaneous sources of financing, regarding the working capital management. Debt financing include short-term bank financing such as bank overdraft, cash credit, bills purchase and discounting,

letter of credit etc. whereas spontaneous sources of working capital include trade credit, provisions and accrued expenses.

Mr. Mahat has defined that working capital management is one of the important pillars of corporate finance. However, Nepalese industries are facing difficulty in their survival by the cause of recession, which can bring best and worst in corporate finance such an environment should be efficient enough to cope with the possible worst happenings in future for working capital management. He has said that managing the working capital resources for a profit making industries are routine affairs of just making payment and arranging collection of debtors. In contrast, the company in debt trouble, it is rather difficult to meet its working capital gap by way of debt financing, the company should have to bear interest, which may cause to increase in the percentage of operating expenses to the turnover and depletion in the profits. Therefore, spontaneous sources of working capital will be a better source for working capital in order to improve its performance.

Consequently, in a changed economic scenario, every company should realize that inCCity to manage working capital might land them in a vicious circle that can be hard to get out from. It is indeed essential for industries to tighten their belts and checks their financial stability to face and stand in forthcoming competitive day.

2.3 Review of Research Studies

Sapkota (1984) has conducted the research on "*A study on working Capital Management in Himal Cement Company Limited.*" His main objective is to examine the position of current assets and current liabilities and to reveal the specific performance in working capital management of Himal Cement Company Limited. The major findings of his study are as follows:

- Inventories, cash and receivable as the major component of current assets in HCCL where the inventories have hold the largest portion followed by cash and receivable respectively.
- There is improper utilization of current assets and liquidity as a problematic area.

He also concluded that the HCCL has followed ineffective management policy. There is absence of proper guidelines for funds, inventory control, cost control, selling process and investments policy in current assets, management responsibilities, lack of proper rules and regulation of the government policy.

Shrestha(1999) has carried out a research on "*A Study on Working Capital Management in Bhrikuti Paper Mills Limited*". His main objective is to analyze the current assets and current liabilities and their impact and relationship to each other.

His major findings are as follows:

- ☞ Cash and Bank Balance holds the largest part of current assets.
- ☞ There is increasing trend in liquidity and decreasing trend in current assets.
- ☞ There is discouraging profitability caused by the low return on total investment of the mill.

Yogi (2000) has studied on "*Working capital management of Nepal Level Limited.*" He has analyzed the financial statement of the company for five years (2051/52 to 2055/56). This thesis is conducted through basically secondary data. He has used ratio analysis, co-efficient correlation, and hypothesis for analysis. He has found that all component of current assets are highly fluctuating during the study period. And the component of current liabilities are not related to each other. It means that Nepal Level Limited has not taken seriously about the sources of financing. He has also found that some of fixed assets is also financed by long term financing rather than by short term funds. The analysis shows that the liquidity position of the company is fluctuating year by year. The proportion of current assets is affected by the sales. In other words, the sales is affected the management of current assets. The component of current assets and current liabilities are fluctuating nature. He has also found that the insignificant relationship between liquidity and profitability. Company has still followed conservative working capital management policy, which reduces the risk of the company.

Adhikari (2004). had been research work entitled "*A study on working capital management of Nepalese manufacturing companies.*" He conducted his study on the basis of different years data. The main objectives of his study were to appraise the working capital management of manufacturing companies, to analyze the liquidity composition of working capital, assets utilization and profitability composition of selected manufacturing companies. During his study he had basically used secondary data. Both quantitative and qualitative methods had been used by him for analysis. He had derived following major findings from his study.

- Most of the selected manufacturing companies have followed a conservative working capital policy.
- Nepalese manufacturing companies are suffering form loss or they are in loss position but not so much.
- Findings on cash conversion cycle

The inventory conversion period of Nepalese manufacturing companies is 77 days. The overall receivable conversion period of Nepalese manufacturing companies is 28 days. The payable deferral period is only 36 days and cash conversion cycle is 69 days during his study period.

- The correlation coefficient between current assets and current liabilities (0.78), receivables and sales (0.764), inventory and sales (0.68), net working capital and sales (0.87), net profit and sales (0.54) and current assets and sales (0.94) are highly correlated to each other.

Agrawal (2005) a student of management finished his research study about working capital management. That study was conducted on "*Working Capital Management of Cigarette Industry in Nepal with Special Reference to Janakpur Cigarette Factory.*" He has used data from 2050/051 to 2059/ 060. The main objectives of his study were to evaluate the performance of management of working capital of JCF, to measure the efficiency of management in utilization of inventory, appraising the efficiency of management in utilization of account receivable, measuring the efficiency of management in the use of cash and evaluating the financial pattern of working capital of the factory.

The major findings of his study were as follows:

- Short term financial position of the factory is sound from the creditors point of view.
- The factory's liquid financial position is weak from the creditors points of view.
- Inventory of the factory has not been managed efficiently.
- Receivable, cash has not been managed efficiently.
- Working capital turnover ratio of the factory marked a fluctuating trend during the period of analysis.
- The current assets of the factory marked an irregular tendency while the current liabilities and net working capital recorded mixed trend.

- On the whole, the performance of working capital management is not satisfactory.

Aryal (2006) "*A study on working capital management of pharmaceutical industry of Nepal with special reference Royal Drugs Ltd. (RDL)*". The main objective of that study was to find out working capital management system and its effect on profitability of the company by using nine years data. The major findings of the study are described in the next paragraph.

Working capital is more difficult to manage than that of fixed capital. 65% of respondents of RDL said that working capital was more difficult to manage than fixed capital and only 35% were in favors of that fixed capital management is more difficult to manage than working capital. So far as the importance of current assets management, 82% of respondents of RDL have said that a lot of time has taken to it. With respect to receivable management the major factors affecting the larger investment in receivable is found to be liberal credit policy. The major reason for holding inventories is to facilitate smooth operation of production and sales. Majority of respondents of RDL performed for it not for to take advantage of price increase.

Thapa (2007) in his thesis entitled "A Comparative Analysis of Financial Performance between Nepal Bank Ltd. (NBL) and Nepal Grindlays Bank Ltd. (NGBL)." has drawn some major findings. Although the liquidity position of NBL is better than NGBL but on the whole the current assets of these banks are adequate to meet the current liabilities. NGBL has better credit position than NBL, in terms of short-term investment. It also found that NBL has better turnover and highly levered than NGBL. Joint-venture banks such as NGBL are rapidly growing, the overall profitability are higher but government owned commercial banks such as NBL has higher expenditure and the profit making capacity is lower and gradually decreasing.

Dhakal (2008) had undertaken a study entitled "A Comparative Study of Working Capital Management of NCC and Standard Chartered Bank Nepal Limited". The main objective of his study was to study the current assets and current liabilities and their impact on liquidity and profitability as well as to analyze the liquidity, assets utilization, long-term solvency and profitability position of selected banks.

He had analyzed five years published data from 2003/04 to 2006/07 of selected banks and mostly used statistical and financial tools to analyze them in order to achieve the set objectives.

After analyzing the secondary data of NCC and SCBNL, *Mr. Lamsal* summarized his findings as “NCC and SCBNL had maintained Current Ratio of 1.55 and 1.31 in an average respectively. Trend values of current ratios were negative. The average quick ratio of NCC and SCBNL were 0.64 and 0.75 respectively. Liquidity of SCBNL was always better than NCC during study period.”

Furthermore, SCBNL had more short term and less costly resources of fund than NCC. NCC had better investment efficiency on loans and advances. Both banks follow conservative working capital policy though NCC has more. SCBNL has better profitability than NCC.

From the review of above mentioned bunch of research works, it is clear that there are very few of research work on comparative study of working capital management of commercial banks, especially between joint venture banks. And this study of working capital management of EBL Bank Limited, Nepal Investment Bank Limited and Standard Chartered Bank Nepal Limited has been carried out with a view to fulfill that gap.

Shakya (2009) has carried out his study on “*An Analysis on Working Capital Management of Unilever Nepal Limited. And Dabur Nepal Pvt. Nepal*” The main objective of this study is to analyze the liquidity, long term solvency, assets utilization and profitability position of both industries and to make an overall comparison of working capital management of both companies. The major findings of this study are as follows.

- ☞ The liquidity position of Unilever Nepal Limited. was better than that of Dabur Nepal Pvt. Ltd. But both companies have not followed a proper working capital policy.
- ☞ Total assets turnover of both companies was not satisfactory and there was not significant difference of total assets turnover.
- ☞ Cash balance maintained by Dabur Nepal Pvt. Ltd. was better than that of Unilever Nepal Limited.
- ☞ Solvency position of Unilever Nepal Limited was better than that of Dabur Nepal Pvt. Ltd.

☞ Profitability position of Unilever Nepal Limited was better than that of Dabur Nepal Pvt. Ltd however both companies have not good profitability position during the study period.

Shrestha (2010) has conducted a study on "*Comparative Study of working capital management of Everest Bank and Himalayan Bank limited.*" The main objective is to analyze the comparative study of working capital management of EBL and HBL. The major findings of the study are as follows:

- ☞ The liquidity position of EBL is better than that of HBL.
- ☞ HBL has better turnover and investment efficiency on loan and advance than EBL. So the management of loan and advance is more problematic in EBL than HBL.
- ☞ Profitability position of HBL is far better although EBL earned higher interest than HBL.

He has recommended that both bank should adopt matching working capital policy rather than conservative policy. He has also recommended that both bank should give attention to collect over

dated loan and advances and utilize the idle funds. High cost deposit should be reduce to minimize operating cost and maximize profit.

CHAPTER - 3

RESEARCH METHODOLOGY

3.1 Introduction

Research simply means to search again and again. It is a systematic activity to achieve truth or finding solution to a problem. It is a process of a systematic and in-depth study or research of any particular topic, subject or area of investigation backed by the collection, compilation, presentation and interpretation of relevant details or data. Methodology is the research method used to test the hypothesis. So the research methodology refers to the overall research process, which a researcher conducts during his/her study. "The purpose of research is to discover answers to questions through the application of scientific procedures. The main aim of research is to find the truth which is hidden and which has not been discovered at yet." (Kothari, 1990:7)

3.2 Research Design

Research Design is the plan, structure and strategy of investigation conceived so as to obtain answers to research questions and to control variances. There are many methods of research design and this study will be based on recent historical data. Mostly, secondary data and information will be collected, evaluated, verified and synthesized to reach a conclusion. To achieve the objective of this study descriptive data .Different journals and articles relevant with the study, annual reports of different fiscal years of concerned banks, NRB Directives, banking and financial statistics report published by NRB and other related materials are collected and studied for analysis. With the help of maintained research design, the study evaluates the working capital of Commercial Banks.

3.3 Population and Sample

In this study, all the financial statements published by the concerned bank from the beginning till the period of the study are taken as the population of the study and the statement taken to analyze about the bank is taken as the sample of the study. So the entire operating periods of the company from establishment till now is the population of the study and the period covered by this study is the sample period of the study.

Here only 2 sample commercial banks are taken out of 28 commercial banks. This study on working capital management of Kumari Bank Ltd. and Nepal Credit and Commerce Bank Ltd. is based on the financial statement of the concerned bank from fiscal year 2007/08 to 2010/11 A.D. In this study the mentioned five-year period are take as the sample period.

3.5 Nature and Sources of Data

Generally this study is based on secondary data. Annual report of the concerned firm, supporting data and information are collected from the office of the concerned firm and another institution. Documents, books, other publishes or unpublished material, thesis, newspapers are the important data and informal quires, with the authorities of the concerned firm is primary source in nature.

3.5 Data Collection and Processing Techniques

Even this study is based on secondary data, adequate effort and time is given to get these essential materials, Annual reports of concerned banks, annual report of SEBO are obtained from respective offices. To some extent opinion survey or informal interview and questionnaire are conducted to obtain more information prove the reliability of the different published data. Various published data cannot be used in their original form due to poor data base. Thus for analysis purpose further these data need to be verified and simplified. Available data, information and figures are rechecked and tabulated in the analytical manner with supporting interpretations.

3.6 Data Processing and Presentation

The information and data obtained from the different sources are in row form. From that information, direct presentation is not possible. So it is necessary to process data and converts it into required form. After then only, the data are presented for this study. This process is called data processing. For the study, only required data are taken form the secondary source and presented likewise, in some case Figureical presentation is also made. For presentation, different tables are used. Likewise, in some case Figureical presentation is also made. The calculations that are related to this study are done with the help of scientific calculator as well as computer software program.

3.7 Data Analysis Tools

Analysis and presentation of the data is the core of each and every research work. In order to get the concrete results from this research, data are analyzed by using different

types of tools. As per topic requirements, emphasis is given on statistical tools rather than financial tools. So for this study following statistical tools are used.

3.7.1 Financial Tools

Financial ratios are calculated to ascertain the financial condition of the firm. It is the relationship between financial variables contained in the financial statements (i.e., balance sheet, profit and loss account and income statements). It helps the related parties to spot out the financial strength and weakness of the firm. There are several financial tools, which can be applied in order to analyze the performance of commercial banks. The financial tools used in this study are as follows: Liquidity Ratio, Activity Ratio, and Profitability Ratio. Similarly, net working capital and composition of working capital in terms of cash and bank balance percentage, loan and advances percentage government securities percentage and miscellaneous current assets percentage are also calculated.

I. Liquidity Ratio

This ratio measures the liquidity position and short-term solvency of the firm indicating the company's ability to meet short-term obligation. The current ratio and quick ratio measure the liquidity position of the company. (Pradhan; 2000:53) These ratios are calculated to judge the long term as well as short-term financial position of concerned firm. Liquidity of any business organization is directly related to working capital or current assets and current liabilities of that organization. One of the main objectives of working capital management is keeping good liquidity position. Commercial banks need liquidity to meet loan demand and deposit withdrawals. Without good liquidity, bank is not able to operate its' function. To measure the bank's solvency position or ability to meet its short term obligation, various liquidity ratios are calculated.

The liquidity ratios calculated in this study are as follows:

a. Current Ratio

Current Ratio reflects the strength of current assets available with the company over its current liabilities into cash in one accounting year. This ratio indicates the current short term solvency position of the bank. The current ratios are the ratios of total current assets to current liabilities. Higher current ratio indicates better liquidity position. In other words, current ratio represents a margin of safety. The higher the current ratio, the greater the margin of safety, and the larger the amount of current assets in relation to current liabilities, the more the bank's ability to meet its current obligations. By definition,

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

b. Quick Ratio

Quick ratio is used to measure the ability of concerned firms to pay current obligation (Short term) without depending on other liquid assets of current ratio. It provides relationship between quick assets with current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Cash is the most liquid asset. Other assets that are considered to be relatively liquid and included in quick assets are book debts and marketable securities. This quick ratio can be found out by dividing the total quick assets by total liabilities.

$$\text{Quick Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Current Liabilities}}$$

c. Cash and Bank Balance to Deposit Ratio (Excluding Fixed Deposit)

This ratio shows the ability of banks immediate funds to cover their (Current margin, call and saving) deposits. It can be calculated by dividing cash and bank balance by deposits (excluding fixed deposits). The ratio can be expressed as:

$$\text{Balance to Deposit Ratio} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposit (Excluding Fix Deposit)}}$$

Moreover, Nepal Rastra Bank “Directory” provision of 5% of cash balance with NRB to total deposit is to be maintained.

d. Fixed Deposit to Total Deposit Ratio

Fixed deposit is a long term and high interest charge bearing deposit. Although a high cost liability, increasing fixed deposits is subject to an additional advantage if utilized properly. Sufficient fixed deposits enable banks to grant long term loan to their clients at higher interest rate. This ratio is calculated in order to find out the proportion of total deposit that has higher interest charge bearing. The higher the ratio, the more the interest bearing deposits as well as better liquidity and lower proportion of current or short term deposits. It is computed by dividing the amount of fixed deposits by the total deposits amount which is expressed as follows:

$$\text{Fixed Deposit to Total Deposit Ratio} = \frac{\text{Fixed Deposits}}{\text{Total Deposits}}$$

e. Savings Deposit to Total Deposit Ratio

Saving deposit is an interest bearing short term deposit. The ratio is developed in order to find out the proportion of saving deposit, which is interest bearing and short term in nature. It calculated by dividing the total amount of savings deposits by the amount of total deposits that can be expressed as follows:

$$\text{Saving Deposit to Total Deposit Ratio} = \frac{\text{Savings Deposits}}{\text{Total Deposits}}$$

II. Activity or Turnover Ratio

The funds of creditors and owners are invested in various assets to generate sales and profit. Activity ratios are used to evaluate the efficiency with which the firm manages and utilizes its assets. This ratio indicates how quickly certain assets are converted into cash. From this ratio it can be known whether or not the business activities are efficient. These ratios are also called turnover ratios because they indicate speed with which assets are converted or turnover into profit generating assets. These ratios, moreover, help in measuring the banks' ability to utilize their available resources. Following ratios are used under the activity ratios.

a. Loans & Advances to Total Deposit Ratio

The ratio assesses to what extent the bankers are able to utilize the depositors' fund to earn profit by providing loans and advances. In other words, how quickly total collected deposits are converted into loans and advances given to the client to earn income. It is computed by dividing the total amount of loan and advances to total deposit fund. Higher ratio indicates higher/proper utilization of funds and low ratio is the signal of inefficiency or remaining idle.

$$\text{Loans & Advances to Total Deposit Ratio} = \frac{\text{Loan & Advances}}{\text{Total Deposits}}$$

b. Loan & Advances to Fixed Deposit Ratio

This ratio differs slightly from the former one because it includes the fixed deposits only. The ratio measures how many much amount is used in loans and advances in comparison to fixed deposits. Fixed deposits are interest bearing long term obligations where as loan and advances are the major sources of investment in generating income for commercial banks. It is calculated as follows:

$$\text{Loans & Advances to Fixed Deposit Ratio} = \frac{\text{Loan & Advances}}{\text{Fixed Deposits}}$$

c. Loan & Advances to Savings Deposit Ratio

This ratio is also employed for the purpose of measuring utilization of savings deposits in generating revenue by giving loan and advances to the client i.e., to determine to what extent collected saving deposit amount is being deployed in providing loan and advances to generate income. Saving deposits are interest bearing obligation for short term purpose whereas loan and advances are the short term investment for revenue income. This ratio indicates how much short term interest bearing deposits are utilized for income generating purpose. The formula for this ratio is as follows:

$$\text{Loans \& Advances to Savings Deposit Ratio} = \frac{\text{Loan \& Advances}}{\text{Savings Deposits}}$$

III. Profitability Ratio

The profitability ratio, as the name suggests, measures the operating profitability in terms of profit margin return on equity and return on total investment, and reflects the overall efficiency and effectiveness of management. (Pradhan; 2000:53). Shareholders, bankers, government, tax collectors, employees are concerned with the profitability of the company; the shareholders are interested with their rate of return, employees in the future prospect of the company, government in companies' tax payment capacity and bankers in the perspective of the company. A required level of profit is necessary for survival and growth of a firm in a competitive environment.

Profitability can be measured in terms of a relationship between net profit and assets. This ratio is also known as profit-to-asset ratio. It measures the profitability of investment.

Various ratios can be developed based upon the profit under different circumstances. These different ratios are called profitability ratios, which are required to support the purpose of the study. The profitability ratios calculated in this study are:

a. Interest Earned to Total Assets Ratio

This ratio is used to determine total interest earned from investments over the total assets of a firm. It can be computed as follows:

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

b. Net Profit to Total Assets Ratio:

Profit to total asset ratio is useful in measuring the profitability of all financial resources invested compared to total assets of a firm. This ratio is calculated by dividing the amount of net profit by the amount of total assets employed. Hence,

$$\text{Net Profit to Total Assets Ratio} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

c. Net Profit to Total Deposit Ratio

This ratio measures the percentage of profit earned from the utilization of the total deposits. Deposits are mobilized for investment, loan and advances to the public in generating revenue. Higher ratio indicates the return from investment on loans and lower ratio indicates that the funds are not properly mobilized.

$$\text{Net Profit to Total Deposit Ratio} = \frac{\text{Net Profit}}{\text{Total Deposit}}$$

d. Cost of Services to Total Assets Ratio

A sound management always tries to utilize its larger amount of assets with minimum cost. Cost of services to total assets ratio is useful in measuring the utilization of assets with cost of services. The ratio can be expressed as:

$$\text{Cost of Service to Total Assets Ratio} = \frac{\text{Cost of Services}}{\text{Total Assets}}$$

IV. Composition of Working Capital

To operate a business, different kinds of assets are needed. For the day-to-day business operation, different types of current assets are utilized. In case of NCC and SBI, the main components of current assets are cash and bank balance, loan and advances and government securities. Miscellaneous current assets are also a component of current assets. Prepaid expenses, outstanding income like interest receivable and other current assets are included in miscellaneous current assets.

In this study, composition percentages of following components:

- Cash and bank balance percentage
- Loan and advances percentage
- Government securities percentage
- Miscellaneous current assets percentage

V. Net Working Capital

Net working capital is the difference between current assets and current liabilities. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities. A negative net working capital occurs when current liabilities are in excess of current assets.

3.7.2 Statistical Tools

Various financial tools mentioned above were used to analyze the working capital management of NCC and SBI. Likewise, the relationship between different variables related to the study topics were also drawn out using statistical tools.

a. Mean or Average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. Average value is obtained by adding together all the terms and by dividing this total by the number of items. The formula is given below:

$$\begin{aligned}\bar{X} &= \frac{\sum X}{N} \\ &= \text{Arithmetic Average} \\ \frac{\sum x}{N} &= \text{Sum of values of all terms, and,} \\ &= \text{Number of terms}\end{aligned}$$

b. Standard Deviation

The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean. Denoted by Greek letter σ (read as sigma), standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is represented as:

$$\sigma = \sqrt{\frac{\sum d^2}{n-1}}$$

Where,

$$\begin{aligned}\sigma &= \text{Standard deviation,} \\ \sum d^2 &= \text{Sum of squares of the deviations measured from the} \\ &\quad \text{arithmetic average, and,} \\ n &= \text{Number of items}\end{aligned}$$

c. Coefficient of Variation

The coefficient of variation is the ratio of standard deviation to the mean for a given sample used to measure spread. It can also be thought of as the measure of relative risk. The larger the coefficient of variation, the greater-the risk relative to the average. Mathematically,

$$CV = \frac{\sigma}{\bar{X}}$$

Where,

CV = Coefficient of variation,

σ = Standard deviation, and,

\bar{X} = Arithmetic Average

d. Coefficient of Correlation

Correlation is a statistical tool, which is used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between to sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. The result of coefficient of correlation is always between +1 and -1. When r, the coefficient o correlation is +1, there is perfect relationship between two variables and vice-versa. When r is 0, there is no relationship between two variables. The formula for the calculation of coefficient of correlation between X and Y is given below:

$$r = \frac{\sum XY}{\sqrt{\sum X^2 \sum Y^2}}$$

Also the test of significance of correlation coefficient has been done in this study. In order to test whether the correlation coefficient is significant to the correlation between the two variables, paired sample t-test has been applied at the standard significance level of 5%. If calculated value of t is greater or equal to its tabulated value, correlation is significant or else it is not significant. The formula for the calculation of t value is,

$$t = \frac{r(\sqrt{n-2})}{\sqrt{1-r^2}}$$

CHAPTER - 4

PRESENTATION AND ANALYSIS DATA

This chapter is the backbone of the research. In this chapter, both the primary and secondary data are presented in systematic manner. The sources of data were company brochure, annual report, website and library, and banks and stock brokers. Those collected data are presented in systematic formats and analyzed using different appropriate tools and techniques. In this chapter, in addition to that the relationship of the variables is presented in graphs and figures. The analysis of data consists of organizing, tabulating and performing statistical analysis. In this chapter, the secondary data, collected from different sources are presented in understandable form and analyzed separately using both qualitative and quantitative measures whichever is appropriate.

4.1 Composition of Working Capital and its Trend Analysis

The operation of the business requires different kinds of current assets. The current assets as for day-to-day business operation. The main components of current assets at NCC and KBL are cash and bank balance, loan and advances and investment government securities. Miscellaneous current assets are also a component of current assets prepaid expenses, outstanding incomes for example, interest receivable, and other current assets are included on miscellaneous current assets.

Table 4.13 and 4.14 shows the amount of cash and bank balance, loan and advances, government securities and miscellaneous current assets of NCC and KBL respectively for the study period.

Table 4.1: Current Assets Components of NCC

(Rs. in Million)

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
2006/07	3170.21	5695.82	6722.83	5208.74	20797.6
2007/08	4241.76	6410.24	7948.22	4894.11	23494.63
2008/09	3370.81	8143.21	7203.07	3091.74	21808.83
2009/10	3253.51	8935.42	8644.86	4828.90	25662.69
2010/11	3782.17	10502.54	7107.94	7036.41	28429.16
Details on Appendix 1					

Table 4.2: Current Asset Components of KBL

(Rs. in Million)

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
2006/07	2129.31	10001.85	3998.87	751.42	16881.45
2007/08	2370.09	11951.87	3431.73	742.17	18495.86
2008/09	2455.55	12424.52	5469.76	976.46	21326.29
2009/10	2722.63	14642.56	5144.32	643.61	23153.12
2010/11	3467.36	16998.00	6454.88	643.97	27564.21
Details on Appendix 3					

From the above tables, total amount of current assets components of NCC is seen higher than that of KBL. Due to unequal volume of the components, percentage of components of current assets is required from comparative analysis.

The percentage composition of current assets to total current assets i.e. cash and bank balance, loans and advances investment in government securities and miscellaneous current assets are as follows:

Table 4.3: Percentage Components of Current Assets of NCC

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
2006/07	15.24	27.39	32.33	25.04	100
2007/08	18.05	27.28	33.84	20.83	100
2008/09	15.45	37.34	33.03	14.18	100
2009/10	12.68	34.82	33.68	18.82	100
2010/11	13.30	36.95	25.00	24.75	100
Average	14.94	32.756	32.576	20.724	
Std. Dev.	2.111	5.041	3.724	4.508	
C.V.	0.141	0.154	0.118	0.218	
Details on Appendix 8, 9, 10 and 11					

Figure No. 4.1

Bar Diagram of Percentage Composition of NCC's Current Assets

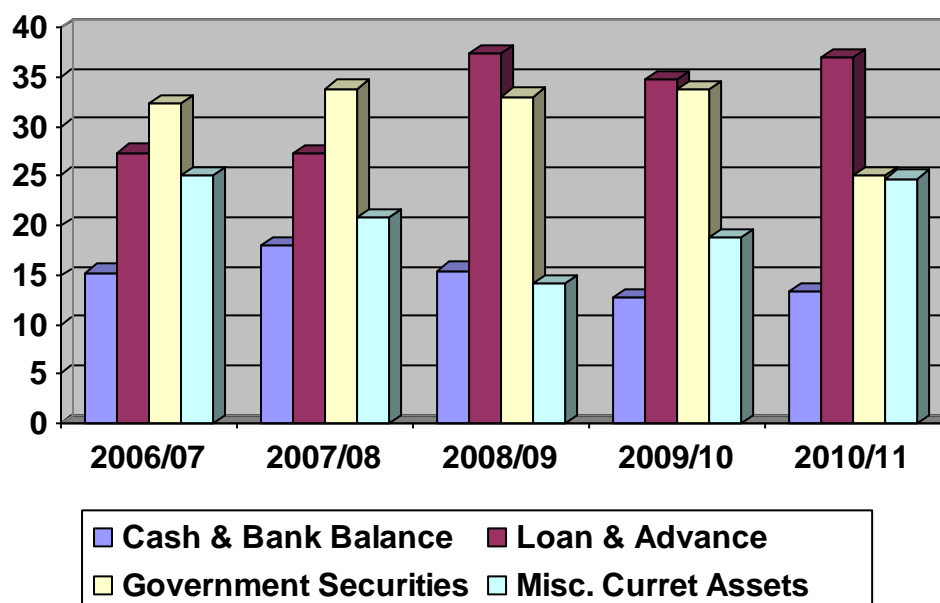
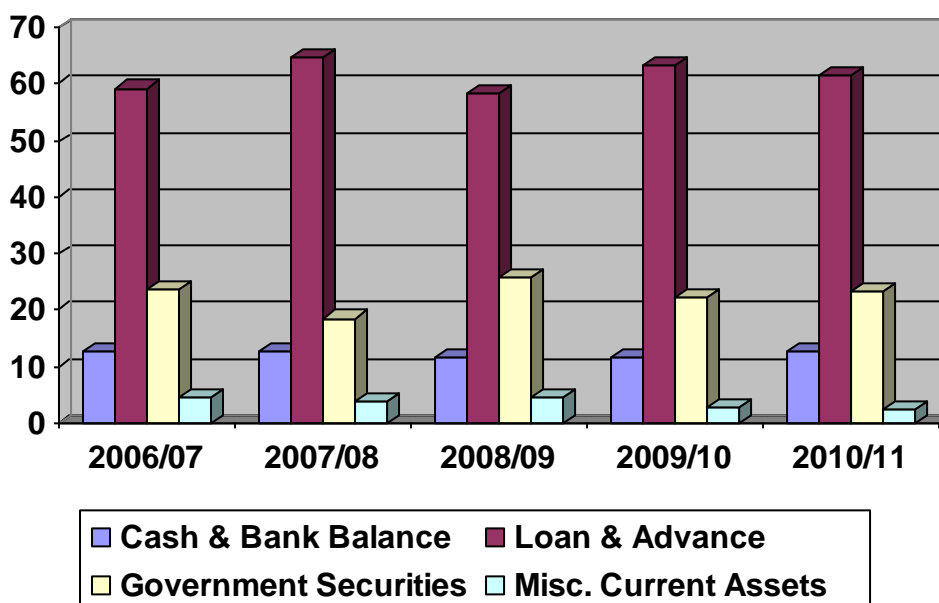


Table 4.4: Percentage Components of Current Assets of KBL

Fiscal Year	Cash & Bank Balance	Loan & Advances	Government Securities	Misc. Current Assets	Total Current Assets
2006/07	12.61	59.25	23.69	4.15	100
2007/08	12.81	64.62	18.55	4.02	100
2008/09	11.51	58.26	25.65	4.58	100
2009/10	11.76	63.24	22.22	2.78	100
2010/11	12.58	61.66	23.42	2.34	100
Average	12.25	61.406	22.706	3.634	
Std. Dev.	0.579	2.660	2.629	1.014	
C.V.	0.047	0.043	0.116	0.279	
Details on Appendix 8, 9, 10 and 11					

Figure 4.2

Bar Diagram of Percentage Composition of KBL's Current Assets



4.1.1 Cash and Bank Balance Percentage

Cash and Bank Balance Percentage of NCC fluctuated over the study period. It is highest (15.45%) in the third year and lowest (12.68%) in the fourth year of the study period. The average cash and bank balance percentage of NCC is 14.94%.

Likewise, cash and bank balance percentage of KBL also fluctuated over the study period. It is highest (12.81%) in the second year and lowest (11.51%) in the third year of the study period. The average cash and bank balance percentage of KBL is 12.35%.

The study shows that average cash and bank balance percentage of NCC (14.94%) is higher than that of KBL (12.25%).

Similarly, standard deviation is 2.111% in NCC, whereas it is 0.579% in KBL. Hence it shows NCC has higher risk factor than that of KBL. Likewise, coefficient of variation is 0.141 for NCC and 0.047 for KBL, indicating more variation in cash and bank balance maintained in NCC compared to KBL.

From the calculation of cash and bank balance percentage trend as per Appendix 5, the value of the constants a and b are as follows:

NCC

a = 14.94% or 0.1494

KBL

a = 12.25% or 0.1225

$$b = 1.735$$

$$b = 2.405$$

The rate of change of cash and bank balance percentage b in both the banks are positive.

It implies the increment cash and bank balance percentage to total current assets on both banks. The positive value of 'b' for both bank shows the increasing in cash and bank balance percentage positive trend value of cash and bank percentage indicates the better utilization of cash on generating income.

4.1.2 Loan and Advances Percentage

Loan and advances percentage of NCC, are found slightly fluctuating in the study period. It is increasing in the third, fourth and fifth year and decreasing in the first and second year of the study period. It is highest in year 2008/09 i.e., 37.34% and lowest in the year 2007/08 i.e. 27.28%. The average loan and advances percentage of NCC is 32.756%. The loan and advances percentage of NCC are lower than the average in years 2006/07 and 2007/08. But it is higher than the average in years 2008/09, 2009/10 and 2010/11.

In case of KBL, the loan and advances percentage of KBL are always fluctuating in the study period. After first year, it is increasing in the second year and decreasing in the third year and again increasing in fourth year but again decreasing in fifth year. The highest percentage of loan and advance of KBL is in year 2007/08 i.e. 64.62% and lowest in year 2008/09 i.e., 58.26%. The average loan and advance percentage of KBL is 61.406%. The loan and advance percentage of KBL are lower than the average in years 2006/07 and 2008/09. But it is higher than the average in years 2007/08, 2009/10 and 2010/11.

The standard deviation is 5.041% in NCC where as it is 2.660% in KBL. Hence, it shows NCC has higher risk factor than that of KBL. Likewise, coefficient of variation is 0.154 in NCC and 0.043 in KBL. Hence, more variation in loan and advance is maintained in NCC compared to KBL.

From calculation of loan and advances percentage trend as per Appendix-6, the value of the constants a and b are as follows:

NCC

$$a = 32.76\% \text{ or } 0.3276$$

$$b = 2.666$$

KBL

$$a = 61.41\% \text{ or } 0.6141$$

$$b = 0.344$$

The trend rates on the rate of change of loan and advances percentage of both banks are positive. It implies that the loan and advances of both banks are decreasing.

The above analysis helps to conclude that the loan and advance percentage of KBL are better than NCC. This loan and advances percentage of total current assets indicates that the greater portion of current assets of KBL, is employed for the income generating purpose.

4.1.3 Government Securities

The percentage of government securities is increasing of NCC in the study period. It is highest (33.84%) in the year 2007/08 and lowest (25.00%) in the last year 2010/11. The average investment in government securities is 31.576%.

Similarly, the percentage of government securities of KBL, is decreasing in the second year and increasing in the third and fifth year and comparatively less increasing in the fifth year. It is highest (25.65%) in the third year 2008/09 and lowest (18.55%) in the second year 2007/08. The average government securities percentage of KBL is 22.706%. The average government securities percentage of NCC (31.576%) is higher than that of KBL (22.706%).

The standard deviation is 3.724% in NCC whereas it is 2.629% in KBL. Similarly, coefficient of variation is 0.118 in NCC and 0.116 in KBL. Hence, more variation in government securities is maintained in NCC compared to KBL.

From the calculation of government securities percentage trend as per appendix 7, the value of the constants a and b are as follows:

NCC	KBL
a = 31.58% or 0.3158	a = 22.71% or 0.2271
b = -1.482	b = 0.313

The trend rate or rate of change of government securities percentage b of NCC is negative and it is positive in KBL.

The above analysis helps to conclude that government securities percentage on total current assets of NCC is better than KBL. It shows that NCC has prioritized to invest

on government securities rather than loan and advances due to unavailability of secured investment sector.

4.1.4 Miscellaneous Current Assets Percentage

The percentage of miscellaneous current assets of NCC is fluctuating in every year of study period. It is highest (25.04%) in the first year 2006/07 and lowest (14.18%) in the third year 2008/09. The average miscellaneous current assets percentage of NCC is 20.724%.

The percentage of miscellaneous current assets of KBL is fluctuating in the period of study. It is increasing in the first, second and third year and decreasing in the fourth and fifth year of the study period. It is highest (4.15%) in the first year 2006/07 and lowest (2.34%) in the last year 2010/11. The average miscellaneous current assets percentage for KBL is 3.634%.

The standard deviation is 4.508% in NCC whereas it is 1.014 in KBL Coefficient of variation is 0.218 in NCC and 0.279 in KBL. Hence, more variation in miscellaneous current asset is maintained in KBL compared to NCC.

4.2 Ratio Analysis

4.2.1 Profitability Ratio

Profitability ratio is the measurement of efficiency. It provides the degree of success in achieving designed profit. Here, profitability is measured in terms of various ratios as follows:

4.2.1.1 Interest Earned to Total Assets Ratio

This ratio can be calculated as below:

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

The following table shows the interest earned to total assets ratio of NCC and KBL.

Table 4.5
Interest Earned to Total Assets Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Interest Earned	Total Assets	Ratio	Interest Earned	Total Assets	Ratio
2006/07	1001.36	21000.5	0.05	1201.23	23355.23	0.05
2007/08	1042.18	23642.06	0.04	1245.89	24762.04	0.05
2008/09	1058.68	21893.89	0.05	1446.47	24844.69	0.05
2009/10	1189.60	25776.37	0.05	1626.47	29460.39	0.06
2010/11	1411.98	28596.69	0.05	1775.58	33519.15	0.05
Average	0.048			0.052		
Std. Dev.	0.0045			0.0045		
C.V.	0.093			0.087		
Details on Appendices on 1, 3 and 21						

Table 4.5 shows that interest earned to total assets ratios of NCC are slightly fluctuating during the study period. It is decreasing in second year and increasing in the third year then remain constant till last year. It is highest (0.05) in the years 2006/07, 2008/09, 2009/10 and 2010/11 and lowest (0.04) in the year 2007/08. The average ratio of NCC is 0.048. The yearly ratios of NCC are higher than the average ratio in the first, third, fourth and fifth. However, the yearly ratios are lower than the average ratio in the second year of the study period.

In case of the KBL, the interest earned to total assets ratios of KBL are also fluctuating during the study period. It is highest (0.06) in the year 2009/10 and lowest (0.05) in the year 2006/07, 2007/08, 2008/09, 2009/10 & 2010/11. The average ratio of KBL is 0.052.

The average ratio KBL (0.052) is higher than that of NCC (0.048).

The standard deviation of NCC and KBL is 0.0045. The coefficient of variation of NCC is 0.093 and it is 0.087 in KBL. Thus, C.V. of KBL is lower than NCC. This shows that there is less variation in interest earned to total assets ratio in interest earned to total assets ratio maintained by KBL compared to NCC. In other words, KBL has lower risk in it.

As per appendix 25, the values of constants a and b are as follows:

NCC

a = 0.048% or 0.00048

b = 0.001

KBL

a = 0.052 or 0.00052

b. 0.001

The rate of change in interest earned to total assets ratio of both bank are positive which implies the increasing trend of ratio.

Figure 4.3
Interest Earned to Total Assets Ratio

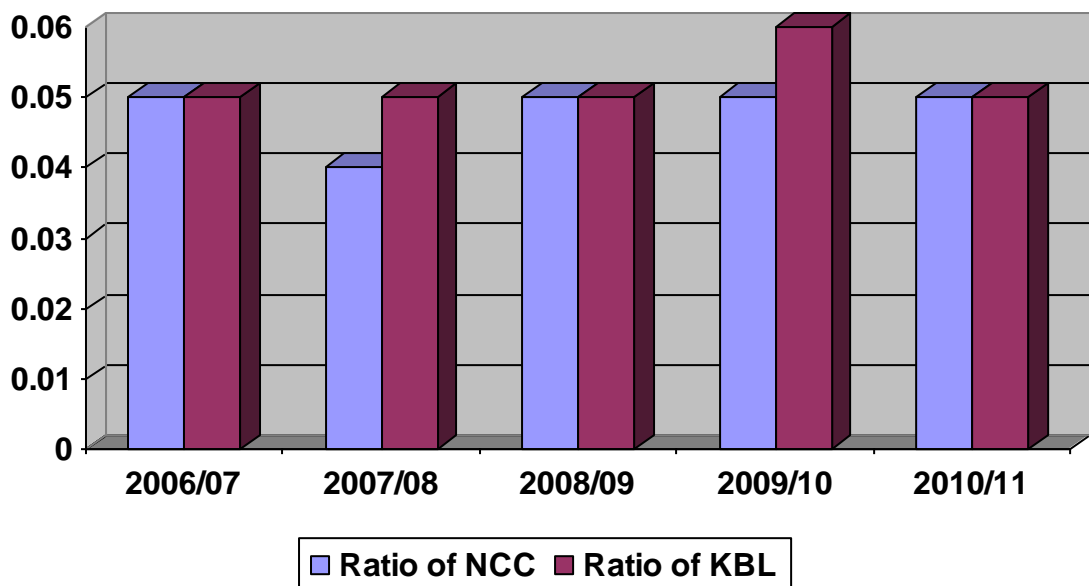


Figure 4.3 depicts that the trend and actual lines of KBL are always higher than NCC during the study period. So, the above analysis helps to conclude that the interest earned to total assets ratio of KBL is better than NCC. This ratio of KBL is better than NCC. This implies that KBL is efficiently using its total assets (funds) to earn interest income.

4.2.1.2 Net Profit to Total Assets Ratio

This ratio can be calculated as follow:

$$\text{Net Profit to Total Assets Ratio} = \frac{\text{Net Profit}}{\text{Total Assets}}$$

The following table shows the net profit to total assets ratio of NCC and KBL.

Table 4.6
Net Profit to Total Assets Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Net Profit	Total Assets	Ratio	Net Profit	Total Assets	Ratio
2006/07	506.96	21000.5	0.02	212.12	23355.23	0.01
2007/08	257.8	23642.06	0.02	263.05	24762.04	0.01
2008/09	539.21	21893.89	0.02	308.28	27844.69	0.01
2009/10	658.75	25776.37	0.03	457.46	29460.39	0.02
2010/11	691.65	28596.69	0.02	491.82	33519.15	0.01
Average	0.022			0.012		
Std. Dev.	0.004			0.004		
C.V.	0.204			0.377		
Details on Appendices on 1, 3 and 22						

Table 4.6 shows that net profit to total assets ratios of NCC are not much fluctuating during the study period. It is highest (0.03) in the year 2009/10 and lowest (0.02) in the rest of the years during the study period. The average ratio of NCC is 0.022.

In KBL, the net profits to total assets ratios of KBL are also not much fluctuating during the study period. The average ratio of KBL is 0.012. The yearly ratios of NCC are always higher than KBL. Therefore, the average ratio of NCC is higher than KBL.

As per appendix 26, the values of constants a and b are as follows:

NCC

a = 0.022% or 0.00022

b = 0.001

KBL

a = 0.012% or 0.00012

b. 0.001

The rate of change on net profit to total assets ratio of both banks are same save which implies constant level of trend ratio neither increasing non decreasing trend.

Figure 4.4
Net Profit to Total Assets Ratio

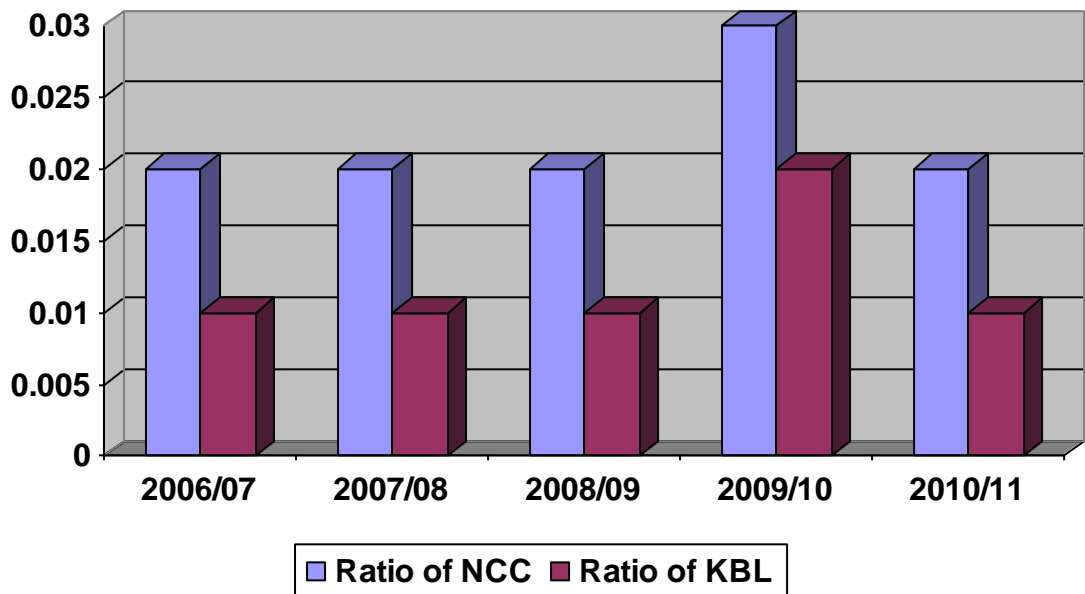


Figure 4.4 depicts that actual and trend lines of NCC are always higher than BHL during the study period. The actual and trend lines of KBL are on the same path of the Figure.

The analysis above helps to conclude that the overall profitability of NCC has been better than KBL. NCC is efficient using its working fund of assets to earn higher rate of profit.

4.2.1.3 Net Profit to Total Deposit Ratio

This ratio can be calculated as follows:

$$\text{Net Profit to Total Deposit Ratio} = \frac{\text{Net Profit}}{\text{Total Deposits}}$$

The following table shows the net profit to total deposits ratio of NCC and KBL.

Table 4.7
Net Profit to Total Deposit Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Net Profit	Total Deposits	Ratio	Net Profit	Total Deposits	Ratio
2006/07	506.95	18755.64	0.03	212.12	21007.37	0.01
2007/08	537.8	21161.46	0.03	263.05	22010.34	0.01
2008/09	539.21	19335.1	0.03	308.28	24814	0.01
2009/10	658.75	23061.03	0.03	457.46	26490.85	0.02
2010/11	691.65	24647.02	0.03	491.82	30048.42	0.02
Average	0.03			0.014		
Std. Dev.	0			0.005		
C.V.	0			0.393		
Details on Appendices on 1, 3 and 23						

Table 4.7 shows that the ratios of NCC are always same during the study period. The average ratio of NCC is 0.03%.

In KBL, the ratios are a little bit fluctuating during the study period. The highest ratio of KBL is 0.02% in the year 2009/10 and 2010/11 and rest of the year it is same 0.01%. The average ratio of KBL is 0.014%. The average ratio of NCC is higher than that of KBL.

The coefficients of variation are 0 in NCC and 0.393 in KBL. Thus, C.V. of KBL is higher than that of NCC. This shows that there is more variation in net profit to total deposit ratio maintained by KBL compared to NCC. In other words, KBL has high risk in it.

The above analysis helps to conclude that the net profit to total deposit ratio of NCC is better than KBL. Mobilization of external funds is important to earn profit for a commercial bank. Thus, NCC has better performance on mobilization total deposits during that period.

4.2.1.4 Cost of Services to Total Assets Ratio

This ratio can be calculated as follows:

$$\text{Cost of Services to Total Assets Ratio} = \frac{\text{Cost of Services}}{\text{Total Assets}}$$

The following table shows the cost of services to total assets ratio of NCC and KBL.

Table 4.8
Net Profit to Total Deposit Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Cost of Services	Total Assets	Ratio	Cost of Services	Total Assets	Ratio
2006/07	383.46	21000.5	0.02	674.28	23355.23	0.03
2007/08	410.5	23642.06	0.02	644.05	24762.04	0.03
2008/09	402.71	21893.89	0.02	740.55	27844.69	0.03
2009/10	471.43	25776.37	0.02	883.41	29460.39	0.03
2010/11	612.85	28596.69	0.02	1039.60	33519.15	0.03
Average	0.02			0.03		
Std. Dev.	0			0		
C.V.	0			0		
Details on Appendices on 1, 3 and 24						

Table 4.8 shows that ratios of NCC are constant all the time during the study period.

The average ratio of NCC is 0.02.

In KBL, ratios are constant all the time during the study period. The average ratio of

KBL is 0.03.

The coefficients of variation are 0 in both banks.

4.2.2.1 Loan and advances to total deposit ratio

This ratio is calculated as below

$$\text{Loan and advances to total deposit ratio} = \frac{\text{Loan and Advances}}{\text{Total Deposits}}$$

The following table shows the effectiveness in utilization of total deposits NCC and KBL.

Table 4.9
Loan and Advances to Total Deposits Ratio

(Rs. in million)

Fiscal year	NCC			KBL		
	Loan & Advances	Total Deposit	Ratio	Loan & Advances	Total Deposit	Ratio
2006/07	5695.82	18755.64	0.30	10001.85	21007.37	0.48
2007/08	6410.24	21161.46	0.30	11951.87	22010.34	0.54
2008/09	8143.21	19335.1	0.42	12424.52	24814	0.50
2009/10	8935.42	23061.03	0.39	14642.56	26490.85	0.55
2010/11	10502.64	24647.02	0.43	16998.00	30048.42	0.57
Average	0.37			0.53		
Std. dev	0.064			0.037		
C.V.	0.184			0.073		
Details on Appendices on 1, 3 and 18						

Table 4.9 demonstrates that the loan and advances to total deposit ratios of NCC are fluctuating during the study period. It is highest (0.43) in the year 2010/11 and lowest (0.30) in the year 2006/07 and 206/61. It is decreasing till the fourth year and again increases in the last year. The average ratio of NCC is 0.37. The yearly ratios of the third, fourth and last years are higher than the average ratio. However, the first and second years are lower than the average ratio.

The case of KBL, the loan and advances to total deposit ratios are also slightly fluctuation during the study period. It is highest (0.57) in the year 2010/11 and lowest (0.48) in the year 2006/07. The average ratio of KBL is 0.53.

The average ratio of KBL (0.53) is higher than that of NCC (0.37).

The standard deviation of NCC is 0.064. Where as it is 0.037 in KBL. The coefficient of variation NCC is 0.184 and it is 0.073 in KBL. Thus, C.V. of KBL is lower than NCC. This shows that there is less variation in loan and advances to total deposit ratio maintained by KBL compared to NCC. In other words KBL has low risk.

The above analysis helps to conclude that loan and advances to total deposit ratio or total deposit turnover ratio of NCC is better than KBL. It is the indication of better

performance of NCC. Thus, NCC is utilizing the funds more efficiently for the profit generating purpose on loan and advances than KBL. However, higher C.V. in NCC compared to KBL shows high risk in loan and advances to total deposits ratio of NCC.

4.2.2.2 Loan and Advance to Fixed Deposit Ratio

This ratio is calculated as below:

$$\text{Loans and Advances to Fixed Deposit Ratio} = \frac{\text{Loans and Advances}}{\text{Fixed Deposit}}$$

The following table shows the ratio of loan and advances to fixed deposits of NCC and KBL.

Table 4.10
Loan and Advances to Fixed Deposit Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Loan & Advances	Fixed Deposits	Ratio	Loan & Advances	Fixed Deposits	Ratio
2006/07	5695.82	1948.6	2.92	10001.85	3205.37	3.12
2007/08	6410.24	1428.5	4.19	11951.87	4710.18	2.54
2008/09	8143.21	1416.38	5.75	12424.52	6107.43	2.03
2009/10	8935.42	2136.31	4.18	14642.56	6350.20	2.31
2010/11	10502.64	3196.49	3.29	16998.00	8201.13	2.07
Average	4.126			2.414		
Std. Dev.	1.022			0.445		
C.V.	0.501			0.266		
Details on Appendices on 1, 3 and 19						

Table 4.10 shows that the loan and advances to fixed deposit ratio of NCC are fluctuating during the study period. It is increasing in the second year till fourth year and again decreasing in the last year. It is highest (5.75) in the year 2008/09 and lowest (2.92) in the year 2006/07. The average ratio of NCC is 4.126. The yearly ratios of NCC are lower than the average ratio in the first and last year. However, the yearly ratio are higher than the average ratio in the second, third and fourth year.

In case of KBL, the yearly ratios are also fluctuating all the times during the study period. It is increasing in the first and second year and decreasing after fourth year. It is highest (3.12) in the year 2006/07 and lowest (2.03) in the year 2008/09. The average ratio of KBL is 2.414. The yearly ratio of KBL is 2.414. The yearly ratios of KBL are higher and second year. However, the yearly ratios of KBL are lower than the average ratio in the third, fourth and last year.

The average ratio of NCC (4.126) is higher than that of KBL (2.414).

The standard deviation of NCC is 1.022 where as it is 0.445 in KBL. The coefficient of variation of NCC is 0.501 and it is 0.266 in KBL.

The above analysis helps to conclude that loan and advances to fixed deposit ratio of NCC is better than KBL. Because of lower amount of fixed deposit, the ratio is higher on NCC than KBL. The ratio implies that NCC is utilizing its fixed deposit in loan and advances more efficiently. Higher C.V. in NCC, compared to KBL, shows that the variability is more in loan and advance to fixed deposit ratio of NCC.

4.2.2.3 Loan and Advances to Saving Deposit Ratio

This is calculated as below:

$$\text{Loan and Advances to Saving Deposit Ratio} = \frac{\text{Loan and Advances}}{\text{Saving Deposits}}$$

The following table shows the ratio of loan and advances to saving deposit of NCC and KBL.

Table 4.11
Loan and Advance to Saving Deposit of NCC and KBL

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Loan & Advances	Fixed Deposits	Ratio	Loan & Advances	Fixed Deposits	Ratio
2006/07	5695.82	10633.16	0.54	10001.85	10870.54	0.92
2007/08	6410.24	12771.83	0.50	11951.87	11759.6	1.02
2008/09	8143.21	13030.93	0.62	12424.52	12852.41	0.97
2009/10	8935.42	14597.67	0.61	14642.56	14582.86	1.00
2010/11	10502.64	15244.38	0.69	16998.00	15784.77	1.08
Average	0.592			0.998		
Std. Dev.	0.074			0.059		
C.V.	0.134			0.062		
Details on Appendices on 1, 3 and 20						

Table 4.11 shows that the loan and advances to saving deposit ratios of NCC are fluctuating over the study period. It is increasing after second year. It is highest (0.69) in the year 2010/11 and lowest (0.50) in the year 2007/08. The average ratio of NCC is 0.592. The yearly ratios of NCC are lower than the average ratio in the first and second year of the study period. However, the yearly ratios of NCC are higher than the average ratio in the third, fourth and the last year.

In case of KBL, the loan and advances to saving deposit ratio of KBL are also fluctuating during the study period. It is decreasing in the third year and then increasing till last year. It is highest (1.08) in the year 2010/11 and lowest (0.92) in the year 2006/07. The average ratio of KBL is 0.998. The yearly ratios of KBL are higher than the average ratio in the second and last year. However, the yearly ratio of the fourth year is equal to the average ratio but the yearly ratios of the first and the third year are lower than the average ratio.

The average ratio of KBL (0.998) is higher than that of NCC (0.592).

The standard deviation of NCC is 0.074 whereas it is 0.059 in KBL. Similarly, the coefficient of variation of NCC is 0.134 and it is 0.062 in KBL.

From the above analysis, it can be concluded that the loan and advances to saving deposits ratio of KBL is better than that of NCC. It implies that KBL is utilizing short term funds of outsiders more effectively than NCC but risks more in NCC than KBL.

4.2.3 Liquidity Ratios

Liquidity of any business organization is directly related with the working capital or current with the working capital of that organization. In other words, one of the main objectives sounds liquidity position. Bank is different organization which is engaged in mobilization of funds. Therefore, without sound liquidity position, bank is not able to operate its function.

To measure the bank's solvency position or ability to meet its short-term obligations, various liquidity ratios are calculated and to know the trend of liquidity, trend analysis of major liquidity ratios have been calculated.

4.2.3.1 Current Ratio

This ratio indicates the current short term solvency position of bank. Higher current ratio indicates better liquidity position. In other words, current ratio represents a margin of safety i.e. a "cushion" of protection for creditors and the higher the current ratio, greater the margin of safety, larger the amount of current assets in relation to current liabilities, more the bank's ability to meet its current obligations.

The current ratio can be calculated as shown below:

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

The following table shows the current ratio to compare the working capital management of NCC and KBL.

Table 4.12: Current Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Current Assets	Current Liabilities	Ratio	Current Assets	Current Liabilities	Ratio
2006/07	20797.6	17620.78	1.18	16881.45	18694.56	0.90
2007/08	23494.63	20657.71	1.14	18495.86	18320.71	1.01
2008/09	21808.83	18834.12	1.16	21326.29	20195.51	1.06
2009/10	25662.69	21825.4	1.18	23153.12	20984.01	1.10
2010/11	28429.16	23223.59	1.22	27564.21	22811.51	1.21
Average	1.176			1.056		
Std. Dev.	0.0297			0.0823		
C.V.	0.0253			0.0779		
Details on Appendices 1, 3 and 13						

Table 4.12 depicts that current ratio of KBL is quite fluctuating. The highest current ratio of NCC is 1.22 in year 2010/11 and lowest is 1.14 in 2007/08. In KBL, the highest current ratio is 1.21 in the last year 2010/11 and lowest is 0.90 in the first year 2006/07. The average current ratio of NCC is 1.176. In KBL, the average current ratio is 1.056. The yearly ratios of NCC are always higher than that of KBL. Therefore, the average ratio of NCC is higher than the average ratio of KBL.

The standard deviation is 0.0297 in NCC where as it is 0.0823 in KBL. Similarly, coefficients of variation are 0.0253 in NCC and 0.0779 in KBL. Hence, it shows there is more variation in current ratio maintained by KBL compared to NCC.

Figure 4.5
Current Ratio

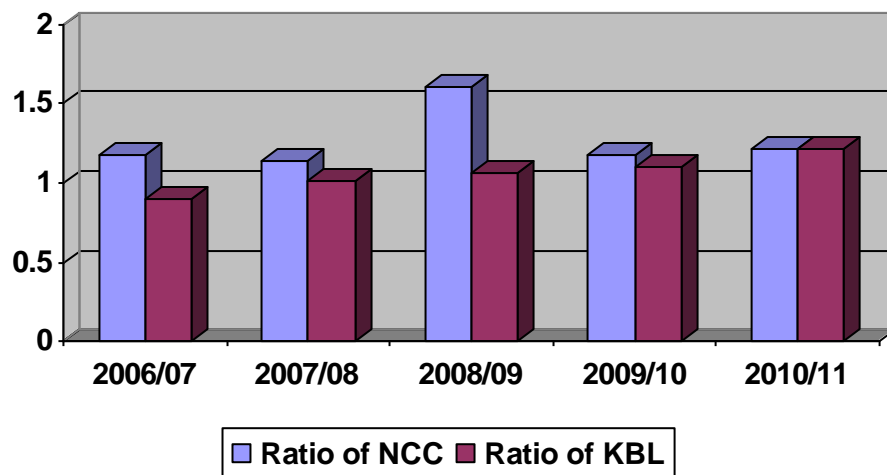


Figure 4.5 depicts that the current ratio of NCC and KBL. It is clear from the above figure that current ratios of NCC are always higher than KBL.

The above analysis helps to conclude that both banks have sufficient current assets to discharge the current liabilities. Comparatively, the liquidity position of NCC is better than that of KBL. In other words, NCC has more ability to meet its current obligations than KBL.

4.2.3.2 Quick Ratio

Quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of original value. Cash is a most liquid asset. Other assets which are considered to be relatively liquid and included in quick assets are book debts and marketable securities.

For quick ratio, cash and bank balance and government securities are included in quick assets. This ratio can be found out by dividing the total of quick assets by total current liabilities. The formula is given below:

$$\text{Quick Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Current Liabilities}}$$

The following table shows the quick ratio of NCC and KBL.

Table 4.13: Quick Ratio

(Rs. in Million)

Fiscal Year	NCC			KBL		
	Quick Assets	Quick Liabilities	Ratio	Quick Assets	Quick Liabilities	Ratio
2006/07	9893.04	17620.78	0.56	6128.18	18694.56	0.33
2007/08	12189.98	20657.71	0.59	5801.82	18320.71	0.32
2008/09	10573.88	18834.12	0.56	7925.31	20195.51	0.39
2009/10	11898.37	21825.40	0.55	7866.95	20984.01	0.37
2010/11	10890.11	23223.59	0.47	9922.24	228.11.51	0.43
Average	0.546			0.368		
Std. Dev.	0.045			0.045		
C.V.	0.083			0.122		
Details on Appendices 1, 3 and 14						

Table 4.13 shows that the quick ratios of NCC are fluctuating over the study period. The ratio is highest (0.59) in the year 2007/08 and lowest (0.47) in the year 2010/11. The average quick ratio of NCC is 0.546. The yearly quick ratios are lower than the average in the years 2008/09, 2009/10 and 2010/11. However, the ratio is higher than the average in the second year.

The quick ratios of KBL are also fluctuating over the study period. It is higher (0.43) in the year 2010/11 and lowest (0.32) in the year 2007/08. The average quick ratio of KBL is 0.368. In the last three years of the study period, the yearly quick ratios are higher than the average ratio. However, the ratios are lower than the average ratio in the first two years.

The average quick ratio of NCC is higher than that of KBL.

The standard deviation is 0.045 in NCC whereas it is 0.045 in KBL. Similarly, coefficient of variation of NCC is 0.083 and 0.122 in KBL. Thus coefficient of variation of KBL is higher than that of NCC which shows that there is more variation in quick ratio of KBL Compared to NCC.

Figure 4.6
Quick Ratio

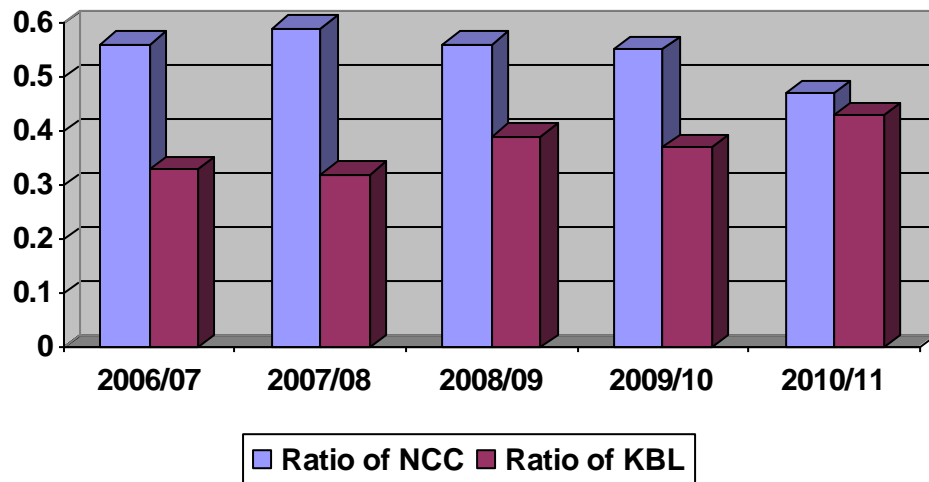


Figure 4.6 shows that the quick ratio of NCC and KBL. It is clear from the above Figure that the quick ratios of NCC are always higher than KBL.

The above analysis helps to conclude that the quick ratios of NCC are always better than KBL. It shows the better liquidity position of NCC in comparison to KBL.

4.2.3.3 Cash and Bank Balance to Deposit ratio (Excluding Fixed Deposit):

This ratio is calculated is below:

$$\text{Balance to Deposit Ratio} = \frac{\text{Cash \& Bank Balance}}{\text{Total Deposit (Excluding Fixed Deposit)}}$$

The following table shows the cash and bank balance to deposit ratio (Excluding Fixed Deposit) of NCC and KBL

Table 4.14
Cash and Bank Balance to Deposit Ratio (Excluding Fixed Deposit)
(Rs. in million)

Fiscal year	NCC			KBL		
	Cash & Bank Balance	Deposit	Ratio	Cash & Bank Balance	Deposit	Ratio
2006/07	3170.21	16807.04	0.19	2129.31	17802	0.12
2007/08	4241.76	19732.96	0.21	2370.09	17300.16	0.14
2008/09	3370.81	17918.72	0.19	2455.55	18706.57	0.13
2009/10	3253.51	20924.72	0.11	2722.63	20140.65	0.14
2010/11	3782.17	21450.53	0.18	3467.36	21847.29	0.16
Average	0.176			0.138		
Std. dev	0.0184			0.148		
C.V.	0.1045			0.1075		
Details on Appendices 1, 3, and 15						

Table 4.14 demonstrates that the ratios of NCC are fluctuating over the study period. The highest ratio is (0.21) in the year 2060\61 and lowest (0.11) in the year 2009/10. The average ratio of NCC is 0.176. The ratio is higher than the average only in the second year and last of the four years of study period has lower than average value.

In case of KBL, the ratios are fluctuating as well. The highest ratio is (0.16) in the year 2010/11 and lowest (0.12) in the year 2006/07. The average ratio of KBL is 0.138. The ratios are higher than average only in the last year and rest of the four years of the study period has lower than average value.

The average ratio of NCC (0.176) is higher than that of KBL (0.138).

The Standard deviation is 0.0184 in NCC where as it is 0.0148 in KBL. Similarly, Coefficient of variation of KBL is higher than that of NCC. This explains that NCC is more preferable than KBL in terms of cash and bank balance to deposit ratio (except fixed deposit). KBL has high risk or the variability of the ratio is lower is NCC than KBL.

From the above analysis, it can be concluded that from the average ratio shows that liquidity position of NCC is better than KBL because it has higher average ratio than that of KBL.

4.2.3.4 Fixed Deposit to Total Deposit Ratio:

This ratio is calculated as follows:

$$\text{Fixed Deposit to Total Deposit Ratio} = \frac{\text{Fixed Deposits}}{\text{Total Deposit}}$$

Table 4.15
Fixed Deposit to Total Deposit Ratio

(Rs. in million)

Fiscal year	NCC			KBL		
	Fixed Deposit	Total Deposit	Ratio	Fixed Deposit	Total Deposit	Ratio
2006/07	1948.6	18755.64	0.10	3205.37	21007.37	0.15
2007/08	1428.5	21161.46	0.07	4710.18	22010.34	0.21
2008/09	1416.38	19335.1	0.07	6107.43	24814	0.25
2009/10	2136.31	23061.03	0.09	6350.20	26490.85	0.24
2010/11	3196.49	24647.02	0.13	8201.13	30048.42	0.27
Average	0.092			0.224		
Std. dev	0.025			0.047		
C.V.	0.27			0.21		
Details on Appendixes on 1, 3 and 16						

Table 4.15 shows that the fixed deposit to total deposit ratios of NCC are decrease after first year but increase in the last year during the study period. The ratio is at the constant level in the third year. It is highest (0.13) in the year 2010/11 and lower (0.07) in the year 2007/08 and 2008/09. The average ratio NCC is 0.092. The yearly ratios of the first and the last year are higher that the average ratio. However, the rest of second, third and fourth years are lower than that of the average ratio.

In KBL, the fixed deposit to total deposit ratios are increasing after the first year during the study period. It is higher (0.27) in the year 2010/11 and lowest (0.15) in the year 2006/07. The average ratio of KBL is 0.224.

The standard deviation of NCC is 0.025 where as it is 0.047 in KBL. The coefficient of variation of NCC is 0.27. Similarly, the coefficient of variation of KBL is 0.21. It shows that there is more variation in the composition in the fixed assets to total deposit ratio of NCC compared to KBL.

The above analysis helps to conclude that the fixed deposit to total deposit ratios of KBL are better than the NCC which indicates the better liquidity position in KBL than NCC. Fixed deposit, however, is higher cost long term source, which affected the profitability of bank adversely. The study shows NCC has high risk or the variability of ratio is higher in NCC that KBL.

4.2.3.5 Saving Deposit to Total Deposit Ratio

This ratio is calculated as below:

$$\text{Saving Deposit to Total Deposit Ratio} = \frac{\text{Saving Deposits}}{\text{Total Deposit}}$$

The following table summarize as the saving deposits to total deposit ratio of NCC and KBL.

Table 4.16
Saving Deposit to Total Deposit Ratio

(Rs. in million)

Fiscal year	NCC			KBL		
	Saving Deposit	Total Deposit	Ratio	Saving Deposit	Total Deposit	Ratio
2006/07	10633.16	18755.64	0.57	10870.54	21007.37	0.52
2007/08	12771.83	21161.46	0.60	11759.6	22010.34	0.53
2008/09	13030.93	19335.1	0.67	12852.41	24814	0.51
2009/10	14597.67	23061.03	0.63	14582.86	26490.85	0.55
2010/11	15244.38	24647.02	0.62	15784.77	30048.42	0.52
Average	0.618			0.526		
Std. dev	0.037			0.015		
C.V.	0.06			0.03		
Details on Appendices 1, 3 and 17						

Table 4.16 shows that the saving deposits to total deposit ratios of NCC are fluctuating during the study period. It is higher (0.67) in the year 2008/09 and lower (0.57) in the year 2006/07. The average ratio of NCC is 0.618. The yearly ratios of the first year lower than the average ratio. However, the yearly ratio of the last year is equal to the average ratio but the yearly ratios of the second third and the fourth year are higher than the average ratio.

In case of KBL, the saving deposits of total deposit ratios are also fluctuating in the study period. It is higher (0.55) in the year 2009/10 and lower (0.51) in the year 0.526. The yearly ratios are lower than the average ratio in the first, third and fifth year of the study period. However, the yearly ratios are higher than the average ratio in the second and fourth year.

The average ratio of NCC (0.618) is higher than that of KBL (0.526)

The standard deviation of NCC is 0.037. Similarly, the standard deviation of KBL is 0.015. The coefficient of variation of NCC is 0.06. Likewise, the coefficient of variation of KBL is 0.03.

Saving deposit are short term viability it is longer in term the current and other deposits. So the large portion of saving deposit in total deposits shows the liquidity of the bank. Bank also pays interest on saving deposit whereas current, margin and other deposits are nominal cost fund. From the above table 4.11, Savings deposit to total deposits ratio of NCC is better than KBL.

4.3 Net working capital

Net working capital is the difference between current assets and current liabilities. Net working capital can be positive or negative. A positive net working capital will rise when current assets exceed current liabilities. A negative net working capital occurs when current liabilities are in excess of current assets. All the organization should have just adequate working capital to serve in competitive market. Excessive or inadequate working capital is dangerous from the firm's points of view. Excessive investment working capital affects a firm's profitability just as idle investment yields nothing. In the same way inadequate or negative working capital may be harmful to the organization. So, net working can be more useful for the analysis of trend-off between

profitability and risk. It enables a firm to determine how much amount is left for operational requirement.

Total 4.17: Net Working Capital of NCC

(Rs. in Million)

Fiscal Year	Current Assets	Current Liabilities	Net Working Capital	% charge in NWC
2006/07	20797.60	17620.78	3176.82	
2007/08	23494.63	20657.71	2836.92	-0.11
2008/09	21808.83	18834.12	2974.11	0.05
2009/10	25662.69	21825.40	3837.29	0.29
2010/11	28429.16	23223.59	5205.57	0.36
Average			3606.202	
C.V.			0.270	
Details on Appendix 1, 3 and 11				

Total 4.18: Net Working Capital of KBL

(Rs. in Million)

Fiscal Year	Current Assets	Current Liabilities	Net Working Capital	% charge in NWC
2006/07	16881.45	18694.56	-1813.11	
2007/08	18495.86	18320.71	175.15	-1.10
2008/09	21326.29	20195.51	1130.78	5.46
2009/10	23153.12	20984.01	2169.11	0.92
2010/11	27564.21	22811.51	4752.70	1.19
Average			1282.926	
C.V.			1.8957	
Details on Appendix 1, 3 and 12				

Table 4.17 shows that the net working capital of NCC is increasing always during the study period. The average net working capital of NCC is Rs. 3606.202 million. The net working capital of NCC ranges from Rs. 2836.92 million to Rs. 5205.57 million.

In case of KBL, table 4.18 shows that the net working capital is decreasing in the first year and continuously increase till last year of the study period. The average net working capital of KBL is Rs. 1282.926 million. The net working capital in KBL

ranges from Rs. -1813.11 million to Rs. 4752.70 million. NCC has negative working capital but KBL has negative working capital in the first year during the study period.

4.4 Correction Analysis

Correction is a statistical tool than can be used to describe the degree to which one variable is linearly related to another. The coefficient of correlation measures the degree of relationship between to sets of figures. Among the various methods of finding out coefficient of correlation, Karl Person's methods are applied in the study. The result of coefficient of correlation is always between +1 and -1, there is perfect relationship between two variables and vice versa. When r is o, there is no relationship between two variables.

4.4.1 Coefficient of Correlation between loan and Advances and Total Deposit:

The coefficient of correlation between loan and advances and total deposits is to measure the degree of relationship between major components of current assets i.e. loan and advances and major sources of fund on bank i.e. total deposits. In correlation analysis deposit is independent variable (y) and loan and advance is dependent variable (x). The purpose of computing coefficient of correlation is to justify whether the deposits are significantly used in loan and advances or not and whether there is any relationship between these two variables. To find out the correlation r various calculation are done.

The 4.19 shows the coefficient of correlation r, between loan and advances and total deposits i.e. r, PEr, 6 PEr, of NCC and KBL during the study period.

Table 4.19
Correlation Analysis between Loan and Advances and Total Deposits

Bank	R	Per	6 Per
NCC	0.828	0.21	1.26
KBL	0.975	0.015	0.09
Details on Appendix 27			

From the above table, we can find that coefficient of correlation between loan and advances and total deposits in NCC (r) is 0.828. It shows positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.828 is less than six times of PEr i.e. 1.26, we can say that the value of 'r' is not significant.

In case of KBL, we observe coefficient of correlation between loan and advances and total deposits is 0.975, which shows the positive relationship between the two variables. By considering the probable error, since the value of r i.e. 0.975 is higher than the six time PEr i.e. 0.09 it shows that relationship between those two variables is highly significant.

From the above analysis, it can be concluded that there is no significant relationship between loan and advances and total deposits is NCC but it is highly significant in KBL.

4.4.2 Coefficient of correlation between Investment of Government securities and total deposit:

The coefficient of correlation between investment of government security and total deposit it to measure the degree of relationship between two variables. Although bank utilities its deposits on loan and advances, some part of idle deposits are invested on government securities. In correlation analysis, deposit is independent variable Y and a government security is dependent variable X. The purpose of computing coefficient of correlation in this case is to justify whether or not the excess deposits are significantly used is government securities and whether there is any relationship between these two variables.

Table 4.20 shows the coefficient of correlation r , between government securities and total deposits i.e. r PEr, 6PEr, of NCC and KBL during the study period.

Table 4.20

Correlation Analysis between Government Securities and Total Deposits

Bank	R	Per	6 PEr
NCC	0.419	0.25	1.49
KBL	0.924	0.04	0.24
Details on appendix 28			

The above tables indicate that the coefficient of correlation between government securities and total deposits value ' r ' is 0.419 is NCC. It shows positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.419 is less that six time PEr i.e. 1.49, we can say that the value of ' r ' is not significant.

In case of KBL, we observe coefficient of Correlation between government securities and total deposits is 0.924, which shows the positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.924 is higher than the six time PEr, i.e. 0.24 it shows that relationship between two variables is highly significant.

From the above analysis, it can be concluded that there is no significant relationship between government security and total deposits in NCC but it is highly significant in KBL.

4.4.3 Coefficient of Correlation between Cash and Bank Balance and Current Liabilities:

Cash and Bank balance are most liquid component of current asset, which is required to meet the unexpected short-term obligation i.e. current liabilities. The coefficient of correlation between Cash and bank balance and current liabilities is to measure the degree of relationship between cash and bank balance and current liabilities. To find out the correlation, various calculations are performed.

Table 4.21 shows the coefficient of Correlation r , between cash and bank balance and current Liabilities i.e. r , PEr, 6Per of NCC and KBL during the study period.

Table 4.21

Correlation Analysis between Cash and Bank Balance and Current Liabilities

Bank	R	Per	6 Per
NCC	0.435	0.25	1.5
KBL	0.936	0.04	0.24
Details on appendix 29			

The above table indicates that the coefficient of correlation between cash and bank balance and current liabilities value ' r ' is 0.435 in NCC. It shows positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.435 is less than six time PEr i.e. 1.5, we can say that the value of ' r ' is not significant.

In case of KBL, we observe coefficient of correlation between cash and bank balance and current liabilities is 0.936, which shows the positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.936 is higher than

six time PEr i.e. 0.24, it shows that relationship between two variables is highly significant.

From the above analysis, it can be concluded that there is no significant relationship between cash & bank balance and total deposit in NCC but it is highly significant in KBL.

4.4.4 Coefficient of correlation between loan and advances and Net Profit:

The basic function of commercial bank is to collect deposit and invest these funds on loan and advance to generate higher profit. Large amount of loan and advances generate higher profit. The coefficient of correlation between loan and advances and net profit measures the degree of relationship between loan advances and net profit. In correlation analysis, loan and advances is independent variable Y and net profit is dependent variable x. The purpose of computing coefficient of correlation is to justify whether or not the loan and advances significantly generate profit and whether there is any relationship between these two variables.

Table 4.22 Shows the coefficient of correlation r, between loan and advances and net profit i.e. r, PEr, 6PEr, of NCC and KBL during the study period.

Table 4.22
Correlation Analysis between Loans and Advances and Net Profit

Bank	R	Per	6 Per
NCC	0.384	0.25	1.5
KBL	0.677	0.16	0.98
Details on appendix 30			

The above table indicates that the coefficient of correlation between loan and advances and net profit value 'r' is 0.384 in NCC. It shows positive relationship between two variables. By considering the probable error, since the value of r i.e. 0.384 is less than six time PEr, i.e.1.5, we can say that the value of 'r' is not significant.

In case of KBL, we observe coefficient of correlation between loan and advances and net profit is 0.677, which shows the positive relationship between two variables. By considering the probable error, since the value r i.e. 0.677 is less that six time PEr i.e. 0.98, it shows that the value of 'r' is not significant.

From the above analysis, we conclude that there is no significant relationship between on loan and advance and net profit in NCC and KBL.

4.5 Major Findings:

- a. The net working capital of both NCC is positive and KBL is negative in the year 2006/07 of study period which shows sufficient amount of working capital for operational requirement in that year. The average net working capital of NCC is Rs.2606.20 million and that of KBL is Rs. 1282.93 million. The net working capital of NCC range from RS.2836.92 million to Rs.5205.57 million where as in KBL, it ranges from Rs.-1813.11 million to Rs.4752.70 million. The CV of NCC is 0.27 and that of KBL is 1.9 which shows that there is very high variability of net working capital maintained by NCC compared to KBL.
- b. The liquidity positions of bank are analyzed with the current ratio, quick ratio and cash balance to deposit ratio. The current ratios of NCC and KBL ranges from 1.14 to 1.22 and 0.9 to 1.21, respectively. Measuring the risk factor it shows that there is more variation in current ratio maintained by NCC compared to KBL. The average current ratio of NCC and KBL are 1.176 and 1.056 respectively. This shows that the liquidity position or short term solvency of NCC is better than KBL in the study period. The trends of liquidity ratio, or current ratio, quick ratio, cash and and balance to deposit ratio of NCC and KBL are increasing. Although higher liquidity means lower risk as well as lower profit in general, it does not necessarily mean lower profit in case of commercial banks.
- c. The turnover positions of NCC have fluctuating. The average value of loan and advances to total deposit ratio, loan and advances to fixed deposit ratio and loan and advances to saving deposit ratio are 0.37, 4.126 and 0.592 on NCC and 0.53, 2.414 and 0.998 on KBL, respectively. From the analysis of turnover of these banks. It is found that KBL has slightly better turnover than NCC and risk is higher in NCC than KBL, Therefore, KBL has the better utilization of deposits in income generating activity than NCC. It also shows that KBL has better investment efficiency on loan and advance.
- d. Fixed deposit to total deposit ratios of KBL are higher than that of NCC during the study period. The ratios of NCC range from 0.07 to 0.13 with an average of

0.092. The ratios of KBL range from 0.15 to 0.27 with an average of 0.224. Therefore, it is concluded the KBL has more long-term and costly sources of funds than NCC and the risk is higher in NCC than in KBL.

- e. The profitability position of NCC and KBL are analyzed from different ways. The average value of interest earned to total assets ratios and net profit to total assets ratio of KBL is 0.052% which is higher than NCC's 0.048%. This implies that KBL is more efficiently using its total assets to earn interest income.
- f. Saving deposit to total deposit ratios of NCC are higher than that of KBL for the study period. The ratios of NCC range from 0.57 to 0.67 with an average 0.618. The ratios of KBL range from 0.51 to 0.55 with an average of 0.526. Therefore, it is concluded that NCC has more short term and less costly sources of funds than KBL. The risk of NCC is higher compared KBL.
- g. The major components of current assets in NCC and KBL are cash and bank balance, loan and advance and government securities. In the study period, the proportion of cash and bank balance, loan and advances and government securities to total current assets on an averages and government securities to total current assets on an average are 14.94%, 32.76% and 31.58% in NCC and 12.25%, 61.41 and 22.71 in KBL, respectively. So it is found that the average cash and bank and bank balance and government securities are higher on NCC than on KBL and average loan and advances percentage is higher in KBL than in NCC. The trend value of cash and bank balance is positive in both bank and also the trend value of loan and advance is positive in both banks. But trend value of government securities is negative in NCC and positive in KBL.
- h. The trend value of interest earned to total assets ratio on banks are deceasing. Although the net profit to total assets ratios and net profit to total deposit ratios are always higher on NCC than on KBL most of the time during the study period. The trend value of net profit to total assets ratio of NCC and KBL is at constant level. This shows that NCC is more efficiently using its working fund of assets to earn higher rate of profit than during the study period.
- i. Coefficient of correlation between cash and bank balance and current liabilities of NCC shows that there is no significant relationship but there is highly

significant relationship in KBL. The value of r is 0.435 on NCC and 0.936 on KBL. It shows that holding of cash and bank balance of NCC and KBL is related with current liabilities. Coefficient of correlation between loan and advances and net profit of NCC is 0.384 and in case of KBL it is 0.677. It shows that there is no significant relationship between loan and advances and net profit in NCC. It shows that change on loan and advances on NCC and KBL do not change the amount of profit significantly. It may be due to the use of higher amount of costly funds and other higher costs.

- j. While analyzing the correlation, loan and advances and total deposits of both the banks NCC and KBL are significantly correlated. The value of r of NCC is 0.528 and 0.975 in KBL. The positive value of r shows the positive relationship between loan and advances and total deposits. It shows that both banks utilize its total deposit on loan and advances effectively but relationships as well as utilization of deposits are better in KBL than in NCC. Correlation between investment on government security and total deposits of NCC is not significant but in case of KBL, it is highly significant.
- k. Cost of services to total assets ratio of KBL is higher than that of NCC. Cost of services to total assets of both banks ranges from 0.02% to 0.02% in NCC and 0.03% to 0.03% in KBL. Therefore, it is found that profitability portion to KBL is better than NCC. It would be better to decrease the cost of services of NCC.

CHAPTER - 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

Overall national development of any country depends upon the economic development of that country and economic development largely depends upon the financial infrastructure of that country. Therefore, the primary goal of any nation including Nepal is rapid economic development to promote the welfare of the people and the nation as well. Nepal being one of the least developed countries has been trying to embark upon the path of economic development by economic growth rate and developing all sectors of economy. Financial institution includes banks, finance companies, co-operative organizations and insurance companies. All of them do contribute something to the economy of the country. Financial institutions play a vital role in the proper functioning of an economy. Among them, banking sector plays an important role in the economic development of the country. Finance companies are one of the vital aspects of this sector, which deals in the process of channel zing the available resources in the needed sectors. It is the intermediary between the deficit and surpluses of financial resource.

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Every business needs capital to operate business smoothly and the capital is said to be blood of the business. Working capital is a scare sources and much more essential to maintain smooth operation of any firm. As in order form, working capital structure is crucial part for banking industry too. Establishment of commercial banks, especially joint venture banks, has continued in response to the economic liberalization policies of the government. As a result, in Nepal there are twenty commercial banks at present competing with each other in their business. These joint venture banks have concentrated themselves on financing foreign trade, commerce and industry.

As mentioned earlier, this study concentrates on the comparative analysis of working capital position of NCC and KBL. From the perspective of the researcher, these two banks are chosen for study mainly because of accessibility and availability of financial data for latest five year period.

To fulfill the objective, an appropriate research methodology has been developed, which includes ratio analysis as financial tool and trend analysis, correlation coefficient and test of hypothesis as statistical tools. The major ratio analysis consists of the composition of working capital, liquidity position, turnover position, capital structure position and profitability position. Under these, main ratios and their trend position are studied in the chapter four.

In order to test the relationship between the various components of working capital, Karl Pearson's correlation coefficient r is calculated and analyzed. Some null hypothesis formulated in chapter three, are tested in appendices and results are analyzed in chapter four.

The necessary data are derived from the balance sheet and profit and loss account of NCC and KBL for the period of five years from fiscal year 200/05 to 2009/10. In this chapter an attempt has been made to present conclusions and some suggestions and recommendations.

5.2 Conclusion

- In case of profitability position, profitability in terms of interest earned to total assets ratio of KBL is slightly higher than that of NCC. Therefore, KBL is more efficiently using its total assets (funds) to earn interest income. The net profit to total assets and the net profit to deposits ratios are higher in NCC than in KBL. Thus, it is concluded that the average profitability ratio of NCC is higher than that of KBL. Both the banks have constant level of growth in profitability during the study period. To acquire higher profits they should take strong steps for the better management, strong marketing and strategic development etc.

- Both the banks are able to maintain adequate liquidity position to meet the short term or even instant obligations in that period. However, the liquidity position of NCC is slightly better than that of KBL. Although higher liquidity means

lower risk as well as lower profit, but in commercial bank, higher liquidity is not always the cause of lower profitability.

- Therefore, from above all, it can be concluded that both the banks are not of much difference. Comparatively, NCC is financially steady and better than KBL. But it does not mean that KBL is not performing well. Both banks are striving for better performance by adopting various new strategies and providing additional services.
- Analyzing the turnover position between these two banks, the KBL is utilizing its funds more efficiently for the profit generating purpose on loan and advances than NCC. KBL is utilizing saving deposits more for the income generating purpose whereas NCC is utilizing more fixed deposits for the income generating purpose.
- The average cash and bank balance and government securities percentage are higher on NCC than KBL and average loan and advances percentage is higher in KBL than in NCC. The net working capital of NCC is positive in the first year of the study period. Comparatively, NCC has higher net working capital than KBL.
- The correlation coincident of the variables selected for the statistical analysis shows that NCC has insignificant relationship with cash and bank balance and current liabilities, loan and advances and net profit loan and advances and total deposit and government securities and total deposits. Similarly, KBL has insignificant relationship with loan and advances and net profit but significant relationship with cash and bank balance and current liabilities, government securities and total deposits and loan and advances and total deposits.

5.3 Recommendations

- The liquidity position in terms of current ratio of both NCC and KBL are below than normal standard. Therefore, both banks should increase the current assets. Shift from invest in govt. Securities to loan & advances, which will support in increase the profitability.

- Net profit to total assets ratio is higher on NCC than KBL but net profit to total deposits ratio is higher on KBL than NCC. However, interest earned to total assets ratio and the cost of services are higher on KBL than NCC. Therefore, KBL should try to reduce its cost by reducing high cost deposits and operating in proper and efficient way so that it can least operating cost which further maximizes its profitability and shareholder return.
- Improper working capital leads to decrease the profitability of the company and leads to run the company in the long run. So, NCC and KBL are recommended to give emphasis to proper working capital policy to uplift the financial performance of the companies in the competitive age of today.
- The turnover of the commercial banks is the primary bank is the primary factor of income generating activity. Fixed deposits and saving deposits turnover position are also not satisfactory on both banks. Due to the poor turnover position, the chances of bad debts and non-earning idle funds are high. Therefore, both NCC and KBL should give proper attention on collection of over-dated loan and advances and utilization of idle funds as loan and advances.
- Proportion of saving to total deposit is more than 49 % in both NCC and KBL. Comparatively, NCC is better than that of KBL.
- The unskilled manpower, over-staffing, unsystematic purpose of raw materials, unnecessary expenses, misuse of facilities, heavy expenses on overhead etc. may be the cause for high operating cost. So, both NCC and KBL are recommended to pay attention to these aspects.
- By implementing the matching working capital management policy instead of adopting conservative working capital policy, NCC, as well as KBL, can improve in its profitability in both short and long runs.
- From turnover ratios, investment policy of KBL seems better than that of NCC during the study period. It is therefore necessary for NCC to utilize its deposits in income generating activities by better investment efficiency on loan and advances.

- Positive working capital represents the sound financial management of the banks. Similarly, negative working capital represents the poor financial management of the banks. In case of NCC, we found always positive working capital during the study period however; it is positive in the first year in KBL and negative in the second year then again positive in the rest of the years. Therefore, to eradicate this situation in KBL, suitable working capital should be formulated and implemented. There should be keeping optimum size of investment in current assets and current liabilities.

- Although proportion of loan and advances out of the total current assets of NCC is more than other current assets. Similarly, the proportion of loan and advances out of the total current assets of KBL is more than 50% of Current assets. Hence, NCC should adjust its policy of investment on loan and advances with collected funds and increase the proportion of loan and advances in total current assets.

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APPENDIX-1

Calculation of Trend Value of Cash and Bank Balance to Current Assets Ratio:

X	X ²	NCC			KBL		
		Y ₁	XY ₁	Y _C =a+bx	Y ₂	XY ₂	Y _C =a+bx
-2	4	15.24	-30.48	11.47	12.61	-25.22	7.44
-1	1	18.05	-18.05	16.32	12.18	-12.81	9.85
0	0	15.45	0	14.94	11.51	0	12.25
1	1	12.68	12.68	16.68	11.76	11.76	14.66
2	4	13.30	53.2	18.41	12.58	50.32	17.06
	$\dot{y}x^2=10$	$\dot{y}y_1=74.72$	$\dot{y}xy_1=17.35$		$\dot{y}y_2=61.27$	$\dot{y}xy_2=24.05$	

For NCC,

$$a = \frac{\sum XY_1}{N} = \frac{74.72}{5} = 14.94$$

$$b = \frac{\sum XY_1}{\sum X^2} = \frac{17.35}{10} = 1.735$$

For KBL,

$$a = \frac{\sum XY_2}{N} = \frac{61.27}{5} = 12.25$$

$$b = \frac{\sum XY_2}{\sum X^2} = \frac{24.05}{10} = 2.405$$

APPENDIX-2

Calculation of Trend Value of Loan and Advances to Current Assets Ratio:

X	X ²	NCC			KBL		
		Y ₁	XY ₁	Y _C =a+bx	Y ₂	XY ₂	Y _C =a+bx
-2	4	27.39	-54.78	27.43	59.25	-118.5	60.72
-1	1	27.28	-27.28	30.09	64.62	-64.62	61.07
0	0	37.34	0	32.76	58.26	0	61.41
1	1	34.82	34.82	37.49	63.24	63.24	61.75
2	4	36.95	73.90	38.09	61.66	123.32	62.10
	$\dot{y}x^2=10$	$\dot{y}y_1=163.78$	$\dot{y}xy_1=26.66$		$\dot{y}y_2=307.03$	$\dot{y}xy_2=3.44$	

For NCC,

$$a = \frac{\sum Y_1}{N} = \frac{163.78}{5} = 32.76$$

$$b = \frac{\sum XY_1}{\sum X^2} = \frac{26.66}{10} = 2.666$$

For KBL,

$$a = \frac{\sum Y_2}{N} = \frac{307.03}{5} = 61.41$$

$$b = \frac{\sum XY_2}{\sum X^2} = \frac{3.44}{10} = 0.344$$

APPENDIX-3

Calculation of Trend Value of Investment on Government Securities to Current Assets Ratio:

X	X ²	NCC			KBL		
		Y ₁	XY ₁	Y _C =a+bx	Y ₂	XY ₂	Y _C =a+bx
-2	4	32.33	-64.66	34.54	23.69	-47.38	22.08
-1	1	33.84	-33.84	33.06	18.55	-18.55	22.40
0	0	33.03	0	31.58	25.65	0	22.71
1	1	33.68	33.68	30.10	22.22	22.22	23.02
2	4	25.00	50	28.62	23.42	46.84	23.34
	∑x ² =10	∑y ₁ =157.88	∑xy ₁ =-14.82		∑y ₂ =113.53	∑xy ₂ =3.13	

For NCC,

$$a = \frac{\sum Y_1}{N} = \frac{157.88}{5} = 31.58$$

$$b = \frac{\sum XY_1}{\sum X^2} = \frac{14.82}{10} = 1.482$$

For KBL,

$$a = \frac{\sum Y_2}{N} = \frac{113.53}{5} = 22.71$$

$$b = \frac{\sum XY_2}{\sum X^2} = \frac{3.13}{10} = 0.313$$

The Following formulas are used to calculate mean, standard deviation and coefficient variation

$$\text{Mean } \bar{X} = \frac{\sum X}{N}, \text{ Standard Deviation } = \sqrt{\frac{\sum d^2}{n-1}}, \text{ coefficient of Variation C.V.} \\ = \frac{u}{\bar{X}},$$

Let X₁ and X₂ denote the ratio of NCC and KBL, respectively

APPENDIX-4
Cash and Bank Balance to Current Assets (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	15.24	12.61	0.09	0.1296
2007/08	18.05	12.81	9.6721	0.3136
2008/09	15.45	11.51	0.2601	0.5476
2009/10	12.68	11.76	5.1076	0.2401
2010/11	13.30	12.58	2.6896	0.1089
N=5	$\bar{y}_{x_1} = 74.72$	$\bar{y}_{x_2} = 61.27$	$\bar{y}d_1^2 = 17.8194$	$\bar{y}d_2^2 = 1.3398$

For NCC,

Average = 14.94

Std. Dev. = 2.111

C.V. = 0.141

For KBL,

Average = 12.25

Std. Dev. = 0.579

C.V. = 0.047

APPENDIX-5
Loan and Advances to Current Assets (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	27.39	59.25	28.79396	4.64834
2007/08	27.28	64.62	29.98658	10.32980
2008/09	37.34	58.26	21.01306	9.89732
2009/10	34.82	63.24	4.26009	3.36356
2010/11	36.95	61.66	17.58964	0.06452
N=5	$\bar{y}_{x_1} = 163.78$	$\bar{y}_{x_2} = 307.03$	$\bar{y}d_1^2 = 101.64333$	$\bar{y}d_2^2 = 28.30354$

For NCC,

Average = 32.756

Std. Dev. = 5.041

C.V. = 0.154

For KBL,

Average = 61.406

Std. Dev. = 2.660

C.V. = 0.043

APPENDIX-6
Government Securities to Current Assets Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	32.33	23.69	0.56852	0.96826
2007/08	33.84	18.55	5.12570	17.27234
2008/09	33.03	25.65	2.11412	8.66714
2009/10	33.68	22.22	4.42682	0.23620
2010/11	25.00	23.42	43.24378	0.50980
N=5	$\sum x_1 = 157.88$	$\sum x_2 = 113.53$	$\sum d_1^2 = 55.47894$	$\sum d_2^2 = 27.65374$

For NCC,

Average = 31.576

Std. Dev. = 3.724

C.V. = 0.118

For KBL,

Average = 22.706

Std. Dev. = 2.629

C.V. = 0.116

APPENDIX-7
Miscellaneous Current Assets to Current Assets Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	25.04	4.45	18.62786	0.66586
2007/08	20.83	4.02	0.01124	0.14899
2008/09	14.18	4.58	42.82394	0.89492
2009/10	18.82	2.78	3.62522	0.72932
2010/11	24.75	2.34	16.20868	1.67444
N=5	$\sum x_1 = 103.62$	$\sum x_2 = 18.17$	$\sum d_1^2 = 81.29694$	$\sum d_2^2 = 4.11353$

For NCC,

Average = 20.724

Std. Dev. = 4.508

C.V. = 0.218

For KBL,

Average = 3.634

Std. Dev. = 1.014

C.V. = 0.279

APPENDIX-7
Net Working Capital:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	3176.82	-1813.11	184367.18	9585438.91
2007/08	2836.92	17=.15	591794.80	1227167.67
2008/09	2974.41	1130.78	399161.13	23148.41
2009/10	3837.29	2169.11	53401.66	785322.08
2010/11	5205.57	4712.70	2557978	12039331.61
N=5	$\sum x_1 = 18031.01$	$\sum x_2 = 6414.63$	$\sum d_1^2 = 3786702.77$	$\sum d_2^2 = 23660408.68$

For NCC,

Average = 3606.202

Std. Dev. = 972.97

C.V. = 0.2698

For KBL,

Average = 1282.926

Std Dev. = 2432.098

C.V. = 1.8957

APPENDIX-8
Current Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	1.18	0.90	0.000016	0.024336
2007/08	1.14	1.01	0.001296	0.002116
2008/09	1.16	1.06	0.000256	0.000016
2009/10	1.18	1.10	0.000016	0.001936
2010/11	1.22	1.21	0.001936	0.023716
N=5	$\sum x_1 = 5.88$	$\sum x_2 = 5.28$	$\sum d_1^2 = 0.00352$	$\sum d_2^2 = 0.271144$

For NCC,

Average = 1.176

Std. Dev. = 0.0297

C.V. = 0.0253

For KBL,

Average = 1.056

Std. Dev. = 0.0823

C.V. = 0.0779

APPENDIX-9
Quick Ratio

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.56	0.33	0.000196	0.001444
2007/08	0.59	0.32	0.001936	0.002304
2008/09	0.56	0.39	0.000196	0.000484
2009/10	0.55	0.37	0.000016	0.000004
2010/11	0.47	0.43	0.005776	0.003844
N=5	$\bar{y}_{x_1} = 2.73$	$\bar{y}_{x_2} = 1.84$	$\bar{y}d_1^2 = 0.00812$	$\bar{y}d_2^2 = 0.008076$

For NCC,

Average = 0.546

Std. Dev. = 0.045

C.V. = 0.083

For KBL,

Average = 0.368

Std. Dev. = 0.045

C.V. = 0.122

APPENDIX-10
Cash and Bank Balance to Deposit Ratio (Excluding Fixed Deposit):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.19	0.12	0.000196	0.000324
2007/08	0.21	0.14	0.001156	0.000004
2008/09	0.19	0.13	0.000196	0.000064
2009/10	0.11	0.14	0.004356	0.000004
2010/11	0.18	0.16	0.00016	0.000484
N=5	$\bar{y}_{x_1} = 0.88$	$\bar{y}_{x_2} = 0.69$	$\bar{y}d_1^2 = 0.001352$	$\bar{y}d_2^2 = 0.00088$

For NCC,

Average = 0.176

Std. Dev. = 0.0184

C.V. = 0.1045

For KBL,

Average = 0.138

Std. Dev. = 0.0148

C.V. = 0.1075

APPENDIX-11
Fixed Deposit to Total Deposit Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.10	0.15	0.000064	0.005476
2007/08	0.07	0.21	0.000484	0.000196
2008/09	0.07	0.25	0.000484	0.000676
2009/10	0.09	0.24	0.000004	0.000256
2010/11	0.13	0.27	0.001444	0.002116
N=5	$\bar{y}_{x_1} = 0.46$	$\bar{y}_{x_2} = 1.12$	$\bar{y} d_1^2 = 0.00248$	$\bar{y} d_2^2 = 0.00872$

For NCC,

Average = 0.092

Std. Dev. = 0.0.25

C.V. = 0.27

For KBL,

Average = 0.224

Std. Dev. = 0.047

C.V. = 0.21

APPENDIX-12
Saving Deposit to Total Deposit Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.57	0.52	0.002304	0.000036
2007/08	0.60	0.53	0.000324	0.000016
2008/09	0.67	0.51	0.002704	0.000256
2009/10	0.63	0.55	0.000144	0.000576
2010/11	0.62	0.52	0.000004	0.000036
N=5	$\bar{y}_{x_1} = 3.09$	$\bar{y}_{x_2} = 2.63$	$\bar{y} d_1^2 = 0.00548$	$\bar{y} d_2^2 = 0.00092$

For NCC,

Average = 0.618

Std. Dev. = 0.037

C.V. = 0.06

For KBL,

Average = 0.526

Std. Dev. = 0.015

C.V. = 0.03

APPENDIX-14
Loan and Advances to Total Deposit Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.30	0.48	0.0049	0.0025
2007/08	0.30	0.54	0.0049	0.0001
2008/09	0.42	0.50	0.0025	0.0009
2009/10	0.39	0.55	0.0004	0.0004
2010/11	0.43	0.57	0.0036	0.0016
N=5	$\bar{y}_{x_1} = 1.84$	$\bar{y}_{x_2} = 2.64$	$\bar{y}d_1^2 = 0.0163$	$\bar{y}d_2^2 = 0.0055$

For NCC,

Average = 0.37

Std. Dev. = 0.064

C.V. = 0.184

For KBL,

Average = 0.53

Std. Dev. = 0.037

C.V. = 0.073

APPENDIX-15
Loan and Advances to Fixed Deposit Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	2.92	3.12	1.4544	0.4984
2007/08	4.49	2.54	0.1324	0.0158
2008/09	5.75	2.03	1.887	0.1474
2009/10	4.18	2.31	0.0029	0.0108
2010/11	3.29	2.07	0.6988	0.1183
N=5	$\bar{y}_{x_1} = 20.63$	$\bar{y}_{x_2} = 12.07$	$\bar{y}d_1^2 = 4.1752$	$\bar{y}d_2^2 = 0.7907$

For NCC,

Average = 4.126

Std. Dev. = 1.0217

C.V. = 0.5006

For KBL,

Average = 2.414

Std. Dev. = 0.445

C.V. = 0.266

APPENDIX-16
Loan and Advances to Saving Deposit Ratio:

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.54	0.92	0.0027	0.0060
2007/08	0.50	1.02	0.0084	0.0004
2008/09	0.62	0.97	0.0007	0.0007
2009/10	0.61	1.00	0.0003	0.0000
2010/11	0.69	1.08	0.0096	0.0067
N=5	$\bar{y}_{x_1} = 2.96$	$\bar{y}_{x_2} = 4.99$	$\bar{y}d_1^2 = 0.0217$	$\bar{y}d_2^2 = 0.0138$

For NCC,

Average = 0.592

Std. Dev. = 0.0736

C.V. = 0.133

For KBL,

Average = 0.998

Std. Dev. = 0.0587

C.V. = 0.062

APPENDIX-17
Interest Earned to Total Assets Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.05	0.05	0.00004	0.000004
2007/08	0.04	0.05	0.00064	0.000004
2008/09	0.05	0.05	0.00004	0.000004
2009/10	0.05	0.06	0.00004	0.000064
2010/11	0.05	0.05	0.00004	0.000004
N=5	$\bar{y}_{x_1} = 0.24$	$\bar{y}_{x_2} = 0.26$	$\bar{y}d_1^2 = 0.00008$	$\bar{y}d_2^2 = 0.00008$

For NCC,

Average = 0.048

Std. Dev. = 0.0045

C.V. = 0.093

For KBL,

Average = 0.052

Std. Dev. = 0.0045

C.V. = 0.087

APPENDIX-18
Interest Earned to Total Assets Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.02	0.01	0.000004	0.000004
2007/08	0.02	0.01	0.000004	0.000004
2008/09	0.02	0.01	0.000004	0.000004
2009/10	0.03	0.02	0.000064	0.000064
2010/11	0.02	0.01	0.000004	0.000004
N=5	$\bar{y}_{x_1} = 0.11$	$\bar{y}_{x_2} = 0.06$	$\bar{y} d_1^2 = 0.00008$	$\bar{y} d_2^2 = 0.00008$

For NCC,

Average = 0.022

Std. Dev. = 0.004

C.V. = 0.182

For KBL,

Average = 0.012

Std. Dev. = 0.004

C.V. = 0.333

APPENDIX-19
Net Profit to Total Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.03	0.01	0	0.000016
2007/08	0.03	0.01	0	0.000016
2008/09	0.03	0.01	0	0.000016
2009/10	0.03	0.02	0	0.000036
2010/11	0.03	0.02	0	0.000036
N=5	$\bar{y}_{x_1} = 0.15$	$\bar{y}_{x_2} = 0.07$	$\bar{y} d_1^2 = 0$	$\bar{y} d_2^2 = 0.00012$

For NCC,

Average = 0.03

Std. Dev. = 0

C.V. = 0

For KBL,

Average = 0.014

Std. Dev. = 0.005

C.V. = 0.393

APPENDIX-20
Cost of Services to Total Assets Ratio (%):

Year	X ₁	X ₂	$d_1^2 = (x_1 - \bar{x}_1)^2$	$d_2^2 = (x_2 - \bar{x}_2)^2$
2006/07	0.02	0.03	0	0
2007/08	0.02	0.03	0	0
2008/09	0.02	0.03	0	0
2009/10	0.02	0.03	0	0
2010/11	0.02	0.03	0	0
N=5	$\bar{y}_{x_1} = 0.1$	$\bar{y}_{x_2} = 0.15$	$\bar{y}d_1^2 = 0$	$\bar{y}d_2^2 = 0$

For NCC,

Average = 0.02

Std. Dev. = 0

C.V. = 0

For KBL,

Average = 0.03

Std. Dev. = 0

C.V. = 0

APPENDIX-21
Calculation of Trend Value of Interest Earned to Total Assets Ratio:

X	X ²	NCC			KBL		
		Y ₁	XY ₁	Y _{C=a+bx}	Y ₂	XY ₂	Y _{C=a+bx}
-2	4	0.05	-0.1	0.046	0.05	-0.1	0.05
-1	1	0.04	-0.04	0.047	0.05	-0.05	0.51
0	0	0.05	0	0.048	0.05	0	0.52
1	1	0.05	0.05	0.049	0.06	0.06	0.53
2	4	0.05	0.1	0.05	0.05	0.1	0.54
	$\bar{y}x^2=10$	$\bar{y}y_1=0.24$	$\bar{y}xy_1=0.01$		$\bar{y}y_2=0.26$	$\bar{y}xy_2=0.01$	

For NCC,

$$a = \frac{\sum XY_1}{N} = \frac{0.24}{5} = 0.048$$

$$b = \frac{\sum XY_1}{\sum X^2} = \frac{0.01}{10} = 0.001$$

For KBL,

$$a = \frac{\sum XY_2}{N} = \frac{0.26}{5} = 0.052$$

$$b = \frac{\sum XY_2}{\sum X^2} = \frac{0.01}{10} = 0.001$$

APPENDIX-22

Calculation of Trend Value of Net Profit to Total Assets Ratio:

X	X ²	NCC			KBL		
		Y ₁	XY ₁	Y _C =a+bx	Y ₂	XY ₂	Y _C =a+bx
-2	4	0.02	-0.04	0.02	0.01	-0.02	0.01
-1	1	0.02	-0.02	0.021	0.01	-0.01	0.011
0	0	0.02	0	0.022	0.01	0	0.012
1	1	0.03	0.03	0.023	0.02	0.02	0.013
2	4	0.02	0.04	0.024	0.01	0.02	0.014
	$\dot{y}_x^2=10$	$\dot{y}_y=0.11$	$\dot{y}_{xy_1}=0.01$		$\dot{y}_y=0.06$	$\dot{y}_{xy_2}=0.01$	

For NCC,

$$a = \frac{\sum XY_1}{N} = \frac{0.11}{5} = 0.022$$

$$b = \frac{\sum XY_1}{\sum X^2} = \frac{0.01}{10} = 0.001$$

For KBL,

$$a = \frac{\sum XY_2}{N} = \frac{0.06}{5} = 0.012$$

$$b = \frac{\sum XY_2}{\sum X^2} = \frac{0.01}{10} = 0.001$$

APPENDIX-23

Calculation of Correlation Coefficient between Loan & Advances and Total Deposit of NCC:

LA (X)	TD (Y)	$X = X - \bar{X}$	X ²	$Y = Y - \bar{Y}$	Y ²	XY
5695.82	18755.64	-2241.65	5024994.72	-2636.41	6950657.69	5909908.48
6410.24	21161.46	-1527.23	2332431.47	-230.59	53171.75	352163.97
8143.21	19335.1	205.74	42328.95	-2056.95	4231043.30	423196.89
8935.42	23061.03	997.95	995904.20	1668.98	2785494.24	1665558.59
10502.64	24647.02	2565.17	6580097.13	3254.97	10594829.70	8349551.39
$\dot{y}_x=$ 39687.33	$\dot{y}_y=$ 106960.25		$\dot{y}_x^2=$ 14975756.47		$\dot{y}_y^2=$ 24615196.68	$\dot{y}_{xy}=$ 15853985.54

$$\bar{X} = \frac{\sum X}{N} = \frac{39687.33}{5} = 7937.47$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{106960.25}{5} = 21392.05$$

Correlation,

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

$$= \frac{15853985.54}{\sqrt{14975756.47 \times 24615196.68}}$$

$$= 0.828$$

$$PEr = 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.6745 \times \frac{1-(0.828)^2}{\sqrt{5}} = 0.6745 \times \frac{0.6856}{2.2361} = 0.21$$

$$\therefore 6PE_r = 6 \times 0.21$$

$$= 1.26$$

Calculation of Correlation Coefficient between Loan & Advance and Total

Deposit of KBL:

LA (X)	TD (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
10001.85	21007.37	-3201.91	10252227.65	-3866.83	14952374.25	12381241.65
11951.87	22010.34	-1251.89	1567228.57	-2863.86	8201694.1	3585237.70
12424.52	24814	-779.24	607214.98	-60.2	3624.04	46910.25
14642.56	26490.85	1438.8	2070145.44	1616.65	2613557.22	2326036.02
16998.00	30048.42	3794.24	14396257.18	5174.22	26772552.61	19632232.49
$\sum x =$ 66018.8	$\sum y =$ 124370.98		$\sum x^2 =$ 28893073.82		$\sum y^2 =$ 52543802.22	$\sum xy =$ 37971658.11

$$\bar{X} = \frac{\sum X}{N} = \frac{66018.8}{5} = 13203.76$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{124370.98}{5} = 24874.20$$

Correlation,

$$\begin{aligned} r &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\ &= \frac{37971658.11}{\sqrt{28893073.82 \times 52543802.22}} \\ &= 0.9745 \end{aligned}$$

$$PEr = 0.6745 \times \frac{1-r^2}{\sqrt{n}} = 0.6745 \times \frac{1-(0.975)^2}{\sqrt{5}} = 0.6745 \times \frac{0.049}{2.2361} = 0.015$$

$$\begin{aligned} \therefore 6PE_r &= 6 \times 0.015 \\ &= 0.09 \end{aligned}$$

APPENDIX-24

Calculation of Correlation Coefficient between Government Securities & Total Deposit of NCC:

GS (X)	TD (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
6722.83	18755.64	-802.55	644086.50	-2636.41	6950657.69	2115850.85
7948.22	21161.46	422.84	178793.67	-230.59	53171.75	-97502.68
7203.07	19335.1	-322.31	10388.374	-2056.95	4231043.30	662975.55
8644.86	23061.03	1119.48	1253235.47	1668.98	2785494.24	1868389.73
7107.94	24647.02	-417.44	174256.15	3254.97	10594829.7	-1358754.68
$\Sigma x =$ 37626.92	$\Sigma y =$ 106960.25		$\Sigma x^2 =$ 2354255.53		$\Sigma y^2 =$ 24615196.68	$\Sigma xy =$ 3190958.77

$$\bar{X} = \frac{\Sigma X}{N} = \frac{37626.92}{5} = 7525.38$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{106960.25}{5} = 21392.05$$

Correlation,

$$\begin{aligned}
 r &= \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} \\
 &= \frac{3190958.77}{\sqrt{2354255.53 \times 24615196.68}} \\
 &= 0.4192
 \end{aligned}$$

$$PEr = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.419)^2}{\sqrt{5}} = 0.6745 \times \frac{0.8244}{2.2361} = 0.25$$

$$\begin{aligned}
 \therefore 6PE_r &= 6 \times 0.25 \\
 &= 1.49
 \end{aligned}$$

**Calculation of Correlation Coefficient between Government Securities and
Total Deposit of KBL:**

GS (X)	TD (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
3998.87	21007.37	-901.04	811873.08	-3866.83	14952374.25	3484168.50
3431.73	22010.34	-1468.18	2155552.51	-2863.86	8201694.1	4204661.98
5469.76	24814	569.85	324729.02	-60.20	3624.04	-34304.97
5144.32	26490.85	244.41	59736.25	1616.65	2613557.22	395125.43
6454.88	30048.42	1554.97	2417931.70	5174.22	26772552.61	8045756.87
$\Sigma x =$ 24499.56	$\Sigma y =$ 124370.98		$\Sigma x^2 =$ 5769822.56		$\Sigma y^2 =$ 52543802.22	$\Sigma xy =$ 16095407.91

$$\bar{X} = \frac{\sum X}{N} = \frac{24499.56}{5} = 4899.91$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{124370.98}{5} = 24874.20$$

Correlation,

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

$$= \frac{16095407.91}{\sqrt{5769822.56 \times 52543802.22}}$$

$$= 0.9244$$

$$PE_r = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.924)^2}{\sqrt{5}} = 0.6745 \times \frac{0.1462}{2.2361} = 0.04$$

$$\therefore 6PE_r = 6 \times 0.04$$

$$= 0.24$$

APPENDIX-25

Calculation of Correlation Coefficient between Cash and Bank Balance and Current Liabilities of NCC:

CB (X)	CL (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
3170.21	17620.78	-393.48	154826.5	-2809.60	7893852.20	1105521.40
4241.76	20657.71	678.07	459778.9	227.33	51678.90	154145.65
3370.81	18824.42	-192.88	3720.27	-1605.96	2579107.80	309757.56
3253.51	21825.4	-310.18	96211.60	1395.02	1946080.80	-432707.30
3782.17	23223.59	218.48	47733.50	2793.21	7802022.10	610260.52
$\Sigma x =$ 17818.46	$\Sigma y =$ 102151.90		$\Sigma x^2 =$ 795753.20		$\Sigma y^2 =$ 20272741.50	$\Sigma xy =$ 1746977.83

$$\bar{X} = \frac{\sum X}{N} = \frac{17818.46}{5} = 3563.69$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{102151.90}{5} = 20430.38$$

Correlation,

$$\begin{aligned}
 r &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\
 &= \frac{1746977.83}{\sqrt{795753.20 \times 20272741.50}} \\
 &= 0.435
 \end{aligned}$$

$$PEr = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.435)^2}{\sqrt{5}} = 0.6745 \times \frac{0.8108}{2.2361} = 0.25$$

$$\begin{aligned}
 \therefore 6PE_r &= 6 \times 0.25 \\
 &= 1.5
 \end{aligned}$$

**Calculation of Correlation Coefficient between Cash and Bank Balance
and Current Liabilities of KBL:**

CB (X)	CL (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
2129.31	18694.56	-499.68	249680.10	-1506.70	2270144.90	752867.86
2370.09	18320.71	258.9	67029.20	-1880.55	3536468.30	486874.40
2455.55	20195.51	-173.44	30081.40	-5.75	33.10	997.28
2722.63	20984.01	93.64	8768.40	782.75	612697.60	73296.71
3467.36	22811.57	838.37	702864.30	2610.25	6813405.10	2188355.29
$\Sigma x =$ 13144.94	$\Sigma y =$ 101006.30		$\Sigma x^2 =$ 1058423.4		$\Sigma y^2 =$ 13232749	$\Sigma xy =$ 3502391.54

$$\bar{X} = \frac{\sum X}{N} = \frac{13144.94}{5} = 2628.99$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{101006.30}{5} = 20201.26$$

Correlation,

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

$$= \frac{33011417.97}{\sqrt{1058423.4 \times 13232749}}$$

$$= 0.9358$$

$$PEr = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.936)^2}{\sqrt{5}} = 0.6745 \times \frac{0.1239}{2.2361} = 0.04$$

$$\therefore 6PE_r = 6 \times 0.04$$

$$= 0.24$$

APPENDIX-26

Calculation of Correlation Coefficient between Loan and Advance and Net Profit of NCC:

LA (X)	NP (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
5695.82	506.95	-2241.65	5024994.70	-279.92	7355.20	627482.67
6410.24	537.8	-1527.23	2332431.50	-249.07	62035.90	380387.18
8143.21	539.21	205.74	42328.90	-247.66	61335.50	-50953.57
8935.42	658.75	997.95	995904.20	-128.10	16409.60	-124843.55
10502.64	691.65	2565.17	6580097.10	-95.22	9066.80	-244255.49
$\Sigma x =$	$\Sigma y =$		$\Sigma x^2 =$		$\Sigma y^2 =$	$\Sigma xy =$
39687.33	2934.36		14975756.40		156203	587817.24

$$\bar{X} = \frac{\sum X}{N} = \frac{39687.33}{5} = 7937.47$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{2934.36}{5} = 586.87$$

Correlation,

$$\begin{aligned}
 r &= \frac{\sum xy}{\sqrt{\sum x^2 \sum y^2}} \\
 &= \frac{587817.24}{\sqrt{14975756.4 \times 20272741.50}} \\
 &= 0.384
 \end{aligned}$$

$$PEr = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.384)^2}{\sqrt{5}} = 0.6745 \times \frac{0.8525}{2.2361} = 0.25$$

$$\begin{aligned}
 \therefore 6PE_r &= 6 \times 0.25 \\
 &= 1.5
 \end{aligned}$$

Calculation of Correlation Coefficient between Loan and Advance and Net Profit of KBL:

LA (X)	NP (Y)	$X = X - \bar{X}$	X^2	$Y = Y - \bar{Y}$	Y^2	XY
10001.85	212.12	-3201.91	10252227.60	-134.43	18071.40	430432.80
11951.87	263.05	-1251.89	1567228.60	-83.50	6972.30	104532.80
12424.52	308.28	-779.24	607215	-38.27	1464.60	29821.50
14642.56	457.46	1438.80	2070145.40	110.91	12301	159577.30
16998.00	491.82	3794.24	14396257.20	145.27	21103.40	551189.20
$\sum x =$ 66018.80	$\sum y =$ 1732.73		$\sum x^2 =$ 28893073.80		$\sum y^2 =$ 122660.70	$\sum xy =$ 1275553.60

$$\bar{X} = \frac{\sum X}{N} = \frac{66018.80}{5} = 13203.76$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{1732.73}{5} = 346.55$$

Correlation,

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

$$= \frac{1275553.60}{\sqrt{28893073.80 \times 122660.70}}$$

$$= 0.677$$

$$PEr = 0.6745 \times \frac{1 - r^2}{\sqrt{n}} = 0.6745 \times \frac{1 - (0.677)^2}{\sqrt{5}} = 0.6745 \times \frac{0.5417}{2.2361} = 0.163$$

$$\therefore 6PE_r = 6 \times 0.163$$

$$= 0.98$$