

INVESTMENT POLICIES OF JOINT VENTURE COMMERCIAL BANKS IN NEPAL

(A Comparative Study of NABIL, SCBNL and EBL)

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RECOMMENDATION LETTER

This is to certify that the thesis

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Entitled

"Investment Policies of Joint Venture Commercial Banks in Nepal"

(A Comparative Study of NABIL, SCBNL and EBL)

*has been prepared by this department in the prescribed format of the faculty of
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(A Comparative Study of NABIL, SCBNL and EBL)

and found the thesis to be the original work of the student written according

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partial fulfillment of the requirement for the Degree of

Master Business Studies (MBS)

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DECLARATION

I hereby declare that the thesis entitled "**Investment Policies of Joint Venture Commercial Banks in Nepal**"(A Comparative Study of **NABIL, SCBNL and EBL**) submitted to Shanker Dev Campus T.U. is my original work done in the form of partial fulfillment of the requirement for the degree of master of Business studies under the supervision of **Asso. Prof. Keshav Raj Joshi** of Shanker Dev Campus.

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Kumar Bikram Thapa

Researcher

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LIST OF ABBREVIATIONS

B.S.	:	BikramSambat
BOKL	:	Bank of Kathmandu Limited
C.V.	:	Coefficient of Variation
CBS	:	Commercial Banks
CCR	:	Cash Reserve Ratio
EBL	:	Everest Bank Limited
GDP	:	Gross Domestic Product
HBL	:	Himalayan Bank Limited
KTM	:	Kathmandu
Ltd.	:	Limited
M.B.S.	:	Master's in Business Studies
NABIL	:	Nabil Bank Limited
NBBL	:	Nepal Bangladesh Bank Limited
NIBL	:	Nepal Investment Bank Limited
No.	:	Number
NRB	:	Nepal Rastra Bank
NSBIL	:	Nepal State Bank of India Bank Limited
P.Er.	:	Probable Error
ROA	:	Return on Assets
RS	:	Rupees
S.D.	:	Standard Deviation
SCBNL	:	Standard Chartered Bank Nepal Limited
T.U.	:	Tribhuvan University
Viz.	:	Namely

CHAPTER I

INTRODUCTION

1.1 Background

Banking sector plays an important role in the economic development of the country, commercial banks one of the vital aspects of this sector. They act as an intermediary between the deficit and surplus groups. Economic development of any country is mainly influenced by the growth of banking industry of that country. Bank is a business establishment that safeguards people's money and uses it to make loans and investments. Banks' main sources of credit are millions of individuals and families and for many units of government (school, district, cities, countries etc.). During transaction business and consumers make payments from bank provided checks, debit card or credit card. Hence, bank can be said as a financial intermediary accepting deposit and granting loans offers widest menu of services of any financial institutions.

In broadest sense, a bank is a financial intermediary that performs one or more of the following functions. Accepted deposit, provide loans, lending guarantees, investment on different sectors (government securities, shares and debentures, projects etc.), purchase and discount the bills of exchange promissory notes & exchange foreign currency, agencies functions (funds transfer, issue letter of credit etc.). Such institutions as commercial banks, central banks, trust companies finance companies, life insurance and investment bankers provides these services.

Financial system contains two components viz. depository and non depository financial institutions. Commercial banks and finance companies are the examples of the depository institutions whereas employees provident fund, Development banks, Insurance companies, etc are the examples of non-depository financial institutions.

The concept of bank has been modifying due to the change of time and situations. Many well known economists, scholars and acts of nations of the world have given definitions regarding bank. Some of the significant definitions are stated as below.

"A commercial bank is dealer in money and it substitutes for money such a check or a bills of exchange, it also provides a variety of finance service." (The new encyclopedia of Britanica, 1985)

A bank is an organization whose principal operations are concerned with the accumulation of the temporarily idle money of the general public for the purpose of advancing to other for expenditure.

Nowadays commercial banks invest their fund in various sectors. Whereas commercial banks invest in government securities, shares and debentures, different types of projects and providing various types of loans etc. to earn profit. Investment promotes economic growth and contributes to a nation's wealth, as in when people deposit money in a bank. To contribute and grow up the economic, commercial banks formulate & follow the right investment policy at right time. Better investment policy always achieves maximum profit with minimum risk.

Finally, a bank is an institution, which deals with money by accepting various types of deposit, disbursing loan and rendering other financial services. Financial institution is the backbone of the economic development of the country. Commercial bank plays a vital role in the economic development of the country. Commercial bank helps to utilize the capital and provide loan for the business sector. It is not easy to earn profit for commercial banks. The financial manager should have broad strategy which helps to maximize the wealth of the organization. The main objectives of Bank are to provide the banking services to the people in different sectors. The major activities including deposit collection, lending to commercial as well as productive sector, foreign exchange business, remittance merchant banking, correspondence banking etc.

1.2 Focus of the Study

Banks have today gained paramount trust of the public. Banking industry offers a wide range of services addressing the needs of public in different walks of life. At present, a large number of banks are operating in Nepal; naturally, they are rendering a wide range of services. They are trying to keep up space with the changes taking place in the world. But quantity does not count for quality. The financial institution of all classes 'A' to 'D' are increasing every year. In a small economy like Nepal, it is a question of great concern as to how so many banks are servicing and reaping profit. The concern is not only about these days but also the sustainability of the operating banks in future days also. Therefore, the report will try to concentrate on three major joint venture sectors banks of Nepal, i.e. Everest Banks Ltd (EBL), Standard Chartered

Bank Nepal Ltd. (SCBNL), NABIL Bank Ltd. It will focus on the comparative profit accounting to these three banks regarding profitability, liquidity, leverage positions cost minimization etc.

1.3 Statements of the Problems

Banking business in Nepal through seemed developed and mushroomed only in urban area of the country in recent days, has its own limitations and problems as regards to security, profitability and financial soundness. Currently there are 31 commercial banks under 'A' class financial institutions operating in the country. The inflow of money in the banks in the form of several kinds of deposits is huge but it could not be invested in more profitable sustainable and riskless projects. In addition, many banks are found centered in the urban areas of the country. Therefore, there is a situation that needy people and small entrepreneurs residing in rural areas are still deprived from institutional credit. However, this study will not go to this vast and thus focus only on the level and quality of deposit mobilization of the three sampled banks as regards to profit earning capacity or status of profitability.

Investment is the most important factor from the shareholder's and banks' management point of view. Though several commercial banks have been established in our country within short period of time, sufficient return cannot have been earned and strong, stable and appropriate investment policy has not been followed by the commercial banks. Due to throat-cut competition of financial environment, banks seem to be ready to grant much more loan, advances and other facilities against their client insufficient deposit. However, subsequent development of commercial banks in quality has not been satisfactory. Majority of the commercial banks is found to be unsatisfactory. The financial loss and managerial responsibilities of their ailing units have to be done by the government. But private banks are running successfully. The commercial banks are not interested in granting loan to the primary sectors of the economy. Banking is not being easy accessibility of public in remote village area. Private Banks have concentrated their operation mainly in town and capital of the country. The present study will try to analyze and examine the investment policy of respected banks. Each and every joint venture commercial bank should not run successfully without the conceptual frame work of investment policy.

In developing countries like Nepal joint venture commercial banks have been facing several challenges, some of them are arising from lack of smooth functioning of the economy, some of them are arising due to confused policy and many of them are arising due to default of the borrower. Liberalization in the economy has produced some degree of opportunities and more than it had created uncertainty. The liberalization of financial sectors demands a new technology of lending to deal efficiently with the risky pressures on the profitability of the banks and financial sector institutions.

1.4 Objective of the Study

The major objective of the study is to examine, identify analyze study and evaluated the investment policy and the fund mobilization of the joint venture commercial banks in Nepal and as the sample for the study we take three joint venture commercial banks of Nepal-in the analysis using the different financial and statistical tools.

The specific objectives are as follows:

- To evaluate and analyze the investment policy of the joint venture commercial banks in Nepal.
- To evaluate the liquidity, asset management, profitability and risk position of the banks under study.
- To analyze the trends of most influential terms to the investment policy of the bank (i.e. total deposit, total investment and net profit under which the conduct various activities.)

1.5 Significance of the Study

The present study is to find out the investment policy and practice of the joint venture commercial bank in Nepal. Any bank can perform its lending behavior only when it has sufficient amount to lend it. So first, it should be able to collect sufficient amount in the form of deposits from different sectors.

In Nepal, there are very few resources, which have been made in the area of investment policy of joint venture commercial banks. Due to this reason, only few books and resources dealing with this aspect are found but are not sufficient. Whatever the research in the area of investment policies have been made are also not in depth and detailed.

Investment policy is one of the essential and the main functions where the whole banking business is related. Thus, the study on the major joint venture commercial banks and especially in their lending and investment policies carry a great significance to the share holders of banks to the banking professionals, to the students and teachers of banking and commerce. It is expected that this study will provide some relevant findings, which may help the bankers, professional and interested readers too.

1.6 Limitation of the Study

In the context of Nepal, data availability is the major problem for any purpose-that may be because of the poor document handling management or due to the wretched response for the concerned people when asked for any information.

This study is simply a partial requirement of MBS program and the limitations faced while doing this study are as follows:

- Only the available secondary data will analyzed for the interpretation of any result and the decisions will primarily be depending on the reliability of the secondary data available.
- The sample taken for the study may not represent the whole population of the commercial bank in Nepal.
- The study will analyze the data and information of five years. A consolidate trend for five years will not be sufficient for the research accurate projection.
- The data are modified as per the study.
- Lastly, the time factor is the major limitation of this study as this has to be completed within a short period of time.

1.7 Organization of the Study

The whole study comprised of the five different consecutive parts as mentioned below:

Chapter I: Introduction

This chapter comprises of general background, focus of the study, brief profile of the banks under study, significance of the study, objective of the study, limitations of the study and organization of the study.

Chapter II: Review of the Literature

This part deals with the reviewing of the various literatures, definitions and concept of investment policy. This also consists of the review of the related studies, journals articles and review of books concerned to investment policy.

Chapter III: Research Methodology

This part consists of research design, total population and sample of the study, nature and sources of the data collection procedures and the analytical tools and techniques used in the study.

Chapter IV: Presentation and Analysis Data:

This part constitutes the tabular and graphical representation of the collected data, their interpretation and analysis using various financial as well as statistical tools. Parts of it summary of the major findings are also presented at the end of the chapter.

Chapter V: Summary, conclusion of Recommendations

This chapter contains the summary of the whole study. Some relevant conclusions were drawn based on the study. A suitable set of recommendations were made at the end of the chapter.

Finally an extensive appendices and bibliography are presented at the end of this study.

CHAPTER II

REVIEW OF LITERATURE

In this chapter focus has been made on the review of literature that is relevant to the investment policy of commercial banks. Review of literature basically a stock taking of available literature in the field of research. Every possible effort has been made to gap knowledge and information that is available from libraries, document collection centers, other information magazine bureaus and concerned commercial banks. This chapter helps to take adequate feedback to broaden the information bare and input to the study.

2.1 Conceptual Framework Review

"A commercial bank is business organization that receives and holds deposit of fund from others makes loan or extend credits transfer fund by written order of deposits" (Grolier,1984).

Commercial bank Act of Nepal (1974) has defined commercial banks in following ways, "Commercial banks means a bank which operates currency, exchange transaction, accept deposit, provided loan and perform dealing relating to commerce and other than those banks which have been specified for the co-operative, agriculture, and industry of likely other special objectives". The commercial banks are established under the commercial bank act 1974 in Nepal that has been amended regularly.

The main function of commercial bank is the accumulation to the temporary idle money of general public for trade and commerce. It main functions are accept deposited and grants loan, exchange and purchase and discount bill for promissory notes, exchange foreign currency to provide loan, agency function, overseas trading services and information and other services. Commercial banks earn profit by proper mobilization of their resources. Many commercial banks have been established to provide a suitable service according to their customers. "Investment is any vehicle into which funds can place with the expectation that will present or increase in value and generate positive returns. (Gitman and Joehk, 1990)

"Investing Involves making a current commitment of funds in order to obtain and uncertain future return. It is a risky business that demands information to process information effectively and select the best investment requires goals that are clearing cut and realistic". (Francis, 1983)

"Investment as commitment of funds to one or more assets that will be held over some future times period. Investment is concerned with the management of an investor's wealth. This is the sum of current income and present value of all income." (Charles, 1991).

"The investment objectives are to increases systematically the individual wealth, defined as assets minus liabilities. The higher the level of desired wealth the higher must be received. An investor seeking higher return must be willing to face higher level of risk." (Cheney & Moses, 1998)

2.1.1 Concept of Banking

Bank plays a significant role in the development of country. It facilitates the growth of trade and industry of the national economy. However, bank is a resource for economic development, which maintains the self- confidence of various segments of society and extends credit to people.

According to Encyclopedia (1984 A.D.), "A bank is a business organization that receives and holds deposits of funds from others. It makes loan or extends credits and transfers funds by written orders of depositors." The business of banking is one of collecting funds from the community and extending credit to people for useful purpose. Banks have played a vital role in moving money from lenders to borrowers. Banking is a profit seeking business not a community charity. As a profit motive, it is expected to pay dividends and otherwise add to the wealth of its shareholders.

In Nepalese context, there are three types of banks, operated by performing their activities in different sectors, such as, Central Bank (Nepal Rastra Bank), Commercial banks and Development banks.

A good investment policy can be effective for the economy to attain the economic objective directed towards the acceleration of the pace of development. A good investment policy attracts both borrowers and lenders, which helps to increase the volume and quality of deposit, loan and investment. The loan provided by commercial

bank is guided by several principles such as length of time, their purpose, profitability, safety etc. These fundamental principles of commercial banks are considered while making investment policy. Nepalese commercial banks lag far behind fulfilling the responsibilities to invest in the crucial sector of the economy for the enlistment of the national economy. Thus the problem has become very serious one in developing country like Nepal, which can be solved through formulation of sound investment policy. Sound investment policy can minimize interest rate spread and non-performing assets, which cause the bank failure. Good investment policy ensures maximum amount of investment to all sectors with proper utilization. Formulation amount of investment policies and co-ordinate and planned efforts depends upon the growth of not only a particular bank but also of a society. Seen in this light, the study of investment policy of Nabil Bank, Standard Chartered Bank and Everest Bank Ltd. assumes special importance. In today's completion market, it has become increasingly important for banks to know about investment policies to get success in competition.

2.1.2 Concept of Commercial Bank

Commercial banks are the major components in the financial system. They work as the intermediary between depositors and lenders and facilitate in overall development of the economy, with major thrust in industrial development. In modern time, commercial banks are facilitated, regulated and supervised by the central bank. Central bank confines them and concentrates in their activities of fulfilling needs of their customers.

Modern commercial banks can be identified by different name such as business banks, retail banks, clearing banks, joint venture banks, they all perform the same basis function i.e., they provide a link between lenders and depositors, those who have surplus of money and do not wish to spend immediately with borrowers, those who do not have surplus money but wish to borrow for investment in productive purpose. Basically, by charging a rate of interest to borrowers slightly higher than the lender. Then banks make their profit by the rate of interest. This is known as financial intermediate.

Bank essentially is an intermediately of short term funds. It can carry out the extensive lending operations only, if it can effectively channelize the saving of the community. A good bank is the one, which effectively mobilize the saving of the

community as well as makes use of nations' economy. Commercial banks are by far the most widespread banking institutions in Nepal.

Commercial bank came into existence mainly with the objective of collecting the idle funds, mobilizing them into productive sector and causing an overall economic development. The bankers have the responsibility of safeguarding the interest of the depositors, the shareholders and the society they serve. A sound banking system is important because of its key role in the economy, intermediation, mainly transformation, facilitating payments flow, credit allocation and maintaining financial discipline among borrow, Banks are the gatherers of having, the alligators of resources and provided of liquidity and payment services.

Because of higher return on investment and lower capital requirements, entrepreneurs were interested in setting up new banks including branch of foreign banks. However, current policies and economic scenario of the country coupled with new prudential norms of Nepal Rastra Bank and stiff competition may make the entrepreneurs give a second thought to the idea of establishing banks.

2.1.3 Concept of Joint Venture Bank

A joint venture is an association of two or more people or parties undertaken to make the operation highly effective with their collective efforts. Joint venture bank plays an important role in the economic development of the country. "Joint venture means the joining of forces between two or more enterprise for the purpose of carrying out a specific operation" (Gupta, 1994).

In Nepal, the history of joint venture bank is not very old. About the history of foreign joint venture banks in Nepal, Nabil Bank Ltd. was established on July 12, 1984 under a technical services agreement with Dubai Bank Limited, Dubai. This was later merged with Emirates Bank Ltd., Dubai. Joint venture banks are working under commercial Bank Act 2031B.S, which are backbones for the economic development of the country. Beside this, joint venture banks have been also creating completion for venture banks of Nepal are in a better position than local commercial banks in terms of profit making and services providing. Joint venture banks play vital roles in attracting foreign investment by familiarizing the foreign investors.

2.1.4 Investment

Money attracts money, this sounds familiar to every individual involved in some or other investment activities; this means if you know the tactics to invest your money in their right way in the right place and at the right time-you will earn more amount of extra income (money in return) in the future from the investment you made. In a common layman's view, every investment gives a certain return. It could be both favourable and unfavourable depending upon the efficiency of investment made.

In general sense investment is the sacrifice of money to generate more money, where as in economic sense, investment is the purchase of goods not for consumption but for the future create of wealth. Investment encompasses the vision of profit involved speculation and wealth generation.

By going today's consumption and investing the savings, the investors expect to enhance their future consumption possibilities. The term 'Investment has its primary significance in financial sector, i.e., it refers to the process of determining the worthy area to invest a firms fund to procure expected return as a favorable one by its maximum utility at the minimal risk. We can say that investment is concerned with the management of an investor's wealth-who is interested in working on it to get more of the money (which includes the sum of current money and the present value of all future money).

Investment promotes economic growth and contributes to a nation's wealth, as in when people deposit money in a bank, for instance the bank may invest it by lending the funds to various business companies. These firms in return may invest the money in new factories and other equipment to increase their production. Beside borrowing from the bank most of the comprises issues stock/bonds and sell them to the investors to raise the capital needed for their business expansion. Government also issues bonds to obtain funds to invest in projects such as the construction of dams, roads, school etc for the development of the country. All such investment done by the firms and government involves a present sacrifice of money to get an expected future benefits. Hence we can say that investment raised a nation's standard of living.

2.1.5 Investment Policy

Investment policy is simple words in the proper management of any fund/wealth to maximize the value of it or to obtain the favourable return with minimal risk considering the protection of the investment from inflation, taxes and other factors. It's ensures efficiency on the allocation of fund to achieve the materialistic and economic well-being of the society. In appropriate or unsuitable investment policy and inadequate knowledge on it usually creates difficulty to the investor on selection of an optimal investment area. Investment policy basically involves the determining of the investor's objectives and the amount of investable fund available. Investment is always related with risks and returns. Making money alone cannot be an appropriate objective in itself the objective should focus on making decent return by recognizing the possible losses. Therefore, investment should states in terms of both risk and return. We can say that there is a positive relation between risk and return for sensible investment strategies and the investment policy concludes with the identification of the potential categories of financial assets for consideration in the ultimate portfolio.

A good investment policy attracts both borrowers and lenders which enhances the volumes and quality of the deposit, loan and investment. the purpose of the investment policy is to guide the foundation in effectively supervising, monitoring and managing its investments.

From the above explanation we can say that investment policy is an important ingredient for the overall economic development. In this regard, the commercial banks also formulate their investment policies which drive to achieve the priority of commercial sector along with their needs in the context of the whole country's economic development.

2.1.6 Important of Investment Policy to the Commercial Banks

Investment policy of the financial institutions, especially banks have long term impact not only on their growth and sustainability but also on the economic development of the country. As we know that one of the main objectives of the commercial banks is to provide the fund needed to community i.e., lending service to the community. To make their lending service more effective, the commercial banks formulate sound investment/lending policies which eventually contributes to the economic

development of the banks and further contributes to the overall development of the country.

Every bank has its investment policy to guide their investing operations. The basic factors that will determine the objectives of a banks' investment policy are its income liquidity needs and the managements' willingness to trade liquidity for greater income opportunities along with the degree of risk associated. Formulation of an investment policy must give awareness about the entire risk exposure that bank management is willing to assume. One of the acceptable methods of reducing risks in the investment portfolio of commercial banks is by diversification a basic and important rule of any investment policy risk cannot be completely avoided by diversification, but they can be reduced. Besides the investment policy of a bank should be revised occasionally and modified as economic conditions changes.

Likewise, sound policies help the commercial banks maximize its quality and quantity of its investment and thereby, achieve their focused desired objective. Investment management of a bank is guided by the investment policy adopted by the banks which helps then in the investment operation of the banks to be efficient and profitable by minimizing the inherent risk. Investment policy comprises the set of guidelines and procedures that direct the long-term management of the investment. However, the fundamental principles of the commercial banks like the volume and quality of deposit, loan and investment are to be considered while making the investment policy. Besides the formulation of sound lending policies for all banks should have adequate and careful consideration over the community needs, size of loan portfolio, charter of loan, credit worthiness of borrower and assets pledged security borrowing, interest rate policy etc.

A good banker follows a profound investment policy which brings maximum profit to share holders and provides maximum security to the depositors. It will focus on the concept and importance of the investment policy in the banking area especially in the commercial banks, banking in Nepal, Joint venture commercial banks, overview of the selected banks.

2.1.7 Traditional Approach toward Profit

There is traditional approach of business environment and economic theory associated with the profit for a firm is maximization approach. Profit maximization is the most

important assumption of economic theory. It always assumes that a firm sets target and strive to maximize the profit and is discretionary behavior for of the firm. Therefore, profit maximization is the central belief of managerial economic.

"The term profit maximization is deep suited in the economic theory. It provides yardstick by which economic performance can be judged. It leads to efficient allocation of resources. It ensures maximum social welfare." (Khan and Jain, 1992)

Profit maximization has the being of began a simple and straight forward statement of purpose. It is easily understood as a rational goal for a business and focuses the firm's efforts toward making money.

Profit maximization objective can be justified as follows:

- Under the condition of free competition. Businessmen pursuing their own self-interest also serve the interest of society. It is also assumed that when individual firm pursue the interest of maximizing profits, society's resources are efficiently utilized.
- Firm adopts those ventures which increase profit and unprofitable activities are dropped.
- The firm by pursuing its objective of profit maximization also maximizes social economic welfare.

However, this objective has been criticized on served ground as follows:

- Profit maximization objective is not clear.
- Profit maximization objective ignores the timing of return.
- Profit maximization objective ignore quality of benefit.
- Profit maximization objective overlooks the quality aspect of future activity.
- It fails to account timing of return and ignores risk.

This objective was regarded suitable and advantageous only in those days when business structures were solely self-financed and relatively small. Obviously, the single owner of the business entertained profit maximization just to increase the individual wealth's power.

2.1.8 Modern Approach toward Profit

Today, business environment has become totally different from that in the past. A firm has several other objectives besides profit maximization. Nowadays there is security and long-term motive of earning reasonable profit. In the words of Baumol, sales maximization is the main objective of business. Similarly, the objective of the firm may be to maximize the growth rate, utility of the business or satisfaction of the various associated parties or shareholders' wealth maximization.

The business firms financed through the funds of equity owners, creditors and professional management. Customers, employees, government and society are connected with the firm in one or other ways. Therefore, shareholder's wealth maximization should be taken as a normative goal of the firm by setting a standard of reasonable profit and by fulfilling the minimum requirements of the society.

Shareholder's wealth maximization is the appropriate goal for banks. Considers the risk and timing associated with the expected earnings per share, in order to maximize the price of the firm's common stock.

The wealth maximization objectives are consistent with the objective of maximizing owners' economic welfare. Economic welfare maximization of owners is equal to the utility maximization of their consumption overtime. The principle of following timing of return and risk provides a rational guide for running a business and for efficient allocation of resources in society. "In developing countries the firms have a determine what the outcome would be before allocating the resources in an attempt to maximize the social benefit side by side in accompanying the maximization of the shareholders wealth. (Shrestha, 2008)

The objectives of profit maximization were given various kinds of threats from all sectors. So a wide range of alternatives are put forwarded by the economists to the concept of profitability of a firm. Though there are denials towards profitability maximization model, economic still do not have unfired views covering the alternative model when market are perfectly competitive, monopolistically complete, and duopolistically competitive. Therefore, profit maximization mode is still in existence. A business firm still prefers to maximize profit as far as possible. Business has multiple goals and the needs of survival, goodwill security or growth commonly call for some sacrifice of short term profits. Most business do however,

rate profitability consistently high among their long term objectives and it could be argued that short term goals such as security and growth are in fact subordinate to long-term profitability. Therefore, firm should rather direct its objectives towards reasonable sets of profit.

2.1.9 Profitability and Profit

A commercial bank can maximize its volume of wealth through maximization of return on their investment in lending. So, they must invest their fund where they can gain maximum profit. The profit of commercial banks depends on the interest rate, volume of loan, its time period and nature of investment in different securities.

Profit is the prize of entrepreneurship and risk taking, it is the life-blood of each type of business. In a simple term, profit means the residual balance of earnings expected to be available with the firm that is obtained after deducting entire expenses, costs, charges and provision from total revenue of a period of time. Profit is the resources left to the firm for future growth and expansion or reward to be distributed to the entrepreneurship in the form of divided etc.

Shareholders were interested with the growth of the retained earnings and at the same time stability in earning. Similarly, management of the banks is concerned about the overall position of the bank. Likewise, government regularity is concerned with the rate of return on the assets and also wants to see the proportion of capital structure of the bank. The general public is also interested towards the concerned matters.

Proper utilization of the bank's resources is an indicator of sound performance. How far the banks have gained over the years depend chiefly on how far they have been able to utilize their resources in an effective manner. So to increase profitability, the bank should properly utilize the resources. So financial performance analysis of a firm consists different kind of indicators out of which financial statement analysis, ratio analysis, sources and uses of fund and the major indicators to measure the strength of weakness of a firm. A powerful and the most tested tool of financial analysis is the ratio analysis. "It is defined as the systematic use of ratio to interpret the financial statement so that the strengths and weakness of a firm as well as well as its historical performance and current financial condition can be determined (Khan&Jain, 1992).

Profit in accounting sense is the excess of revenue over costs incurred in producing this revenue. This concept of profit is also known as residual concept. But in

economics, both implicit and explicit costs are deducted from total sales revenue in determining profit.

2.2 Characteristics of Investment Policy of Commercial Banks

Income and profit of the banks depends upon its lending procedure and investment of funds of different securities. The greater the credit by a bank, the greater will be profitability. A sound lending policy is not only prerequisite for banks profitability, but also crucially significant for the promotion of commercial saving of a backward country like Nepal. Some main characteristics of sound lending and investment policies are given below.

a) Safety and Security

The banks should invest its funds in those securities, which are subject too much depreciation and fluctuation because little difference many cause a great loss. It must not invest its funds into speculative businessman who may be bankrupt at once or who may earn million in a minute also. The bank should accept that type of securities, which are commercial, durable, and marketable and have high marketable price.

b) Liquidity

People deposit money at banks in different account with confidence that the bank will repay their money when they are in need. To maintain such confidence of the depositors, the bank must keep this point to mind while investing its excess funds in different securities or at the same time of lending. So that it can meet current short-term obligation, when they become due for payment.

c) Profitability

Commercial banks can minimize its volume of wealth through maximization of return on their investment and lending. So, they must invest their funds where they gain maximum profit. The profit of commercial banks mainly depends on interest rate, volume of loan, its time period and nature of investment in different securities.

d) Purpose of Loan

The loan should be utilized in purposed plan. Every things related with the customer should be examined before lending. If borrower misuses the loan granted by the bank

they can never repay and bank will poses heavy bad debts. Detailed information about the scheme of the project activities should be examined before lending.

e) Tangibility

Though it may be considered that tangible property does not yield income apart from direct stratification of possession of property, many times intangible securities lost their value due to price level inflation. So, commercial banks shuld prefer tangible security to intangible one.

f) Legality

Every financial institution must follow the rules and regulation of the company, government and various directions supplied by Nepal Rastra Bank, Ministry of finance and other while issuing securities and mobilization funds illegal securities will bring out many problems to the investors that may lose reputation and goodwill of the bank.

g) Diversification

The bank should be careful that while granting loan, it should not be always in one sector. To minimize risk and maximize profit, a bank must diversify its investment on different sectors or make portfolio investment. Diversification of loan helps to sustain loss as, if securities of some companies deprived then there may be appreciation in the securities of other companies.

2.3Some Important Terms of Commercial Banks

A. Investment in the Securities

The third line of defense to meet demands for cash and serving, the quick source of funds is the bank's liquid security holding, often called secondary reserve. "These assets normally compose more than one third of total assets of banks. These typically include holding of shorter-term government bonds like treasury bills, development bond etc. and other security purchases in the open market and readily converted into cash in the financial market. These security bear low risk, low return, but higher liquidity. The remaining securities where the banks invest in direct and indirect investment, in the sectors by virtue of statutory requirements are imposed. For example, most of the Nepalese commercial banks feel convenient to invest in the rural

development bank's shares as they comply both with NRB regulations for priority sector lending and also they get moderate return from them.

B. Loans and Advances

This is the primary source of income and most profitable assets to a bank. A bank is always willing to lend as much as possible since they constitute the profitable source of revenue. This occupies the highest proportion of assets of any commercial banks bearing more than 40% of the assets used. But a bank has to be more careful while providing loans and advances since they may not be realized in a short period of time. And sometimes they may turn into bad debt. Therefore it is not wise to rely on them at the time of emergency of all banks.

A commercial bank hardly lends money for a longer period of time. It lends money for a short period of time that can be collected. The commercial banks are never bound to provide long term loan because it has to synchronize the loans and advances with the nature of deposits they receive. Loans and advances are provided against the personal security of the borrower or against the security of the immovable and movable properties. Banks provide the loans in the various forms such as overdraft, cash credit, direct loans and discounting, bills of exchange.

C. Other Assets

The great majority of banks' assets are financial claims. However, banks' assets also include the value of banks' buildings, vehicles, equipments, computers (Hardware and software) and other miscellaneous fixed assets like deferred revenue expenditure, leaseholds, and free holds, prepaid expenses and advances. However only a small portion of total assets is covered in this category.

2.4 Major Sources of Funds

A. Deposits

The principal liability of commercial banks is its deposits collected from general public, business and government agencies. It is a direct claim of outsiders to the bank. The total assets of banks are financed by more than 75% from the deposits. Normally, deposits are classified into three categories: demand deposits, saving deposits and fixed deposits.

Demand deposits are permitted for unlimited check writings, but they do not bear any interest liabilities. However, a minimum balance is fixed for the depositors. By the view point of banks these are the cost free deposits but banks are not confirmed to invest them for a longer period, since it can be demanded at any time. This is an easy mean of circulating transactions and suitable for business concerns.

Saving deposits are normally meant for the individual nonprofit making organization and other who are for saving motive and also want to earn some interest from the deposits. However there is a minimum fixed balance. Banks offers interest in the minimum monthly balance to the saving depositors and also permits with drawls and deposits to these accounts. However, banks impose some constraints in the maximum one time with drawal limit.

In fixed deposit, the maximum one time limit is exceeds and minimum balance is not maintained, no interest is offered to the depositors. These deposits are of somehow stable and banks can feel confirmed to invest them in the medium term financings. Fixed term deposits (also called time deposits) are the major sources for banks longer term investments as these deposits bear fixed maturity periods. These deposits are offered a stipulated interest rate (normally higher than the savings rate), a fixed denomination of amount and a pre-fixed maturity period. Banks tend to offer different interest rates to these deposits accounting to the deposit amount and maturity time. The more amount and longer the maturity period, the higher the interest rate and vice-versa.

Now days, Nepalese joint venture commercial banks have introduced a different types of deposit account: call deposit. Banks are happy to find the heavy corporate source of deposits stable in the time span. Banks are interested to find the single source of heavy deposits constable to invest it in the market. These types of deposits have various benefits. Banks can serve a single corporate deposit or more carefully than various small accounts. The deposits are of constable nature and banks can invest them without hesitation. So, banks provide a special interest rate to such deposit permit to write checks against them, but also fix a minimum balance for maintain this account.

B. Borrowing from the non-deposit Sources

A sizable amount of funds stem from miscellaneous liability accounts. Bank assets are supported from other non deposit liabilities with or without costs. Bank borrowings placements, overnight placement, borrowing from central banks, foreign banks are some examples of nominal cost bearing sources. However, these are short term liabilities, due to no obligation for banks to maintain reverse for them. These types of liabilities are also important for banks. Other cost free sources of liabilities are accrued interest payable, deferred expenses, account payable, deferred tax liabilities. Obligations such as bankers' acceptances, bankers' checks matured time deposits, remittance awaiting disposals and other liabilities.

C. Stockholder's Equity/Internal Financial Sources

Every new bank begins with a minimum amount of owner's capital and borrows funds from the public to level up its operation. These capitals normally account less than 10% value of the total assets. So, banks are the institution having the greatest financial leverage using from external sources of financing. Through, being a relatively small item, banks capital, account typically includes value of paid up capital share premium, statutory and other reserves and retained/ploughed back profits. Usually, the largest items in the capital account are retained earning undivided profits, which included accumulated profit over each year after payment of dividends.

The banks are such type of institutions, which deal in money, substitute for money, and the deal with credit instruments. Good circulation of credit is very much important for the banks unsteady and unevenly flow of credit harms the economy. Thus, to collect fund and utilize it in a good investment is not a joke for such organization. The secret of successful banking is to distribute resource between the various joins of assets in such a way as to get a sound balance between liquidity and profitability. So, there is cash (in hand quickly) to meet every claim and at the some enough income for the bank to pay its way and earn profits for its shareholders.

Bank is government regulated, profit making organization that operates in comparison with other banks and financial institutions to serve the credit needs of its customers. The primary business of banks is accepting deposit and lending money. Banks accepts deposits from customer who want the safety and convenience of deposit and the

opportunity to earn interest on their excess funds. Banks put their depositor's funds to other individual to other business and to federal state and local government.

2.5 Review of Related Studies

2.5.1 Review of Books

Baidya (1967) explained that "A sound investment policy of a bank is such that its fund are distributed different types of assets with good profitability on the one hand and provides maximum safety and security to the depositors and bank on the other hand, moreover risk in banking sectors trends to be concentrated in the loan portfolio when a bank gets into serious financial trouble its problems usually spring from significant amounts of loan that have become uncollectable due mismanagement illegal manipulation of loan misguided lending policy of unexpected economic down turn. So the bank investment policy must be such that it is sound and prudent in other 10 protecting public funds.

Chandra (1973), explained that "A bankers seeks optimum combination of earning liquidity and safety, while formulation investment policy" Emphasizing the important of investment policy H.D. crosses puts the importance of investment policy in this study. Lending is essence of commercial banking consequently the formulation and the implementation of sound policies are among the most important responsibilities of bank directors and management well conceives lending function effectively and minimize the risk in the rent in any extension of credit the formulate of sound lending policies for all bank should have adequate and careful consideration over community needs size of loan portfolio, character of loan, credit worthlessness of borrower and assets pledged to security borrowing interest rate.

Bhalla (1983) defined that, "the man of the street. The sense in which are going to much interested namely financial investment." Banks are those institutions which accept deposit from the public and turn provides credit to trade, business and industry that directly makes remarkable impact on the economic development of a country. Hence sound investment policy or bank is another secret of a successful banks. To collect fund and utilize it in a good investment is a very risk Job. Various people have given their view regarding the investment policy of CBS which has been written below."

The investment policy of the bank helps the investment operation of the banks to be efficient and profitable by minimizing the inherent risk.

Baxley (1987), express that "investment policy fixes responsibilities for the investment deposition of the bank assets in terms allocating funds for investment and loan and establishing responsibility for day to day management of these assets."

Shrestha(1995), explained that "portfolio behavior of commercial banks in Nepal" said that "The commercial banks fulfill the credit needs of various sector of the economy including agriculture, industry, commercial and social services sector the lending policy of commercial banks is based on the profit maximizing of the institutions as well as the economic enhancement of the country."

Singh & Singh (1998), "the investment policy of banks are conditioned to great extend by the national policy frame work every bankers has to apply his own judgment for arriving at a credit decision, keeping of course, his bankers' credit policy also in hand."

They further state, "The field of investment is more challenging as it offers relatively greater scope to banker for judgment and discretion in selecting their loan portfolio. But this higher degree of freedom in the field of credit management is also accomplished greater risk. Particularly during recent years, the credit function has become more complex."

Frank (1999), defines that "An investment may be define as the current commitment of funds for a period of time to derived future flow that will compensate the investing unit for time of funds are committed for the expected rate of inflection and also for the uncertainly involve in the future flow of the funds"

From the above definition, it is clear that that an investment means to trade a known rupee amount today for some expected future stream of payment or benefits that will compensate the investor for the time of uncertainty involve in expected future cash flows. Thus investment is the most important function of commercial banks. It is a very challenging task for commercial banks. So a banks has or be very caution while investing their funds in various factors. The success of a bank heavily depends upon the proper management of its investible funds.

Investment management of a bank is guided by the investment policy adopted by the banks. The investment policy of a bank helps the investment operation of the bank to be efficient and profitable by minimizing the inherent risk.

2.5.2 Review of Articles

Shrestha (1998), explained that, "lending operation of commercial banks of Nepal and its impact on GDP "It has presented with the objectives to make an analysis of contribution of commercial banks lending to the gross domestic product (GDP) of Nepal. She has set hypothesis that there has been positive impact of lending of commercial banks to the GDP. In research methodology she has considered GDP as the dependent variable and various sectors of lending viz. Agriculture industrial commercial, service and general and social sectors as independent variable. A multiple regression technique has applied it analyze the contribution.

The multiple analysis have shown that all the variable except service lending has positive impact on GDP, In conclusion she has accepted the hypothesis i.e. there has been positive impact by the kind of commercial bank in various sector economy. Sunity Sherestha has analyzed in her "financial performance of commercial banks". Using both describing and diagnostic approach" In her studies, she has concluded the following points:

- The structure of commercial banks shows that bank invest on the average 75 percent of their total deposit on the government securities and the resources.
- The analysis of resource position of commercial banks showed quit high percentage of deposit as cash revenue.
- The debt equity ratio of commercial banks is more than 100 percent in the most of the time period under study period. It leads to concluded that the commercial banks are highly leveraged and highly risk. Commercial banks had higher capital adequacy ratio but has been dealing every day.
- Income of analysis of the management achievement foreign banks have comparatively higher total management index.

Thus comparing all the banks through the time period financial condition and performance are better in commercial banks those other banks.

Table No.2.1
Review of Related Field

Year	Writer	About
1998	Shrestha	Lending Operation of Commercial Banks of Nepal and its Impact on GDP
1990	Barjacharya	Monetary Policy and Deposit Mobilization in Nepal
1998	Shrestha	A Study on Deposit and Credit of Commercial bank in Nepal
2002	Charles and Chistopher	Do Banks Provide Financial Slack?
1998	Sharma	A Study of Commercial Banks in Nepal Co-existing and growing Out"

Bista, (2001), defined that, "the banks are main vehicle in transferring currency from one country to another commercial banks deal heavily heavily in foreign exchange transactions."

Moriss (1980).explained that, "Latin America's banking system has concluded that the most of the bank concentrate on compliance with central bank rules on reserve requirement credit allocation and interest rate. While analyzing loan portfolio quality, operating efficiency and soundness investment management has largely been overload".

He further adds that mismanagement financial institution has inadequate and overoptimistic loan appraisal tax loan recovery, high risk diversification of lending and investment high risk concentration, connected and inside lending loan mismatching.

Barjacharya (1990).explained that, "monetary policy and deposit mobilization in Nepal." Domestic saving is one of the prime objectives of the monetary policy in Nepal and commercial banks resources in the form of deposit of private sector and providing credit to the investor in different sector of the economy."

Sharma (2000).defined that, "Banking the future of completion has said, "Due to the bank of the investment revenues bank are tempted to invest without proper credit appraisal and on personal guarantee, whose negative side effects would show colour only after 4or 5 years."Again he said that "private commercial banks have mushroomed only in urban areas where banking transactions in large volume is

possible the rural and sub urban areas mostly remain unattended too. This is likely to prevail till completion takes its fall rain in the urban area."

Shrestha (1998), explained that "A study on deposit and credit of commercial bank in Nepal" concluded that the credit deposit ration would be 51.30 percent other things remaining the same in 2004 A.D. 3 much was the lowest under the period of review. So he had strongly recommended that the commercial bank should try to give more credit entering new field as far as possible. Otherwise they might be able to adsorb even its total expenses.

Charles and Chirstopher(2002). "Do banks provide financial slack?"Inthis paper their main hypothesis is that the banks have the ability to accurately price financial claims thus including a preference for undervalued firms to choose bank debts as their marginal financial source. They refer to this escapes that this information benefit will be weighed against the variety of contracting costs in a firms ultimate financing choice since they except that these firms are the most likely to be undervalued, these financing are consistent with the presence of and information. Benefit to bank debt finance.

For identify whether the firms weighted these information benefits of bank fianace against other contracting cost they examine the variations. In the sensitivity of the bank loan likelihood to their variables measuring potential under valuation they the find that firms with public debt outstanding tend to exhibit a relatively low sensitively of bank loan likelihood to these variables. Since, they accept that the contracting cost of bank debt information benefits of bank debt against the contracting costs.

The result suggest that for firms with public securities market for the firms to cross the threshold where the information benefits of banks debt finance outweigh the relatives contracting costs. Agricultural projects center has submitted in their report on where "on going evaluation of intensive banking program in (October, 1985)" This study has widely covered the whole aspects of IBP. It says due to the wide net work of commercial banks they have how 346 branches at present and the huge amount of ideal funds estimate at Rs. 3226 million in 1984/85 lying with them. The investment of commercial banks in the priority sectors area seems justified. To generate intensive for commercial banks, it has necessary to raise the interest rate which would sufficiently cover up the cost ending leave some profit margin as well. As the indirect

cost of borrowing small loan between two to three thousand rupees is six percentages some active measure could be taken to lower this rate to compensate the small borrows for the proposed rise in the rate of invest.

Sharma, (1988), defined that, "A study of commercial banks in Nepal co-existing and growing out" pointed out that is it very much beneficial for Nepalese to let commercial banks to enhance the development of local commercial bank but the government should charge more cost to commercial banks than the other banks.

Mahat, (2004). "The concept of productivity and profitability can be applied while evaluating efficiency of banks". The term productivity refers to the relationship between the quantity of inputs employed and the quantity of output produced. An increase in productivity means that more output can be produced from the same inputs or the same output or the same outputs can be produced from fewer inputs. Interest expenses to interest income ratio shows the efficiency of banks in mobilizing resource at lower cost and interesting in high yielding assets. In other words, it reflects the efficiency in use of funds.

The analysis operational efficiency of banks will help one in understanding the extent of vulnerability of banks under the changed scenario and deciding whom to bank upon. This may also help the inefficient banks to upgrade their efficiency and be winner in the situations developing due to slowdown in the economy. The regulation should also be concerned on the fact that the banks with unfavorable ratio may bring catastrophe in the banking industry.

He suggested Nepal government to treat equality to commercial banks and other bank, both types of banks will co-exist complementing each other and contributing the national accelerated development.

2.5.3 Review of Dissertations

Many researchers have published their research article about the investment policy in Nepal. There are many there that have been conducted by students regarding the various in order to achieve aspect of commercial bank and financial institution in order to achieve their goal effectively some of there as supposed to be relevant for the study are presented below.

Loudari (2007), concluded a study on “A study on investment policy of Nepal Investment Bank Ltd. and Nepal SBI Bank Ltd” with objectives of:

- To examine the liquidity asset management and profitability position and investment policy of NIBL in comparison to Nepal SBI Bank Ltd.
- To study the growth ratios of loans and advances and investment to total deposit and net profit of NIBL on comparison to Nepal SBI bank Ltd.
- To analyze relationship between deposit and investment, deposit and loan and advance, net profit and outside assets of NIBL in comparison to Nepal SBI Bank Ltd.

His major findings are as:

- Current ratio of both samples bank is satisfactory, although cash reserve ratio (CCR) is managed by both banks as per Nepal Rastra Bank directives, both banks have not paid sufficient insight towards cash management.
- Their cash reserve have fluctuated in a high degree, Nepal SBI Bank Ltd. has increased investment in government securities where as NIBL has decreased.
- The analysis of growth ratios shows that growth ratio of total deposit, loan and advance, total investment and net profit of NIBL is less than that of Nepal SBI Bank Ltd.
- The trend value of loans and advances to total deposit ratio is decreasing in case of both the banks.
- The trend value of total investment to total deposits ratio is also decreasing in case of both the banks.

Raya, (2008), in his thesis, “Investment policy and Analysis of Commercial banks in Nepal” made a comparative study of SCBNL, with NABIL and NBBL. His main problem in this study is how to managed and analyze the investment policy of the commercial banks of Nepal.

His main objectives are:

- To discuss fund mobilization and Investment policy of SCBNL in respect to its fee based off balance sheet transaction and fund based on balance sheet transaction.
- To evaluate the quality, efficiency and profitability and risk position.

- To evaluate trend on deposits, investment, loan and advances and projection for next years.

Research Methodology, the study of the thesis has been taken from secondary data; he used financial tools to examine the investment policy of SCBNL, NBBL and NABIL Bank Ltd.

His major findings are as follows:

- Mean current ratio of SCBNL is slightly higher than NBBL and NABIL.
- Mean ratio of cash and bank balance to total deposit of SCBNL is lower than NABIL and NBBL.
- Liquidity position of SCBNL is comparatively better than NABIL and NBBL. It has the lowest cash and bank balance to total deposit and cash and bank balance to current ratio. SCBNL has a good deposit collection.
- SCBNL has made enough investment on bovernment securities but it has maintained low investment policy on loan and advances.
- On the off balance sheet operation activities in compared to NABIL and NBBL has maintained the strong position than SCBNL.
- SCBNL is comparatively higher position than that of other banks, as well as its use to provide interest to the customers for different activities.
- There is significant relationship between deposits and loan and advances and between assets and net profit of SCBNL.

Joshi (2009),has concluded a study on “Investment Policy of Commercial Bank of Nepal” a comparative study of EBL with NABIL and BOKL. His main problems are how to increase in investment policy on loan and advance, how to effective portfolio management and for project oriented approach, how to enhancing the off balance sheet operation etc.

Her main objectives are:

- To examine the liquidity assets management and profitability position and investment policy of EBL in comparison to NABIL and BOKL.
- To analyze the relationship between loan and advance and total investment with other financial variable of EBL and compare with NABIL and BOKL.

- To study the various risks in investment of EBL in comparison to NABIL and BOKL.

Her major findings are as follows:

- EBL has higher idle cash and bank balance. It may decrease profit of bank. It is good to invest more on share and debentures as it encourage financial and economic development of the country.
- A commercial bank must mobilize its fund in different sectors such as to purchase share& debentures of other financial and non financial companies out of total working fund.
- EBL has invested its more of funds i.e. total investment on total deposit ratio, in comparison to other banks but percentage of investment on share and debenture in very nominal.
- Portfolio condition of a bank should be regularly revised from the time to time. It should always try to maintain the equilibrium in the portfolio condition of the bank. So it can be said “all eggs should not be keep in the same basket”. The bank should make continuous effort to explore new, comparative and high yielding investment opportunities to optimize their investment portfolio.
- EBL has to make way for small depositors and entrepreneurs for the promotion and mobilization of small investor’s fund.

On the basis of above facts, it seen that EBL has invested much of its fund in total outside assets but it hasnot achieved the desired result. And the risk taken by EBL, from the angle of credit and capital are in an average whereas the consistencies of the same are highly volatile which may result higher loss. The bank should not test those risks on an experiment basis as seen from the consistency angle.

Bhurtel (2009), Conducted a study on “Investment Analysis of Commercial Banks in Nepal” (NIBL,HBL,NSBIBL,EBL,BOKL)

The main objectives of the study are as follows:

- To study and analyze percentage of investment made by selected commercial banks.

- To analyze investment trend and their projection for next four years of selected commercial banks.
- To identify investment sector of selected commercial banks.
- To study the relationship between investment and deposit of the bank.

Major findings of the study are:

- Mean ratio of investment for HBL is higher than other selected commercial banks. The portion of HBL investment is increasing trend every year. The ratio of NSBIBL has a lowest ratio than others.
- NSBIBL has investment most of their fund in government securities than other banks. All the banks are invest fewer fund to share and capital of other company. The commercial banks mostly investment on government securities, NRB bond and debentures of other company.
- The mean ratio of investment to total deposit of NIBL is higher than selected sample banks. Whereas NSBIBL has lowest ratio.
- The mean ratio of loan and advances to deposit ratio of NSBIBL is higher than other banks, HBL has lower ratio. It means bank use most of their fund from deposit on investment and loan and advance.
- The mean ratio of total investment on government securities to total assets ratio of NSBIBL is higher ratio. Whereas NIBL has lower ratio.

The mean ratio of investment on share and debenture to total assets ratio of NIBL has higher than others. NIBL use its more fund on share and debenture of other companies than other banks.

PrabindraShrestha (2009), "Investment Policy of Commercial Banks with Refer of NABIL and NIBL" with Objectives of:

- To analyze the deposit utilization of five years of NABIL and NIBL.
- To find out relationship between total investment, deposit, loan and advance and net profit.
- To evaluate the liquidity, efficiency, risk position and profitability of selection banks.
- To analyze the financial position of NABIL and NIBL in terms of deposit collection and investment procedure.
- To suggest and recommend on the investment policy of sample banks.

Major findings of the study are as follows:

- It is found from the study that the amount of total deposit collected by NABIL Bank in each year during 5 years of the study period is higher than that of NIBL. Similarly, investment to total deposit ratio and the amount of total investment made by NABIL Bank for the same period is also higher.
- NABIL Bank has given more priority on investment and loan and advance. Hence it has maintained lower liquidity than NIBL. NABIL Bank has accepted higher level of interest rate risk rather than credit risk.
- The study has found that total deposit and loan and advances and investment of the selected bank will be in increasing trend if other things remain constant. But it is also found that Net profit of the NABIL Bank will be in decreasing trend from 2010 onward.

There is positive relationship between deposit and loan and advances and deposit and investment of the selected bank. The study also found that increase in net profit of NABIL Bank is not caused by the increase in outside assets as it has negative relationship between outside assets and net profit but in the case of NABIL increase in net profit depends upon increase in outside assets.

Shakya (2009), made a study on “Investment policy of Nepal Investment Bank Ltd. and NABIL Bank Ltd.”

The main objectives of the study are as follows:

- To determine the growth rate of bank in terms of deposits, loans and advances, investment and profitability of the bank.
- To determine the proportion of investment in risky and risk free assets and to evaluate the off balance sheet operating of the bank.
- To evaluate the liquidity, assets management, profitability and risk position of NIBL and NABIL.
- To analyze the investment policy of NABIL and NIBL.

Major findings of the study are as follows:

- The mean ratio of current ratio of both banks almost equal showing consistency. The mean ratio of cash and bank balance to current assets of NIBL is higher than NABIL with showing NIBL's less consistent NABIL as well as cash and bank balance to total deposit ratio.

- The mean ratio of investment on government securities to current assets of NABIL is higher with showing better investment than NIBL. NIBL's ratios are more variable on mean ratio of loan and advances to current assets.
- There is NIBL have more variable on the mean ratio of loan and advance to total deposit, total investment to total deposit, loan and advance to total working fund and investment on government securities to total working fund.
- The mean ratio of investment on shares and debenture to total working fund of NABIL is higher than NIBL. NIBL has very nominal investment on shares and debentures of other companies. Therefore NABIL's ratios are less uniform in comparison to NIBL.
- The NIBL's mean ratio of return on equity has less than NABIL, showing NABIL's less consistent ratios.
- The mean ratio of total interest earned to total outside assets of NIBL is slightly lower than that of NABIL. However, NABIL's ratios are more uniformity than that of NIBL.
- The risk ratio of NABIL and NIBL reveal that the average liquidity risk ratio of NIBL is higher with showing NIBL's ratios are less variability in comparison to NABIL. There is a high credit risk ratio of NIBL than NABIL. It means NIBL's ratios are more homogenous.
- Growth ratio of total deposit, loan and advance, total investment and total profit of NABIL is lower than NIBL.

PratikshaShrestha (2010).explained that "Investment Policy Joint Venture Commercial Banks in Nepal (A Comparative Study of NABIL and EBL)" with objectives of:

- To analyze the liquidity, asset management, risk, profitability of NABIL and EBL.
- To assess fund mobilization and investment policy of NABIL and EBL.
- To find out the relationship between deposit and total Investment, deposit and loans and advances and net profit.
- To analyze the trend of deposit utilization towards total investment and loan and advances and its projection for next five year.

Major Findings of the Study are as follows:

- Generally, banks have to maintain more liquid assets but the current ratios of all banks are below the standard of 1:1. The current ratio of NABIL is higher than EBL. It indicates better liquidity position of NABIL.
- Cash and bank balance to total deposit ratio of EBL is higher than NABIL.
- Cash and bank balance to current assets ratio of EBL is higher than NABIL. Regarding the analysis, it can be said that Both Bank has a better ability to meet daily cash requirements of their customers.
- Investment on government securities to current assets of NABIL is higher than EBL.
- The loan and advances to total deposit ratio of NABIL is lower than EBL.
- The total investment to total deposit of NABIL is higher than EBL.
- The loan and advances to total assets ratio of EBL is greater than NABIL.
- Investment on government securities to total assets ratio of EBL is higher than NABIL.
- Return on Loan and advances ratio of NABIL is higher than that of EBL.
- Return of total assets ratio of NABIL is higher than EBL. However, NABIL seems successful in managing and utilizing the available assets in order to generate revenue.
- Return on equity of NABIL is higher than EBL, which shows that NABIL is more successful to earn high return through the efficient utilization of its equity capital.
- Total interest earned to total assets ratio of EBL is relatively slightly greater than that of NABIL and also has higher variability in the ratio.
- Total interest earned to total operating income ratio of NABIL is lower than EBL. It means the greater portion of total operating income is occupied by total interest generating assets.
- Total interest paid to total assets ratio of EBL is higher than NABIL.
- Average liquidity risk ratio of NABIL and EBL are 5.67% and 10.73% respectively. EBL has higher ratio than the NABIL. This shows its greater ability to pay depositors money as they want.
- The mean price earnings ratio of EBL is little higher than the of NABIL both NABIL and EBL have high positive co-relation between total deposit and loan and advances because NABIL and EBL have 0.989 and 0.993 of co-relation

coefficient between deposit and loan and advances. These relationships are significant.

- There is positive correlation between total deposit and total investment of NABIL and EBL. There is positive correlation between Loan and advance and net profit. Correlation between Loan and advance and net profit of NABIL is 0.955 and EBL is 0.457. The degree of relationship between total investment and net profit of EBL is poor than NABIL.
- NABIL and EBL have increasing trend in collection deposit the rate of increment of total deposit for NABIL seems to be higher than that of here NABIL has better position in collecting deposit than EBL.
- The trend line of loan and advance for both banks is upward slopping. It refers that both the banks are increasing in disbursement of loan and advances. The trend line of loan and advances of NABIL seems high growing than EBL. It refers that NABIL is more aggressive mobilizing its loan and advance.
- The total investment trend line of NABIL and EBL is upward sloping where as NABIL has aggressive upward sloping of total investment trend line. It refers that NABIL has better increasing trend of total investment than EBL.

Above analysis reveals that both the banks have well their ratio. Trend of Both bank has increasing trend. In comparison to both bank every ratio of NABIL is higher than the EBL. It indicates better performance of NABIL rather than EBL.

Paudyal, (2010).In his thesis “Guidelines of Nepal Rastra Bank on Investment Policy of Commercial Bank in Nepal”.The basic objectives of this study are, to analyze the NRB directives regarding investment policy of commercial banks, to analyze the liquidity practice of NIBL, to determine the relationship between total deposit and loan and advance etc.

His major findings are, Total investment of NIBL has maintained in an increasing trend in respect to total deposit. The mean ratio of its 39.18%.To find out whether NRB guideline is actually being implemented. The mean ratio of cash and bank balance to total deposits is 9.08%. Analysis shows that the ratios are fluctuating trend. Analysis shows that net profits to total working fund ratios are fluctuating trend. The mean ratio of net profit to total working fund is 13.44%.

Santoshi Sigdel Uppadhaya (2010), "Investment Policy of JVB'S in Nepal (A Comparative Study of NABIL, NIBL and SCBNL) with objectives:

- To study deposit mobilization of banks.
- To find out liquidity, assets management efficiency and profitability position in relation to fund mobilization of commercial banks.
- To examine the relationship of total deposit to investment and loan and advance.
- To suggest and recommend measures on the basis of analyzing data and finding.

Major findings of the study as are follows:

- The mean ratio of current ratio of NABIL is higher than that of other banks. It means NABIL has maintained the higher liquidity and lower risks in compared to other banks. Consistency of maintaining liquidity position of NABIL is more than that of other banks.
- The mean ratio of cash and bank balance to total deposits of NIBL is higher than NABIL and SCBNL. It states that the liquidity position of NIBL is higher in this regard. Besides, variability of ratio of NIBL is consistent that of other two compared banks.
- The mean ratio of cash and bank balance to current assets ratio of NIBL is higher than NABIL and SCBNL. It shows that NIBL's ratios are less consistent than that of NABIL and SCBNL.
- The mean ratio of investment in government securities to current assets ratio of SCBNL is higher than that of NABIL and NIBL which shows that SCBNL has good investment in government securities than other banks.
- The average ratio of loan and advances to current assets ratio of NIBL is higher than NABIL and SCBNL. It shows that NIBL's ratios are more variable than other two banks.
- The mean ratio of loan and advances to total deposit ratio of NIBL's ratio is higher than NABIL and SCBNL. It seems that NIBL's ratio is more variable than other two banks.
- The mean ratio of total investment to total deposit ratio of SCBNL is higher than NABIL and NIBL.

- The average ratio of investment in government securities to total working fund ratio of SCBNL is higher than NABIL and NIBL.
- The C.V. of NIBL is lowest than NABIL and SCBNL. So NIBL is more Stable and consistent than other banks.
- The mean ratio of Investment on share and debenture to total working fund ratio of NABIL is higher than NIBL and SCBNL.
- The mean ratio of return on total asset of SCBNL is higher than NABIL and NIBL. It seems that SCBNL is highly efficiency to earn profit and return.
- The C.V. of NABIL is less than NIBL and SCBNL is more consistent and stable than other banks.
- The mean ratio of return on loan and advances of SCBNL is higher than NABIL and NIBL.
- The C.V. of SCBNL is lower than NABIL and NIBL. So SCBNL is more consistency and stable than other two banks.
- The mean ratio of total interest earned to total outside assets ratio of NABIL is higher than NIBL and SCBNL.
- The C.V. of NIBL is 4.26 percent which is less than other banks. It shows that NIBL is more consistency and stable than NABIL and SCBNL.
- Growth ratio of total investment, total deposit, loan and advance and total profit of NIBL is higher than NABIL and SCBNL.
- Correlation coefficient between deposit and loan and advances of all the banks shows positive relationship between these two variables.

BashantiSubedi (2012), said in her thesis "Investment Policy of Commercial Bank in Nepal (NABIL and EBL) with objectives of:

- To examine the investment policy of commercial banks.
- To evaluate the liquidity, profitability, and risk position of the banks.
- To examine and evaluate the utilization of available funds of NABIL and Everest banks,
- To find the empirical relationship between deposits, loans and advances. Investment and net profit.

Major findings of study are as follows:

- It is found from the study that the amount of total deposit collected by NABIL Bank in each year during 5 years of the study period is higher than that of EBL. Total deposit collected and total investment made, total loan and advances of NABIL Bank is also Higher during the study period. It is clear that investment policy adopted by NABIL Bank is found from profit point of view.
- NABIL Bank has given more priority on investment. NABIL Bank has accepted higher level of invites rate risk rather than credit risk. Overall profitability ratio of NABIL Ban shows that it has earned higher profit that EBL. It is clear that Nabil Banks has given more emphasis on profit.
- The study has found that total deposit and loan and advances and investment of the selected bank will be in increasing trend if other things remain constant.
- There is positive relationship between deposit and loan and advances and deposit and investment of the selected banks.
- An average mean ratio of EBL and NABIL of Loan and advances to total deposit ratio is 0.75% and 0.71% respectively. Investment to total deposit ratio of sample banks is in fluctuating and decreasing trend. An average mean of EBL is 66% which is nearby NABIL
- Investment on financial institution to total deposit ratio of the selected bank is fluctuating trend. NABIL bank has higher interest rate risk than EBL. Credit risk ratio measure the risk behind making investment or granting loan.
- NABIL Bank has accepted higher level of risk. It is clear that NABIL Bank is in better position to each higher profit out of its working fund.
- Return on loan and advance of NABIL Bank is higher than that of other sample bank.
- Correlation of coefficient between deposit and loan and advance found that there is positive relation between deposit and the loan and advances of the both sample bank.
- Correlation coefficient between deposit and investment of NABIL bank is negative where as that of EBL is positive. It indicates that increase in net profit of NABIL Bank is not caused by the increase in total assets of the bank.
- It is forecasted that all sample banks will have decreasing trend of investment to total deposit ratio. The total investment to total deposit ratio of all sample

banks are forecasted negatively it means that the banks ratio is less than par value of or it doesn't maintain the standard of ratio.

Table No.2.2
Review of Related Field

Year	Writer	About
2007	Loudari	A Study on Investment Policy of NIBL in comparison to NSBIBL
2008	Raya	Investment Policy and Analysis of CBS in Nepal (SCBNL, NABIL and NBBL)
2009	Joshi	Investment Policy of Commercial Banks in Nepal (Study of EBL, NABIL and BOKL)
2009	Bhurtel	Investment Policy of Commercial Banks in Nepal (NIBL, HBL, NSBIBL, EBL and BOKL)
2009	PrabindraShrestha	Investment Policy of Commercial Banks in Nepal (NABIL and NIBL)
2009	Shakya	Investment Policy of NABIL and NIBL)
2010	PratikshaShrestha	Investment Policy of JVB's in Nepal (NABIL and EBL)
2010	Paudyal	Guideline of NRB on Investment Policy of CB in Nepal
2010	SantoshiSigdelUppadhaya	Investment Policy of JVB's in Nepal (NABIL, NIBL and SCBNL)
2012	BashantiSubedi	Investment Policy of commercial Banks in Nepal (NABIL and EBL)

2.4 Research Gap

Investment in different sector is made on the basis of the directive and circulars of NepalRastraBank as well as the investment guidelines and policy of the concerned commercial bank. The directive of NRB changes overtime. NRB makes necessary amendments in prevailing directive and circular and communicates to commercial banks commercial banks should follow their directive and circular furthermore their own investment guidelines and policies should be in line with NRB directive and circular. So, the up to dated study over the change of time frame is major concern for the researcher and concerned organization as well as industry as a whole. The study covers the more recent financial data NRB circulars and guidelines than that of studies perilously conducted.

The optimum diversification of loan and advanced reduced the default risk of credit. It is the major concern of stake holders to know the portfolio behavior of the bank. This study puts its effort to find out the proportion to total loan and advances of the bank disbursed to different sectors of economy and analysis diversification of its investment.

No case study has yet been conducted about the investment policy of joint venture banks some Comparative studies are previously done but in dept study about the bank is not found. Investment function is the major function of the joint venture commercial banks. Joint venture banks are one of a leading commercial banks of the country having huge market share their investment activities has significant impact on national economy, Hence, this study full fills the prevailing research gap about the depth analysis of the investment policy pursued by the organization, which is the major concern of public shareholders and other stock holders. So, this study will be fruit full to those interested person, parties scholars, teachers, businessman, civil society and government for academically as well as policy perspectives.

CHAPTER III

RESEARCH METHODOLOGY

3.1 Introduction

Research Methodology is the systematic way of solving problem. Research methodology refers to the overall research process, which a researcher conducts during his/her study, if all the procedures from theoretical foundation to the collection and analysis of data. As most of the data are quantizations. The research is based on the scientific models. It is composed of both parts of technical aspect and logical aspect. On the basis of historical data, Research is systematic and organizational effort to investigate a specific problem that needs a solution. This process of investigation involves a series of well throughout activities of gathering, recording and analyzing and interpreting the data with the purpose of finding answer to the problems. Hence, the entire process by which we attempt to solve the problem is called research." (Kothari, 1990).

The main objective of this research report is to analyze, examine and interpret the lending and investment procedure of private owned commercial banks with the help of various financial statement, statistical tools and non-financial subject matters. As the study intends to show the effectiveness of lending operation in a concern, it requires an appropriate and research methodology.

3.2 Research Design

"Research design is a controlling part for the collection of the data and it helps to collect the accurate information, which is related to the research topic. Research design is the plan structure and strategy of investigation conceived so as to obtain answer to research questions and to control variance through the analysis of data." (Kothari, 1990)

The first step of the research design to collect necessary information and data concerning to the study. Therefore, research design means the definite procedure and techniques, which guide the study as profound ways of doing research. It this way a descriptive and analytical survey will be done. The justification for the choice of these

methods is preferred because it concludes reliable data and information covering a long time and avoids numerical complex variables.

3.3 Population and Sample

The population of this study is the number of commercial banks in Nepal which are increasing in a growing seed today.

Population refers to the industries of the same nature and its service and product in general. Thus, this research work is designed with investment policy, operation and practice in Nepalese commercial banks. The total numbers of commercial banks in Nepal are the population of this study. There are 31 commercial banks operating in the country which are the population of this research study. Out of this population, only three joint venture banks NABIL bank Ltd, Standard Chartered bank Ltd. and Everest Bank Ltd. constitute the sample of this study on the basis of financial performance. And the study period taken under consideration for the study is for the last five years i.e., 2007/08-2011/12.

3.4 Nature and Sources of Data

The data used in this thesis is secondary type, which have been taken mainly from the published data and financial statements of the sampled banks. These include annual reports for the last five years and report of each year. Beside these, the following sources of data are also being considered.

- a. NRB reports
- b. Various publications dealing in the subject matter of the study.
- c. Various articles published in News papers

3.5 Method of Data Analysis

Data collected from various sources are managed, analyzed and presented in proper tables and formats. To analyze the collected data, various tools are used which is as follows.

3.5.1 Financial Tools

Different types of financial tools such as liquidity ratio, assets/liability management ratio, activity ratio, probability ratio are used whenever necessary in this study.

(a) Liquidity Ratio

Liquidity ratio means the liquidity position of a firm. Liquidity position refers to the position of assets that is representative of the total liquid assets. This ratio means measures the firm's ability to meet its current liabilities. However, excessive liquid assets refer to idle and un-productivity of the firm.

(I) Current Ratio

Current ratio is the relationship of current asset and current liabilities. Current assets are those assets, which can be converted into cash within short period of time. Current liabilities are those items, which are paid within one year. Current ratio measures paying ability of short term debt the firm. Traditionally 2:1 is standard ratio, but it is a conservative outlook about the coverage of current liabilities. Current ratio is calculated by dividing current asset by current liabilities.

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

Note:

Current Assets : Inventories, sundry debtors, cash and Bank balance, Receivable/accrual income, loan and advance, disposable and investment.

Current Liabilities: Creditors, short term loan, Bank overdraft, Cash credit, outstanding expenses, provision for taxation, proposed dividend and unclaimed dividend etc.

II) Cash and Bank Balance to Total Deposit Ratio

This ratio measures the mathematical relationship between the bank's cash and bank balance and its total deposits. Where, cash and bank balance is the most liquid fund under the current assets which would include cash on hand, other cash item available, bank balance with other banks etc. Similarly total deposits include current deposit, saving deposits, fixed deposits and other types of deposits. Hence this represents the bank's ability to pay immediate deposit calls to their deposits whenever required. It is not that investment on profit motive should be such that the required cash and bank balance is neglected; thus the consideration of this ratio is also equality important.

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

III) Investment on Government Securities to Current Assets Ratio

This ratio measures the mathematical relationship between the investment on government securities and its current assets. Government securities are one of the safest and profitable investments seen these days. Although they are not as liquid as cash and bank balance the ease in converting them into cash in one way or the other makes them categorized under liquid assets. Hence, this ratio represents the portion of the investment made by the bank to the government securitically.

Investment on Government Securities to Current

$$\text{Asset Ratio} = \frac{\text{Investment on Government Securities}}{\text{Current Assets}}$$

(IV) Cash and Bank Balance to Current Asset ratio

This ratio reveals the ability of the banks to make the quick payment of its customer deposit. A high ratio indicates the sound ability to meet their daily cash requirements of their customer deposits and vice versa.

Both higher and lower ratios are not desirable. The reason is that if a banks maintains higher ratio of cash, it has to pay interest on deposit and some earning may be lost. In contrast, if a bank maintains low ratio of cash, it may fail to make the payment for presented cheque by its customer. So sufficient and appropriate cash reserve should be maintained properly. It can calculate as follows.

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

(b) Asset Management Ratios

Assets are the profit generating fund of any institution if managed properly. Hence a bank should efficiently utilize its assets to generate extra income earn interest from the deposit as well to contribution to its profit. Asset management ratio shows how will the financial asset of banks have been utilized, to what extent and where hence it is also known as turnover ratios. These ratios are based on the relationship between the levels of activity. Which is represented by sales or cost of goods sold and the

levels of different assets? The proper management of the assets leads to the efficiency of a banks' performance which contributes to its profit. The measurement of efficiently of the management of the asset can be determined by various calculations under this ratio like:

(i) Loan and Advances to Total Deposit Ratio

This ratio shows the mathematical relationship between the total deposit of a bank and its use as loan and advances. Loan and advances are the major source of income for a bank which highly influences its profit margin. This ratio shows how effectively a bank is utilizing its different deposit collected on loan and advances for profit generating motive. Here, greater of this ratio implies that there is better utilization of its deposit under the profit motive.

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

(ii) Loan and Advance to Total Working Fund Ratio

This ratio shows the mathematical relationship of the total working fund (Total Assets) with the loan and advance. Banks uses some portion of its total assets as loan and advance to generate interest income-but the bank should be clear on the portion of the total asset which should be used as loan and advances. So that, optimum level of utilization the working fund is done (neither less nor more).

Hence this ratio portages how well a bank mobilizes its total asset to generate the income not risking its liquidity ratio as well. Here higher the ratio, better the mobilization of the fund and vice versa.

$$\text{Loan and Advances to Total Working fund Ratio} = \frac{\text{Loan and Advances}}{\text{Total Working Fund}}$$

iii) Investment on Shares and Debenture to total Working Fund Ratio

This ratio shows the mathematical relationship between the total working fund and its use on the investment on shares and debenture. According to the NRB directive the investment portfolio of a bank should be diversified one of which could be investing on share and debenture of other companies for the progress on the assets.

Investment on shares and Debenture to total working fund ratio =

$$\frac{\text{Investment on Shares and Debentures}}{\text{Total Working Fund}}$$

(iv) Total investment to total Deposit Ratio

This ratio shows the mathematical relationship of the total deposit of a bank and its investment. Higher the ratio-higher effectiveness in the mobilization of its total deposit is seen.

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

(v) Investment on Government security to total Asset Ratio

The commercial banks are interested to invest their funds collected in various government securities issued by government. The government securities are the safest place to make investment. But the government securities are not so much liquid as cash and bank balance. They can be easily sold in the market or they can be converted into cash in other ways. The main purpose of this ratio is to examine that portion of a commercial banks current asset that is invested on different government securities.

Investment on Government Securities Current Asset Ratio =

$$\frac{\text{Investment on Government Securities}}{\text{Current Asset}}$$

(C) Profitability Ratio

Profitability ratio are designed the end result of business activities. These ratio are the resultant of the pattern of liquidity ratios, asset management ratios and debt management ratios. Hence higher portability ratio shows greater efficiency of the bank. Here the profitability aspect of the bank is shown through the calculation of following ratios.

(i) Return on Loan and Advances

This ratio shows the mathematical relationship between the net profit and loan and advances. Here higher return on loan and advances indicates efficient management of loan and advance vice-versa.

$$\text{Return on Loan and Advances} = \frac{\text{Net profit (loss)}}{\text{Loan and Advances}}$$

(ii) Return on Total Assets

Return on total asset is also called return on investment because bank generates profit by utilizing its assets in different sectors. However the bank should maintain the optimum level of utilization of its total asset (working fund) so that it generates highest level of profit and maintain its liquidity at the same time. Here higher ratio shows better utilization of its assets in terms of generating profit.

$$\text{Return on Total Assets} = \frac{\text{Net profit (loss)}}{\text{Total Assets}}$$

(d) Risk Ratio

Risk is an inevitable and unavoidable factor in any business. It is the prime factor which makes the business interesting and what pulls the profit. In brief we can say that the proper management of the risk factor increases the effectiveness and the profitability of the bank. Here we have taken those ratios into consideration which is associated with the various operations of the banks which ultimately influences the bank and its investment policy.

(i) Credit Risk Ratio

Credit risk ratio is expressed as the percentage of non-performing loan to the total loan and advances. It deals with the uncertainty that all the loan and advance to be repaid with its interest on it.

Hence the banks should measure the risk in granting loan and advances with the help of credit risk ratio, since this ratio shows the possibility that the loan will not be repaid or the investment made will go default with the consequent loss to the bank.

$$\text{Credit Risk Ratio} = \frac{\text{Total Loan and Advances}}{\text{The Assets}}$$

(ii) Liquidity Risk Ratio

Investment is an important aspect of any bank-no doubt, but the maintenance of the liquidity cannot be neglected either. Hence the liquidity risk is not a marketability risk but a possibility that the bank may go short of its liquid assets knowing of this ratio is important because a bank should always be able to have trust with its customers and depositors who are the sources of their funds. Liquidity risk ratio measure the level of risk associated with the liquid assets of the bank for the purpose of fulfilling the demand of the depositors on their call. It shows the mathematical relationship between the total deposit of the bank and its most liquid asset-cash and bank balance

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

3.5.2 Statistical Tools

The major statistical tools used in the study are standard deviation (S.D.), Coefficient of Variation (C.V) and correlation coefficient (r).

(a)Standard Deviation (S.D)

It is a statistical measure of the variability of a distribution of return around its mean. It is the squares root of the variance and measure the unsystematic risk in investment. It is denoted by σ .

Symbolically,

$$\text{Standard Deviation } (\sigma) = \sqrt{\frac{\Sigma(X - \bar{X})^2}{N}}$$

Where,

σ	=	Standard Deviation
\bar{X}	=	Arithmetic Mean
N	=	No. of Observation

(b)Coefficient of Variation

Coefficient of variation is the percentage variation in mean, standard deviation being considered as the total variation in the mean. Standard deviation is only an absolute measure of dispersion, depending upon the units of measurement. The relative

measures of dispersion based on standard deviation is called the coefficient of variation and is given by

Coefficient of Variation (C.V) $\frac{\sigma}{\bar{X}}$

$$\begin{aligned} \sigma &= \text{Standard Deviation} \\ \bar{X} &= \text{Mean} \end{aligned}$$

This is a pure number independent of the units of measurement and thus, is suitable for comparing the variability, homogeneity or uniformity of two or more distribution. For comparing the variability of two distributions we compute the coefficient of variation for each distribution. A distribution with smaller C.V. is said to be more homogenous or uniform or less variable than the other and the series with greater C.V. is said to be more heterogeneous or more variable than the other.

(c) Coefficient of Correlation

The correlation is a statistical tool, which studies the relationship between two variables, and correlation analysis involves various techniques used for studying and measuring the extent of the relationship between the two variables, correlation is an analysis of the covariance between two or more variables. The effect of correlation is to reduce the range of uncertainty of our prediction. Two variables are said to be correlated if the change in one variable results in a corresponding change in the other variable. Correlation coefficient can be either positive or negative. If the values of the two variables deviate in the same direction i.e., if the increase in the value of one variable results on an average in a corresponding increases in the values of the other variable or if a decrease in the value of one variable results, on an average, in a corresponding decrease in the value of the other variable, correlation is said be positive or direct. On the other hand, Correlation is said to be negative or inverse if the variable deviate in the opposite direction i.e. if the increases (decrease) in the value of one variable result, on the average, in a corresponding decrease (increase) in the value of the other variable. It is also likely that there may be no relationship between the variations of the two series in which case there is said to be no correlation between them.

The formula for the coefficient of correlation is given below

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

Where,

r	=	correlation coefficient
n	=	no. of years
ΣX	=	sum of X series
ΣY	=	Sum of Y series
ΣXY	=	Sum of X and Y series
ΣX^2	=	Sum of Square of Series X
ΣY^2	=	Sum of Square of Series Y
X & Y	=	Financial Variable of Banks

The coefficient of correlation always varies between the two limits of +1 and -1, when there perfect positive correlation, its value is +1 and when there is negative correlation its value is -1. Its mid point is 0, which indicates absences of correlation. Lastly, the value of the coefficient of correlation is always between +1 and -1. It cannot exceed unity.

(d) Probable Error

The probable error of the coefficient of correlation is very useful for interpreting value of coefficient of correlation. It helps to determine the reliability value of the coefficient of correlation

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

where,

r	=	coefficient of correlation
n	=	No. of pairs of observation
P.E.	=	Probable error

It is used in interpretation whether calculated value of r is significant or not. If $r < P.E.$, it is in significant, so perhaps there is no evidence of correlation

If $r > P.E.$, it is significant

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The data collected from various sources have been presented and analyzed in this chapter, since, the conclusions to be drawn and recommendations to be made in this study are based on the presentation and interpretation of data analyzed in this chapter.

4.1 Financial Analysis

The main focus of this chapter is to study, evaluate and analyze various financial performances that are mainly related to the investment management and fund mobilization of NABIL bank Ltd, SCBNL and EBL. Many different types of ratios are found to be helpful, but only those ratios that are related to the evaluation of fund mobilization and investment are only calculated. The main ratios that are studied are:

- (1) Liquidity ratio
- (2) Asset management ratio
- (3) Profitability ratio
- (4) Risk Ratio

4.1.1 Liquidity Ratio

A commercial bank must maintain its satisfactory liquidity position to satisfy the credit needs of the community, to meet demands for deposits with draws, pay maturity obligation in time and convert non cash assets into cash to satisfy immediate needs without loss to bank and consequent impact on long run profit. This includes.

4.1.1.1 Current Ratio

The current ratio is the current assets to current liabilities. It shows, either the company is capable of paying back all its current liabilities or not. It measures the short-term solvency i.e. its ability to meet short term obligation measure creditors versus current assets. Current ratio can be calculated by dividing current assets by current liabilities. The standard ratio is 2:1 however 1:1 is also accepted.

It is calculated as:

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

Table No. 4.1
Current Ration (Times)

Banks	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	1.01	1.06	0.99	1.03	1.06	1.03	0.063	6.14
SCBNL	1.00	1.04	1.07	1.01	1.08	1.04	0.0316	3.04
EBL	1.09	1.08	1.09	1.09	1.06	1.08	0.0118	1.09

Source: annex 1

From table 4.1 it is clear that the mean current Ratio EBL is more than other two banks and more than 1. It is poor satisfactory but better than others. The mean current ratio and its stability of SCBNL is better than NABIL bank but not satisfactory. Only EBL is being capable to paying current obligation much. The current ratio of EBL is more stable comparing with others current Ratio of all banks. Table 4.1 shows that the ratio of SCBNL bank is fluctuating throughout the review period. The standard deviation and C.V. of NABIL is more than others. The current ratio of the banks is below the standard of 2:1 Finally, it can be concluded that current ratio of bank are under the normal standard ratio but it can say liquidity position of bank is not poor. The standard deviation of EBL is less than the other bank. This bank condition is more profitability than other banks. From the point of view of working capital policy and utilization of current fund, bank is following aggressive working capital policy and better utilization of current fund.

4.1.1.2Cash and Bank Balance to Total Deposit Ratio

Cash and Bank balance to total deposit ratio measure the capacity of the bank to meet unexpected demand made by the depositors i.e., current holders, saving, fixed, margin holders and other. High ratio shows higher liquidity position and ability to cover the deposits or to pay the depositors on time. Cash and bank balance are assets that constitute the bank's first line of defense. It consists of cash on hand, foreign cash on hand, cheques and other cash items, balance at domestic banks and balance held abroad.

This ratio measures the availability of a bank's highly liquid or immediate funds to meet its unanticipated calls on all types of deposits. This ratio is computed by dividing cash and bank balance by total deposit. A high ratio indicates the greater ability to meet their deposits and vice-versa. Moreover, too high ratio is unfit as capital will be tied up and opportunity cost will be higher.

It can calculate as follows:

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

Table No. 4.2

Cash and Bank Balance to Total Deposit Ratio

Banks	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	0.084	0.090	0.030	0.490	0.078	0.066	0.0228	34.55
SCBNL	0.069	0.089	0.055	0.078	0.177	0.094	0.0432	45.96
EBL	0.111	0.185	0.212	0.149	0.177	0.167	0.0342	20.48

Source:Annex2

The above table no. 4.2 shows that the cash and bank balance to total deposit ratio of all three banks have fluctuating trend. In average EBL has highest ratio than others with least consistency and others banks takes better position.

Higher ratio of EBL shows the EBL is being able to serve the demand of its customer i.e. operating at the lower risk. Similarly S.D. and C.V. of NABIL and SCBNL is 0.0228 and 34.55 and 0.0432 and 45.96 respectively. The analysis shows that the bank has made more investment in profit generating activities rather than holding the cash and bank balance or the investment of the bank is high. The coefficient of variation of the ration reveals that here is some amount of consistency during the study period.

4.1.1.3 Cash and Bank Balance to Current Asset Ratio

This ratio examines the bank's liquidity capacity on the basis of its most liquid assets i.e., cash and bank balance. This ratio reveals the ability of the banks to make the quick payment of its customer deposits. A high ratio indicates the sound ability to meet their daily cash requirements of their customer deposits and vice-versa.

Both higher and lower ratios are not desirable. The reasons are that if a bank maintain higher ratio of cash, it has to pay interest on deposits and some earning may be lost. In

contract, if a bank maintains low ratio of cash, it may fail to make the payment for presented cheques by its customer. So, sufficient and appropriate cash reserve should be maintained properly. It can calculate as follows:

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

Table No. 4.3

Cash and Bank Balance to Current Asset Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	0.079	0.081	0.029	0.045	0.071	0.061	0.0204	33.44
SCBNL	0.069	0.085	0.051	0.077	0.164	0.089	0.039	43.82
EBL	0.100	0.168	0.208	0.146	0.209	0.166	0.037	22.29

Source: Annex 3

The table 4.3 reveals that the case of all three banks, the ratio is in the fluctuating trend. The mean of EBL is higher and CV & S.D. of SCBNL is higher. All bank have adequate level of current asset similar S.D. and C.V. of NABIL, SCBNL and EBL 0.0204 and 33.44, 0.039 and 43.82, 0.037 and 22.29 respectively. Higher mean ratio of EBL shows its liquidity position is better than others. Higher CV of SCBNL shows it has more inconsistency in the rations in comparison to others. The coefficient of variation of the ration reveals that there is some amount of inconsistency during the study period.

4.1.1.4 Investment on Government Securities to Current Assets Ratio

Investing in government means to bear no risk or minimal risk. Due to the lower risk the return from government securities is also lower. So, higher the investment on government securities lowers the risk and lower returns and vice versa. This ratio examines that the portion of a commercial banks' current assets, which it's invested on different government securities. More or less, each commercial bank interested to invest their collected funds on different securities issued by Government in different times to utilize their excess funds and or for other purpose. Though government securities are not so liquid as cash and bank balance of commercial bank, they can easily be sold in the market or they can be converted into cash in other ways. This ratio shows the percentage of current assets invested on government securities.

The ratio can be expressed as:

Investment on Government Securities to Current Ratio =

$$\frac{\text{Investment on Government Securities}}{\text{Current Assets}}$$

Table 4.4

Investment on Government Securities to Current Assets Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	0.137	0.089	0.167	0.163	0.133	0.138	0.0279	20.22
SCBNL	0.274	0.270	0.226	0.257	0.202	0.246	0.0276	11.50
EBL	0.181	0.141	0.106	0.157	0.146	0.146	0.0247	16.92

Source: Annex 4

Above table No. 4.4 reveals that all the investment on government securities to current ratio of NABIL, SCBNL and EBL has fluctuating trend. During the study period, SCBNL has maintained highest ratio in fiscal years 2007/08 i.e. 27.40% and lowest in years 2011/12 i.e.20.22%, where as NABIL has highest ratio in fiscal years 2009/10 i.e. 16.70% and lowest ratio in years 2008/09 i.e. 8.90 percent and from available data the mean ratio of SCBNL is higher and NABIL is lowest. S.D. & C.V. of NABIL is higher than other selected banks.

In overall, the mean ratio of investment on government securities to total current asset of SCBNL is higher than NABIL and EBL. It means the liquidity position of SCBNL from the point of view of investment in government securities is best.

4.1.2 Asset Management Ratio

A commercial bank must be able to manage its asset very well to earn adequate profit, to satisfy its customers and for its own existence. Asset management ratio measures how efficiently the bank manage the resources at it commends. Using following rations. Asset management ability has been measured.

4.1.2.1 Loan and Advances to Total Deposit Ratio

This ratio actually measures the extent to which the banks are successful to mobilize the total deposits on loan and advances for the purpose of profit generation. A high ratio of loan and advances indicates better mobilization of collected deposited and vice versa. But it should be noted that too high ratio might not be better from its liquidity point view.

This ratio is calculated by dividing loan and advances by total deposit.

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

Table No. 4.5

Loan and Advances to Total Deposit Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	0.6694	0.7387	0.6953	0.7653	0.7561	0.725	0.037	5.10
SCBNL	0.4409	0.3869	0.4535	0.4849	0.5295	0.459	0.047	10.24
EBL	0.7856	0.7343	0.7623	0.7698	0.7322	0.757	0.021	2.77

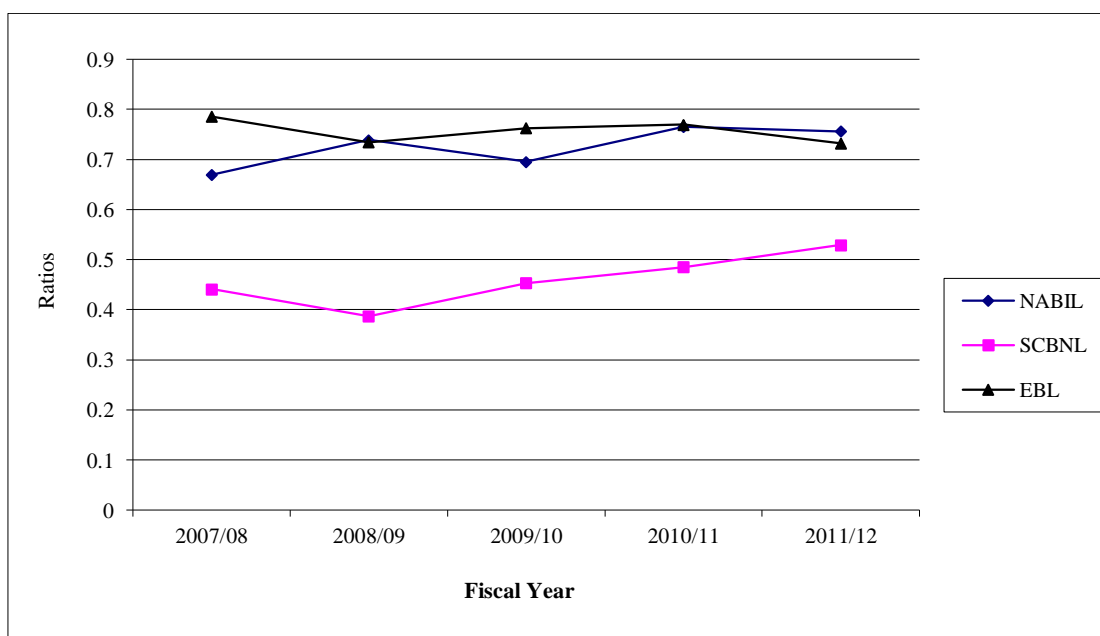
Source: Annex 5

In the table, all the banks have fluctuating trend regarding the ratio. In the overall mean ratio of loan and advance to total deposit of EBL is higher than that of other banks. The S.D. of SCBNL is greater than NABIL and EBL. In other side co-efficient of variation of above bank, SCBNL has 10.24 percent which is comparatively higher than other banks.

In conclusion EBL has strong position regarding the mobilization of total deposit on loan and advance and requiring higher profit in comparison to others. It state that EBL is better in this regard.

Figure 4.1

Loans and Advances to Total Deposit Ratio



4.1.2.2 Total Investment to Total Deposit Ratio

Commercial banks may mobilize its bank deposit by investing its fund in different securities issued by government and other financial or non financial companies. Now effect has been made to measure the extent to which the banks are successful in mobilizing the total deposit investment. In process of portfolio management of bank assets, various factors such as availability of fund, liquidity requirement, central banks' norms etc. are to be considered in general. A high ratio is the indicator of high success to mobilize the banking funds as investment and vice versa. The ratio is calculating by dividing total investment by total deposit.

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

Table No. 4.6

Total Investment to Total Deposit Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	31.14	28.98	29.52	26.32	25.55	28.30	2.07	7.31
SCBNL	46.74	57.24	56.41	45.42	35.97	48.36	7.85	16.24
EBL	21.11	17.85	13.56	18.83	15.73	17.42	2.59	14.87

Source: Annex 6

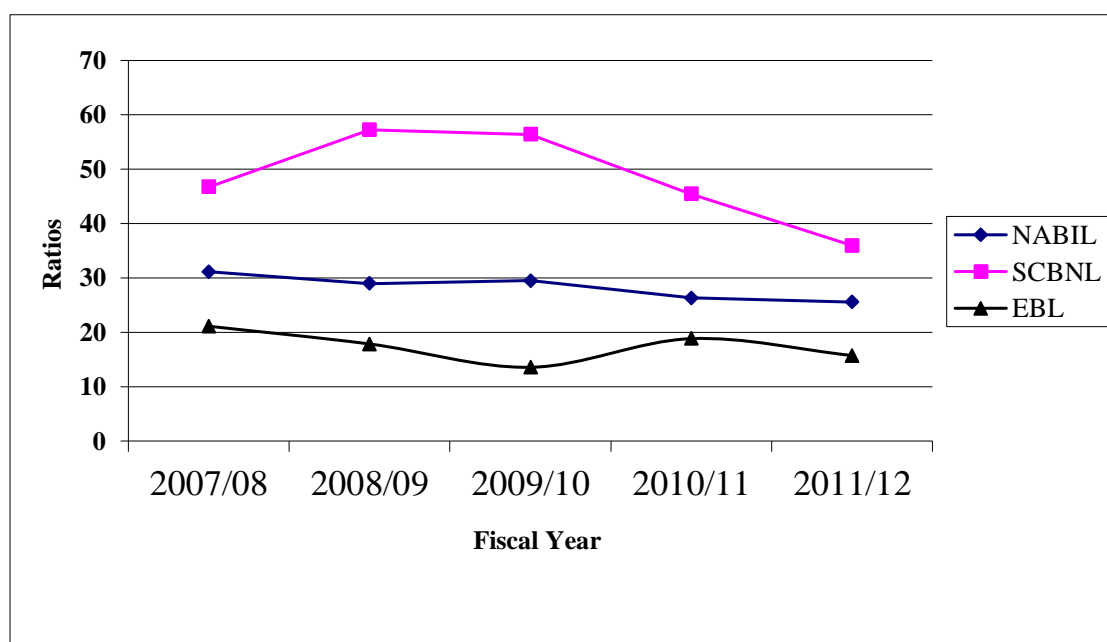
The above table exhibit that the ratio of SCBNL is in increasing trend up to 2008/09 then decreasing trend. EBL is decreasing trend up to 2009/10. It means all banks has fluctuating trend ratio.

In average EBL has maintained lower mean value i.e. 17.42 percent than other banks. SCBNL has maintained the higher mean value of 48.36 percent. In other hand S.D. and CV of NABIL less value and SCBNL has greater value than other banks.

The CV ratio of SCBNL is higher i.e. 16.24 than other banks. SCBNL is more stable than that of other banks. In conclusion SCBNL is weak condition to mobilize its deposit by investing in different sector is comparison of other banks. The CV ratio NABIL is less than other banks so, NABIL is in better condition to mobilize its deposit by investing in different sector in case of other banks.

Figure 4.2

Total Investment to Total Deposit Ratio Times



4.1.2.3 Loans and Advances to Total Asset Ratio

A commercial bank's working fund (total Assets) should play very active role in profit generation through fund mobilization. This ratio reflects the extent to which the banks are successful in mobilizing their total assets on loan and advance for the purpose of income generation. Higher ratio is preferable as it includes better mobilization of fund as loan and advances and vice versa.

The ratio is calculated by dividing Loan and advances by total assets

$$\text{Loan and advances to Total Asset Ratio} = \frac{\text{Loan and Advance}}{\text{Total Assets}}$$

Table 4.7

Loan and Advances to Total Assets Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.
NABIL	57.54	62.89	73.56	65.42	65.83	65.05	5.18	7.96
SCBNL	39.34	34.14	39.68	42.06	46.97	40.44	4.17	10.33
EBL	68.13	65.25	67.07	67.60	65.61	66.73	1.12	1.68

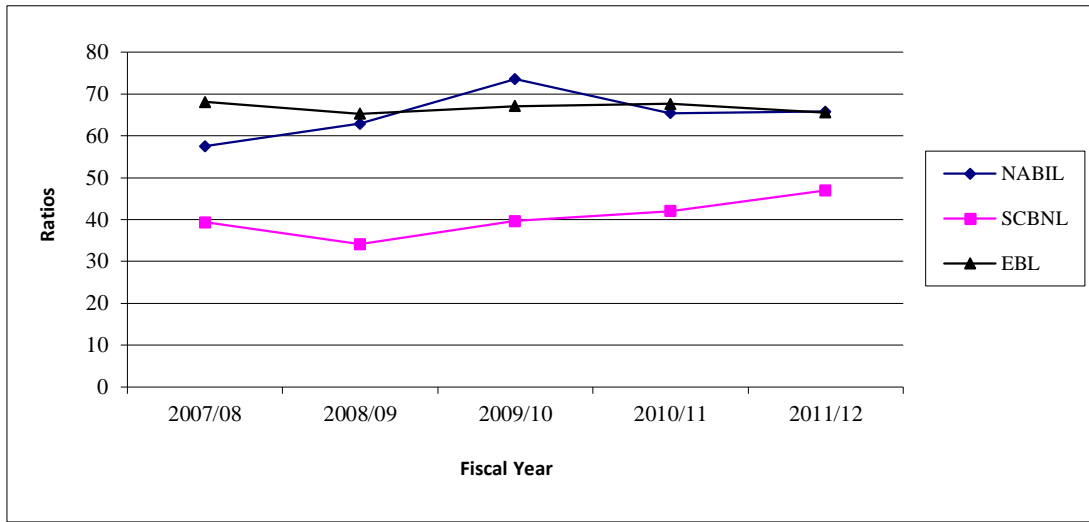
Source: Annex 7

In the above table 4.7 all the bank have fluctuating trend regarding the ratio. During the study period, the mean ratio EBL is greater than other banks. On the basis of S.D.

ratio NABIL has higher and EBL has lower. By the ratio of EBL is good condition to mobilize its loan and advance to total assets ratio. Coefficient of variation of EBL is less than other banks. It indicates more uniform of EBL is comparison to other banks.

Lastly, we can say that EBL found mobilization in terms of loan and advances with respect to total asset is more satisfactory than that of other banks.

Figure 4.3
Loan and Advances to Total Assets Ratio



4.1.2.4 Investment on Government Securities to Total Asset Ratio

The ratio is very important to know the extent to which the banks are successful in mobilizing their total working fund on different types of government securities to maximize the income. All the deposits of the banks should not be utilized in loans and advances and other credit from the point of view of security and liquidity. Therefore, to some extent commercial banks seem to be interested to utilize their deposits by purchasing government securities. A high ratio indicates better mobilization of fund as investment on government securities and vice versa.

This ratio is calculated by dividing investment on government securities by total assets.

Investment on Government Securities to

$$\text{Total Asset Ratio} = \frac{\text{Investment on Government Securities}}{\text{Total Assets}}$$

Table No. 4.8

Investment on Government Securities to Total Asset Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	12.51	8.45	15.23	15.04	12.68	12.78	2.45	19.15
SCBNL	24.41	24.96	21.22	22.73	18.87	22.44	2.22	9.88
EBL	17.44	13.72	10.37	15.25	11.77	13.71	2.50	18.22

Sources: Annex 8

From the above comparative table 4.8, it is seen that the trends for NABIL, SCBNL and EBL have fluctuating trend. The highest ratio of SCBNL is 24.96 percent in year 2008/09. NABIL has highest ratio in year 2009/10 i.e.15.23% and EBL has highest ratio in year 2007/08 i.e. 17.44%.the lowest ratio of above fiscal year EBL has 11.77% in 2011/12.

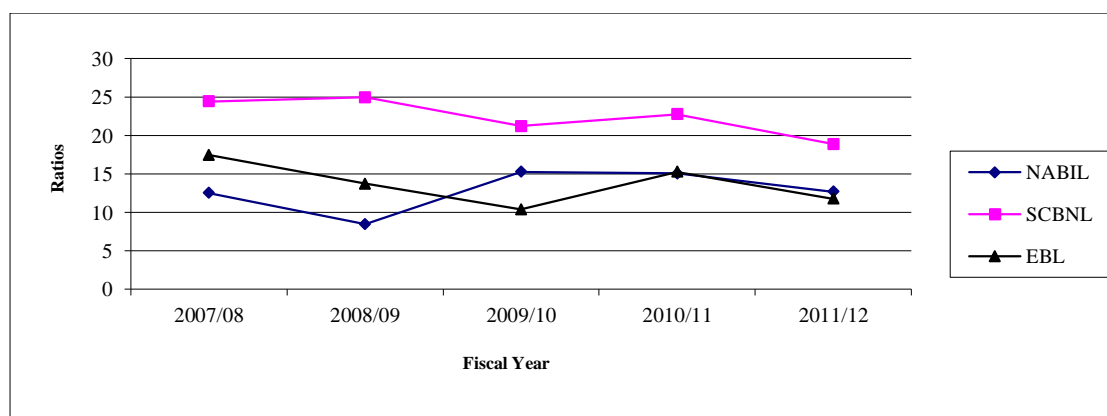
From above table, the mean ratio of SCBNL is higher than the NABIL and EBL i.e. 22.44%.SCBNL is strong to mobilize its total assets on investment in government securities. The variability of SCBNL is lowest i.e. 9.88% and NABIL has higher of 19.15%. On the basis of S.D. EBL has higher and SCBNL has lower ratio i.e.2.50 and 2.22 respectively.

It can be concluded that the SCBNL has been more successful in utilizing its fund in government security than other banks and other banks seen to have lower attention toward the investment on government security.

Investment on government securities to total assets ratio of 5 years period is presented in following figures.

Figure 4.4

Investment on Government Securities to Total Assets Ratio



4.1.2.5 Investment on Share and Debenture to Total Assets Ratio

To study the investment management, total investment has been broken down into investment in government securities and investment on share and debenture. Investment on share and debenture to total asset ratio reflects the extent to which the banks are successful to mobilize their total assets on purchase of share and debenture of other companies to generate income and utilize their expresses funds. A high ratio indicates more portion of investment on share and debenture out of total assets (working fund) and vice versa.

This ratio is calculated by dividing investment on share and debenture by total assets.

Investment on Share and Debenture to Total Asset Ratio =

$$\frac{\text{Investment on Shares and debenture}}{\text{Total Assets}}$$

Table No. 4.9

Investment on Share and Debenture to Total Assets Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	0.90	0.80	0.70	1.60	1.30	1.06	0.339	31.98
SCBNL	0.344	0.288	0.287	0.269	0.283	0.294	0.024	8.16
EBL	0.069	0.265	0.239	0.231	0.196	0.20	0.069	34.58

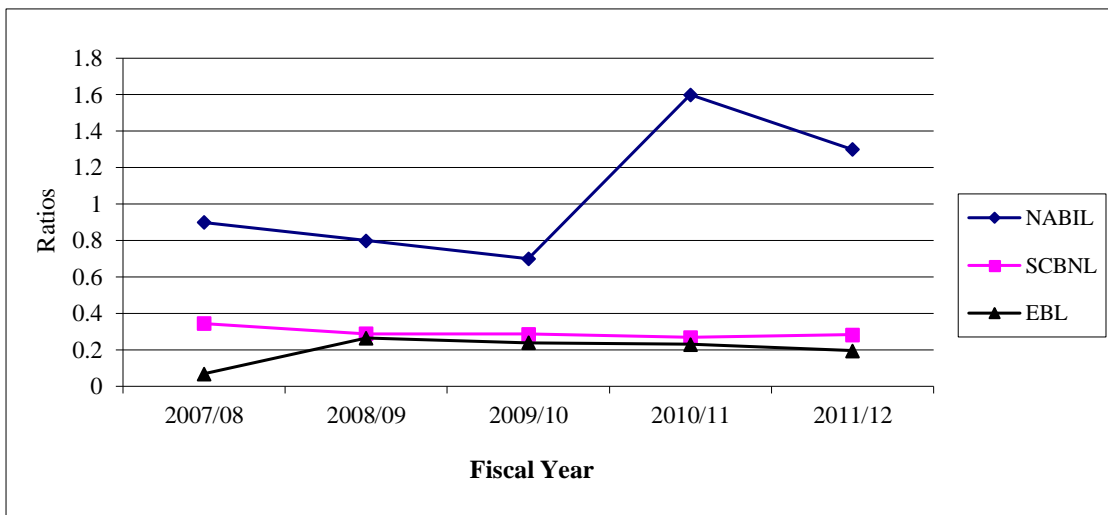
Source: Annex 9

The above table exhibit that the ratio of SCBNL is in decreasing trend up to 2010/11 than increasing trend. NABIL has also decreasing trend up to 2009/10. In case of overall all banks ratios are fluctuating trend. On the basis of mean ratio and S.D. NABIL has higher investment than other banks i.e. 1.06 and 0.339.

It can be concluded that NABIL has invested more portion of its total asset on shares and debentures than SCBNL and EBL. Also NABIL is more consistent and homogeneous than other banks.

Figure 4.5

Investment on Share and Debenture to Total Asset



4.1.3 Profitability Ratios

The main objective of commercial banks is to earn profit providing different types of banking services to its customers. To meet various objectives like to have a good liquidity position, to meet fixed internal obligation, to overcome the figure contingencies, to grab hidden investment opportunities, to expand banking transactions in different places, to finance government in need of development fund etc. a commercial bank must have to earn sufficient profit.

Of course, profitability ratios are the best indicators of overall efficiency. Here, mainly those ratios are presented and analyzed which are related with profit as well as fund mobilization. Through the following ratios effort has been made to measure the profit earning capacity of NABIL, SCBNL and EBL.

4.1.3.1 Return on Loans and Advances

Return on loan and advances ratio measures the earning capacity of a commercial bank on its mobilization fund based on loan and advances. A high ratio indicates greater success to mobilize fund as loan and advances and vice versa. This ratio is calculated by dividing Net income by loan and advance.

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

Table 4.10

Return on Loans and Advances

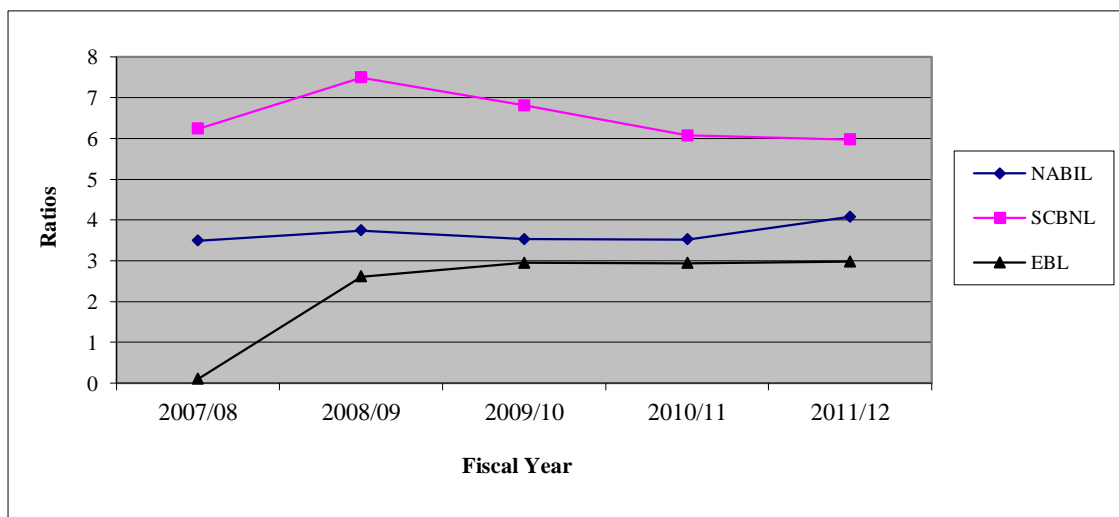
Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	3.49	3.74	3.53	3.52	4.08	3.67	0.222	6.045
SCBNL	6.24	7.49	6.81	6.07	5.97	6.52	0.57	8.68
EBL	0.10	2.61	2.95	2.94	2.98	2.32	1.11	47.84

Sources: Annex 10

The above table exhibit that the ratio of NABIL, SCBNL & EBL are in fluctuating trend at the study period.

The mean ratio of the SCBNL is higher i.e. 6.52 percent and S.D of EBL is higher than other banks. On the other hand CV of EBL is also higher than SCBNL and NABIL. So SCBNL has maintained high return with variable ratios. It can be concluded that SCBNL is significantly able to earn high return on its loan and advances in comparison to other banks in point of view of highest mean ratio.

Figure 4.6
Return on Loan and Advance Ratio (Times)



4.1.3.2 Return on Total Asset

Return on Total asset ratio measure the overall profitability of all working funds, i.e., total assets. It is also known as return on Assets (ROA). A firm has to earn satisfactory return on asset or working fund for its survival. This ratio is calculated by dividing net profit by total Asset. This can be expressed as.

$$ROA = \frac{\text{Net Profit}}{\text{Total Assets}}$$

Here, Net profit includes income left to the internal equities after deducting all costs, charge and expenses.

Table No. 4.11

Return on Total Assets

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.%
NABIL	2.01	2.35	2.18	2.30	2.68	2.30	0.221	9.63
SCBNL	2.46	2.56	2.70	2.55	2.80	2.61	0.122	4.67
EBL	0.07	1.70	1.98	1.99	1.95	1.54	0.74	48.05

Source: Annex 11

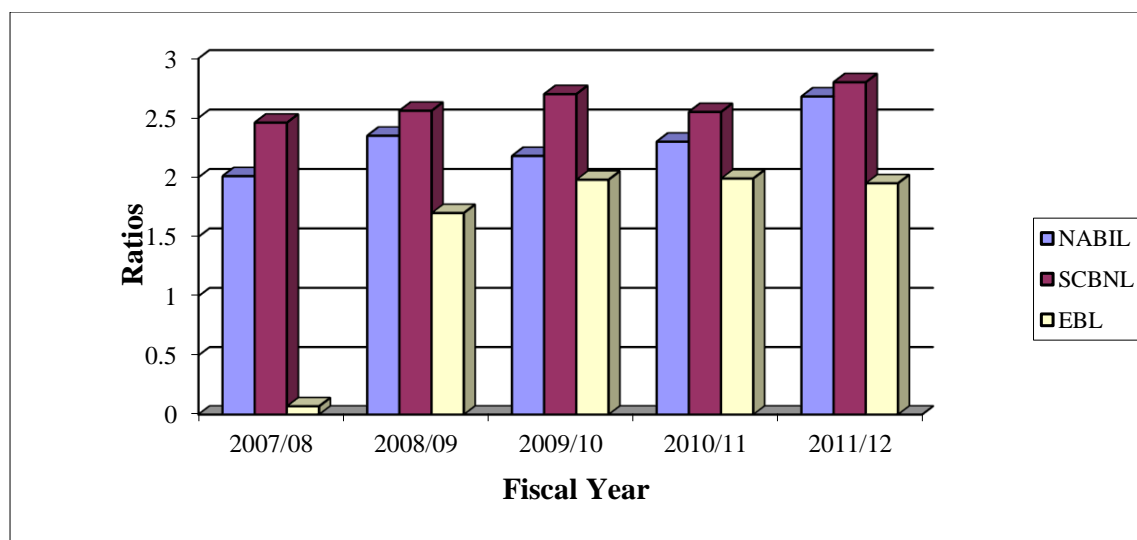
The above comparative table reveals that all banks NABIL, SCBNL and EBL has fluctuating trend in study period 2007/08 to 2011/12. Whereas the highest ratio of SCBNL in year 20011/12 i.e. 2.80 and the lower ratio in year 2007/08 i.e. 2.46. In this way highest ratio of NABIL & EBL is year 2011/12 and 2010/11 respectively.

On the basis of mean ratio SCBNL has greater and EBL has lower ratio i.e. 2.61 and 1.54 respectively. On the basis of S.D. and CV EBL has higher than other selected banks. So, EBL has maintained high return with variability ratio.

From the above analysis, it can be concluded the SCBNL is in strong position in earning high income from its total assets in comparison to other banks.

Figure 4.7

Return on Total Assets



4.1.4 Risk Ratios

The possibility of risk makes banks investment a challenging task. Banks has to take risk to get return on investment. The risk taken is compensated by the increase in profit. A bank has to take high if it expects high return on its investment. So, the banks options for high profit, so it has to accept the risk and manage it efficiently. The risk measures the level of risk. The following ratios are studied for the purpose of meaning risk.

4.1.4.1 Credit Risk Ratio

Credit risk ratio measures the possibility that loan will not be repaid or that investment will deteriorate in quality or go into default with consequent loss to the bank. By definition credit risk ratio is express as the percentage of non-performing loan to total loan and advantage. Here, dividing total loan and advance by total assets derives this ratio.

This can be stated as,

$$\text{Credit Risk Ratio} = \frac{\text{Total Loan and Advance}}{\text{Total Assets}}$$

Table 4.12
Credit Risk Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.
NABIL	57.55	62.89	61.87	65.42	65.83	62.71	2.98	4.75
SCBNL	39.34	34.14	39.68	42.06	46.97	40.44	4.16	10.30
EBL	68.13	65.25	67.07	67.60	65.61	66.73	1.12	1.68

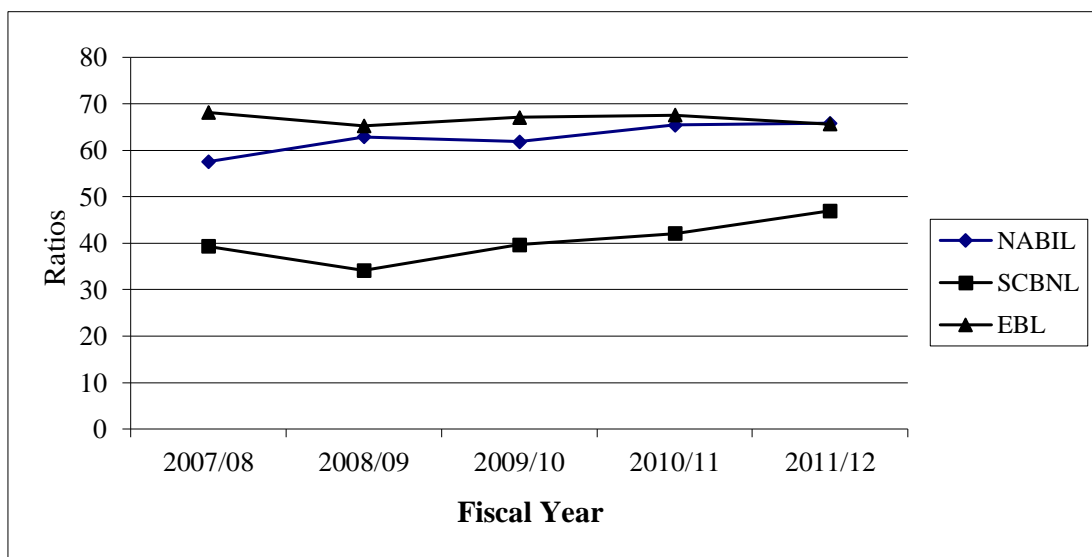
Sources: Appendix 12

The above table shows that the credit risk ratios of all banks in fluctuating trend in study period. In Case of SCBNL is decreasing trend up to 2008/09 and then in increasing trend.

The mean ratios of EBL i.e., 66.73 percent, S.D. of SCBNL i.e., 4.16 is higher than others banks. It means credit risk of EBL and SCBNL is higher than NABIL. The C.V. ratio of SCBNL is also greater than other banks.

From the above analysis it can be concluded that SCBNL's degree of risk is higher and more variable than other banks.

Figure 4.8
Credit Risk Ratio



4.1.4.2 Liquidity Risk Ratio

The liquidity risk ratio measures the level of risk associated with the liquid assets i.e. cash and bank balance that are kept in the banks for the purpose of satisfying the depositor's demand for cash. Higher the ratio, lower is the liquid risk. This ratio is calculated by dividing cash and bank balance by total deposits.

This can be expressed as,

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

Table 4.13
Liquidity Risk Ratio

Bank	2007/08	2008/09	2009/10	2010/11	2011/12	Mean	S.D.	C.V.
NABIL	0.08	0.09	0.03	0.05	0.08	0.66	0.023	34.85
SCBNL	0.07	0.09	0.05	0.08	0.18	0.09	0.045	50.00
EBL	0.11	0.18	0.21	0.15	0.18	0.17	0.034	20.00

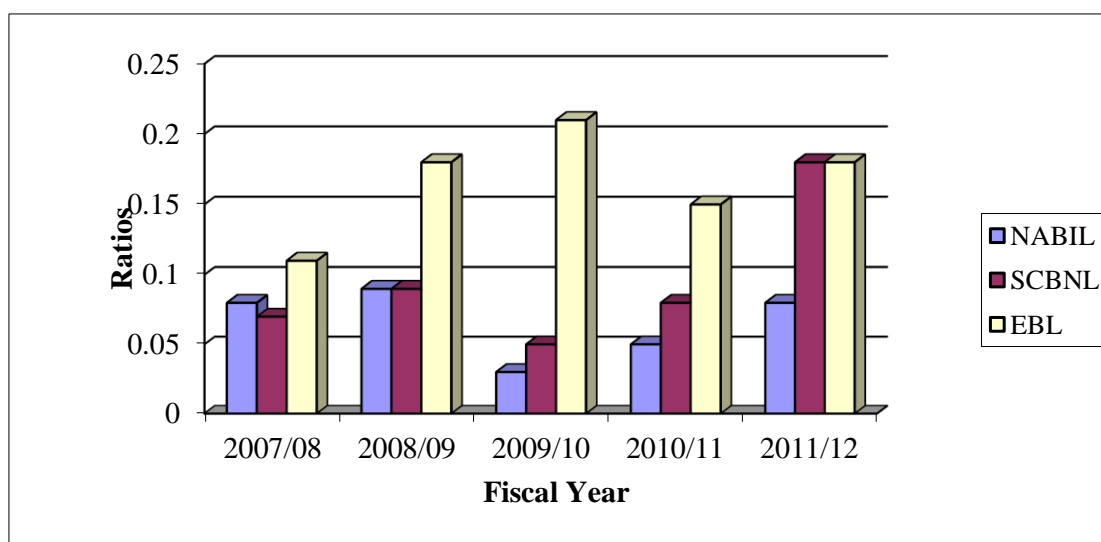
Source: Appendix 13.

The above table 4.13 shows that the liquidity risk ratio of EBL is increasing trend up to 2009/10 than decreasing trend. Overall all selected bank's ratio is in fluctuating trend over the study period.

The main ratio of EBL i.e., 0.17 and S.D of SCBNL i.e., 0.045 is higher than other. It means liquidity risk ratio of EBL is higher than other banks. The C.V. of ratio of SCBNL is higher and EBL has lowest.

From the above analysis it can be concluded that EBL's degree of risk is higher and more variable than other banks.

Figure No. 4.9
Liquidity Risk Ratio



4.2 Statistical Tools

Under this heading some statistical tools such as co-efficient of correlation analysis between different variable, trend analysis of deposits, loan and advances, investment and net profit are used to achieve the objectives of the study.

4.2.1 Coefficient of correlation Analysis

Under this chapter, Karl Person's coefficient of correlation is used to find out the relationship between deposit and loan and advances and total investment, outside assets and net profit.

(i) Co-efficient of Correlation between Deposit and Loan and Advances

It is already mentioned that investment is dependent upon saving i.e., deposit. Longer the duration of deposit, higher the bankers' ability to acquire long term asset. In the

other words bankers can't invest more, on long term asset if the duration of deposit is short. In this sense it can be said the investment is the function of deposit.

Theoretically it is assumed that long term asset yield higher return. It means longer the duration of deposit, higher would be the profitability of the banks. But investment many not be the function of deposit only. Sometimes investment is made from the funds raised from other sources. In such situation investment is not dependent upon deposit only. Co-efficient of correlation between deposit and loan and advances measure the degree of relationship between these two variables. In this analysis deposit is independent variable (X) and loan and advance is dependent variable Y).

The details calculation in this regard are done in Annexure and the following table show the value r_{xy} , r^2 and P.E. and 6P.E.r between deposit and loan and advance of NABIL, SCBNL and EBL banks during the study period.

Table 4.14
Correlation between Deposit and Loan and Advances Co-efficient of
Correlation between Total Deposit and Loan and Advance

Bank	r	r ²	P.Er	6 P.Er
NABIL	0.6879	0.9760	0.007	0.043
SCBNL	0.7608	0.5788	0.1271	0.7623
EBL	0.9952	0.9904	0.0029	0.174

Source: Appendix 14

From the above table 4.14, it is fund that in case of NABIL, SCBNL and EBL coefficient of correlation between deposit and loan and advance value of 'r' of all banks are 0.9879, 0.7068 and 0.9952 respectively and the coefficient of determination (r^2), it is 0.9760, 0.5788, and 0.0.9904 respectively of the variation is the dependence variable (loan and advance) has been explained by the independent variable (deposit).

In case of NABIL considering the value of (r) i.e. 0.8979 and comparing it with 6 P.Er i.e. 0.043 we can find the (r) is greater than the value of 6 P.Er. This reveals that the value of r is significant. In other words there is significant relationship between total deposit and loan and advances in case of NABIL bank. Similarly, In case of SCBNL the value of (r) i.e. 0.7608 and comparing it with 6 P.Er i.e. 0.7623 we can find that is less than the value of 6P.Er. This reveals that the value of r is significant. Similarly in case of EBL, the value of (r) is more than 6 P.Er it can be said that the value of (r) is

significant i.e. there is significant relationship between total deposit and loan and advance.

Lastly, we can say the conclusion from the above analysis that in NABIL and EBL, there is positive relationship between deposit and loan and advance the high percent in the dependent variable which has been explained by independent variable. This indicates the sample banks are successful to mobilize their deposits in proper ways a loan and advances. Moreover, we can further conclude that NABIL and EBL higher correlation between deposit and loan and advance as well as higher between deposit and loan and advance as well as higher values of (r^2) than those of least bank which indicates that it is a strong condition to grant loan and advance for mobilizing the collected deposits in comparison to other banks.

(ii) Co-efficient of correlation Between Deposit and Total Investment

Co-efficient of correlation (r) between deposit and investment measures the degree of relationship between these two variables. Here deposit is independent variable (x) and total investment is dependent variable (y). The purpose of computing co-efficient of correlation between deposit and total investment is to find out whether deposit is significantly used as investment or not.

The table 4.15 shows the value of r , r^2 , P.Er and 6 P.Er between deposit and total investment of NABIL, SCBNL and EBL for the study period of 2007/08 to 2011/12.

Table 4.15

Correlation between Deposit and Total Investment co-efficient of Correlation between Total Deposit and Total Investment

Bank	r	r^2	P.Er	6 P.Er
NABIL	0.9564	0.9147	0.0257	0.1544
SCBNL	0.3574	0.1277	0.2631	1.5787
EBL	0.8133	0.6614	0.1021	0.6128

Source: Annex 15

From the above table, it is found that in case of NABIL, SCBNL and EBL co-efficient of correlation between deposit (independent) and total investment (dependent) value of 'r' of all banks are 0.9564, 0.3574 and 0.8133 respectively. However by application of co-efficient of determination the value of (r^2) is 0.9147, 0.1277 and 0.6614 respectively. By, considering the probable error since the value of r is greater than

6Prexcept SCBNL. So, we can say that there is significant relationship between total deposits and total investment of NABIL and EBL.

In case of SCBNL we find that co-efficient of correlation between deposit and total investment value of r is 0.3574. There is no perfect positive Correlation between total deposit and total investment. However by the determinant i.e., (r^2) it indicates SCBNL to be 0.1277. So we can say them is insignificant relationship between total deposit and total investment.

Lastly, we can draw the conclusion from the above analysis that NABIL and EBL has high degree of positive relationship between deposit and investment. The relationship is significant and the value of (r^2) show high percent in the dependent variable which has been explained by the independent variable. This indicates that banks of them we successful to invest their deposit in proper way. Moreover, we can further conclude that SCBNL has negative correlation between investment and deposit as well as lower value of r^2 in comparison to other banks. It indicates that SCBNL is to follow the policy of maximizing the investment of their deposits in comparison to other banks.

(iii) Coefficient of Correlation between Investment and Net Profit

Coefficient of correlation 'r' between investment and net profit measures the degree of relationship between these two variables. Here, investment is independent variable (X) and net profit is dependent variable (Y).

The purpose of computing co-efficient of correlation between investment and net profit is to find out whether the net profit is significantly correlated with respective total assets or not.

Table 4.16 shows the value of r , r^2 , P.Er, 6P.Er between investment and net profit in NABIL, SCBNL and EBL for the Study period 2007/08 to 2011/12.

Table 4.16
Coefficient of Correlation between Investments

Bank	R	r^2	P.Er	6 P.Er
NABIL	0.8531	0.7277	0.0821	0.4927
SCBNL	0.1461	0.0214	0.2952	0.7712
EBL	0.7781	0.6054	0.1190	0.714

Sources: Appendix 16

From the above listed table it has been found that the coefficient correlation of NABIL, SCBNL and EBL between total investment (independent) and net profit (dependent) is 0.0.8531, 0.1461 and 0.7781 respectively. Whereas NABIL and EBL has high degree of positive correlation between these two variables.

On the other hand, considering the value of co-efficient of determinant r^2 i.e., 0.7277, 0.0.214 and 0.6054 indicates that 72.77%, 2.14 and 60.54% of the variation in the dependent variables (net profit) has been explained by the independent variable (investment) moreover by considering the probable error. We can further say that there is significant relationship between investment and net profit of NABIL and EBL because the value of r is more than 6P. Er. In case of SCBNL the value of r i.e., 0.1461 is less than 6P. Er i.e., 0.7712. So, there is no significant relationship between investment and net profit.

Similarly, co-efficient of correlation between investment and net profit in case of NABIL and EBL is found to be which indicates positive correlation between these two variables. On the other hand, considering the probable error since the value of SCBNL is less than 6P. Er. So we can say that there is no significant relationship between net profit and investment of SCBNL.

4.2.2 Regression Analysis

Regression is the estimation of unknown values of prediction of one variable from known value of other variables. Since there are two regressive lines, there are also two equations namely the regression equation of Y on X and the regression equation of X on Y. The regression equation of Y on X is used to describe the change in value of y for given change in the value of x where as the regression equation of x and y is used to describe the change in the value of x for given variations in the value of y.

4.2.2.1 Calculation of Regression Equation of Deposit and net profit

Net profit is assumed to dependent (Y) upon deposit (D) as

$$Y = a + bx$$

or

$$NP^2 = a + bD$$

Where,

X = independent variable

Y = dependent variable

a and b = constants

Here, the constant 'a' and 'b' are also known as the parameters of the line. The parameter 'a' determines the distance of the line directly above or below the origin, while parameter 'b' determines the slopes of the line i.e. the change in y per units change in x.

Here the regression equation of y on x determines the variation in the value of y i.e. net profit for given change in x i.e. deposit.

Table 4.17
Regression Analysis between net profit and Deposit

Bank	Regression Equation	Regression Equation	Value of Constant 'a'	Value of n constantan 'b'
NABIL	N.P. (y) on D	$y = -411.96 + 0.3634 D$	-411.96	0.03634
SCBNL	N.P. (y) on D	$y = -1889.18 + 0.04078 D$	-1889.18	0.4078
EBL	N.P. (y) on D	$y = -161.95 + 0.02564 D$	-161.95	0.02564

Source: Annex 17

The above table 4.17 shows in the case of NABIL, SCBNL and EBL the regression coefficient 'b' is positively i.e. 0.3634, 0.4078 and 0.2564 respectively which indicates that one million increase in deposit leads to increase in net profit by Rs. 0.3634, Rs. 0.004078, Rs. 0.02564 respectively shows that the net profit will -411.96, -1889.18 and -161.95 million when total deposit is zero.

Hence, this regression equation shows that the deposit of any banks affects its net profit to some extent, that relation too is because the deposit collected is invested in varying area. Investment made effectively leads to effectively utilization of the deposit collection which leads to generating net profit.

4.3 Major Finding of the Study

The main findings of the study are derived on the analysis of financial data NABIL, SCBNL and EBL are given below.

(1) Liquidity Ratio

The liquidity position of concerned bank reveals that:

- NRB has directed all the commercial banks to keep minimum 5% of total deposit in the NRB balance so as to maintain the liquidity position. The current ratio of EBL is higher than SCBNL and NABIL; it indicates better liquidity position of EBL.
- From the analysis of current ratio the observation shows that the standard current ratio in the practical field is above one. The variations in the current ratio of all bank are insignificant, i.e. less than 0.01.
- The mean ratio of cash and bank balance to total deposit comparatively EBL has higher and NABIL has maintained low ratios, it shows some difficulties to meet the demand of its customers on their deposit to pay at any time but it may be earning more by investing cash to different sectors. But it should ensure to have enough liquid funds to serve its customer. Whereas EBL liquidity is higher than SCBNL and NABIL respectively.
- The mean ratio of investment on government securities to current assets, it can be concluded the NABIL has invested its less portion of current assets as government securities than that of other and SCBNL liquidity portion from the point of view of investment on government securities is richer than that of other banks. It shows SCBNL has invested more funds in government securities out of its current assets. Three banks investment on government securities is not a bad also satisfactory.
- The mean ratio of cash and bank balance to current Asset ratio it can be concluded that NABIL has maintained low ratio and EBL liquidity portion from the point of view of cash and bank balance to current asset ratio is richer than that of other bank. Regarding the analysis, it can be said that all three banks has a better ability to meet daily cash requirement of their customers.
- From the above findings it helps to concludes that EBL is comparatively successful in its liquidity position than SCBNL and NABIL respectively.

(2) Asset Management Ratio (Activity Ratio)

The asset management ratio of concerned banks reveals that

- The loan and advance to total deposit ratio of EBL is higher than NABIL and SCBNL respectively. It means EBL has strong position regarding the mobilization of total deposit on loan and advances and acquiring higher profit with compare to other. It state that EBL is better is this regard.
- The total investment to total deposit ratio SCBNL has higher than NABIL and EBL respectively. It shows SCBNL is mobilizing its fund on investment in

various securities efficiently, it can be said that SCBNL is more successful in utility its total deposit by investing in marketable securities and other investment areas.

- The loan and advance to total assets ratio of EBL is greater than NABIL and SCBNL respectively. It refers that EBL has utilized total assets more efficiently in the form of loan and advance with more risk because it has greater variability in the ratio, i.e. $66.73\% > 65.05\% > 40.44\%$.
- The mean ratio of investment on share and debenture to total asset of NABIL is higher than compared banks. NABIL has use its more funds on share and debenture of other companies than other banks. EBL has less ratio of investment on shares and debentures.
- The mean ratio of investment on government securities to total asset SCBNL is higher than NABIL and EBL. It indicates that SCBNL has invested more portions of its total assets on government securities. It means SCBNL has invested more money in risk free assets than that of NABIL and EBL out of their total assets.
- From the above finding it helps to concludes that SCBNL and EBL are comparatively successful in its on balance sheet operation is compared to other banks.

It predicts the SCBNL and EBL have successful maintained and managed its assets toward different income generating activities.

(3) Profitability Ratio

The profitability ratio of concerned banks reveals that:

- The mean ratio of return on loan and advance SCBNL is higher than NABIL and EBL respectively. It refers that SCBNL has utilized the loan and advances for the profit generation purpose in proper way. SCBNL is in strong position of earning high income from its total asset in comparison to other banks.
- It can be concluded that SCBNL is significantly able to earn high return on its loan and advances is comparison of other banks is point of view of average mean and low C.V. ratio of return on loan and advances.
- Return on total assets of SCBNL is higher than NABIL and EBL. However, SCBNL seems successful in managing and utilizing the available assets in order to generate revenue.

- From the above findings of profitability ratios, it can be concluded that SCBNL comparatively in higher position than that of other bank. So, the profit earning capacity SCBNL is high in comparison to other banks. Whereas EBL is poor in this way than others.

(4) Risk Ratios

The risk ratio of concerned banks reveals that

- The mean ratio of credit risk ratio EBL is greater than NABIL and SCBNL i.e., 66.73% > 62.71% > 44.44 percent respectively. So, it can be concluded the EBL's degree of risk is higher and more variable than other banks. Whereas SCBNL has lower ratio. It means EBL is risk seeker bank.
- The mean of liquidity risk ratio of EBL is greater than SCBNL and NLABIL respectively. It can be concluded that EBL's degree of risk is higher and more variable than other banks. This shows its greater ability to pay depositors money as they want.
- Average earning per share (EPS) of SCBNL is higher than other banks. SCBNL is better mobilizing its resources to get more earning per share and it seems quite successful by generating higher EPS is each year and average too.
- Average market price of shares of SCBNL is higher than others. It shows SCBNL better financial performance than others to increase market price per share.
- From the above findings of risk ratios EBL is comparatively in higher position than NABIL and SCBNL.

(5) Co-efficient of correlation Analysis

From the Co-efficient of correlation Analysis between different variable of NABIL, SCNBL and EBL reveals that:

- NABIL has higher correlation between net profit and investment as well as higher value of r^2 in comparison to EBL and SCBNL. It means SCBNL is comparatively successful to generate Net profit due to high positive correlation.
- NABIL has higher correlation between loan and advance and deposit as well as higher value of (r^2) than EBL and SCBNL respectively. It indicates that NABIL is in strong position to grand total investment for mobilizing the collected deposits in comparison to other banks.
- From the above fading NABIL is comparatively successful than EBL and SCBNL.

(6) Regression Equation of Deposit and Net Profit

- This regression equation of Deposit and net profit shows that any change in the deposit of any bank changes the trend of its net profit. The deposit collected from various sources. It fund used for investment; hence if the investment policy of a bank is effective enough to have attractive investment schemes then this will automatically lead to generation of profit of a bank.
- The deposit collected and net profit has a linear relation is shown from the equation, likewise the relation of investment made and the deposit collected cannot be voided.
- Though the relation may not be directly proportioned but relation of these three variables: Deposit, Net profit and investment can be seen from all the above analysis work.

CHAPTER V

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter summarized the whole study. Summary of the study has been maintained in the first section. The second section reflects the conclusion drawn from the study. The third part is recommendation to erase the weakness draw banks of concerned banks and portfolio investment on the basis of findings and conclusion of the study.

5.1 Summery

Economic development of country cannot be imagined without the development of commerce and industry. No doubt, banking promotes the development of commerce to its extreme, as banking itself is the part of commerce. Commercial banks play a vital role in the economic development of the country. It occupies an important place in the framework of the every economy. It provides capital for the development of industry, trade, business and other resource deficit sectors by investing the saving collected as deposits. Beside this, commercial banks provide numerous services to their customers in view of facilitating their economic and social life. The accepting of deposit providing loans to the needy person and organization are its main functions. The other services performed by banks are payment of subscription, purchases and sale of securities remittance of money, advisory services and assistance in foreign trade etc. Hence the commercial banks play an important role in the modern economy.

Commercial banks play an important role for economic development of a country as they provide capital for the development of industry trade and business by investing the saving collected as deposits from public joint venture banks are the commercial banks firmed by joining the two or more enterprises for the purpose for carrying out specific operation such as investment in trade, business and industry as well as in the form of negotiation between various groups of industry or traders to achieve mutual exchange of goods and services. Commercial Banks formulate sound investment policies to make it more effective which eventually contribute to the economic growth of a country.

The economic development is possible only when domestic resources are properly mobilized and utilized. Similarly, for integrated and speedy development of the country the competitive banking and financial services should reach every corner of the country. Successful formulation and effective implementation of investment policy is the prime essential for the successful performance of banks and other financial institutions. A good investment policy has a positive impact on economic development of the country and vice versa.

Commercial banks should be careful while performing the credit creation function investment policy should ensure minimum risk and maximum profit from lending, good investment policy ensures maximum of investment to all sector with proper utilization.

Banking in Nepal in true sense started from the establishment of the first commercial banks, Nepal Bank Limited in 1994 B.S. on government sector. The establishment of Nepal Rastra Bank, central Bank of Nepal in 2013 B.S. was a significant dimension in the development of banking sector.

The study basically deals with the utilization of available fund, relationship of investment loan and advances with total deposit and total net profit, investment decision and liquidity position of concerned banks i.e. NABIL, SCBNL and EBL. The objectives of the study are to examine and evaluate the investment policy trend of the commercial banks in Nepal and to suggest for its improvement in the investment policy. The study has been constrained by various common limitations.

In this study the financial tools ratio analysis viz. liquid ratio, asset management ratio, profitability ratio, risk ratios are used. The statistical tools like co-efficient of correlation have been used for the analysis and interpretation of the data. The data which were employed in this research are secondary in nature. They are obtained from annual reports of the concerned bank, likewise, the financial statement of five years (2007/2008 to 2011/12) were selected for the purpose of evaluation.

5.2 Conclusion

On the basis of entire research study some conclusions have been deduced. This study particular desalts about the financial position of commercial banks in Nepal. The

present study is mainly an attempt to give account of comparative study about commercial banks in different aspects such as liquidity position, profitability position, and market position and other related ratios and indicators of the basis of financial statement.

Under this research study different financial and statistical tools are used measure the investment policy of selected banks. It is found that NABIL, SCBNL and EBL have strong financial performance but comparatively SCBNL and EBL are in better position. It is conducted that SCBNL and EBL have adopted better investment policy than NABIL.

In conclusion, it can be said that commercial banks should move as per the direction given by the central bank. Banks should have optimum policy to collect the deposit in various accounts. Deposit is the major organ of commercial bank to live in the industry. Higher the deposit higher will be the chance of mobilization of working fund and profit thereto. Banks should not invest their fund haphazardly. It should be careful while advancing loan because loans is the blood of the commercial banks for survival. If commercial bank does not apply sound investment policy it will be in great trouble in future to collect it in time, hence the possibility of bankruptcy thereto. Banks should invest their fund in various portfolios after the deep study of the project to be safe from being bankruptcy. If banks concentrate the investment in few organizations there is a high chance of default risk. Diversification is needed to all the business houses but it has seen immense importance to commercial bank. Hence the commercial banks should implement the investment policy considering the directives issued by NRB. Commercial banks should not cross the boundary level set by central bank to make investment policy. In overall, it can be concluded that the role of NRB in investment policy of commercial bank has both positive and negative impact.

5.3 Recommendations

On the basis of Major findings of the study, some important recommendations have been forwarded. Although these banks have more than 10 years of commercial experiences in the Nepalese commercial banking sector, with a competent managerial team, some weakness have come into light through the study. The sampled bank may use it as remedial measures. Therecommendations have been the following.

- I) In commercial banks the liquidity position affects external and internal factors such as saving for investment capacity etc. In this study it should try to lower the current liabilities to improve its liquidity position. Current liabilities improve its liquidity position. Current ratio of three banks are suggested to improve current asset the ratio of cash and bank balance to total deposit and current asset of EBL is higher than that of EBL. It means EBL has higher cash and Bank balance which decrease profit of bank. So it is recommended to mobilize cash and bank balance in profitable as loan and advances.
- ii) From the study it is found that SCBNL has invested more funds in government security than that of other banks. SCBNL liquidity position shows that it has kept relatively found as cash and bank balance which doesn't earn any return. This ultimately affects profitability of bank. Investment in government securities saving certificate are free of risk and highly in nature. So SCBNL is recommended to invest its fund in government securities instead of keeping them idle something is better than nothing.
- iii) In practice commercial banks are urban based service quite a few elite, a fluent big customer are heavily dependent on free based activities. To overcome its situation they should be accessible to rural areas and possible loan and advances to deposit. So the customers is enjoying by getting deposit borrowing and other services.
- iv) SCBNL has invested it's more of the funds that is total investment on total deposit ratio but the percentage of investment on share and debenture is nominal. So it is suggested to investment more of its fund in share and debenture of different companies.
- v) SCBNL loan and advances to total deposit ratio is lowest in compared to other banks. To overcome from the situation it is recommended to follow liberal lending policy and invest move of total deposit in loan and advances and maintain stability on the investment policy.
- vi) Profitability rations of banks are not satisfactory. If resources held idle banks have to bearded more cost and result would be lower profit margin. So portfolio condition of banks should be regularly revised from time to time. It should always try to maintain the equilibrant portfolio condition of the bank. The bank should use its funds in more portfolio sectors. It should utilize its risky assets and share holder's

funds and it should reduce its expenses and should try to collect cheaper funds being more profitable.

- vii) EBL has taken the low credit risk as EBL is one of the largest joint venture commercial banks in Nepal. The risk taken by SCBNL from the angle of credit risk and capital risk are in a high but the consistencies of same are highly volatile which may result in higher loss. So it should not test such risk on an experimental basis; it should carefully study. It should achieve higher return from the above risk.
- viii) In the light of growing competition in the banking sector, the business of the bank is customer oriented. It should strengthen and activate its marketing function as it is an effective tool of attracting and retaining customers. The banks should develop an innovative approach to bank marketing and formulate new strategies of serving customers in a more conventional way.
- ix) The investment policy of SCBNL and EBL is good in every aspect as studied above, but the consistency in the above investment sectors is in equalities states. It is found that at times banks focus much of their attention on one sector, leaving other sectors untouched, so it is recommended to touch all the sectors and balance it effectively as to have the optimal performance of the banks.

To get success itself and to encourage financial and economic development of the country through industrialization and commercialization, commercial banks must mobilize their funds and debentures of other financial and non-financial companies. And if other sectors go up positively, then banks can utilize their funds more and more by providing them loans or getting sufficient dividends on their shares or interest on their debentures. Commercial banks need to strengthen their economic structure to achieve piped overall development. They have to resort to innovative approaches of banking there by bringing professionalism in their business. If they follow those suggestions, they can have better reach to the modern innovative and competitive banking markets.

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ANNEXES

Annex-1

Calculation of Current Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Current assets	33975966	41788824	47371996	53551853	59937355
Current liabilities	33712420	39367572	47594438	51955643	56146683
Ratio (X)	1.01	1.06	0.99	1.03	1.06
$(X - \bar{X})^2$	0.0004	0.009	0.0016	0	0.009

Source: NABIL annual report

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{5.15}{5} \\ &= 1.03\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.02}{5}} \\ &= 0.063\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.063}{1.03} \times 100 \\ &= 0.061\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Current assets	29671659	37053042	37733773	38661747	38880417
Current liabilities	29743999	35650821	35182721	38349243	35965630
Ratio	1.0	1.04	1.07	1.01	1.08
$(X - \bar{X})^2$	0.0016	0	0.0009	0.0009	0.0016

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{5.20}{5} \\ &= 1.04 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.005}{5}} \\ &= 0.0316 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0316}{1.04} \times 100 \\ &= 0.0304 \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Current assets	26563900	36582500	40983500	45528500	44924300
Current liabilities	24276300	33934900	37636900	41909900	42186700
Ratio	1.09	1.08	1.09	1.09	1.06
$(X - \bar{X})^2$	0.0001	0	0.0001	0.0001	0.0004

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{5.41}{5} \\ &= 1.08 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0007}{5}} \\ &= 0.0118 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0118}{1.08} \times 100 \\ &= 0.0109 \end{aligned}$$

Annex-2

Calculation of Cash and Bank Balance to Total Deposit Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2671142	3372512	1400099	2436549	4275822
Total deposit	31915047	37348256	46410701	49696113	55023695
Ratio	0.084	0.090	0.030	0.049	0.078
$(X - \bar{X})^2$	0.0003	0.0006	0.0013	0.0003	0.0001

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.0331}{5} \\ &= 0.066\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0026}{5}} \\ &= 0.0228\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0228}{0.066} \times 100 \\ &= 34.55\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2050243	3137164	1929307	2975795	6366233
Total deposit	29743998	35350823	35182721	37999242	35965630
Ratio	0.069	0.089	0.055	0.078	0.177
$(X - \bar{X})^2$	0.0006	0.00003	0.00152	0.00026	0.0069

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.468}{5} \\ &= 0.094 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0093}{5}} \\ &= 0.0432 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0432}{0.094} \times 100 \\ &= 45.96\% \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2667900	6164400	7818800	6122800	8832400
Total deposit	23976300	33322900	36932300	41127900	50006100
Ratio	0.111	0.185	0.212	0.149	0.177
$(X - \bar{X})^2$	0.0031	0.00032	0.00203	0.00032	0.0001

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{0.834}{5} \\ &= 0.167\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00587}{5}} \\ &= 0.0342\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0342}{0.167} \times 100 \\ &= 20.48\%\end{aligned}$$

Annex -3

Calculation of Cash and Bank Balance to Current Assets Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2671142	3372512	1400099	2436549	4275822
Current assets	33975966	41788824	47371996	53551853	59937355
Ratio	0.079	0.081	0.029	0.045	0.071
$(X - \bar{X})^2$	0.00032	0.0004	0.00102	0.00026	0.0001

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.305}{5} \\ &= 0.061\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0021}{5}} \\ &= 0.0204\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0204}{0.061} \times 100 \\ &= 33.44\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2050243	3137164	1929307	2975795	6366233
Current assets	29671659	37053042	37733773	38661747	38880417
Ratio	0.069	0.085	0.051	0.077	0.164
$(X - \bar{X})^2$	0.0004	0.00002	0.00144	0.00014	0.0056

Source: SCBNL Annual Reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.446}{5} \\ &= 0.089 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0076}{5}} \\ &= 0.039 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.039}{0.089} \times 100 \\ &= 43.82\% \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2667900	6164400	7818800	6122800	8832400
Current assets	26563900	36582500	37636900	41909900	42186700
Ratio	0.10	0.168	0.208	0.146	0.209
$(X - \bar{X})^2$	0.0044	0.000004	0.000074	0.0004	0.00185

Source: EBL Annual Reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.831}{5} \\ &= 0.166\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0067}{5}} \\ &= 0.037\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.037}{0.166} \times 100 \\ &= 22.29\%\end{aligned}$$

Annex-4

Investment on Government Securities to Current Assets Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Investment on government sec.	4646883	3706102	7941756	8745030	7999977
Current assets	33975966	41788824	47371996	53551853	59937355
Ratio	0.137	0.089	0.167	0.163	0.133
$(X - \bar{X})^2$	0.000001	0.0024	0.00084	0.000635	0.000025

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.689}{5} \\ &= 0.138\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00389}{5}} \\ &= 0.0279\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0279}{0.138} \times 100 \\ &= 20.22\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Investment on government sec.	8137615	9998753	8531519	9957260	7862717
Current assets	29671659	37053042	37733773	38661747	38880417
Ratio	0.274	0.270	0.226	0.257	0.202
$(X - \bar{X})^2$	0.00078	0.00058	0.0004	0.00012	0.00194

Source: SCBNL Annual Reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{1.229}{5} \\ &= 0.246\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00382}{5}} \\ &= 0.0276\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0276}{0.246} \times 100 \\ &= 11.50\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Investment on government sec.	4821604	5146045	4354353	7145017	6568876
Current assets	26563900	36582500	40983500	45528500	44924300
Ratio	0.182	0.141	0.106	0.157	0.146
$(X - \bar{X})^2$	0.0013	0.000025	0.0016	0.00012	0

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{0.732}{5} \\ &= 0.146 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00305}{5}} \\ &= 0.0247 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.0247}{0.146} \times 100 \\ &= 16.92\% \end{aligned}$$

Annex -5

Loan and Advance to Total Deposit Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	21365053	27589933	32268873	38034098	41605683
Total deposit	31915047	37348256	46410701	49696113	55023695
Ratio	0.6694	0.7383	0.6953	0.7653	0.7561
$(X - \bar{X})^2$	0.00309	0.00019	0.00088	0.0016	0.00097

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{3.6248}{5} \\ &= 0.725\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00673}{5}} \\ &= 0.037\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.037}{0.725} \times 100 \\ &= 5.10\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	13115285	13679757	15956955	18427270	19575968
Total deposit	29743998	35350823	35182721	37999242	35965630
Ratio	0.4409	0.3869	0.4535	0.4849	0.5295
$(X - \bar{X})^2$	0.00033	0.0052	0.00003	0.00067	0.00496

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{0.2957}{5} \\ &= 0.459 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.01119}{5}} \\ &= 0.047 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.047}{0.459} \times 100 \\ &= 10.24\% \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	18836400	24469600	28156400	31661800	36616800
Total deposit	23976300	33322900	36932300	41127900	50006100
Ratio	0.7856	0.7343	0.7623	0.7698	0.7322
$(X - \bar{X})^2$	0.00083	0.00051	0.00003	0.00017	0.00061

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{3.7842}{5} \\ &= 0.757\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00215}{5}} \\ &= 0.021\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.021}{0.757} \times 100 \\ &= 2.77\%\end{aligned}$$

Annex -6

Total Investment to Total Deposit Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Total investment	9939771	10826379	13703024	13081206	14055850
Total deposit	31915047	37348256	46410701	49696113	55023695
Ratio %	31.14	28.98	29.52	26.32	25.55
$(X - \bar{X})^2$	8.07	0.46	1.49	3.92	7.56

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{141.51}{5} \\ &= 28.30\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{21.50}{5}} \\ &= 2.07\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.07}{28.30} \times 100 \\ &= 7.31\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Total investment	13902819	20236121	19847511	17258682	12938215
Total deposit	29743998	35350823	35182721	37999242	35965630
Ratio %	46.74	57.24	56.41	45.42	35.97
$(X - \bar{X})^2$	2.62	78.85	64.80	8.64	153.51

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{241.78}{5} \\ &= 48.36 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{308.42}{5}} \\ &= 7.85 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{7.85}{48.36} \times 100 \\ &= 16.24\% \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Total investment	5061200	5948500	5008300	7743900	7863600
Total deposit	23976300	33322900	36932300	41127900	50006100
Ratio%	21.11	17.85	13.56	18.83	15.73
$(X - \bar{X})^2$	13.62	0.18	14.90	1.99	2.86

Source : EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{87.08}{5} \\ &= 17.42\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{33.55}{5}} \\ &= 2.59\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.59}{17.42} \times 100 \\ &= 14.87\%\end{aligned}$$

Annex -7

Loan and Advance to Total Assets Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	21365053	27589933	32268873	38034098	41605683
Total assets	37132760	43867397	52155985	58141438	63200298
Ratio%	57.54	62.89	73.56	65.42	65.83
$(X - \bar{X})^2$	56.37	4.67	72.42	0.14	0.61

Source: NABIL Annual Reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{325.24}{5} \\ &= 65.05\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{134.21}{5}} \\ &= 5.18\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{5.18}{65.05} \times 100 \\ &= 7.96\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	13115285	13679757	15956955	18427270	19575968
Total assets	33335788	40066570	40213320	43810520	41677052
Ratio%	39.34	34.14	39.68	42.06	46.97
$(X - \bar{X})^2$	1.21	39.69	0.58	2.62	42.64

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{202.19}{5} \\ &= 40.44\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{86.74}{5}} \\ &= 4.17\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{4.17}{40.44} \times 100 \\ &= 10.33\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	18836400	24469600	28156400	31661800	36616800
Total assets	27646500	37501700	41982800	46840300	55813100
Ratio %	68.13	65.25	67.07	67.60	65.61
$(X - \bar{X})^2$	1.96	2.19	0.12	0.76	1.25

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{333.66}{5} \\ &= 66.73 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{6.28}{5}} \\ &= 1.12 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{1.12}{66.73} \times 100 \\ &= 1.68\% \end{aligned}$$

Annex-8

Investment on Government Securities to Total Assets Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on government sec.	4646883	3706102	7941756	8745030	7999977
Total assets	37132760	43867397	52155985	58141438	63200298
Ratio %	12.51	8.45	15.23	15.04	12.66
$(X - \bar{X})^2$	0.07	18.75	6.00	5.11	0.01

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{63.89}{5} \\ &= 12.78\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{29.94}{5}} \\ &= 2.45\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.45}{12.78} \times 100 \\ &= 19.15\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on government sec.	8137615	9998753	8531519	9957260	7862717
Total assets	33335788	40066570	40213320	43810520	41677052
Ratio %	24.41	24.96	21.22	22.73	18.87
$(X - \bar{X})^2$	3.89	6.35	1.49	0.08	12.74

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{112.19}{5} \\ &= 22.44\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{24.55}{5}} \\ &= 2.22\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.22}{22.44} \times 100 \\ &= 9.88\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on government sec.	4821604	5146045	4354353	7145017	6568876
Total assets	27646500	37501700	41982800	46840300	55813100
Ratio %	17.44	13.72	10.37	15.25	11.77
$(X - \bar{X})^2$	13.91	0.0001	11.16	2.37	3.76

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{68.55}{5} \\ &= 13.71\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{31.20}{5}} \\ &= 2.50\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.50}{13.71} \times 100 \\ &= 18.22\%\end{aligned}$$

Annex-9

Investment on Shares and Debenture to Total Assets Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on shares and debenture	323236	354930	348656	936385	834748
Total assets	37132760	43867397	52155985	58141438	63200298
Ratio %	0.90	0.80	0.70	1.60	1.30
$(X - \bar{X})^2$	0.026	0.068	0.130	0.292	0.58

Source: NABIL Annual Reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{5.30}{5} \\ &= 1.06\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.574}{5}} \\ &= 0.339\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.339}{1.06} \times 100 \\ &= 31.98\%\end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on shares and debenture	114536	115418	115418	117918	117918
Total assets	33335788	40066570	40213320	43810520	41677052
Ratio %	0.344	0.288	0.287	0.269	0.283
$(X - \bar{X})^2$	0.002	0.00004	0.00005	0.00063	0.00012

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{1.471}{5} \\ &= 0.294\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.00284}{5}} \\ &= 0.024\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.024}{0.294} \times 100 \\ &= 8.16\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Invest. on shares and debenture	19082	99552	100434	107975	109575
Total assets	27646500	37501700	41982800	46840300	55813100
Ratio%	0.069	0.2655	0.2392	0.2305	0.1963
$(X - \bar{X})^2$	0.0172	0.0043	0.0015	0.0009	0.00001

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{1.00}{5} \\ &= 0.20\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0239}{5}} \\ &= 0.069\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.069}{0.20} \times 100 \\ &= 34.58\%\end{aligned}$$

Annex-10
Return on Loans and Advances

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Net income	746468	1031053	1139099	1337745	1696276
Loan and advance	21365053	27589933	32268873	38034098	41605683
Ratio %	3.49	3.74	3.53	3.52	4.08
$(X - \bar{X})^2$	0.03	0.005	0.020	0.023	0.168

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{18.36}{5} \\ &= 3.67 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.246}{5}} \\ &= 0.222 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.222}{3.67} \times 100 \\ &= 6.045\% \end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Net income	818921	1025114	1085871	1119171	1168967
Loan and advance	13115285	13679757	15956955	18427270	19575968
Ratio%	6.24	7.49	6.81	6.07	5.97
$(X - \bar{X})^2$	0.08	0.94	0.08	0.20	0.30

Source: SCBNL Annual Reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{32.58}{5} \\ &= 6.52\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{1.60}{5}} \\ &= 0.57\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.57}{6.52} \times 100 \\ &= 8.68\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Net income	19082	638600	831800	931300	1090600
Loan and advance	18836400	24469600	28156400	31661800	36616800
Ratio %	0.10	2.61	2.95	2.94	2.98
$(X - \bar{X})^2$	4.91	0.08	0.40	0.38	0.44

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{11.58}{5} \\ &= 2.32\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{6.21}{5}} \\ &= 1.11\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{1.11}{2.32} \times 100 \\ &= 47.84\%\end{aligned}$$

Annex-11
Return on Total Assets

For NABIL (in 000)

Year	2007/08	2008.09	2009/10	2010/11	2011/12
Net profit	746468	1031053	1139099	1337745	1696276
Total assets	37132760	43867397	52155985	58141438	632002982
Ratio %	2.01	2.35	2.18	2.30	2.68
$(X - \bar{X})^2$	0.084	0.003	0.014	0	0.144

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{11.52}{5} \\ &= 2.30 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.245}{5}} \\ &= 0.221 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.221}{2.30} \times 100 \\ &= 6.63\% \end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Net profit	818921	1025114	1085871	1119171	1168967
Total assets	33335788	40066570	40213320	43810520	41677052
Ratio %	2.46	2.56	2.70	2.55	2.80
$(X - \bar{X})^2$	0.023	0.003	0.008	0.004	0.036

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{13.07}{5} \\ &= 2.61\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.075}{5}} \\ &= 0.122\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.122}{2.61} \times 100 \\ &= 4.67\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Net profit	19082	638600	831800	931300	1090600
Total assets	27646500	37501700	41982800	46840300	55813100
Ratio%	0.07	1.70	1.98	1.99	1.95
$(X - \bar{X})^2$	2.16	0.03	0.19	0.20	0.17

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{7.69}{5} \\ &= 1.54\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{2.75}{5}} \\ &= 0.74\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.74}{1.54} \times 100 \\ &= 48.05\%\end{aligned}$$

Annex -12
Credit Risk Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	21365053	27589933	32268873	38034098	41605683
Total assets	37122760	43867397	52155985	58141438	63200298
Ratio %	57.55	62.89	61.87	65.42	65.83
$(X - \bar{X})^2$	26.63	0.03	0.67	7.34	9.73

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{313.56}{5} \\ &= 62.71 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{44.40}{5}} \\ &= 2.98 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{2.98}{62.71} \times 100 \\ &= 4.75\% \end{aligned}$$

For SCBNL (In 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	13115285	13679757	15956955	18427270	19575968
Total assets	33335788	40066570	40213320	43810520	41677052
Ratio %	39.34	34.14	39.68	42.06	46.97
$(X - \bar{X})^2$	1.21	39.69	0.58	2.62	42.64

Source: SCBNL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{202.19}{5} \\ &= 40.44 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{86.73}{5}} \\ &= 4.16 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{4.16}{40.44} \times 100 \\ &= 10.30\% \end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Loan and advance	18836400	24469600	28156400	31661800	36616800
Total assets	27646500	37501700	41982800	46840300	55813100
Ratio %	68.13	65.25	67.07	67.60	65.61
$(X - \bar{X})^2$	1.96	2.19	0.12	0.76	1.25

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{333.66}{5} \\ &= 66.73\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{6.28}{5}} \\ &= 1.12\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{1.12}{66.73} \times 100 \\ &= 1.68\%\end{aligned}$$

Annex -13
Liquidity Risk Ratio

For NABIL (in 000)

Year	2007/08	2008/09	2009/10	20010/11	2011/12
Cash & bank balance	2671142	3372512	1400099	2436549	4275822
Total deposits	31915047	37348256	46410701	49696113	55023695
Ratio	0.08	0.09	0.03	0.05	0.08
$(\bar{X} - \bar{X})^2$	0.0002	0.0006	0.0013	0.0003	0.0002

Source: NABIL annual reports

Calculation of Mean, S.D. and C.V.

N = 5

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{0.33}{5} \\ &= 0.066 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0026}{5}} \\ &= 0.023 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.023}{0.066} \times 100 \\ &= 34.85\% \end{aligned}$$

For SCBNL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2050243	3137164	1929307	2975795	6366233
Total deposit	29743998	35350823	35182721	37999242	35965630
Ratio	0.07	0.09	0.05	0.08	0.18
$(X - \bar{X})^2$	0.0004	0	0.0016	0.0001	0.0081

Source; SCBNL Annual Reports

Calculation of Mean, S.D. and C.V.

$N = 5$

We have,

$$\begin{aligned}\text{Mean } (\bar{X}) &= \frac{\sum X}{N} \\ &= \frac{0.47}{5} \\ &= 0.09\end{aligned}$$

$$\begin{aligned}\text{S.D. } (\sigma) &= \sqrt{\frac{\sum (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0102}{5}} \\ &= 0.045\end{aligned}$$

$$\begin{aligned}\text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.045}{0.09} \times 100 \\ &= 50.00\%\end{aligned}$$

For EBL (in 000)

Year	2007/08	2008/09	2009/10	2010/11	2011/12
Cash & bank balance	2667900	6164400	7818800	6122800	8832400
Total deposit	23976300	33322900	36932300	41127900	50006100
Ratio	0.11	0.18	0.21	0.15	0.18
$(X - \bar{X})^2$	0.0036	0.0001	0.0016	0.0004	0.0001

Source: EBL annual reports

Calculation of Mean, S.D. and C.V.

$$N = 5$$

We have,

$$\begin{aligned} \text{Mean } (\bar{X}) &= \frac{\Sigma X}{N} \\ &= \frac{0.83}{5} \\ &= 0.17 \end{aligned}$$

$$\begin{aligned} \text{S.D. } (\sigma) &= \sqrt{\frac{\Sigma (X - \bar{X})^2}{N}} \\ &= \sqrt{\frac{0.0058}{5}} \\ &= 0.034 \end{aligned}$$

$$\begin{aligned} \text{C.V.} &= \sqrt{\frac{\sigma}{\bar{X}}} \times 100 \\ &= \frac{0.034}{0.17} \times 100 \\ &= 20.00\% \end{aligned}$$

Annex -14

Coefficient of Correlation between Deposit and Loan and Advance

For NABIL (in million)

Year	Deposit (X)	Loan and advance (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	31915	21365	-12163	147938569	-10807	116791249	131445541
2008/09	37348	27589	-6730	45292900	-4583	21003889	30843590
2009/10	46410	22268	2332	5438224	96	9216	223872
2010/11	39696	38034	5618	31561924	5862	34363044	32932716
2011/12	55023	41605	10945	119793025	9433	88981489	103244185
N = 5	dX = 220392	dY = 160862		dx² = 350024642		dy² = 261148887	dxy = 298689904

Source: NABIL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{220392}{5} = 44078$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{160862}{5} = 32172$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{298689904}{\sqrt{350024642} \sqrt{261148887}}$$

$$r = 0.9879$$

$$r^2 = 0.9760$$

Calculation of Probable Error

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

$$= 0.6745 \frac{1-0.9760}{\sqrt{5}}$$

$$= 0.007$$

$$6 P. Er. = 6 \times 0.007 = 0.043$$

**Coefficient of Correlation between Deposit and Loan and Advance
For SCBNL (in million)**

Year	Deposit (X)	Loan and advance (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	29744	13115	- 5102	26030404	- 3036	9217296	15489672
2008/09	35351	13679	505	255025	- 2472	6110784	- 1248360
2009/10	35173	15957	327	106929	- 194	37636	- 63438
2010/11	37999	18427	3153	9941409	2276	5180176	7176228
2011/12	35965	19576	1119	1252161	3425	11730625	3832575
N = 5	dX = 174232	dY = 80754		dx2 = 37585928		dy2 = 32276517	dxy = 26498475

Source: SCBNL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{174232}{5} = 34846$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{80754}{5} = 16151$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{27810273}{\sqrt{37585928} \sqrt{32276517}}$$

$$r = 0.7608$$

$$r^2 = 0.5788$$

Calculation of Probable Error

$$\begin{aligned} \text{P. Er} &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.5760}{\sqrt{5}} \\ &= 0.1271 \end{aligned}$$

$$6 \text{ P. Er.} = 0.7623$$

**Coefficient of Correlation between Deposit and Loan and Advance
For EBL (in million)**

Year	Deposit (X)	Loan and advance (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	18836	- 13097	- 13097	171531409	- 9112	83028544	119339864
2008/09	24469	- 3750	- 3750	14062500	- 3479	12103441	13046250
2009/10	23156	- 141	- 141	19881	208	43264	- 29328
2010/11	31662	4055	4055	16443025	3714	13793796	15060270
2011/12	36617	12933	12933	167262489	8669	75151561	112116177
N = 5	dX = 135365	dY = 139740		dx2 = 369319304		dy2 = 184120606	dxy = 25953323

Source: EBL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{185365}{5} = 37073$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{139740}{5} = 27942$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{259533233}{\sqrt{3693196304} \sqrt{1841020606}}$$

$$r = 27948$$

$$r^2 = 0.9904$$

Calculation of Probable Error

$$\begin{aligned} \text{P. Er} &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.9904}{\sqrt{5}} \\ &= 0.0029 \end{aligned}$$

$$6 \text{ P. Er.} = 0.0174$$

Appendix 15

Coefficient of Correlation between Deposit and Loan and Advance

For NABIL (in million)

Year	Deposit (X)	Investment (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	31915	9939	- 12163	147938569	- 2382	5673924	28972266
2008/09	37348	10826	- 6730	45292900	- 1495	2235025	10061350
2009/10	46410	13703	2332	5438224	1382	1909924	3222824
2010/11	49696	13081	5618	31561924	760	577600	4269680
2011/12	55023	14056	10945	119793025	1735	3010225	18989575
N = 5	dX = 220392	dY = 61605		dx2 = 350024642		dy2 = 184120606	dxy = 65515695

Source: NABIL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{220392}{5} = 44078$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{61605}{5} = 12321$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{65515695}{\sqrt{350024642} \sqrt{184120606}}$$

$$r = 0.9564$$

$$r^2 = 0.9147$$

Calculation of Probable Error

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

$$= 0.6745 \frac{1-0.9147}{\sqrt{5}}$$

$$= 0.0257$$

$$6 P.Er. = 0.1544$$

**Coefficient of Correlation between Deposit and Loan and Advance
For SCBNL (in million)**

Year	Deposit (X)	Investment (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	29744	13903	- 5102	26030404	-2933	8602489	14964166
2008/09	35351	20236	505	255025	3400	11560000	1717000
2009/10	35173	19847	327	106929	3011	9066121	984597
2010/11	37999	17258	3153	9941409	422	178084	1330566
2011/12	35965	12938	1119	1252161	-3898	15194404	- 4361862
N = 5	dX = 174232	dY = 84182		dx² = 37585928		dy² = 44601098	dxy = 14634467

Source: SCBNL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{174232}{5} = 34846$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{84182}{5} = 16336$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{14634467}{\sqrt{37585928} \sqrt{44601098}}$$

$$r = 0.3574$$

$$r^2 = 0.1277$$

Calculation of Probable Error

$$\begin{aligned} \text{P.Er} &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.1277}{\sqrt{5}} \\ &= 0.2631 \end{aligned}$$

$$6 \text{ P.Er.} = 1.5787$$

**Coefficient of Correlation between Deposit and Loan and Advance
For EBL (in million)**

Year	Deposit (X)	Investment (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	23976	5061	- 13097	171531409	- 1264	1597696	16554608
2008/09	323323	5949	- 3750	14062500	- 376	141376	1410000
2009/10	36932	5008	- 141	19881	-1317	1734489	185697
2010/11	41128	7744	4055	16443025	1419	2013561	5754045
2011/12	50006	7864	12933	167262489	1539	2368521	19903887
N = 5	dX = 185365	dY = 31626		dx² = 369319304		dy² = 44601098	dxy = 4380823

Source: EBL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{185365}{5} = 37073$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{31626}{5} = 6325$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{43808237}{\sqrt{369319304} \sqrt{7855643}}$$

$$r = 0.3574$$

$$r^2 = 0.1277$$

Calculation of Probable Error

$$\begin{aligned} \text{P.Er} &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.6614}{\sqrt{5}} \\ &= 0.1021 \end{aligned}$$

$$6 \text{ P.Er.} = 0.6128$$

Appendix 16

Coefficient of Correlation between Deposit and Loan and Advance

For NABIL (in million)

Year	Invest (X)	Net Profit (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	9939	746	- 2382	5673924	- 444	197136	1057608
2008/09	10826	1031	- 1495	2235025	- 159	25281	237705
2009/10	13703	1139	1382	19099924	- 51	2601	- 70432
2010/11	13081	1338	768	577600	148	21904	112480
2011/12	14056	1696	1735	3010225	506	256036	877910
N = 5	dX = 61605	dY = 5950		dx² = 13406698		dy² = 502958	dxy = 2215221

Source: SCBNL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{61605}{5} = 12321$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{5950}{5} = 1190$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{2215221}{\sqrt{13406698} \sqrt{502958}}$$

$$r = 0.8531$$

$$r^2 = 0.7277$$

Calculation of Probable Error

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

$$= 0.6745 \frac{1-0.7277}{\sqrt{5}}$$

$$= 0.0821$$

$$6 P.Er. = 0.4927$$

**Coefficient of Correlation between Deposit and Loan and Advance
For SCBNL (in million)**

Year	Invest (X)	Net Profit (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	13903	818	-2933	8602489	-225	50625	659925
2008/09	20236	1025	3400	11560000	-18	324	-61200
2009/10	19847	1085	3011	9066121	42	1764	126462
2010/11	17258	1119	422	178084	76	5776	32072
2011/12	12938	1169	-3898	15194404	126	15876	-491148
N = 5	dX = 84182	dY = 5216		dx² = 44601098		dy² = 74365	dxy = 266111

Source: SCBNL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\sum X}{N} = \frac{16336}{5} = 16836$$

$$\bar{Y} = \frac{\sum Y}{N} = \frac{5216}{5} = 1043$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\sum xy}{\sqrt{\sum x^2} \sqrt{\sum y^2}} = \frac{266111}{\sqrt{44601098} \sqrt{74365}}$$

$$r = 0.0214$$

$$r^2 = 0.0214$$

Calculation of Probable Error

$$\begin{aligned} P.Er &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.0214}{\sqrt{5}} \\ &= 0.2952 \end{aligned}$$

$$6 P.Er. = 1.7712$$

**Coefficient of Correlation between Deposit and Loan and Advance
For EBL (in million)**

Year	Invest (X)	Net Profit (Y)	x = (X - \bar{X})	x ²	y = (Y - \bar{Y})	y ²	xy
2007/08	5061	451	-1264	1597696	-338	114244	427232
2008/09	5949	638	-376	141376	-151	22801	56776
2009/10	5008	832	-1317	1734489	43	1849	-56631
2010/11	7744	931	1419	2013561	142	20164	201498
2011/12	7864	1091	1530	2368521	302	91204	462060
N = 5	dX = 31626	dY = 3943		dx² = 7855643		dy² = 250262	dxy = 1090935

Source: EBL annual reports

Here,

$$N = 5$$

$$\bar{X} = \frac{\Sigma X}{N} = \frac{31626}{5} = 6325$$

$$\bar{Y} = \frac{\Sigma Y}{N} = \frac{3943}{5} = 789$$

Calculation of Correlation Coefficient (r)

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2} \sqrt{\Sigma y^2}} = \frac{1090935}{\sqrt{7855643} \sqrt{250262}}$$

$$r = 0.7781$$

$$r^2 = 0.6054$$

Calculation of Probable Error

$$\begin{aligned} \text{P.Er} &= 0.6745 \frac{1-r^2}{\sqrt{N}} \\ &= 0.6745 \frac{1-0.6054}{\sqrt{5}} \\ &= 0.1190 \end{aligned}$$

$$6 \text{ P.Er.} = 0.714.$$

Regression Analysis Between Net Profit and Deposit (For NABIL)

For NABIL in Million

Fiscal Year	Total Deposit (X)	Net Profit (Y)	x^2	y^2	xy
2007/08	31915	746	1018567225	556516	23808580
2008/09	37348	1031	1394873104	1062961	38505788
2009/10	46410	1139	2153888100	1297321	52860990
2010/11	49696	13389	2469692416	1790244	66493248
2011/12	55023	1696	3027530529	2876416	93319008
N = 5	dx = 220392	dy = 5950	dx² = 10064551374	dy² = 7855643	dxy = 274987614

Source: NABIL Annual Report

X = Independent Variable

Y = Dependent Variable

Let, the regression equation of y on X is

$$y = a + bx \dots\dots\dots (i)$$

To find the value of a and b we have two normal equation

$$\Sigma y = na + b\Sigma x \dots\dots\dots (ii)$$

$$\Sigma xy = a \Sigma x + b\Sigma x^2 \dots\dots\dots (iii)$$

Subtracting the value of n, Σx , Σy , Σx^2 , Σxy in equation (ii)

$$5950 = 5a + 220392b \dots\dots\dots (iv)$$

$$274937614 = 220392a + 10064551374b \dots\dots\dots (v)$$

Now, multiplying equation (iv) by 220392 and equation (v) by 5 then subtracting we get

$$\begin{array}{r} 1311332400 = 1101960a + 48572633660b \\ \underline{- 1374938070 = - 1101960a + - 50322756850b} \end{array}$$

$$- 63605670 = - 1750123190 b$$

$$b = 0.03634$$

Putting the value of b in equation (iv) then we get,

$$5950 = 5a + 220392 \times 0.03634 \quad \therefore a = - 411.96$$

Regression Analysis between net profit and Deposit

For SCBNL (In Million)

Fiscal Year	Total Deposit (X)	Net Profit (Y)	x^2	y^2	xy
2007/08	29744	818	884705536	669124	24330592
2008/09	35351	1025	1249693201	1050625	36234775
2009/10	35173	1085	127139989	1177225	38162705
2010/11	37999	1119	1443924001	1252161	42520881
2011/12	35965	1169	1293481225	1366561	42043085
N = 5	dx = 174232	dy = 5216	dx² = 618943892	dy² = 5515696	dxy = 183291738

Source: SCBNL Annual Report

X = Independent Variable

Y = Dependent Variable

Let, the regression equation of y on X is

$$y = a + bx \dots\dots\dots (i)$$

To find the value of a and b we have two normal equation

$$\Sigma y = na + b\Sigma x \dots\dots\dots (ii)$$

$$\Sigma xy = a \Sigma x + b\Sigma x^2 \dots\dots\dots (iii)$$

Subtracting the value of n, Σx , Σy , Σx^2 , Σxy in equation (ii)

$$5216 = 5a + 174232b \dots\dots\dots (iv)$$

$$183291738 = 174232a + 6108943892b \dots\dots\dots (v)$$

Now, multiplying equation (iv) by 174232 and equation (v) by 5 then subtracting we get.

$$\begin{array}{r} 908794112 = 871160a + 30356789820b \\ \underline{- 916458690 = - 871160a + - 30544719460b} \end{array}$$

$$- 7664578 = - 187629640 b$$

$$b = 0.04078$$

Putting the value of b in equation (iv) then we get,

$$5216 = 5a + 174232 \times 0.04078 \qquad \therefore a = - 1889.18$$

Regression Analysis between net profit and Deposit

For EBL (In Million)

Fiscal Year	Total Deposit (X)	Net Profit (Y)	x^2	y^2	xy
2007/08	23976	451	574848576	203401	10813176
2008/09	33323	638	1110422329	407044	21260074
2009/10	36932	832	1363972624	692224	30727424
2010/11	41128	931	169151284	866761	38290168
2011/12	50006	1091	2500600036	1190281	54556546
N = 5	dx = 185365	dy = 3943	dx² = 7241355949	dy² = 3359711	dxy = 155647388

Source: SCBNL Annual Report

X = Independent Variable

Y = Dependent Variable

Let, the regression equation of y on X is

$$y = a + bx \dots\dots\dots (i)$$

To find the value of a and b we have two normal equation

$$\Sigma y = na + b\Sigma x \dots\dots\dots (ii)$$

$$\Sigma xy = a \Sigma x + b\Sigma x^2 \dots\dots\dots (iii)$$

Subtracting the value of n, Σx , Σy , Σx^2 , Σxy in equation (ii)

$$3943 = 5a + 185365b \dots\dots\dots (iv)$$

$$155647388 = 185365a + 7241355949b \dots\dots\dots (v)$$

Now, multiplying equation (iv) by 174232 and equation (v) by 5 then subtracting we get.

$$\begin{array}{r} 730894195 = 871160a + 30356789820b \\ \underline{- 778236940 = - 926825a + - 36206779750b} \\ - 47342745 = - 184696515 b \end{array}$$

$$b = 0.04078$$

Putting the value of b in equation (iv) then we get,

$$3943 = 5a + 185365 \times 0.02564 \quad \therefore a = - 161.95$$