

**LIQUIDITY AND PROFITABILITY POSITION OF
EVEREST BANK,
HIMALAYAN BANK
&
NABIL BANK**

By

RAJAN LAL SHRESTHA

Patan Multiple Campus

T.U. Regd. No.: 7-2-455-33-2003

Campus Roll No./Batch:234/063

Exam Roll Number: 220183

A Thesis Submitted to

Office of the Dean

Faculty of Management

Tribhuvan University

In partial fulfillment of the requirements for the degree of
Master of Business Studies (M.B.S.)

Kathmandu, Nepal

March, 2013

RECOMMENDATION

This is to certify that the thesis

Submitted by:

Rajan Lal Shrestha

Entitled:

**LIQUIDITY AND PROFITABILITY POSITION OF
EVEREST BANK, HIMALAYAN BANK & NABIL BANK**

has been prepared as approved by this Campus in the prescribed format of the Faculty of Management. This thesis is forwarded for examination.

.....
(Dinesh Man Malego)
Thesis Supervisor

.....
(Dinesh Man Malego)
Coordinator, MBS Program

.....
(Baburam Singh Thapa)
Asst. Campus Chief

VIVA-VOCE SHEET

We have conducted the viva-voce examination of the thesis

Submitted by:

Rajan Lal Shrestha

Entitled:

**LIQUIDITY AND PROFITABILITY POSITION OF
EVEREST BANK, HIMALAYAN BANK & NABIL BANK**

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

Master of Business Studies (M.B.S.)

Viva-Voce Committee.

Head, Research Department:

Member (Thesis Supervisor):

Member (External Expert):

Date:

Declaration

I hereby declare that this study entitled “**Liquidity and Profitability Position of Everest Bank, Himalayan Bank & Nabil Bank**” submitted to the Office of the Dean, Faculty of Management, Tribhuvan University, is my original research work carried out to satisfy the partial fulfillment of the requirements for the degree of Master of Business Studies (M.B.S.) under the supervision of Mr. Dinesh Man Malego, Patan Multiple Campus.

Rajan Lal Shrestha

March, 2013

Roll No:- 234/063

Reg. No. 7-2-455-33-2003

ACKNOWLEDGEMENT

As the partial fulfillment of the MBS degree, I have prepared this report. During the course, I worked with sincerity, honesty and diligently, as far as possible. But beside my continual efforts, I also got unforgettable support from different people and parties. I am extremely grateful and overwhelmed by their support while completing my work.

I would like to express cordial gratitude to all my teachers, who have taught me up to now. For this dissertation, I would like to extend special thanks to thesis Supervisor, Mr. Dinesh Man Malego, Head of Research Department of Patan Multiple Campus. Despite their busy schedule, they have made significant contribution for preparing this thesis. I am extremely indebted by their efforts.

This is a study on banking sector. This study has been undertaken to present report on the practical operation of banks in Nepal in its proper perspective. In this regards study has been conducted at Everest Bank Limited (EBL), Himalayan Bank Limited (HBL) and NABIL Bank Limited (NABIL).

Last but not the least, I would like to express and share my deep down love and indebtedness to my entire college friend's support in my every walk of life.

Rajan Lal Shrestha

Patan Multiple Compus

Date: March, 2013.

TABLE OF CONTENTS

RECOMMENDATION

VIVA-VOCE SHEETS

DECLARATION

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES

ABBREVIATIONS

Page. No.

CHAPTER- I: INTRODUCTION

1.1	Background of the study	1
	1.1.1 Development of Banking in Nepal	2
	1.1.2 A Brief Profile of EBL	3
	A Brief Profile of HBL	4
	1.1.4 A Brief Profile of NABIL	5
1.2	Statement of the Problem	6
1.3	Objectives of the study	6
1.4	Significance of the Study	7
1.5	Limitations of the study	7
1.6	Organization of the study	8

CHAPTER- II: REVIEW OF LITERATURE

2.1	Conceptual Framework	9
	2.1.1 Historical Development of Bank	9
	2.1.2 Banking in Nepal	10
2.2	Review of Previous Studies	11
2.3	Concluding Remarks	13

CHAPTER- III: RESEARCH METHODOLOGY

3.1	Introduction	14
3.2	Research Design	14
3.3	Population and Sample	16
3.4	Sources of Data	16
3.5	Data Collection Techniques	17
3.6	Data Analysis Tools	17

CHAPTER- IV: PRESENTATION AND ANALYSIS OF DATA

4.1	Introduction	27
4.2	Liquidity Ratio	28
4.3	Profitability Ratio	36
4.4	Trend Analysis	54
4.5	Correlation Co-efficient	57
4.6	Regression Analysis	58
4.7	Hypothesis (t-test)	59
4.8	ANOVA	60
4.9	SWOT Analysis	61
4.10	Major Findings of the Study	63

CHAPTER-V: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1	Summary	67
5.2	Conclusion	67
5.3	Recommendations	70

BIBLIOGRAPHY

APPENDIXES

LIST OF TABLES

Table	Page No.
4.1 Current Ratio	28
4.2 Quick Ratio	30
4.3 Cash and Bank Balance to Current Deposit Ratio	32
4.4 Cash and bank Balance to Total Deposit Ratio	34
4.5 Net Profit Ratio	36
4.6 Return on Equity (ROE)	38
4.7 Return on Asset (ROA)	40
4.8 Return on Capital Employed (ROCE)	42
4.9 Earning Per Share (EPS)	44
4.10 Dividend Per Share	46
4.11 Dividend Payout Ratio	48
4.12 Earning Yield Ratio	50
4.13 Dividend Yield Ratio	52
4.14 Trend Value of Current Ratio	54
4.15 Trend Value of EPS	55
4.16 Trend Value of Net Profit	56
4.17 Correlation Co-efficient between T. Deposit and Cash & Bank Balance	57
4.18 Correlation Co-efficient between Total Deposit and Net Profit	58
4.19 Regression Equation of Cash and Bank Balance on Total Deposit	58
4.20 Regression Equation of Net Profit on Total Deposit	59
4.21 T-test of Correlation Co-efficient between T. Deposit & C&B Balance	59
4.22 T-test of Correlation Co-efficient between Total Deposit and Net Profit	60
4.23 One-way ANOVA Test of EPS	61
4.24 One-way ANOVA Test of Current Ratio	61

LIST OF FIGURES

	Figures	Page No.
4.1	Current Ratio	29
4.2	Quick Ratio	31
4.3	Cash and Bank Balance to Current Deposit Ratio	33
4.4	Cash and bank Balance to Total Deposit Ratio	35
4.5	Net Profit Ratio	37
4.6	Return on Equity (ROE)	39
4.7	Return on Asset (ROA)	41
4.8	Return on Capital Employed (ROCE)	43
4.9	Earning Per Share (EPS)	45
4.10	Dividend Per Share (DPS)	47
4.11	Dividend Payout Ratio	49
4.12	Earning Yield Ratio	51
4.13	Dividend Yield Ratio	53
4.14	Trend Value of Current Ratio	54
4.15	Trend Value of EPS	55
4.16	Trend Value of Net Profit	56

ABBREVIATIONS

1.	ABBS	Any Branch Banking System
2.	A/C	Account
3.	ANOVA	Analysis Of Variance
4.	ATM	Automatic Teller Machine
5.	C.V.	Coefficient of Variation
6.	d.f.	Degree of Freedom
7.	DPS	Dividend Per Share
8.	EBL	Everest Bank Limited
9.	EPS	Earning Per Share
10.	F/Y	Fiscal Year
11.	HBL	Himalayan Bank Limited
12.	i.e.	That is
13.	JVBs	Joint Venture Banks
14.	MPS	Market Price per Share
15.	NABIL	Nabil Bank Limited
16.	NBL	Nepal Bank Limited
17.	NRB	Nepal Rastra Bank
18.	PNB	Punjab National Bank
19.	ROA	Return on Assets
20.	ROCE	Return on Capital Employed
21.	ROE	Return on Equity
22.	SCT	Smart Choice Technology
23.	SMEs	Small and Medium sized Enterprises
24.	SWOT	Strength, Weakness, Opportunities and Threats
25.	UAE	United Arab Emirates
26.	U.K.	United Kingdom
27.	viz.	Namely

CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Generally, an institution established by law, which deals in money and credit is called bank. A bank simply carries out the work of exchanging money, providing loan, accepting deposit and transferring money. When a bank performs multiple tasks, the efficiency and effectiveness of work becomes weak. Hence, different banks are established for different purposes.

The commercial bank is the oldest form of bank. There is considerable change in the original form of commercial bank. In general, bank means the commercial bank. Hence, the definitions of bank are also equally applicable to commercial banks. The profit maximization is the main objective of this bank. In the present context, the term commercial bank itself is a misnomer.

Certainly, no comparison can be made between ancient and modern banks. In the ancient time, merchants, moneylenders and goldsmiths used to perform the work of banking in every country. The merchants used to exchange the gold, silver and gems. The moneylenders were found lending and borrowing money even in quite primitive communities. Goldsmiths became the precursor of the modern bank note and the forerunners of the modern banking institutions

Banks are among the most important sources of short-term working capital for businesses. They have become increasingly active in recent years in making long-term business loans for new plant and equipment. When businesses and consumers must make payments for purchase of goods and services, more often they use bank provided cheques, credit or debit cards, or electronic accounts connected to a computer network. It is the banker to whom they turn most frequently for advice and counsel, when they need financial information and financial planning.

In conclusion, we can say that banking is not static but a dynamic concept. It is a product of centuries and the development which has taken place is the product of a

method of trial and error and experiences which were made and the results that followed relating to the acceptance of money and valuables as deposits, keeping them as such, lending them, whether to private individuals, to states or other bodies and for controlling the multifarious and multi-dimensional activities which, in the beginning were only trivial and could be ignored but with the growth of time, became international in character and multi-dimensional in nature calling for actions on the part of the state as the actions on the part of the individuals failed and state control became eminent. In this study, an attempt has been made to analyze and evaluate the trade off between liquidity and profitability of Commercial Banks in Nepal.

1.1.1 Development of Banking in Nepal

In the context of Nepal, the history of banking sector is rather more slow evolution. Even now, the banking sector is still in the evolutionary phase. So far as banking is concerned with dept, we may go back in the Nepalese history, where a merchant namely “Sankhadhar” is recorded. He was the person who paid all debts of the people existing in the country at that time. Since then he introduced a new era called “Nepal Sambat”. This record proves the existence of money lending function at that time. During the course of development of borrowing, we further come across the term “Tanka Dhari” at the end of the 14th century meaning money lenders.

In 1877 A.D. Tejaratha Adda was established by then government. The main purpose of this institution was to provide credit facilities for government staffs and general public by collecting gold and silver at 5% rate of interest. Tejaratha Adda did not use to accept deposit, it only provided credit facilities. So, we cannot say, it had performed fully banking transaction. But it played an important role towards the institutional development of banking system in Nepal.

On the course of development of bank, Nepal Bank Limited was established in 1994 under the Nepal Bank Act 1994 (1938) as a commercial bank. NBL has been providing banking services and facilities from 1994 B.S. up to now. NBL is the first modern bank in the history of banks in Nepal. Until mid 1940s, only metallic coins were used as medium of exchange. So, the government felt the need of separate institution or body to issue national currencies and promote financial organization in the country. Hence, the Nepal Rastra Bank (NRB) Act 1955 was formulated and was

approved by the government. Accordingly, Nepal Rastra Bank was established in 1956 A.D. as the central bank of Nepal. After the establishment of NRB, the first 5 year plan was introduced in the country. The establishment of NRB set a milestone in the history of banking in Nepal. After this, a new way of thinking and a new sort of spirit arose in the field of banking. NRB was established with an objective of supervising, protecting and directing the functions of commercial banking activities.

The tasks of bank are very dynamic, complex and riskier. In this context, only local commercial banks could not play their role in the development of modern banking. Realizing this fact, the government felt that commercial banks could contribute significantly in the formulation and mobilization of internal capital for trade and commerce. As management of commercial banks are mainly held by highly skilled and experienced personnel, the need for some competitive advantages like increased skilled personal with modern banking knowledge, efficient banking services, advance management skills and an international network of bank branches were felt.

As a result, the first JVB, Nepal Arab Limited was established in 2041 (1985) under the Commercial Bank Act 2031 (1974) and the Company Act 2021 (1965). In short form, it is called NABIL Bank. Nepal entered a new era of development following the historic political changes with the restoration of parliamentary system of government based on multi-party democracy in 1991 A.D. As an important strategy in resource mobilization, elected democratic government has given high priority to foreign investment, private sector participation and economic liberalization. First of all, the banks are not enough. Secondly, the competition is not found in banking functions. Thirdly, are increased in number in urban areas only. Modern and joint investment banks are not established in rural areas. Hence, the rural people are not getting banking services.

1.1.2 A Brief Profile of Everest Bank Limited (EBL)

Everest Bank Limited (EBL) started its operation in 1994 with a view and objective of extending professionalized and efficient banking services to various segments of the society. EBL joined hands with Punjab National Bank (PNB), India as its joint venture partner in 1997. The bank is providing its services through a wide network of 48 branches across the nation and over 250 correspondents across the globe.

The Bank in association with Smart Choice Technology (SCT) is providing ATM services for its customers. EBL Debit Card can be accessed at more than 50 ATMs and over 250 Points of Sales across the nation. The bank is also managing the SCT ATM at Tribhuvan International Airport for the convenience of the customers and the travelers, the first and the only bank in Nepal to place ATM outlet at the Airport (Annual Reports of EBL).

EBL is playing a pivotal role in facilitating remittance to and from across the globe. Being the first Nepalese bank to open a representative office in Delhi, India, the Nepalese in India can open account in Nepal from the designated branches of Punjab National Bank and remit their savings economically through banking channels to Nepal. The bank has a Drafts Drawing Arrangement with 175 branches of PNB all over India (Annual Reports of EBL).

With an aim to help Nepalese citizens working abroad, the bank has entered into arrangements with banks and finance companies in different countries, which enables quick remittance of funds by the Nepalese citizens in countries like UAE, Kuwait, Bahrain, Qatar, Saudi Arabia, Malaysia, Singapore and U.K..

1.1.3 A Brief Profile of Himalayan Bank Limited (HBL)

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

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

under the credit standing with foreign correspondent banks, the bank believes it obviously lead the banking sector of Nepal. The most ratings of HBL by its financial ratios as country's top bank Bank easily confirm the claim.

Himalayan Bank Limited holds of a vision to become a "Leading Bank of the country" by providing premium products and services to the customer, thus ensuring attractive and substantial returns to the stakeholders of the bank. The banks mission is to become preferred provider of quality financial services in the country. There are two components in the mission of the bank: Preferred Provider and Quality Financial Services; therefore, HBL believe that the mission will be accomplished only by satisfying these two important components with the customer at focus. The Bank always strives positioning itself in the hearts and minds of the customers.

1.1.4 A Brief Profile of NABIL Bank Limited (NABIL)

Nabil Bank Limited, the first foreign joint venture bank of Nepal, started operations in July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 50 points of representation across the kingdom and over 170 reputed correspondent banks across the globe (Annual Reports of NABIL).

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes ATMs, credit cards, state-of-art, world renowned software from Infosys Technologies System, Bangalore, India, Internet banking system and Telebanking system.

Today, Nabil bank is in a unique position in the banking industry in Nepal. As the nation's first joint venture bank, it has an unmatched 26 years of operational experience, giving it unparalleled insight into the market, risks, opportunities and

customer needs. In conjunction to this, the bank today surges ahead in meeting its Mission to be the “Bank of 1st Choice” for all its stakeholders.

1.2 Statement of the Problem

In response to the economic liberalization policy of the government, establishment of commercial bank is continued. The tendency to concentrate these banks only in urban areas like Kathmandu, Biratnagar, Birgunj, Pokhara etc. has raised certain questions. This state of affairs cannot contribute much to the socio-economic development of the country where 90% of the population depends upon agriculture. These commercial banks are reluctant to extend their operation in rural areas. Basically focus its attention to reveal the struggle and success achieved by the commercial banks. Commercial bank’s main motive is to make profit by providing services to the customers. In Nepal, the profitability rate, operating expenses, dividend distribution among the shareholders etc. have been found inconsistent. There must be some reason behind such differences in performance.

In this study, attempts have been made to sort out the answers to the following questions:

1. Is there any relationship between liquidity and profitability in sample bank?
2. What is the operational efficiency of sample banks?
3. What is the existing situation of liquidity and profitability position of sample bank?
4. How efficiently banks are managing their liquidity?
5. To what extent these banks have been able to raise their profitability?
6. Does the overall liquidity and profitability position indicate any special strength or weakness of these banks?

1.3 Objectives of the Study

The general purpose of the study is to discuss, examine and evaluate the tradeoff between liquidity and profitability position of the concerned commercial banks in Nepal. Thus, this study has been conducted to achieve the following objectives:

1. To examine the relationship between liquidity and profitability of EBL, HBL and NABIL.

2. To point out the operational efficiency of sample banks.
3. To point the existing situation of liquidity and profitability position of sample banks.

1.4 Significance of the Study

The study of the analysis of liquidity and profitability position of commercial banks in Nepal plays a vital role in the managerial decision. Every organization has to analyze its financial performance in every step of its operation, promotion and expansion. There should be an appropriate equilibrium between earning and non-earning assets. Commercial banks are always guided by the objective of profitability. All financial decisions of commercial banks are for the betterment of shareholders wealth. There should be an effective system of funds allocation in order to safeguard the banks from the danger of illiquidity. An appropriate level must be achieved between them. The study ponders to find out whether commercial banks are alert or not in this regard.

This study will be helpful to enhance the financial performance of concerned organization. This study will be usable and valuable for academicians, students, teachers and practitioners in the field of accounting and finance. This study enlightens the shareholders, financial agencies, stock exchange, stock trader, customers, depositors and debtors who can objectively identify the better banks to deal with.

Thus, this study analyses and states to maintain balance between principalities of liquidity and profitability. This study will be a helpful tool for the bank too in analyzing its practices on tradeoff between liquidity and profitability.

1.5 Limitations of the Study

In the context of Nepal, Problem of reliable data is the major problem for research study. There is considerable place for arguing about its accuracy and reliability. Every study has limitations due to different factors of institutions, time period taken, reliability of statistical data, tools and variances.

The following limitations are pointed out in this study of trade off between liquidity and profitability position of commercial banks:

1. This study is mainly conducted on the basis of secondary data. Therefore, the study has inherent limitation of the secondary data.

2. All the information gathered through primary sources has been assumed to be true and correct.
3. This study covers the analysis of data from the last five years only; hence, the conclusion drawn confirms to the above period only.

1.6 Organization of the Study

The study on trade-off between liquidity and profitability of commercial banks has been divided into following five chapters:

The introduction chapter deals with the general background and the subject matter of the study. It consist of introduction of research study, which explains the focus of the study, statement of the problem, objectives of the study, significance of the study and limitations of the study.

In the second chapter, the relevant and pertinent literature and various studies have been reviewed. The review has been made in terms of the theoretical background of banking principles that are relevant to this research work.

The third chapter briefly explains about the research methodology, which has been used to evaluate the liquidity and profitability position of banks under consideration. This chapter consists of research design, sample and population, sources of data, and statistical and financial tools and techniques to measure the liquidity and profitability position of commercial banks.

In this fourth chapter, the data required for the study has been presented, analyzed and interpreted by using various tools and techniques of financial management and statistics to present the result related to the study.

The fifth chapter is the final chapter of the study, which consists of summary of the four earlier chapters. This chapter tries to draw out a conclusion of the study and attempts to offer various suggestions and recommendations for the improvement of the future performance of the banks under review.

CHAPTER – II

REVIEW OF LITERATURE

The review of literature is a very important part of the research. This chapter highlights upon the existing literature. For this, several books, dissertation, reports, handouts and articles published in journals are reviewed.

2.1 Conceptual Framework

There is an important role of banks in the economic growth and development of a country. To achieve an ideal economic growth and development, the banks should have strong and well-managed organization of banking system. When banking is appropriately organized, it aids and facilitates the growth of trade and industry and hence of national economy, banks are considered not as dealer in money but as the leaders of development. Banks are not just the storehouse of the country's wealth but are the reservoirs of resource necessary for economic development.

Banking plays a significant role in the economic development of a country. Bank is a resource for the economic development, which maintains the self –confidence of various sectors of society and extends credit to the people. So, commercial banks are those financial institutions mainly dealing with activities of the trade, commerce, industry and agriculture that seek regular financial and other helps from them for growing and flourishing. The objective of commercial banks is to mobilize idle resources into the most profitable sectors after collecting them from scattered sources.

2.1.1 Historical Development of Bank

The concept of the banking has been developed from the ancient history with the effort of ancient goldsmiths who developed the practice of storing people's gold and valuables under such arrangement that the depositors would leave their gold for safekeeping and given a receipt by the goldsmith. Whenever the receipt was presented, the depositors would get back their gold and valuables after paying a small amount as fee for safekeeping and serving.

Several concepts have been put forward about the origin of the word "Banking". The term bank derives from Latin "Bancus", which refers to the bench on which the banker would keep its money and his records. Some persons trace its origin to the

French word “Banque” and the Italian word “Banca” which means a bench for keeping; lending and exchanging go money in the market.

The first bank of the world called the “Bank of Venice” was established in Venice, Italy in year 1157. The bank of Barelona and the bank of Genoa were established in 1401 and 1407, respectively. In England, the banking begins with English goldsmith only after 1640. The bank of Amsterdam was the great bank in seventeenth century.

2.1.2 Banking in Nepal

There are limited records of traditional banking practiced in the history of Nepal. From the available information, it is very difficult to trace the correct chronological history of the traditional banking system due to the lack of historical reports of banking system. The historical records state that Guna Kama dev, the king of Kathmandu, borrowed money to rebuild his kingdom in 728 AD.

Sine efforts of banking were carried out during the Rana regime. The ‘Tejarath Adda’ was established during this period, which might be regarded as the father of modern banking institution in Nepal. During the Prime Minister ship of Juddha Shamsheer in 1937 AD the “Tejarath Adda” was replaced by a commercial bank, ‘Nepal Bank Ltd.’, which could be considered as a milestone that marked the beginning of a new era in the history of modern banking in Nepal. The Nepal bank limited was established in 1994 being the first Commercial bank of Nepal. Thereafter, the Nepal Rastra Bank was established in 2012 B.S as the central bank of Nepal. About a decade later, another commercial bank, the Rastriya Banijya bank was established in 2022 B.S. After two years, a bank was established with the main objective of developing agriculture sector and named as Agriculture Development bank in 2024 B.S. In 2031 B.S the commercial bank act 2031 was regulated. After 2041 B.S, the government allowed joint venture banks to operate in the country. Then, the board of joint venture public limited was opened whereby commercial banks started establishing in the country. The first joint venture bank was

Arab Bank Ltd (Now known is NABIL bank limited), which was established in 2041 B.S under the commercial Bank Act 2031, with the allocation of 50% share of Emirates Bank Limited, Dubai, 20% share of Nepalese financial institutions and 30%

share of general public. Nepal Indosuez Bank Limited (now known as Nepal investment bank limited) emerged in 1985 as the second joint venture commercial bank. After these banks, there was a progressive increase in the number of joint venture commercial banks in Nepal. Nowadays, there are 32 commercial banks, 88 development banks, 79 finance companies, 21 lagu development, 16 co-operative limited(Licensed by NRB), 47 Non- Government Organization and 117 Hulak Bachat Banks operating in Nepal. The open and liberal policy in the financial sector has helped in establishing many commercial banks and financial institutions in the country.

2.2 Review of Previous Studies

Various studies have been conducted in different aspect of commercial banks and JVBs. The conclusion of the previous studies on the different aspects of banks is relevant to this study. Thus, the studies of previous thesis are review in this regard.

Gumanju (2007), conducted this master's thesis entitled "*A Comparative Study of Financial Performance Analysis of HBL and NIB*", with the general objective of examining and evaluating the financial performance of Himalayan Bank Limited (HBL) and Nepal Investment Bank (NIB) concludes the findings such as,

-) The liquidity position of NIB is better than HBL,
-) The analysis of leverage ratio shows that HBL has higher ability in utilizing debts than NIB in terms of total equity, total assets and total capital ratio,
-) The profitability position of NIB is better than HBL in term of ROA,
-) The EPS and DPS of HBL are better than NIB,
-) The correlation co-efficient showed the position relationship between total debt and net profit of HBL and NIB, etc.

On the basis of analysis and evaluation of various financial and statistical tools, he recommended that both the banks should maintain standard current ratio. Moreover, he also suggested that both the banks should improve their capacity by improving effective organization structure and controlling capital structure and so on.

Paudel (2008) conducted this master's thesis entitled "*Liquidity Management of Commercial Banks in Nepal with reference to bank of Kathmandu (BOK), Industrial*

and Commercial Bank (NIC), HBL, EBL and NABIL”, with the objective of examining and analyzing the liquidity position and its management in Nepalese commercial banks has concluded the findings such as,

-) The liquidity position of NIC is strong, EBL is poor and BOK, HBL and NABIL are moderate in terms of cash and bank balance to current deposit ratio,
-) The liquidity position of EBL, NIC and BOK are proportionately better than NABIL and HBL in terms of short-term investment to total investment ratio,
-) The efficient deposit utilization in investment of NABIL is good, BOK is poor and NIC, HBL and EBL are moderate and so on.

Dhungana (2007) conducted this master’s thesis entitled “ *Liquidity Position of Commercial Banks of Nepal With reference to BOK, HBL, Standard Chartered Bank (SCB), Nepal Bank Limited (NBL), NIB and EBL*”, with the objective of examining the relationship between liquidity and profitability has concluded the findings such as,

-) The banks under study are maintaining very high level of liquidity than the rate imposed by the NRB,
-) Saving and fixed deposits are in higher proportion as the major sources of funds for each bank,
-) There is positive correlation between change in deposit and change in total liquid fund of the banks so on.

Shrestha (2009) conducted this master’s thesis entitled “*Performance Measurement of Joint Venture Banks in Nepal with reference of EBL, SCB, Nepal State Bank Of India (NSBI) and NABIL*”. The main objective of his study was to assess the investment policy and strategies followed by the banks under study. His major findings from the study includes,

-) SCB has the highest mean current ratio whereas, NABIL has the poorest,
-) NABIL has maintained highest cash and bank balance to total deposit ratio among all the banks under study,
-) The condition of the entire banks are moderate to maintain investment to total deposit ratio,
-) EBL has the highest earning power capacity than the other banks under study etc.

Tamang (2010) conducted this master's thesis entitled “ *Financial Performance Analysis of Commercial Banks of Nepal with reference to NIB and NABIL*”, with the objective to measure the operating efficiency, stability and profitability of NIB & NABIL along with their financial strength & weakness concludes the finding such as,

-) The liquidity position of NIB is better than that of NABIL,
-) NABIL has utilized more debt than NIB,
-) The profitability ratio of NABIL are better than that of NIB,
-) The EPS and DPS of NABIL are better than that of NIB,
-) There is positive correlation between total debt & net profit for both the banks etc.

On the basis of findings, he recommended that both the banks should review their overall capital structure and investment portfolio to make better mix in capital structure. Moreover, he also suggested that both the banks should also give due consideration in improving their liquidity position.

2.3 Concluding Remarks

The relationship between liquidity and profitability of commercial banks in Nepal has been conducted by few researchers. However the comparative study between EBL, HBL and NABIL has not been carried out till date. The researcher has taken into consideration the comparative study between SCBL and NABIL on the basis of research conducted by Prakash Pandit from the central library. In global context various related research between banks of different nations has been taken into consideration.

The previous research is only limited to financial and statistical analysis of SCBL and NABIL. The previous researchers have been incomplete to show the impact of profitability over the maintained liquidity it has only explained the trend that has been established between the liquidity and profitability, it has become incomplete to explain the impact over the operational efficiency and specific problem faced by the banks due to conflicting impact of profitability over profitability. Therefore, this research is more conscious and is aimed to analyze the impact of profitability and liquidity by analyzing their trends and using hypothesis to draw the effective conclusion.

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology is a systematic and scientific method of identifying problems, collecting facts and information tabulating and recording the data, setting hypothesis, analyzing the facts and researching certain conclusion with a view of findings answer to the problems. In fact, research methodology is one of the crucial aspects of the thesis writing. Therefore the present chapter outlines the entire research methodology used and followed in this study.

3.2 Research Design

Research design refers to the conceptual structure within the research is conducted. It is the plan, structure and strategy of investigation conceived so as to obtain a number of research questions and to control variance. It is essential for the whole study and helps in finding out deficiency in expectation of the starting of work. The research design is the outline of a plan to test the hypothesis and should include all the procedures that follow. It is said that the formidable problem that follows in task of defining the research is the preparation of design of the research project, popularly known as research design. Basically, the research design has two purposes. The first purpose is to answer the research question or test the research hypothesis. The second purpose of research design is to control variance in this study descriptive cum analytical research has been used.

“Thus, a research design is a plan for the collection and analysis of data. It represents a series of guideposts to enable the researcher to progress in the right direction in order to achieve the goal. The design may be a specific presentation of the various steps in the research process. These steps include the selection of a research problem, presentation of the problem, formulation of hypothesis, conceptual clarity, and methodology, survey of literature and documentation, bibliography, data collection, testing of the hypothesis, interpretation, presentation and report writing. Generally, a common research design possesses the five basis elements viz. (i) selection of

problem (ii) methodology (iii) data gathering (iv) data analysis and (v) report writing” (Joshi, 2007: 12).

“Research design is needed because it facilitates the smooth sailing of the various research operations, thereby making research as efficient as possible yielding maximum information with minimal expenditure of effort, time and money. Research design stands for advance planning of the methods to be adopted for collecting the relevant data and the techniques to be used in their analysis, keeping in view the objective of the research and the availability of the staff, time and money. Research design, in fact, has a great bearing on the reliability of the results arrived at and as such constitutes the firm foundation of the entire edifice of the research work” (Kothari. 1999: 40).

The main objective of this study is to analyze and evaluate the relationship between liquidity and profitability position of the selected commercial banks and provide suggestions on the basis of the evaluation. To accomplish this objective, analytical and descriptive research design has been adopted. It tries to describe and analyze all these facts that have been collected for the purpose of the study.

In this research, the trade off between liquidity and profitability positions of commercial banks is analyzed. Mostly, the secondary data been used for the research study. The data are collected from the various websites, annual reports of the respective banks, personal visits opinion survey, etc. hence, the research design is made by collecting the information’s from the different source and data have been tabulated and analyzed by using various financial and statistical tools. The financial tools include liquidity and profitability ratios. Similarly, the statistical tools include average or mean, standard deviation, coefficient of variation, trend ANOVA. This study tries to make comparison and establishes relationship between two or more variables. At the end, summary, conclusion and recommendations are set for the purpose of the study.

3.3 Population and Sample

The term “population” used in statistics denotes the aggregate from which the sample is to be taken and the term “sample” is that part of the population, which we select for the purpose of investigation. Population refers to the totality of all observations that have been selected for the study. Population is also known as universe. Sample refers to a part from the population. Thus, in statistics, population means whole and the sample means the party of the whole.

Since, this study is focused on the commercial banks, thus, here the population encompasses all the thirty-two commercial banks functioning its operation within the country. Since, study of whole population may not be effective due to several factors, thus, sampling becomes essential to draw inference for the population. So, among all the thirty-two commercial banks, three banks have been selected on the basis of their establishment years as sample, viz. Everest Bank Limited, Himalayan Bank Limited and NABIL Bank Limited. Here the sample comprises 9.38% of the total population.

3.4 Sources of Data

Analysis of data means to study the tabulated material in order to determine inherent facts or meanings. It involves breaking down the existing complex factors into simpler parts and putting them together in new arrangements for interpretation. A plan of analysis should be prepared in advance before the actual collection of the material. A preliminary analysis plan for investigation process requires detailed information about similarities, differences, trends, outstanding factors etc.

This research would include both primary and secondary data. Data collected by the researcher or through agent for the first time related field and possessing original character are known as primary data. Primary data are also called first source. On the other hand, data collected by come one else, used already and are made available to other in the form of published statistics are known as secondary data. Once primary data have been used, it loses its primary characteristics and become secondary. The difference between primary and secondary data is a matter of relatively. Primary data are generally used in those cases where the secondary data do not provide an adequate basis for analysis. In certain cases, both data may be employed.

3.5 Data Collection Techniques

Once the purpose of statistical investigation has defined, the next step is the collection of the data that are relevant for analysis in a meaningful manner. Thus, collection of data is considered as an integral part of the research activity. In this regard, the annual report i.e. financial statements of the concerned fiscal years have been collected from the respective banks. Moreover, several books, journals, articles and magazines, and various websites have also been referred for the information's.

3.6 Data Analysis Tools

The collected data will be analyzed with the help of different financial and statistical tools.

Financial tools

Financial tools are those which are used for the analysis and interpretation of financial data. Here, in this study, the financial tools will include:

- A. Liquidity ratio
- B. Profitability Ratio

A. Liquidity Ratio

Bank is an institution which deals on money. Cash is the most liquid fund and it is considered as the defense of banks. The bank should maintain certain amount of cash in order to meet its cash requirements of the depositors. The structure of cash will be in the form of cash in its vault and the cash kept in order banks as well as in central banks of the country. The central bank, NRB also directs all the commercial banks to maintain certain percentage of cash and bank balance for the purpose of maintenance of liquidity.

a. Current Ratio

The current ratio is a measure of the firm's short-term solvency. It indicates the availability of current assets in rupees for every one rupee of current liability. Current ratio establishes a relationship between current assets and current liabilities. It is calculated as under:

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

Current assets include cash and those assets which can be converted into cash within a year, such as cash and bank balance, money at call and short notice, and other assets. Whereas, all obligations maturing within a year are included in current liabilities. Current liabilities include bills payable and other liabilities.

As a controversial rule, a current ratio of 2 to 1 or more is considered satisfactory. This rule is based on the logic that in a worse situation even if the value of current assets becomes half, the firm will be able to meet its obligation. The current ratio represents a margin of safety for creditors. The higher the current ratio, the greater the margin of safety; the larger the amount of current assets in relation to current liabilities, the more the firm's ability to meet its current obligations.

“However, an arbitrary standard of 2 to 1 should not be followed blindly. Firms with less than 2 to current ratio may be doing well, which firms with 2 to 1 or even higher current ratios may be struggling to meet their obligations. This is so because the current ratio is a test of quantity, not quality. The current ratio measures only total ‘rupees’ worth of current assets and total rupees’ worth of current liabilities. It does not measure the quality of assets. Liabilities are not subject to any fall in value; they have to be paid. But current assets can decline in value. If the firm's current assets consist of doubtful and slow-paying debtors or slow-moving and obsolete stock of goods, then the firm's ability to pay bills is impaired: its short-term solvency is threatened. Thus, too much reliance should not be placed on the current ratio: further investigations about the quality of the items of current assets are necessary. However, the current ratio is crude and quick measure of the firm's liquidity.”(Pandey;2000; 114)

b. Quick Ratio

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

Inventories normally require some time for realizing into cash: their value also has a tendency to fluctuate. Thus, quick assets equals' current minus pre-paid and inventories. The quick ratio is found out by dividing quick assets by current liabilities.

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

Generally, a quick ratio of 1 to 1 is considered to represent a satisfactory current financial condition. Although quick ratio is a more penetrating test of liquidity than the current ratio, yet it should be used cautiously. A quick ratio of 1 to 1 more does not necessarily imply sound liquid position. It should be remembered that all debtors may not be liquid, and cash may be immediately needed to pay operating expenses. It should also be noted that inventories are not absolutely non-liquid. To a measurable extent, inventories are available to meet current obligations. Nevertheless, the quick ratio remains an important index of the firm's liquidity.

c. Cash and Bank Balance to Current Deposit Ratio

This ratio is designed to measure the bank's ability to meet the immediate obligations. It is employed to measure whether cash and bank balance is sufficient to cover its current calls margin including deposits. Current deposit must be paid when depositors demand their deposit the higher ratio indicates the bank is in high liquid and the lower ratio indicates the bank is in less liquid. This ratio is computed by:

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

d. Cash and Bank Balance to Total deposit Ratio

Cash and bank balance to total deposit ratio measures the availability of bank highly liquid funds to meet its unanticipated calls on different types of deposits. This ratio indicates the ability of banks funds to cover their saving, fixed call and other deposit. This ratio also access that what proportion of cash and bank balance remains with the bank. This ratio is computed by:

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

B. Profitability Ratio

Each and every firm has been established to earn profit by fulfilling human needs and wants. Profit is a kind of fuel for business enterprise or firms. Without profit no firm can survive. Therefore, profit is essential for a firm's survival and future growth. Hence, management of the firm is interested in the operating efficiency of the firm. Profitability commercial banks is to be enough profitable so as to meet a variety of objectives like achieving a desirable liquidity position, meet fixed interest obligation, overcome the future contingencies, explicit hidden investment opportunities, encourage branch expansion etc. profitability ratio, as a matter of fact, is the best indicator of overall efficiency of the bank.

a. Net Profit Ratio

Net profit ratio shows the relationship between net profit and operating income. The purpose of net profit is to show the overall profitability i.e. efficiency of the bank. Higher the net profit ratio, the better it is considered. This ratio is also useful in making inter-firm comparison of the profitability. New profit ratio is computed as under:

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Operating Income}}$$

Where,

Operating Income= Interest income + Commission and + Exchange Gain

b. Return on Equity (ROE)

Equity shareholders are the real owners of a company and are the risk-bearers and are entitled to profits earned by the company after preference dividend. Return on equity relates the profitability of a company to equity shareholders' equity. ROE measures the company's profitability in terms of return to equity shareholders. It is calculated as under:

$$\text{ROE} = \frac{\text{Net Profit after Tax}}{\text{Shareholder's Equity}}$$

Where,

Shareholder's equity= Share Capital + Reserve & Surplus

c. Return on Total Assets (ROA)

Return on total assets or simply return on assets, measures the productivity of the assets. It is measured in terms of relationship between net profit and assets. “This ratio judges the effectiveness in using the total fund supplied by the owners and creditors. Higher ratio shows the higher return on the assets used in the business thereby, indicating effective use of the resources available and vice-versa.” (Munakarmi, 2000:3.37). ROA is calculated as under:

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

Here, total assets include both fixed and current assets. However, assets that is not productive like goodwill should be excluded. It is needless to add that fictitious assets and accumulated loss shown on the assets side are also excluded in any case. Here investments are included as they are productive, in the sense that is capable of earning interest” (Sharma, 1998:260).

d. Return on Capital Employed (ROCE)

Return on capital employed is an overall ratio. This ratio establishes relationship between profit earned and capital employed ROCE indicates the overall return on the capital employed in the business. It points out whether the capital employed is being profitably and efficiently used in the business or not. Higher the ratio better is the profit earning capacity of the enterprise. ROCE is calculated as under:

$$ROCE = \frac{\text{Net Profit after Interest}}{\text{Capital Employed}}$$

Where,

Capital Employed = Shareholder’s Equity + debenture & Bonds + loan & borrowings

e. Earnings Per share (EPS)

Earnings per share is the ratio, which is calculated to assess the availability of total profits per share. It is a very important ratio for equity shareholders to assess the return on equity share. More the EPS better is the performance of the company. The increasing tendency of EPS enhances the possibility of more dividend and bonus shares. EPS only shows how much ‘theoretically’ belongs to the ordinary

shareholders. It does not reveal how much is paid to the owners as dividends nor how much of the earnings are retained in the business.

$$EPS = \frac{\text{Net Profit after Preference Dividend}}{\text{Number of Equity Shares}}$$

f. Dividend Per share (DPS)

Dividend per share measures the dividend distributed among the equity shareholders on a per share basis. The objective of computing this ratio is to know what an equity shareholder by way of dividend exactly receives. There are two components of this ratio; Amount of earning distributed as dividend and, number of equity shares. DPS should not be taken at its face value as the increased DPS may not be reliable measure of the profitability as the equity

$$DPS = \frac{\text{Dividend Paid to Shareholder's}}{\text{Number of Equity Shares}}$$

g. Dividend pay-out Ratio

Dividend Pay-out ratio measure the profit distributed between dividends per share and earnings per share. The main purpose to calculate this ratio is to find out the amount of dividend paid out of EPS. “If the dividend pay-out ratio is subtracted from 100, it will give what percentage share of the net profits are retained in the business” (Khan and Joshi, 2003: 107).

It is calculated as under:

$$\text{Dividend Pay – out Ratio} = \frac{DPS}{EPS}$$

h. Earning Yield Ratio

Earning yield ratio shows the relationship between earning per share and market value of share. “In general, higher ratio tells the story of success and lower ratio signifies the insufficiency of return on investment made on shares as compared to market price” (Wagle and Dahal, 2008: 10.18).

It is calculated as under:

$$\text{Earning Yield Ratio} = \frac{EPS}{MPS}$$

i. Dividend Yield Ratio

Dividend yield ratio shows the relationship between dividend per share (DPS) and Market value per share (MPS). This ratio is closely related to EPS and DPS. Higher market value leads to decrease the ratio and vice-versa.

It is calculated as under:

$$\text{Dividend Yield Ratio} = \frac{DPS}{MPS}$$

Statistical Tools

Statistical tools are the measures or the instruments to analyze the collected data from the different sources. In statistics, there are numerous statistical tools to analyze the data of various natures. In this study, the following statistical tools have been used to analyze the data.

a. Average (\bar{X})

The term ‘average’ is referred as a measure of central tendency. The average is the measure, which condense a huge data into a single value, which represents the entire data and generally located at the central part. There are different types of averages but only arithmetic mean is used for this study. Arithmetic mean is the most popular and frequently used measure of central tendency. It is the sum of all observations to the number of observations.

Arithmetic mean of a given set of observations is their sum divided by the number of observations. In general, if X_1, X_2, \dots, X_n are the given N observations, then their arithmetic mean, denoted by \bar{X} is given by,

$$\bar{X} = \frac{X_1 + X_2 + \dots + X_n}{N} = \frac{\sum X}{N}$$

Where,

X = Sum of the observations, and

N = Number of Years

b. Standard Deviation

“Standard deviation is the square root of the arithmetic average of the squares of the deviations measured from the mean. Thus, in the calculation of standard deviation,

first the arithmetic average is calculated and the deviation of various items from the arithmetic average are squared. The squared deviations are totaled and the sum is divided by the number of items. The square root of the resulting figure is the standard deviation of the series.” (Elhance and B.M. Agarwal, 2000: 9.25). The standard deviation is conventionally represented by the Greek letter sigma (σ). If X_1, X_2, \dots, X_n is a set of n observations then, standard deviation is given by,

$$= \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

Where,

$\sum (X - \bar{X})^2$ = Sum of the squares of the deviations measured from mean, and

N = Number of Observations

c. Coefficient of Variation (C.V.)

Coefficient of variation is computed for comparing the variability of two distributions. A distribution with smaller C.V. is said to be more homogeneous 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. It is computed as under,

$$C. V. = \frac{\sigma}{\bar{X}} \times 100\%$$

d. Trend Analysis

A general tendency of the time series data to increase or decrease or stagnate during a long period of time is called the secular trend or simple trend. Trend is the general, smooth, long-term average tendency. “It is not necessary that the increase or decline should be in the same direction throughout the given period. It may be possible that different tendencies of increase, decrease or stability are observed in different sections of time. However, the tendency may be upward, downward or stable. Such tendencies are the result of the forces which are more or less constant for a long time or which change very gradually and continuously over period of time. Such as, the change in the population, tastes, habits and customs of the people in a society and so on. They operate in an evolutionary manner & do not reflect sudden changes” (Gupta, 2001:510). The study of the data over a long period of time enables to have a general idea about the pattern of the behavior of the phenomenon under consideration. By isolating trend values from the given time series, the short-term and irregular movements can be

studied. Moreover, trend analysis enables to compare two or more time series over different periods of time and draws important conclusions about them.

The equation of a straight line $Y = a + bX$, where a and b are constants.

e. Coefficient of Correlation (r)

“The correlation is a statistical tools which studies the relationship between two variables and correlation analysis involves methods and techniques used for studying and measuring the extent of the relationship between the two variables” (Ibid:510).

Correlation analysis enables to have an idea about the degree and direction of the relationship between the two variables under study. However, it fails to reflect upon the cause and effect relationship between the variables. The coefficient of correlation, denoted by r is calculated as under:

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

f. Regression Analysis

The literal or dictionary meaning of the regression is moving backward or going back or the return to the average value. Regression analysis is the techniques of studying how the variations on one series are related to variation in another series. It determines the nature and strength of relationship between two variables. Thus, regression is the estimation of unknown values or prediction of one variable from known values of other variables. The regression analysis confined to the study of only two variables at a time is called simple regression.

“The know value which is used for prediction (or estimation), is called independent (or redresser or predictor or explanator) variable and the unknown value which is to be estimated (or predicted) by value is called dependent (or regressed or explained) variable” (Sharma and Chaudhary, 2008:426).

A line fitted to a set of data points to estimate the relationship between two variables is called regression line. A line fitted by the method of least square is the line of best fit. A line of regression gives the best estimate of one unknown variable for any given values of the other variable.

g. Hypothesis

Hypothesis is the assumption about the population parameter then its validity is tested. "It may or may not be found valid on verification. The act of verification involves testing the validity of such assumption which, when undertaken on the basis of sample evidence, is called statistical hypothesis or testing of hypothesis or test of significance. In other words, a procedure to assess the significance of a statistic or difference between two independent statistics is known as test of significance" (Ibid, 229).

The test of hypothesis finds out whether it deserves the acceptance or rejection of the hypothesis. The main goal of testing of hypothesis is to test the characteristics of hypothesized population parameter based on sample information whether the difference between the population parameter and sample statistic is significant or not. There are two types of hypothesis namely, Null hypothesis and Alternative hypothesis. The hypothesis of no difference is called null hypothesis denoted by H_0 and a complementary hypothesis against the null hypothesis is called alternative hypothesis denoted by H_1 .

In this study, in order to test whether the sample correlation coefficient is significant of any correlation between the variables in the population, t-test for significance of an observed sample correlation coefficient is applied.

h. ANOVA

To test the homogeneity of several means, the analysis of variance (ANOVA) is a powerful statistical tool for tests of significance to evaluate difference among the parameters of several groups. In other words, ANOVA is a statistical techniques specially designed to test whether the means of more than two qualitative populations are equal.

There are two types of ANOVA namely, one way ANOVA and, two ways ANOVA. Under one way ANOVA, the influence of only factor or variables is studied whereas, fewer than two ways ANOVA. The effects of two factors or variables are studied simultaneously. Under this study, one way ANOVA is used for the purpose of analysis and evaluation.

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

4.1 Introduction

This chapter entitled “Presentation and Analysis of Data” is a crucial chapter and has been organized to present the result and analyze them accordingly. The basic objective of this study is to observe and analyze the trade off between liquidity and profitability position of Everest Bank Limited (EBL), Himalayan Bank Limited (HBL) and NABIL Bank Limited (NABIL). The presentation and analysis of data in this study have been through the help of financial statements of the year from FY 2064/65 to FY 2068/69.

This chapter provides a mechanism for meeting the basic objectives as stated in the first chapter of the study. The study has followed the methodology as described in the third chapter in order to attain the objectives. Data collected for the analysis of trade off between liquidity and profitability position of EBL, HBL and NABIL are presented in the form of tabular and diagrammatic form and are analyzed with the help of widely accepted tools of financial ratios. But it is notable that all types of financial ratios are not studied under this chapter. Only those ratios are calculated, analyzed and presented which are very significant to pasteurize the study. Moreover, statistical tools such as average mean, standard deviation, co-efficient of variation, trend analysis, correlation co-efficient, regression analysis, hypothesis (t-test) and ANOVA test have been used to analyze the data.

A bank basically deals with two conflicting goals namely, liquidity and profitability. Managers of bank can obtain the trade-off between liquidity and profitability by following the method of cash planning, managing cash flow, managing optimum cash level and investing idle funds in shift able assets. Since, liquidity & profitability both are important aspect for the bank, thus, bank can't ignore any of them. In fact, the bank should go side by side with both the concept. A balance should always be maintained between liquidity & profitability hence, the bank should always follow certain principles of liquidity & profitability.

4.2. Liquidity Ratio

a. Current Ratio

Current ratio establishes the relationship between current assets and current liabilities.

It is computed as under:

Table 4.1
Current Ratio of COMMERCIAL BANKS

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	C.A	C.L.	Ratio	Year	C.A.	C.L.	Ratio	Year	C.A.	C.L.	Ratio
2064/65	3,390	769	4.40%	2064/65	2,542	876	2.90%	2064/65	5,229	704	7.43%
2065/66	6,656	539	12.33%	2065/66	4,864	1,019	4.77%	2065/66	4,790	989	4.84%
2066/67	8,355	711	11.74%	2066/67	5,229	1,166	4.48%	2066/67	5,430	1,070	5.07%
2067/68	9,974	1,185	8.42%	2067/68	5,211	1,310	3.97%	2067/68	5,420	1,937	2.79%
2068/69	11,490	1,620	7.09%	2068/69	8,062	1,501	5.44%	2068/69	6,680	2,249	2.97%
Average Mean			8.80%	Average Mean			4.29%	Average Mean			4.58%
Standard Deviation			5.19	Standard Deviation			1.01	Standard Deviation			1.06
Co-efficient of Variation			80.20%	Co-efficient of Variation			22.34%	Co-efficient of Variation			18.30%

Sources: Annual Reports of EBL, HBL and NABIL Bank

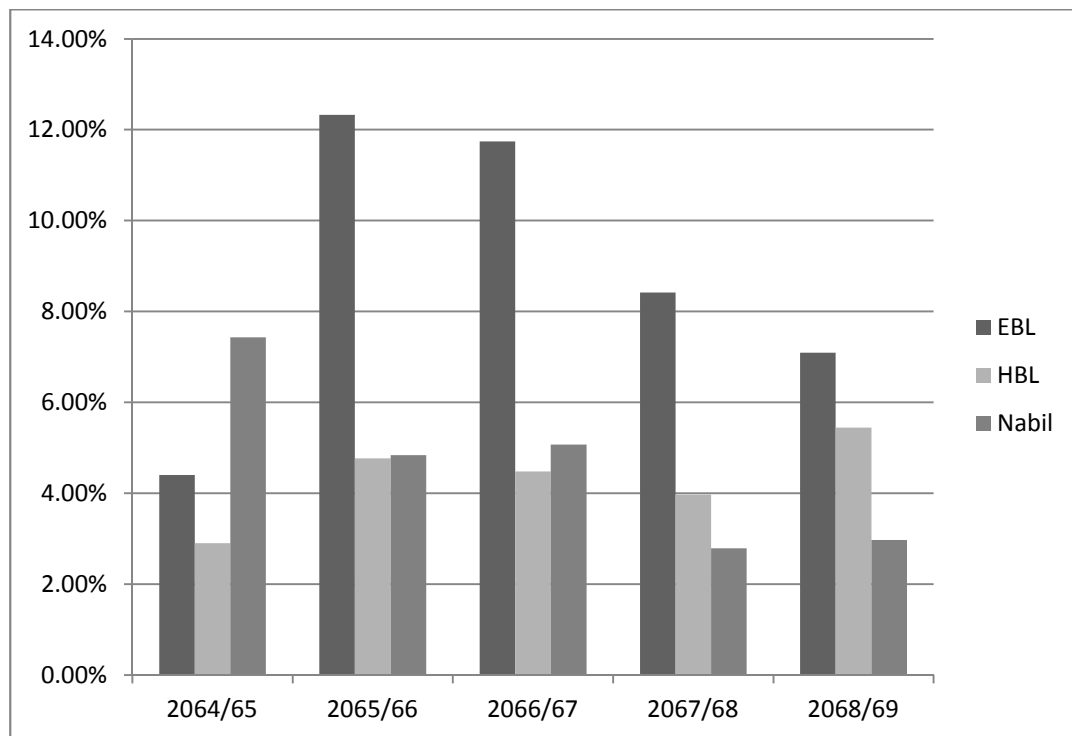
Table 4.1 shows that the current ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 4.40%, 12.33%, 11.74%, 8.42% and 7.09% respectively. Its average current ratio is 8.80%, Standard Deviation is 5.19 and Co-efficient of Variation is 80.20%.

Table 4.1 shows that the current ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 2.90%, 4.77%, 4.48%, 3.97% and 5.44% respectively. Its average current ratio is 4.29%, Standard Deviation is 1.01 and Co-efficient of Variation is 22.34%.

Table 4.1 shows that the current ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 7.43%, 4.84%, 5.07%, 2.79% and 2.97% respectively. Its average current ratio is 4.58%, Standard Deviation is 1.06 and Co-efficient of Variation is 18.30%.

Figure 4.1 shows that the average current ratio of EBL is higher so it has good liquidity within the bank in terms of current ratio as compared to EBL and HBL. Likewise, the lower C.V. of NABIL shows that it is more consistent in maintaining the funds within the bank than EBL and HBL.

Figure 4.1
Current Ratio of Commercial Banks



(b) Quick Ratio

Quick ratio establishes the relationship between quick assets and current liabilities. It is computed as under:

Table 4.2
Quick Ratios of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	Q.A.	C.L.	Ratio	Year	Q.A.	C.L.	Ratio	Year	Q.A.	C.L.	Ratio
2064/65	3,387	769	4.40%	2064/65	2,522	876	2.88%	2064/65	5,211	704	7.40%
2065/66	6,650	539	12.32%	2065/66	4,836	1,019	4.75%	2065/66	4,763	989	4.82%
2066/67	8,346	711	11.73%	2066/66	5,187	1,166	4.45%	2066/67	5,385	1,070	5.03%
2067/68	9,949	1,185	8.40%	2067/68	5,148	1,310	3.92%	2067/68	5,383	1,937	2.78%
2068/69	11,464	1,620	7.07%	2068/69	7,979	1,501	5.32%	2068/69	6,641	2,249	2.95%
Average Mean			8.76%	Average Mean			3.20%	Average Mean			4.59%
Standard Deviation			5.19	Standard Deviation			1.01	Standard Deviation			1.06
Co-efficient of Variation			80.20%	Co-efficient of Variation			22.44%	Co-efficient of Variation			18.48%

Sources: Annual Reports of EBL, HBL and NABIL Bank

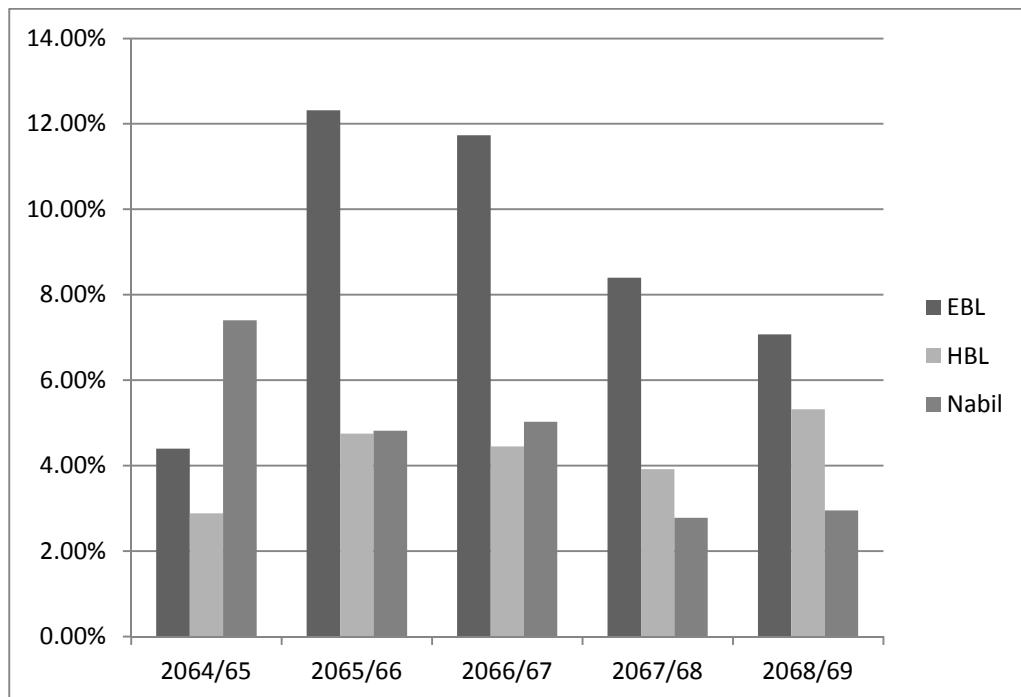
Table 4.2 shows that the quick ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 4.40%, 12.32%, 11.73%, 8.40% and 7.07% respectively. Its average quick ratio is 8.76%, Standard Deviation is 5.19 and Co-efficient of Variation is 80.20%.

The quick ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 is 2.88%, 4.75%, 4.45%, 3.92% and 5.32% respectively. Its average quick ratio is 3.20%, Standard Deviation is 1.01 and Co-efficient of Variation is 22.44%.

The quick ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 is 7.40%, 4.82%, 5.03%, 2.78% and 2.95% respectively. Its average quick ratio is 4.59%, Standard Deviation is 1.06 and Co-efficient of Variation is 18.48%.

Figure 4.2 shows that the average quick ratio of EBL is higher so it has good liquidity within the bank in terms of quick ratio as compared to HBL and NABIL. On the other hand, the lower C.V. of NABIL shows that it is more consistent in maintaining the funds within the bank than EBL and HBL.

Figure 4.2
Quick Ratio of Commercial Banks



(c) Cash and Bank Balance to Current Deposit Ratio

Cash and Bank balance to current deposit ratio establishes the relationship between cash and bank balance and current deposits. It is computed as under:

Table 4.3
Cash & Bank Balance to Current deposit Ratios of Commercial Banks

(Rs in million)\											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	CBB	C.D.	Ratio	Year	CBB	C.D.	Ratio	Year	CBB	C.D.	Ratio
2064/65	2,667	2,492	107.05%	2064/65	1,448	4,784	30.27%	2064/65	2,671	2,444	109.25%
2065/66	6,164	4,859	126.84%	2065/66	3,048	2,453	124.26%	2065/66	3,372	5,480	61.54%
2066/67	7,818	4,173	187.35%	2066/67	3,866	2,885	134.00%	2066/67	1,400	7,904	17.71%
2067/68	6,122	4,791	127.78%	2067/68	2,964	3,694	80.24%	2067/68	2,458	8,456	29.06%
2068/69	10,363	6,098	169.94%	2068/69	6,362	4,584	138.78%	2068/69	4,294	9,904	43.35%
Average Mean			143.78%	Average Mean			101.48%	Average Mean			52.18%
Standard Deviation			29.70	Standard Deviation			53.36	Standard Deviation			37.74
Co-efficient of Variation			21.23%	Co-efficient of Variation			75.33%	Co-efficient of Variation			67.45%

Sources: Annual Reports of EBL, HBL and NABIL Bank

Table 4.3 shows that the cash and bank balance to current deposit ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 107.05%, 126.84%, 187.35%, 127.78% and 169.94% respectively. Its average cash and bank balance to current deposit ratio is 143.78%, Standard Deviation is 29.70 and Co-efficient of Variation is 21.23%.

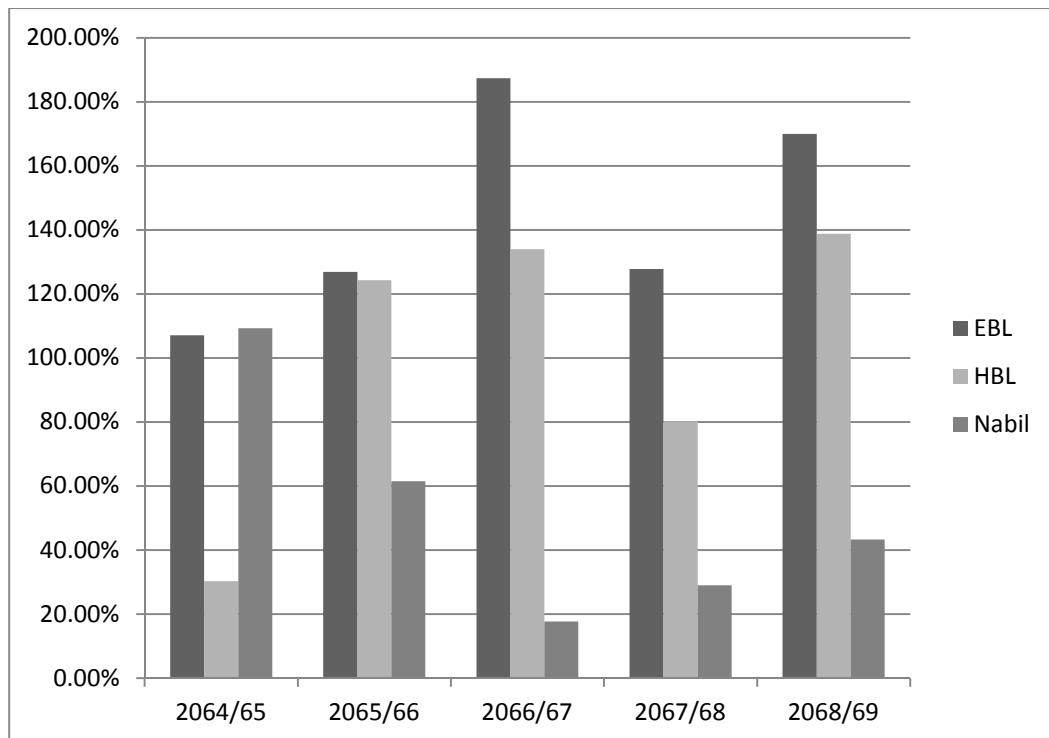
The cash and bank balance to current deposit ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 30.27%, 124.26%, 134.00%, 80.24% and 138.78% respectively. Its average cash and bank balance to current deposit ratio is 101.48%, Standard Deviation is 53.36 and Co-efficient of Variation is 75.33%.

The cash and bank balance to current deposit ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 109.25%, 61.54%, 17.71%, 29.06% and 43.35% respectively. Its average cash and bank balance to current deposit ratio is 52.18%, Standard Deviation is 37.74 and Co-efficient of Variation is 67.45%.

Figure 4.3 shows that the average cash and bank balance to current deposit ratio of EBL is higher so it is comparatively in better position to pay the customers current deposits as compared to HBL and NABIL. Likewise, the lower C.V. of EBL shows that it is more consistent in maintaining the cash and bank balance to pay the current deposits of the customers.

Figure 4.3

Cash & Bank Balance to Current Deposit Ratio of Commercial Banks



(d) Cash and Bank Balance to Total Deposit Ratio

Cash and bank balance to total deposit ratio establishes the relationship between cash and bank balance and total deposits. It is computed as under:

Table 4.4

Cash & Bank Balance to Total Deposit Ratios of Commercial Banks

(Rs in million)											
Everest Bank Ltd. (EBL)				Himalayan Bank Ltd. (HBL)				Nabil Bank Ltd. (NABIL)			
Year	CBB	T.D.	Ratio	Year	CBB	T.D.	Ratio	Year	CBB	T.D.	Ratio
2064/65	2,667	23,976	11.13%	2064/65	1,448	31,842	4.55%	2064/65	2,671	31,915	8.37%
2065/66	6,164	33,322	18.50%	2065/66	3,048	34,681	8.79%	2065/66	3,372	37,348	9.03%
2066/67	7,818	36,932	21.17%	2066/67	3,866	37,611	10.28%	2066/67	1,400	46,410	3.02%
2067/68	6,122	41,127	14.88%	2067/68	2,964	40,920	7.24%	2067/68	2,458	49,608	4.95%
2068/69	10,363	50,006	20.72%	2068/69	6,362	47,730	13.32%	2068/69	4,294	54,905	7.82%
Average Mean			17.27%	Average Mean			8.83%	Average Mean			6.62%
Standard Deviation			4.55	Standard Deviation			2.31	Standard Deviation			2.79
Co-efficient of Variation			30.25%	Co-efficient of Variation			32.16%	Co-efficient of Variation			47.06%

Sources: Annual Reports of EBL, HBL and NABIL Bank

Table 4.4 shows that the cash and bank balance to total deposit ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 11.13%, 18.50%, 21.17%, 14.88% and 20.72% respectively. Its average cash and bank balance to total deposit ratio is 17.27%, Standard Deviation is 4.55 and Co-efficient of Variation is 30.25%.

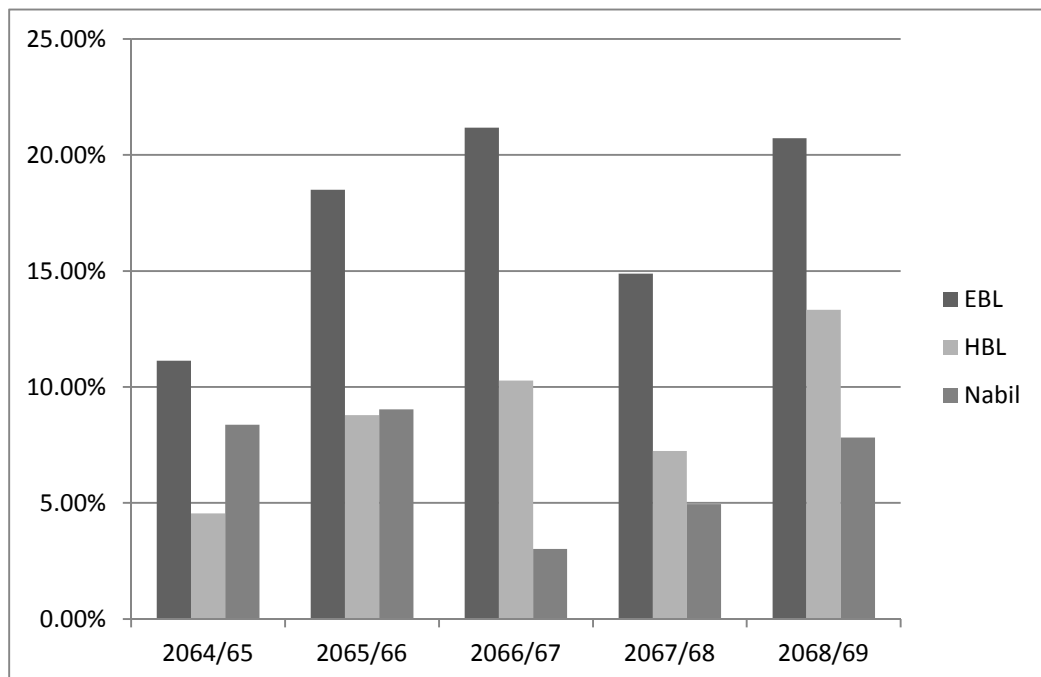
The cash and bank balance to total deposit ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 4.55%, 8.79%, 10.28%, 7.24% and 13.32% respectively. Its average cash and bank balance to total deposit ratio is 8.83%, Standard Deviation is 2.31 and Co-efficient of Variation is 32.16%.

The cash and bank balance to total deposit ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 8.37%, 9.03%, 3.02%, 4.95% and 7.82% respectively. Its average cash and bank balance to total deposit ratio is 6.62%, Standard Deviation is 2.79 and Co-efficient of Variation is 47.06%

Figure 4.4 shows that the average cash & bank balance to total deposit ratio of EBL is higher so it has been maintaining comparatively high cash & bank balance from total deposit as compared to HBL and NABIL. Likewise, the lower C.V. of EBL also reveals that it is more consistent in maintaining the cash & bank balance from total deposit.

Figure 4.4

Cash and Bank Balance to Total Deposit Ratio of Commercial Banks



4.3 Profitability Ratio

(a) Net Profit Ratio

Net profit ratio establishes the relationship between net profit and operating income. It is computed as under:

Table 4.5
Net profit Ratios of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	Net Profit	O. Income	Ratio	Year	Net Profit	O. Income	Ratio	Year	Net Profit	O. Income	Ratio
2064/65	451	1,763	25.59%	2064/65	635	2,359	26.95%	2064/65	746	2,331	32.02%
2065/66	638	2,451	26.06%	2065/66	752	2,876	26.17%	2065/66	1,031	3,157	32.65%
2066/67	831	3,358	24.77%	2066/67	508	3,599	14.14%	2066/67	1,139	4,554	25.01%
2067/68	1,331	2,192	60.72%	2067/68	1,237	2,586	47.83%	2067/68	1,918	3,061	62.66%
2068/69	1,558	2,609	59.71%	2068/69	1,389	2,911	47.71%	2068/69	2,426	4,014	60.43%
Average Mean			39.37%	Average Mean			32.54%	Average Mean			42.54%
Standard Deviation			1.34	Standard Deviation			5.09	Standard Deviation			5.05
Co-efficient of Variation			5.44%	Co-efficient of Variation			22.45%	Co-efficient of Variation			15.47%

Sources: Annual Reports of EBL, HBL and NABIL Bank

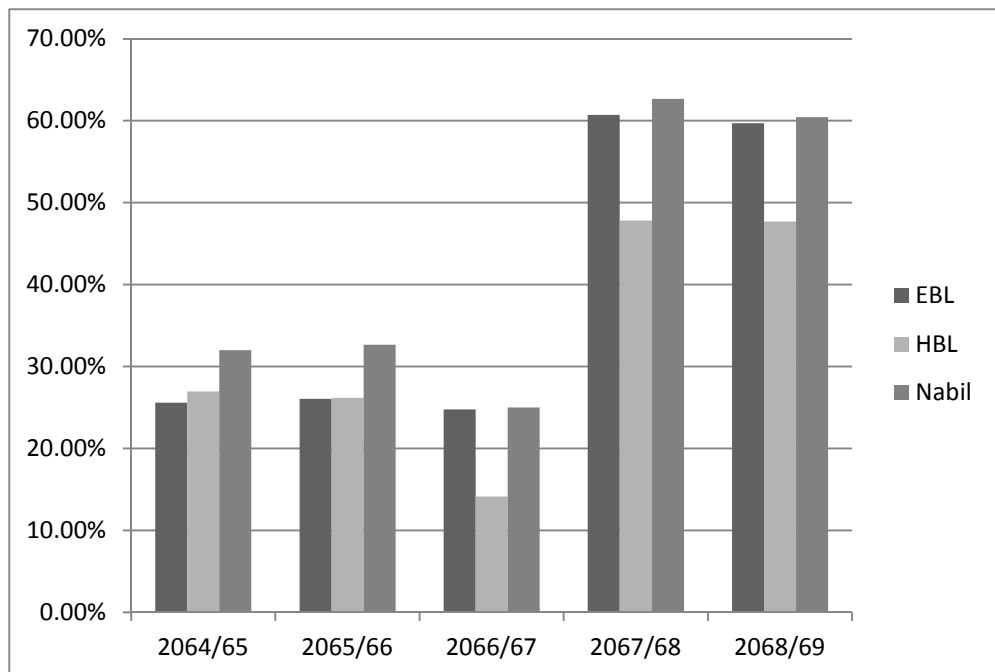
Table 4.5 shows that the net profit ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 25.59%, 26.06%, 24.77%, 60.72% and 59.71% respectively. Its average net profit ratio is 39.37%, Standard Deviation is 1.34 and Co-efficient of Variation is 5.44%.

The net profit ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 26.95%, 26.17%, 14.14%, 47.83% and 47.71% respectively. Its average net profit ratio is 32.54%, Standard Deviation is 5.09 and Co-efficient of Variation is 22.45%.

The net profit ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 32.02%, 32.65%, 25.01%, 62.66% and 60.43% respectively. Its average net profit ratio is 42.54%, Standard Deviation is 5.05 and Co-efficient of Variation is 15.47%.

Figure 4.5 shows that the average net profit ratio of NABIL is higher so it has been earning high rate of profit continuously in the successive fiscal years as compared to EBL and HBL. However, the lower C.V of EBL reveals that it is more consistent in earning the profit than HBL and NABIL.

Figure 4.5
Net Profit Ratio of Commercial Banks



(b) Return on Equity (ROE)

Return on equity establishes the relationship between net profits after tax and shareholder's equity. It is computed as under:

Table 4.6
Return on Equity (ROE) of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	NPAT	S. Equity	Ratio	Year	NPAT	S. Equity	Ratio	Year	NPAT	S. Equity	Ratio
2064/65	451	1,921	23.49%	2064/65	635	2,512	25.30%	2064/65	746	2,437	30.63%
2065/66	638	2,203	28.99%	2065/66	752	3,119	24.13%	2065/66	1,031	3,130	32.94%
2066/67	831	2,759	30.15%	2066/67	508	3,439	14.79%	2066/67	1,139	3,834	29.70%
2067/68	931	3,113	29.94%	2067/68	893	3,995	22.38%	2067/68	1,344	4,572	29.39%
2068/69	1,090	4,177	26.09%	2068/69	958	4,632	20.74%	2068/69	1,700	5,460	12.82%
Average Mean			27.67%	Average Mean			21.47%	Average Mean			27.06%
Standard Deviation			2.96	Standard Deviation			4.52	Standard Deviation			1.74
Co-efficient of Variation			11.22%	Co-efficient of Variation			19.97%	Co-efficient of Variation			5.45%

Sources: Annual Reports of EBL, HBL and NABIL Bank

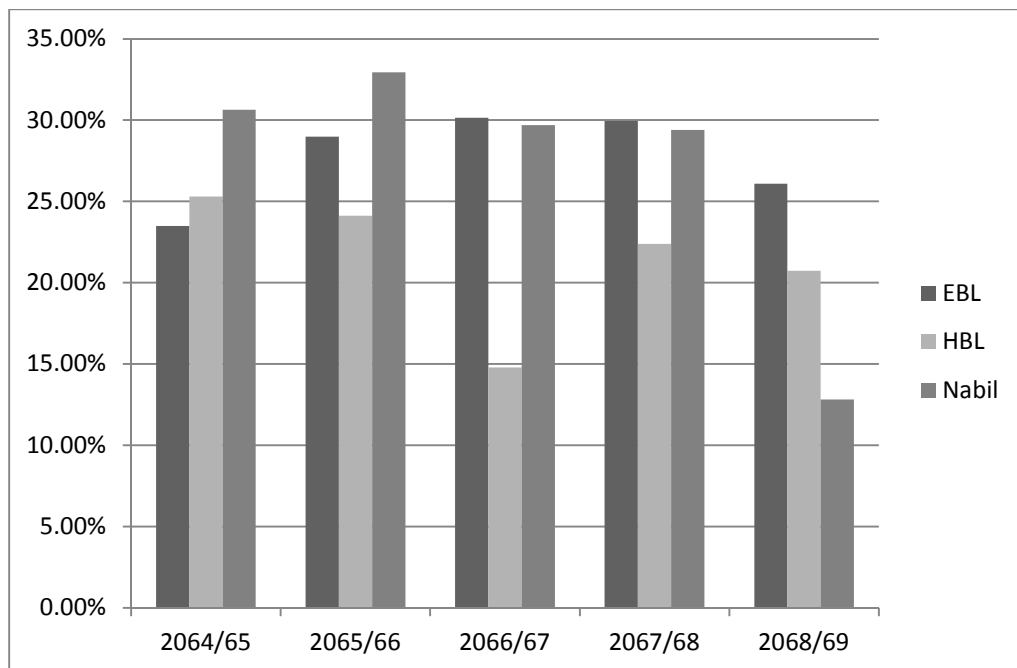
Table 4.6 shows that the ROE of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 23.49%, 28.99%, 30.15%, 29.94% and 26.09% respectively. Its average ROE is 27.67%, Standard Deviation is 2.96 and Co-efficient of Variation is 11.22%.

The Return on Equity of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 25.30%, 24.13%, 14.79%, 22.38% and 20.74% respectively. Its average Return on Equity is 21.47%, Standard Deviation is 4.52 and Co-efficient of Variation is 19.97%.

The Return on Equity of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 30.63%, 32.94%, 29.70%, 29.39% and 12.82% respectively. Its average Return on Equity is 27.06%, Standard Deviation is 1.74 and Co-efficient of Variation is 5.45%.

Figure 4.6 shows that the average ROE of NABIL is higher which reveals that it has been efficiently utilizing the owners' investment comparatively better than EBL and HBL. Moreover, the lower C.V. of NABIL also suggests that it is more consistent in utilizing the owners' investment efficiently.

Figure 4.6
Return on Equity (ROE) Ratio of Commercial Banks



(c) Return on Assets (ROA)

Return on assets establishes the relationship between net profits after interest and total assets. It is computed as under:

Table 4.7
Return on Assets of Commercial Banks

(Rs in million)											
Everest Bank Ltd. (EBL)				Himalayan Bank Ltd. (HBL)				Nabil Bank Ltd. (NABIL)			
Year	NPAI	TA	Ratio	Year	NPAI	TA	Ratio	Year	NPAI	TA	Ratio
2064/65	916	27,149	3.37%	2064/65	1,139	36,857	3.09%	2064/65	1,220	37,132	3.29%
2065/66	1,173	36,916	3.18%	2065/66	1,407	40,046	3.51%	2065/66	1,031	43,867	2.35%
2066/67	1,529	41,382	3.70%	2066/67	1,595	43,860	3.64%	2066/67	1,139	55,115	2.27%
2067/68	1,331	43,492	3.06%	2067/68	1,237	45,966	2.69%	2067/68	1,918	55,962	3.43%
2068/69	1,558	47,949	3.25%	2068/69	1,389	48,332	2.87%	2068/69	2,426	58,180	4.17%
Average Mean			3.31%	Average Mean			3.15%	Average Mean			3.09%
Standard Deviation			0.29	Standard Deviation			0.29	Standard Deviation			8.46
Co-efficient of Variation			8.85%	Co-efficient of Variation			8.91%	Co-efficient of Variation			117.6%

Sources: Annual Reports of EBL, HBL and NABIL Bank

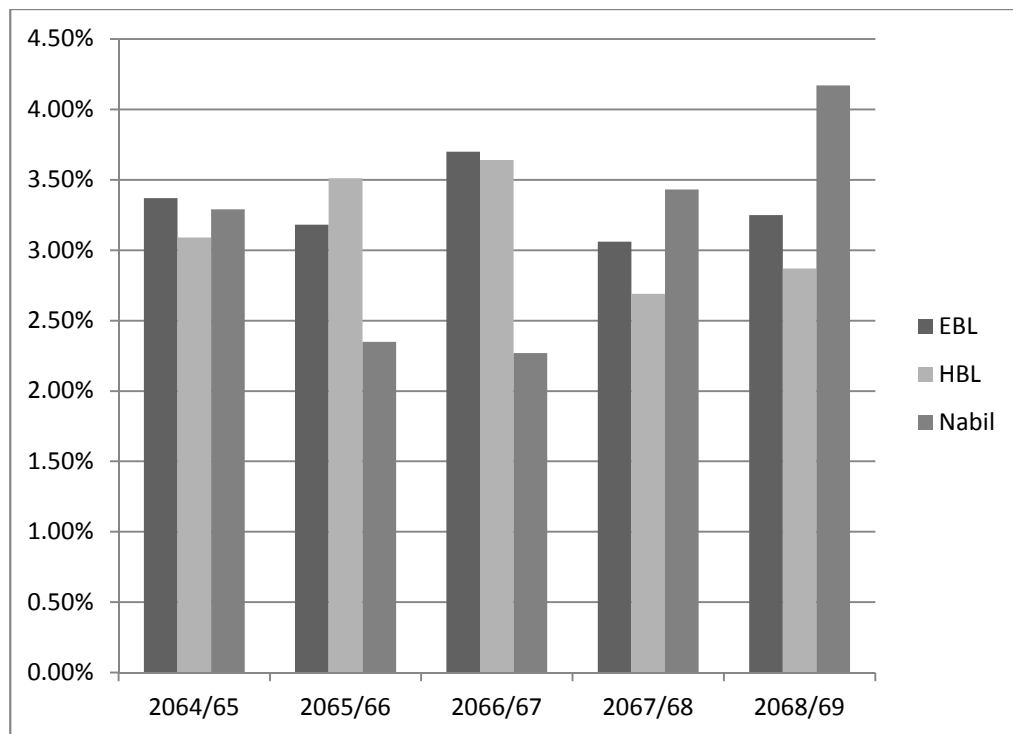
Table 4.7 shows that the ROA of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 3.37%, 3.18%, 3.70%, 3.06% and 3.25% respectively. Its average ROA is 3.31%, Standard Deviation is 0.29 and Co-efficient of Variation is 8.85%.

The Return on Assets of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 3.09%, 3.51%, 3.64%, 2.69% and 2.87% respectively. Its average Return on Assets is 3.15%, Standard Deviation is 0.29 and Co-efficient of Variation is 8.91%.

The Return on Assets of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 3.29%, 2.35%, 22.27%, 3.43% and 4.17% respectively. Its average Return on Assets is 3.09%, Standard Deviation is 8.46 and Co-efficient of Variation is 117.61%.

Figure 4.7 shows that the average ROA of NABIL is higher which reveals that it has been efficiently utilizing its overall resources in efficient way in comparatively better than EBL and HBL. However, the lower C.V. of EBL also suggests that it is more consistent in utilizing the overall resources efficiently.

Figure 4.7
Return on Assets of Commercial Banks



(d) Return on Capital Employed (ROCE)

Return on capital employed establishes the relationship between net profits after interest and capital employed. It is computed as under:

Table 4.8
ROCE of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	NPAI	C. E.	Ratio	Year	NPAI	C. E.	Ratio	Year	NPAI	C. E.	Ratio
2064/65	916	2,221	41.24%	2064/65	1,139	3,456	32.98%	2064/65	1,220	4,037	30.23%
2065/66	1,173	2,815	41.69%	2065/66	1,407	3,619	38.88%	2065/66	1,031	4,111	25.08%
2066/67	1,529	3,463	44.16%	2066/67	1,595	3,939	40.49%	2066/67	1,139	4,209	27.06%
2067/68	1,331	3,513	37.88%	2067/68	1,237	3,995	30.96%	2067/68	1,918	4,572	41.95%
2068/69	1,558	4,177	37.29%	2068/69	1,389	4,632	29.98%	2068/69	2,426	5,460	44.43%
Average Mean			40.38%	Average Mean			34.66%	Average Mean			33.75%
Standard Deviation			1.59	Standard Deviation			3.82	Standard Deviation			8.56
Co-efficient of Variation			3.80%	Co-efficient of Variation			9.93%	Co-efficient of Variation			26.09%

Sources: Annual Reports of EBL, HBL and NABIL Bank

Table 4.8 shows that the ROCE of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 41.24%, 41.69%, 44.16%, 37.88% and 47.29% respectively. Its average ROCE is 40.38%, Standard Deviation is 1.59 and Co-efficient of Variation is 3.80%.

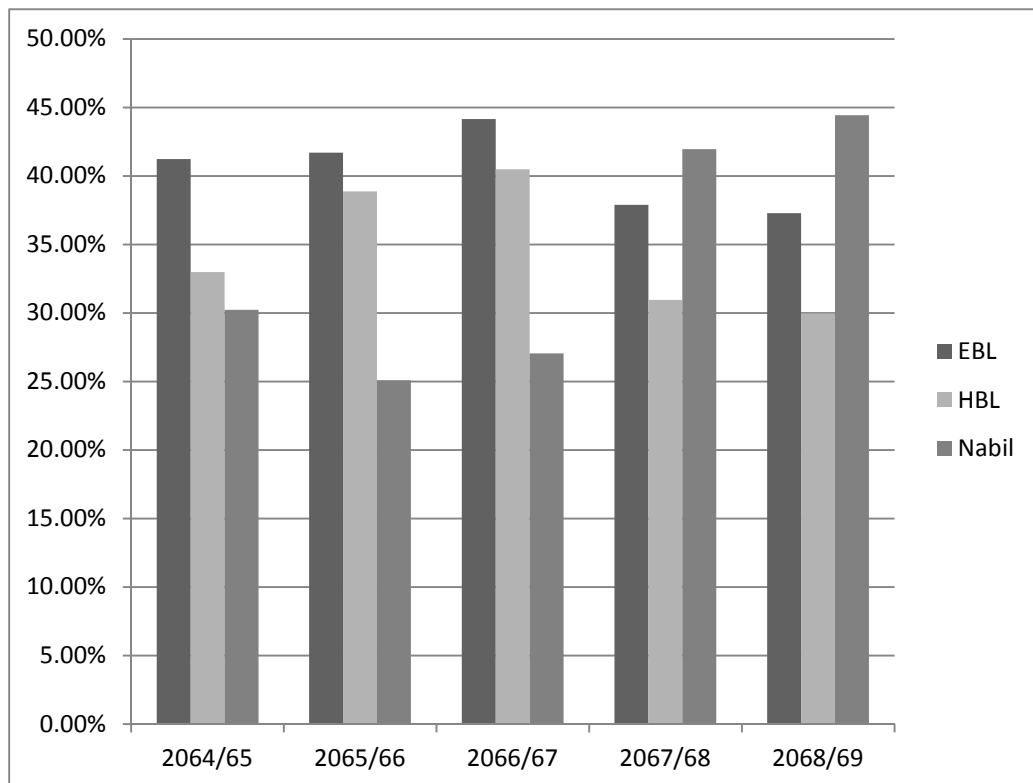
The Return on Common Equity of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 32.78%, 38.88%, 40.49%, 30.96% and 29.98% respectively. Its average Return on Common equity is 34.66%, Standard Deviation is 3.82 and Co-efficient of Variation is 9.93%.

The Return on Common Equity of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 30.23%, 25.08%, 27.06%, 41.95% and 44.43% respectively. Its average Return on Common Equity is 33.75%, Standard Deviation is 8.56 and Co-efficient of Variation is 26.09%.

Figure 4.8 shows that the average ROCE of EBL is higher which reveals that EBL have been utilizing the available resources supplied by the owners and creditors more efficiently than HBL and NABIL. Likewise, the lower C.V. of EBL suggests that EBL is more consistent in utilizing the available resources.

Figure 4.8

Return on Capital Employed of Commercial Banks



(e) Earnings per Share (EPS)

Earnings per share establishes the relationship between net profits after preference dividend and number of equity shares. It is computed as under:

Table 4.9
EPS of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	NPAT	Eq.Sh(No)	Ratio	Year	NPAT	Eq.Sh(No.)	Ratio	Year	NPAT	Eq.Sh (No.)	Ratio
2064/65	451	4,914,000	62.91%	2064/65	635	10,135,125	62.74%	2064/65	746	6,892,160	108.31%
2065/66	638	6,388,210	78.42%	2065/66	752	12,163,150	61.89%	2065/66	1,031	9,657,470	106.76%
2066/67	831	8,304,673	91.82%	2066/67	508	16,000,000	31.80%	2066/67	1,139	14,491,240	78.61%
2067/68	931	13,915,704	66.92%	2067/68	893	24,000,000	37.21%	2067/68	1,344	20,297,694	67.20%
2068/69	1,090	17,611,264	61.92%	2068/69	958	27,600,000	35.48%	2068/69	1,700	24,357,230	70.83%
Average Mean			72.39%	Average Mean			45.78%	Average Mean			86.34%
Standard Deviation			15.96	Standard Deviation			13.18	Standard Deviation			22.81
Co-efficient of Variation			0.18%	Co-efficient of Variation			0.24	Co-efficient of Variation			0.20%

Sources: Annual Reports of EBL, HBL and NABIL Bank

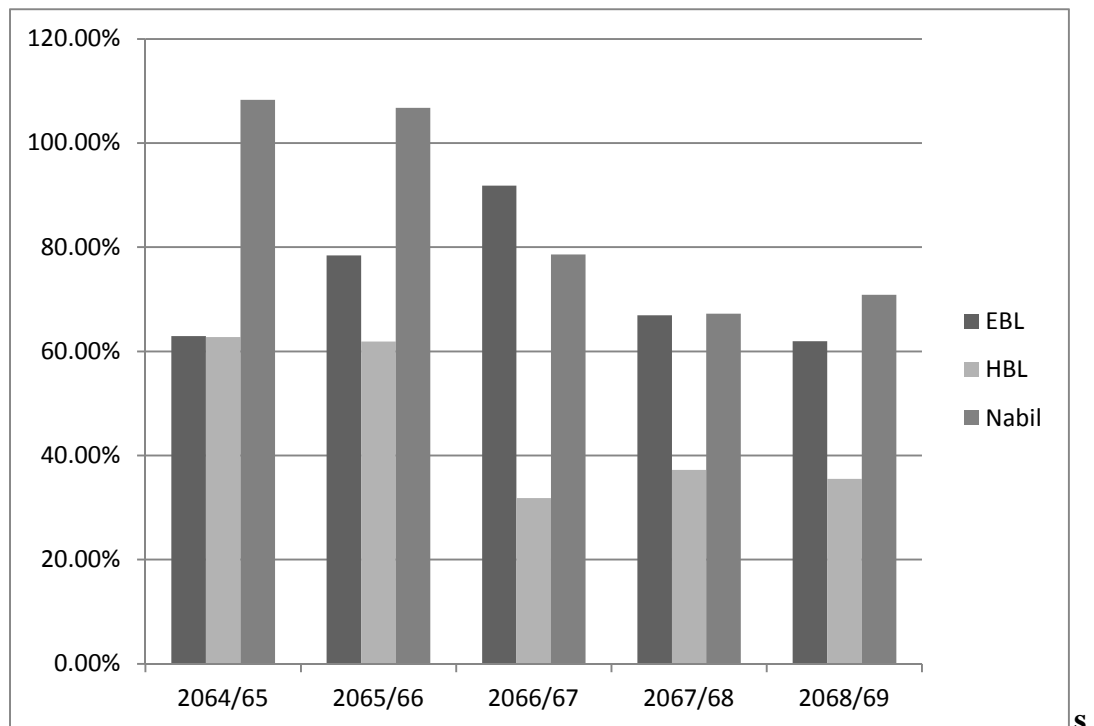
Table 4.9 shows that the EPS of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs. 62.91, Rs. 78.42, Rs. 91.82, Rs. 66.92 and Rs. 61.92 respectively. Its average EPS is Rs. 72.39, Standard Deviation is 15.96 and Co-efficient of Variation is 0.18%.

The Earnings per Share of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs.62.74, Rs.61.89, Rs.31.80, Rs.37.21 and Rs.35.48 respectively. Its average earning per Share is Rs.45.78, Standard Deviation is 13.18 and Co-efficient of Variation is 0.24.

The Earning Per Share of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs.108.31, Rs.106.76, Rs.78.61, Rs.67.20 and Rs.70.83 respectively. Its average earning per Share is Rs.86.34, Standard Deviation is 22.81 and Co-efficient of Variation is 0.20.

Figure 4.9 shows that the average EPS of NABIL is higher which reveals that NABIL's shareholders can get higher amount on every share held than EBL's and HBL's shareholder. However, the lower C.V. of EBL suggests that EBL is more consistent in earning per share than NABIL and HBL.

Figure 4.9
Earnings Per Share of Commercial Bank



(f) Dividend per Share (DPS)

Dividend per share establishes the relationship between dividends paid to shareholders and number of equity shares. It is computed as under:

Table 4.10
DPS of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	Div	Eq.Sh(No.)	Ratio	Year	Div	Eq.Sh(No.)	Ratio	Year	Div.	Eq.Sh(No.)	Ratio
2064/65	140	4,914,000	28.65%	2064/65	253	10,135,125	25.00%	2064/65	437	6,892,160	63.46%
2065/66	218	6,388,210	34.14%	2065/66	145	12,163,150	12.00%	2065/66	338	9,657,470	35.00%
2066/67	276	8,304,673	33.26%	2066/67	189	16,000,000	11.84%	2066/67	434	14,491,240	30.00%
2067/68	576	13,915,704	41.49%	2067/68	336	24,000,000	14.03%	2067/68	608	20,297,694	30.14%
2068/69	30	17,611,264	17.41%	2068/69	322	27,600,000	11.67%	2068/69	811	24,357,230	33.41%
Average Mean			30.97%	Average Mean			14.90%	Average Mean			38.40%
Standard Deviation			6.46	Standard Deviation			8.26	Standard Deviation			32.27
Co-efficient of Variation			0.22%	Co-efficient of Variation			0.44%	Co-efficient of Variation			0.50%

Sources: Annual Reports of EBL, HBL and NABIL Bank

Table 4.10 shows that the DPS of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs. 28.65, Rs. 34.14, Rs. 33.26, Rs. 41.49 and Rs. 17.41 respectively. Its average DPS is Rs. 30.97, Standard Deviation is 6.46 and Co-efficient of Variation is 0.22%.

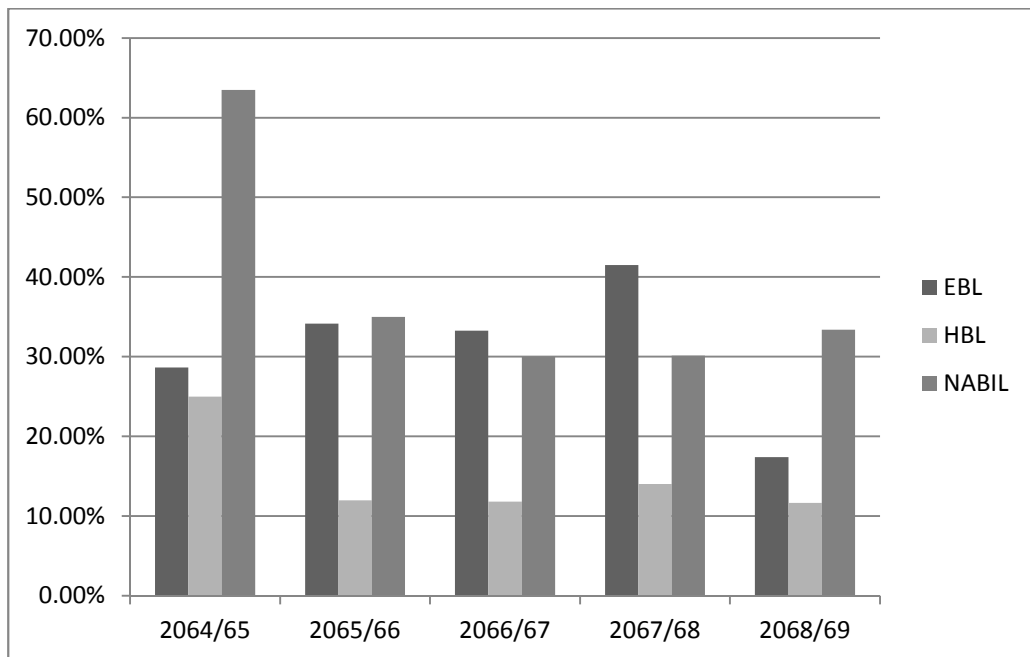
The Dividend Per Share of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs.25.00, Rs.12.00, Rs.11.84, Rs.14.03 and Rs.11.67 respectively. Its average Dividend Per Share is Rs.14.90, Standard Deviation is 8.26 and Co-efficient of Variation is 0.44.

The Dividend Per Share of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are Rs.63.46, Rs.35.00, Rs.30.00, Rs.30.14 and Rs.33.41 respectively. Its average Dividend Per Share is Rs.38.40, Standard Deviation is 32.27 and Co-efficient of Variation is 0.50.

Figure 4.10 shows that the average DPS of NABIL is higher signifies that NABIL is more successful to win the confidence of the investors. This mean NABIL can sell its shares more easily than those shares of EBL and HBL. However, the lower C.V. of EBL suggests that it is more consistent in distributing the dividend to its shareholders than HBL and NABIL.

Figure 4.10

Dividend per Share (DPS) of Commercial Banks



(g) Dividend Pay-out Ratio

Dividend pay-out ratio establishes the relationship between dividend per share (DPS) and earnings per share (EPS). It is computed as under:

Table 4.11
DPR of Commercial Banks

(Rs in million)											
Everest Bank Ltd.				Himalayan Bank Ltd.				Nabil Bank Ltd.			
(EBL)				(HBL)				(NABIL)			
Year	DPS	EPS	Ratio	Year	DPS	EPS	Ratio	Year	DPS	EPS	Ratio
2064/65	28.65	91.82	31.20%	2064/65	25.00	62.74	39.85%	2064/65	63.46	108.31	58.59%
2065/66	34.14	99.99	34.14%	2065/66	12.00	61.89	19.39%	2065/66	35.00	106.76	32.78%
2066/67	33.26	100.16	33.21%	2066/67	11.84	31.80	37.23%	2066/67	30.00	78.61	38.16%
2067/68	34.00	83.18	40.87%	2067/68	16.84	44.66	37.70%	2067/68	30.00	70.67	42.45%
2068/69	30.00	88.55	33.88%	2068/69	13.42	39.94	33.60%	2068/69	40.00	83.57	47.86%
Average Mean			34.65%	Average Mean			33.55%	Average Mean			43.91%
Standard Deviation			9.11	Standard Deviation			12.45	Standard Deviation			18.68
Co-efficient of Variation			26.83%	Co-efficient of Variation			36.24%	Co-efficient of Variation			34.13%

Sources: Annual Reports of EBL, HBL and NABIL Bank

Table 4.11 shows that the dividend pay-out ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 31.20%, 34.14%, 33.21%, 40.87% and 33.88% respectively. Its average dividend pay-out ratio is 34.65%, Standard Deviation is 9.11 and Co-efficient of Variation is 26.83%.

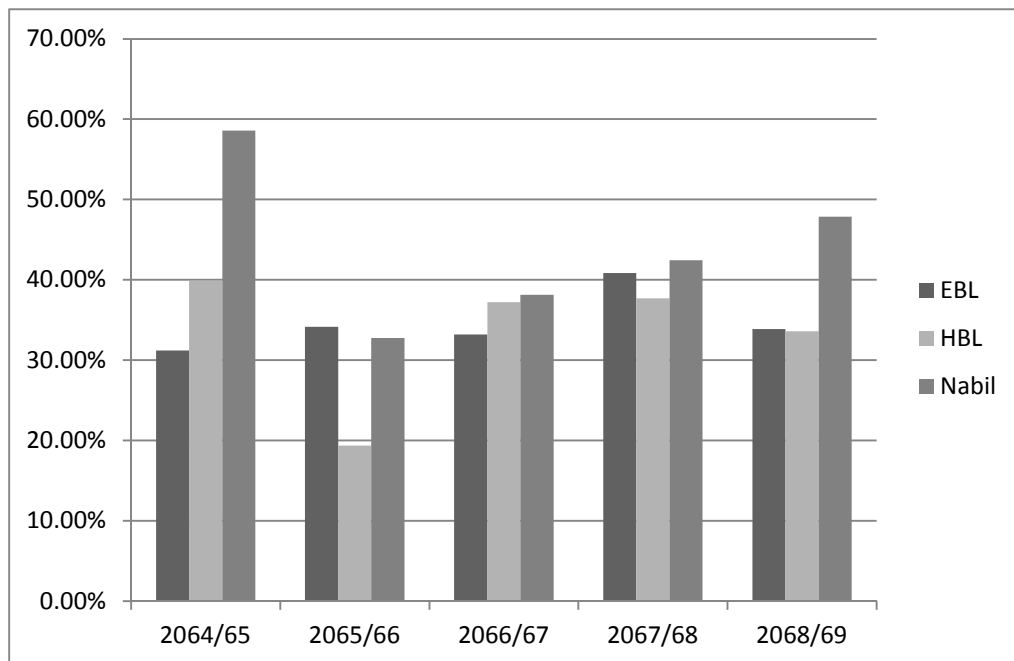
The Dividend Pay-out ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 39.85%, 19.39%, 37.23%, 37.70% and 33.60% respectively. Its average dividend pay-out ratio is 33.55%, Standard Deviation is 12.45 and Co-efficient of Variation is 36.24%.

The Dividend Pay-out ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 58.59%, 32.78%, 38.16%, 42.45% and 47.86% respectively. Its average dividend pay-out ratio is 43.91%, Standard Deviation is 18.68 and Co-efficient of Variation is 34.13%.

Figure 4.11 shows that the average dividend pay-out ratio of NABIL is higher which means high percentage of net profit is paid out as dividend to the equity holders than that of EBL and HBL. However, the lower C.V. of EBL also suggests that it is more consistent in distributing the dividend to its shareholders.

Figure 4.11

Dividend Payout Ratio (DPR) of Commercial Banks



(h) Earning Yield Ratio

Earning Yield ratio establishes the relationship between earning per share (EPS) and market price per share (MPS). It is computed as under:

Table 4.12
Earning Yield Ratio of Commercial Banks

(Rs in million)											
Everest Bank Ltd. (EBL)				Himalayan Bank Ltd. (HBL)				Nabil Bank Ltd. (NABIL)			
Year	EPS	MPS	Ratio	Year	EPS	MPS	Ratio	Year	EPS	MPS	Ratio
2064/65	91.82	3,132	2.93%	2064/65	62.74	1,980	3.17%	2064/65	108.31	5,275	2.05%
2065/66	99.99	2,455	4.07%	2065/66	61.89	1,760	3.52%	2065/66	106.76	4,899	2.18%
2066/67	100.16	1,630	6.14%	2066/67	31.80	816	3.90%	2066/67	78.61	2,384	3.30%
2067/68	83.18	1,094	7.60%	2067/68	44.66	575	7.77%	2067/68	70.67	1,252	5.64%
2068/69	88.55	1,033	8.59%	2068/69	39.94	653	6.11%	2068/69	83.57	1,355	6.17%
Average Mean			5.86%	Average Mean			4.89%	Average Mean			3.87%
Standard Deviation			1.27	Standard Deviation			0.87	Standard Deviation			1.52
Co-efficient of Variation			30.4%	Co-efficient of Variation			22.4%	Co-efficient of Variation			47.35%

Sources: Annual Reports of EBL, HBL and NABIL Bank

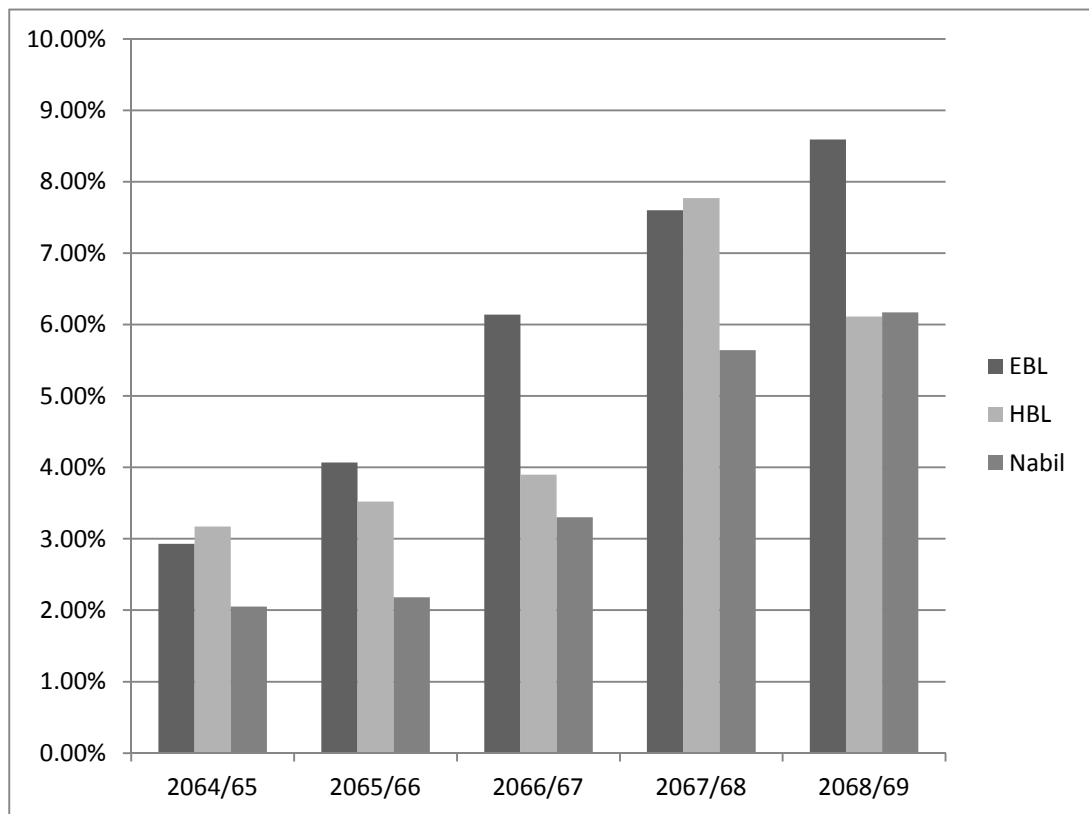
Table 4.12 shows that the earning yield ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 2.93%, 4.07%, 6.14%, 7.60% and 8.59% respectively. Its average earning yield ratio is 5.86%, Standard Deviation is 1.27 and Co-efficient of Variation is 30.40%.

The Earning Yield ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 3.17%, 3.52%, 3.90%, 7.77% and 6.11% respectively. Its average earning yield ratio is 4.89%, Standard Deviation is 0.87 and Co-efficient of Variation is 22.48%.

The Earning Yield ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 2.05%, 2.18%, 3.30%, 5.64% and 6.17% respectively. Its average earning yield ratio is 3.87%, Standard Deviation is 1.52 and Co-efficient of Variation is 47.35%.

Figure 4.12 shows that the average earning yield ratio of EBL is higher which reveals that EBL is comparatively yielding more than HBL and NABIL. However, the lower C.V. of HBL suggests that HBL is more consistent in earning yield ratio than EBL and NABIL.

Figure 4.12
Earning Yield Ratio of Commercial Banks



(i) Dividend Yield Ratio

Dividend yield ratio establishes the relationship between dividend per share (DPS) and market price per share (MPS). It is computed as under:

Table 4.13
Dividend Yield Ratio of Commercial Banks

(Rs in million)											
Everest Bank Ltd. (EBL)				Himalayan Bank Ltd. (HBL)				Nabil Bank Ltd. (NABIL)			
Year	DPS	MPS	Ratio	Year	DPS	MPS	Ratio	Year	DPS	MPS	Ratio
2064/65	28.65	3,132	0.91%	2064/65	25.00	1,980	1.26%	2064/65	63.46	5,275	1.20%
2065/66	34.14	2,455	1.39%	2065/66	12.00	1,760	0.68%	2065/66	35.00	4,899	0.71%
2066/67	33.26	1,630	2.04%	2066/67	11.84	816	1.45%	2066/67	30.00	2,384	1.26%
2067/68	34.00	1,094	3.10%	2067/68	16.84	575	2.92%	2067/68	30.00	1,252	2.40%
2068/69	30.00	1,033	2.90%	2068/69	13.42	653	2.05%	2068/69	40.00	1,355	2.95%
Average Mean			2.06%	Average Mean			1.47%	Average Mean			1.71%
Standard Deviation			0.65	Standard Deviation			0.80	Standard Deviation			1.28
Co-efficient of Variation			44.76%	Co-efficient of Variation			57.58%	Co-efficient of Variation			69.50%

Sources: Annual Reports of EBL, HBL and NABIL Bank

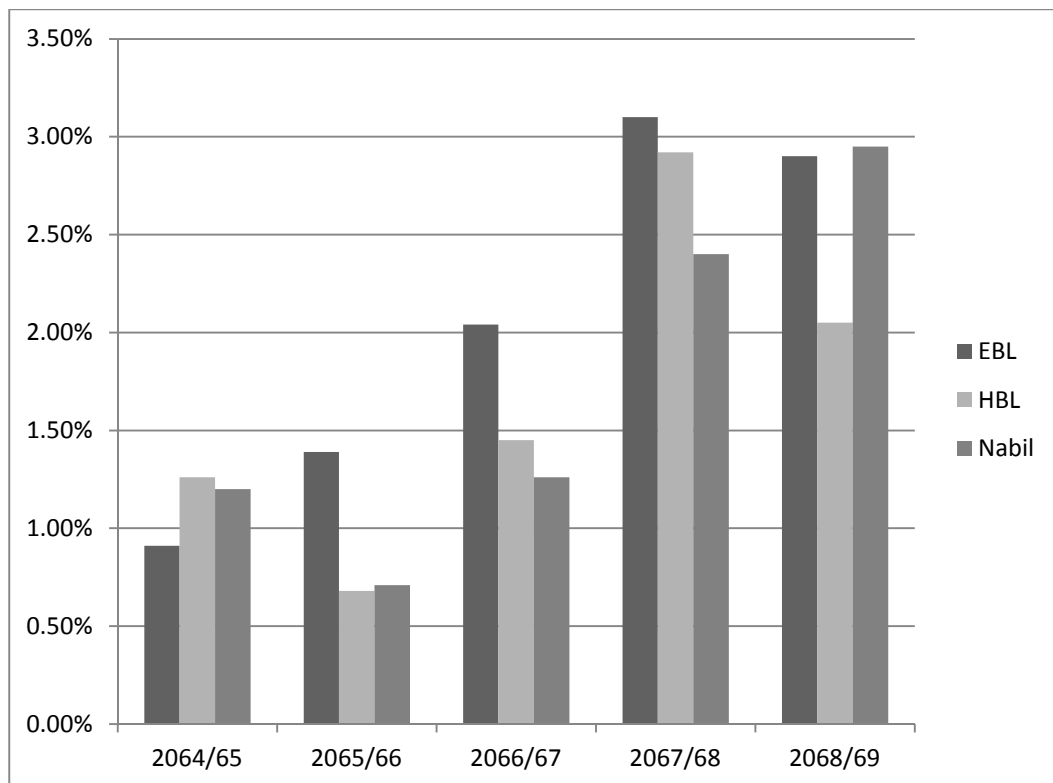
Table 4.13 shows that the dividend yield ratio of EBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 0.91%, 1.39%, 2.04%, 3.10% and 2.90% respectively. Its average dividend yield ratio is 2.06%, Standard Deviation is 0.65 and Co-efficient of Variation is 44.75%.

The Dividend Yield ratio of HBL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 1.26%, 0.68%, 1.45%, 2.92% and 2.05% respectively. Its average dividend yield ratio is 1.47%, Standard Deviation is 0.80 and Co-efficient of Variation is 57.58%.

The Dividend yield ratio of NABIL in the FY 2064/65, 2065/66, 2066/67, 2067/68 and 2068/69 are 1.20%, 0.71%, 1.26%, 2.40% and 2.95% respectively. Its average dividend yield ratio is 1.71%, Standard Deviation is 1.28 and Co-efficient of Variation is 69.50%.

Figure 4.13 shows that the average dividend yield ratio of NABIL is higher which states that NABIL yields more dividends than EBL and HBL. However, the lower C.V. of EBL suggests that it is more consistent in dividend yield ratio than HBL and NABIL.

Figure 4.13
Dividend Yield Ratio of Commercial Banks



4.4 Trend Analysis

Trend analysis enables to have a general idea about the pattern of the behavior of the phenomenon under consideration.

(a) Trend Values (Y_c) of Current Ratio by Least Square Method

Table 4.14

Trend Value of Current Ratio

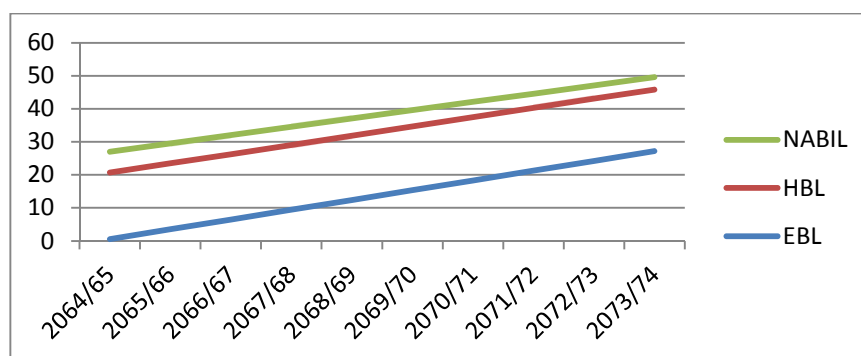
Year	Commercial Banks		
	EBL	HBL	NABIL
2064/65	0.55	20.10	6.37
2065/66	3.51	19.96	6.08
2066/67	6.47	19.78	5.79
2067/68	9.43	19.62	5.5
2068/69	12.39	19.46	5.21
2069/70	15.35	19.30	4.92
2070/71	18.31	19.14	4.63
2071/72	21.27	18.98	4.34
2072/73	24.23	18.82	4.05
2073/74	27.19	18.66	3.76

Source: Appendix 4, 5 and 6

Table 4.14 clearly shows that the current ratio of EBL is in the increasing trend in the successive fiscal years. It has increased from Rs. 0.55 in FY 2064/65 to Rs. 27.19 in the FY 2073/74. Whereas, the table showed that the current ratio of HBL is also in the decreasing trend in the successive fiscal years. It has declined from Rs. 20.10 in FY 2064/65 to Rs. 18.66 in the FY 2073/74. On the other hand, NABIL also has decreasing trend of current ratio in the successive fiscal years. It has increased from Rs. 6.37 in FY 2064/65 to Rs. 3.76 in the FY 2073/74.

Figure 4.14

Trend Value of Current Ratio



(b) Trend Values (Y_c) of EPS by Least Square Method

Table 4.15

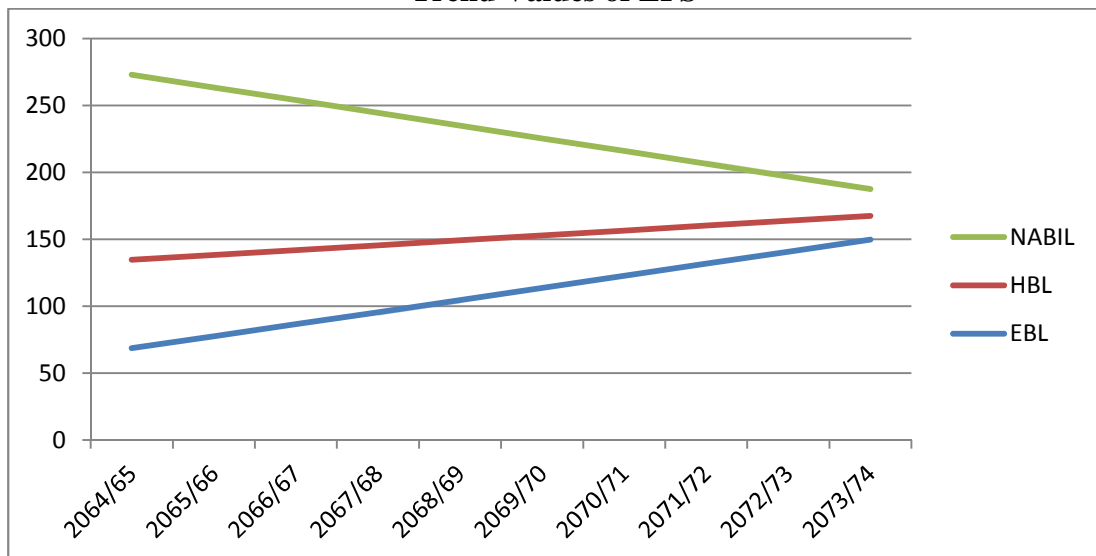
Trend Values of EPS

Year	Commercial Banks		
	EBL	HBL	NABIL
2064/65	68.63	65.99	138.29
2065/66	77.64	60.63	125.14
2066/67	86.65	55.27	111.99
2067/68	95.56	49.91	98.84
2068/69	104.67	44.55	85.69
2069/70	113.68	39.19	72.54
2070/71	122.69	33.83	59.39
2071/72	131.70	28.47	46.24
2072/73	140.71	23.11	33.09
2073/74	149.72	17.75	19.94

Source: Appendix 1, 2 and 3

Table 4.15 clearly shows that the EPS of EBL is in the increasing trend in the successive fiscal years. It has increased from Rs. 68.63 in FY 2064/65 to Rs. 149.72 in the FY 2073/74. Whereas, the table showed that the EPS of HBL is in the declining trend in the successive fiscal years. It has declined from Rs. 65.99 in FY 2064/65 to Rs. 17.75 in the FY 2073/74. On the other hand, NABIL also has declining trend of EPS in the successive fiscal years. It has declined from Rs. 138.29 in FY 2064/65 to Rs. 19.94 in the FY 2073/74.

Figure 4.15
Trend Values of EPS



(c) Trend Values (Y_c) of Net Profit by Least Square Method
Table 4.16

Trend Value of Net Profit

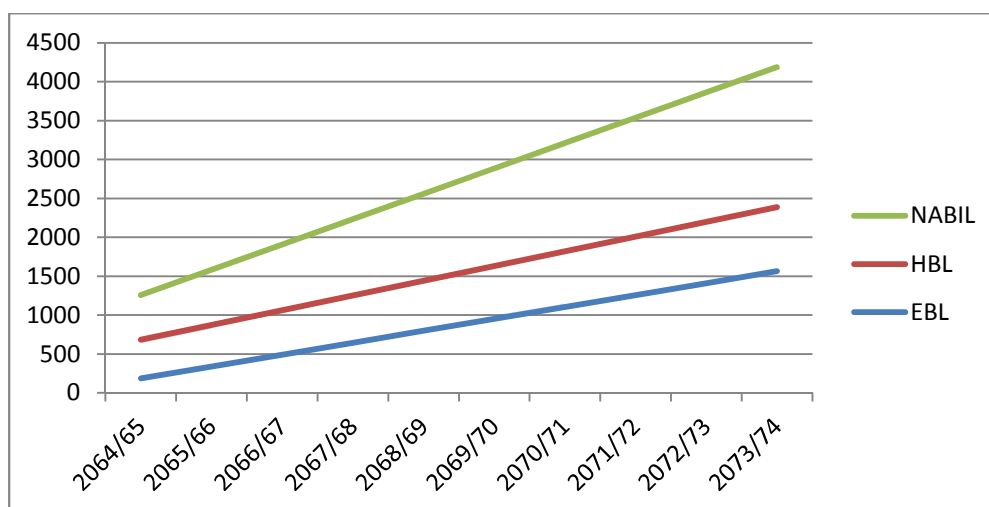
Year	Commercial Banks		
	EBL	HBL	NABIL
2064/65	185.14	496.63	572.22
2065/66	338.16	532.99	708.69
2066/67	491.18	569.35	845.16
2067/68	644.18	605.71	981.63
2068/69	797.22	642.07	1118.10
2069/70	950.24	678.43	1254.57
2070/71	1103.26	714.79	1391.04
2071/72	1256.28	751.15	1527.51
2072/73	1409.30	787.51	1663.98
2073/74	1562.32	823.87	1800.45

Source: Appendix 4, 5 and 6

Table 4.16 clearly shows that the net profit of EBL is in the increasing trend in the successive fiscal years. It has increased from Rs. 185.14 in FY 2064/65 to Rs. 1562.32 in the FY 2073/74. Whereas, the table showed that the net profit of HBL is also in the increasing trend in the successive fiscal years. It has declined from Rs. 496.63 in FY 2064/65 to Rs. 823.87 in the FY 2073/74. On the other hand, NABIL also has increasing trend of net profit in the successive fiscal years. It has increased from Rs. 572.22 in FY 2064/65 to Rs. 1800.45 in the FY 2073/74.

Figure 4.16

Trend Value of Net Profit



4.5 Correlation Co-efficient (r)

Correlation analysis deals to determine the degree of relationship between two or more variables. In correlation analysis, only one variable is treated as dependent and one or more variables are treated as independent. The correlation coefficient between two variables X and Y, denoted by r, is a numerical measure of linear relationship between them. In this study, total deposits of banks are treated as independent variable whereas, cash and bank balance and net profit are treated as dependent variables.

(a) Correlation Co-efficient between Total Deposit and Cash and Bank Balance

The correlation co-efficient between total deposit (X) an independent variable and cash and bank balance (Y) a dependent variable is to maintain the degree of relationship between the two variables.

Table 4.17

Correlation Co-efficient between Total Deposit and Cash & Bank Balance

Banks	r	r²
EBL	0.96	0.92
HBL	0.85	0.72
NABIL	0.43	0.18

Source: Appendix 7, 8 and 9

Table 4.17 shows that EBL has high degree of positive correlation; HBL has also high degree of positive correlation and NABIL has low degree of positive correlation between total deposits and cash and bank balance. Moreover, the coefficient of determination (r^2) of EBL, HBL and NABIL are 92%, 72% and 18% respectively.

(b) Correlation Co-efficient between Total Deposit and Net Profit

The correlation co-efficient between total deposit (X) an independent variable and net profit (Y) a dependent variable is to maintain the degree of relationship between the two variables.

Table 4.18

Correlation Co-efficient between Total Deposit and Net Profit

Banks	r	r²
EBL	0.98	0.96
HBL	0.43	0.18
NABIL	0.95	0.90

Source: Appendix 10, 11 and 12

Table 4.18 shows that EBL and NABIL have high degree of positive correlation and HBL has also low degree of positive correlation between total deposits and net profit. Moreover, the coefficient of determination (r^2) of EBL, HBL and NABIL are 96%, 18% and 90% respectively.

4.6 Regression Analysis

Regression analysis is the technique of studying how the variations in one series are related to variations in another series. As simple regression consists of two variables, one of Y on X and the other of X only. But in this study only Y on X is considered. The line of regression of Y on X is used to estimate (or predict) the value of dependent variable Y for any given value of independent variable X. In another words, the regression equation of y on X is used to describe the change in the value of Y for given change in the value of X.

(a) Regression equation of Cash and Bank balance on Total Deposit

The regression equation of cash and bank balance (Y) on total deposit (X) is used to describe the change in the value of cash and bank balance for given change in the value of total deposit.

Table 4.19

Regression equation of Cash and Bank Balance on total Deposit

Banks	Regression Equation
EBL	$Y = 2646.29 + 0.268X$
HBL	$Y = 4316.49 + 0.208X$
NABIL	$Y = 482.15 + 0.0445X$

Source: Appendix 13, 14 and 15

Table 4.19 shows that the regression equation of cash and bank balance (Y) on total deposits (X) of EBL is $Y = 2646.29 + 0.268X$, HBL is $Y = 4316.49 + 0.208X$ and NABIL is $Y = 482.15 + 0.0445X$.

(a) Regression equation of Net Profit on Total Deposit

The regression equation of net profit (Y) on total deposit (X) is used to describe change in value of cash & bank balance for given change in the value of total deposit.

Table 4.20

Regression equation of Net Profit on total Deposit

Banks	Regression Equation
EBL	$Y = 132.34 + 0.0247X$
HBL	$Y = 170.87 + 0.124X$
NABIL	$Y = 11728.91 + 0.397X$

Source: Appendix 16, 17 and 18

Table 4.20 shows that the regression equation of net profit (Y) on total deposits (X) of EBL is $Y = 132.34 + 0.0247X$, HBL is $Y = 170.87 + 0.124X$ and NABIL is $Y = 11728.91 + 0.397X$.

4.7 Hypothesis (t-test)

Hypothesis test is one of the important aspects of the theory of decision making. It consists of decision rules required for drawing probabilities inferences about the population parameters. The testing of hypothesis enables to find out whether it deserves the acceptance or rejection of the hypothesis.

(a) T-test of Correlation co-efficient between T. deposit & Cash & Bank Balance

In order to test whether the correlation co-efficient between total deposit and cash and bank balance is significant or not, t-test is applied.

Table 4.21

T-test of Correlation co-efficient between Total deposit & Cash & Bank Balance

Banks	T _{cal}	T _{tab}	Remarks
EBL	3.979	3.182	$T_{cal} > T_{tab} = \text{Significant}$
HBL	1.76	3.182	$T_{cal} < T_{tab} = \text{Insignificant}$
NABIL	0.316	3.182	$T_{cal} < T_{tab} = \text{Insignificant}$

Source: Appendix 19, 20 and 21

Table 4.21 shows that in case of EBL, the calculated value of t (t_{cal}) is higher than the tabulated value of t (t_{tab}), thus it is significant which means that the variables are correlated in the population i.e. r is significant of correlation in the population. Similarly, in cases of HBL and NABIL, the calculated value of t (t_{cal}) is less than the tabulated value of t (t_{tab}), thus it is insignificant which means that the variables are uncorrelated in the population i.e. r is insignificant of correlation in the population.

(b) T-test of Correlation co-efficient between Total deposit and Net Profit

In order to test whether the correlation co-efficient between total deposit and net profit is significant or not, t-test is applied.

Table 4.22

T-test of Correlation co-efficient between Total deposit and Net Profit

Banks	T_{cal}	T_{tab}	Remarks
EBL	5.882	3.182	$T_{cal} > T_{tab} = \text{Significant}$
HBL	0.311	3.182	$T_{cal} < T_{tab} = \text{Insignificant}$
NABIL	3.61	3.182	$T_{cal} > T_{tab} = \text{Significant}$

Source: Appendix 22, 23 and 24

Table 4.22 shows that in case of EBL and NABIL, the calculated value of t (t_{cal}) is higher than the tabulated value of t (t_{tab}), thus it is significant which means that the variables are correlated in the population i.e. r is significant of correlation in the population. Similarly, in cases of HBL, the calculated value of t (t_{cal}) is less than the tabulated value of t (t_{tab}), thus it is insignificant which means that the variables are uncorrelated in the population i.e. r is insignificant of correlation in the population.

4.8 ANOVA

The analysis of variance (ANOVA) is a powerful statistical tool for tests of significance to evaluate differences among the parameters of several groups.

(a) One- way ANOVA Test of EPS of EBL, HBL and NABIL

In order to test whether there is a significant difference between EPS of EBL, HBL and NABIL or not, one-way ANOVA is applied.

Table 4.23

One-way ANOVA Tests of EPS

F_{cal}	F_{tab}	Remarks
1825.92	3.89	$F_{cal} > F_{tab}$: Significant

Source: Appendix 25 and 26

Table 4.23 shows that, the calculated value of F (F_{cal}) is greater than the tabulated value of F (F_{tab}), thus, it is significant which means that there is significance difference between 3 EPS of these 3 Commercial Banks.

(b) One- way ANOVA Test of Current Ratio of EBL, HBL and NABIL

In order to test whether there is a significant difference between Current Ratio of EBL, HBL and NABIL or not, one-way ANOVA is applied.

Table 4.24

One-way ANOVA Tests of EPS

F_{cal}	F_{tab}	Remarks
24.47	3.89	$F_{cal} > F_{tab}$: Significant

Source: Appendix 27 and 28

Table 4.24 shows that, the calculated value of F (F_{cal}) is greater than the tabulated value of F (F_{tab}), thus, it is significant which means that there is significance difference between 3 Current Ratio of these 3 banks.

4.9 SWOT Analysis

It is an analysis of organization's Strengths, Weaknesses, Opportunities and Threats in order to identify a strategic niche that the organization can exploit. The SWOT analysis serves as the starting point of strategic plan formulation. Thus, an attempt has been made regarding SWOT analysis of 3 banks under study.

(a) Strengths

They come from internal environment. It is inherent capacity which can be used to gain strategic advantage over competitors. The main strength of all the 3 banks under study is that their employees are highly motivated, trained and equipped with modern and latest technologies. The general working environment and the services and facilities provided by these banks are highly appreciable. In fact, these banks under study are the icons of the nation in the field of financial institutions. EBL, HBL and NABIL all these 3 banks have maintained a proper balance between liquidity and profitability, which also adds in their advantage. These banks' goodwill and prestige are so high that anyone can trust blindly simply in their names only. Moreover, all the financial and statistical ratios and tool used, applied and tested also suggest the same. Thus, all these subjects may be regarded as one of the major strengths of EBL, HBL and NABIL.

(b) Weaknesses

They come from internal environment. It is inherent limitation which creates a strategic disadvantage over competitors. In the present context, these banks are found depending and relying upon their reward and gift schemes to attract the customer's deposit. Such programs may affect negatively. Apart from it, these banks under study highly focuses their banking transactions in urban and central areas only. Moreover, inconsistent dividend pay-out ratio is also one of their main disadvantages. Furthermore, maintaining high liquidity than standard rate, focusing more only and only on profit, under utilizing the owner's, shareholder's and creditor's fund, lack of efficient management on some aspect also adds in their disadvantages. Thus, all these subjects may be regarded as the weaknesses of EBL, HBL and NABIL.

(c) Opportunities

They come from external environment. It is favorable condition in the environment. The end of war and conflict or war between Maoists and the government may be regarded as the favorable environment for the financial institutions. Moreover, the changing policies of the government and the central bank have also spread diversified opportunities for these banks under study. The development of infrastructure, transportation and communication in the rural areas by the government are the opportunities for these banks to operate their banking transactions in such areas.

Moreover, having high liquidity within the bank and having high deposits of customers in their vault, these banks under study are always in a better position to make some huge investment in productive and profitable sectors. Thus, all these subjects add as opportunities of EBL, HBL and NABIL.

(d) Threats

They come from external environment. It is an unfavorable position in the environment. The political instability and emerging of violence and nuisance within the country has negatively affected and threatened the financial institutions. Moreover, the rapid growth and emergence of different kinds of financial institutions such as banks, development banks, finance companies, co-operatives are seen as the competitors for these 3 banks under study. However, the banks established under foreign joint investment are giving big challenges to these banks. In this era of cut-throat competition, a minor mistake or policy below the standard than other banks may cost high for these banks. Moreover, the adoption of new and modern technologies, using systematic and scientific work procedures, better and increasing the services and facilities by other banks etc. also creates a kind of threats for EBL, HBL and NABIL.

4.10 Major Findings of the Study

- The average current ratio of EBL, HBL and NABIL are 8.80%, 4.29% and 4.58% respectively. Moreover, the C.V. of such banks is 80.20%, 22.34% and 18.30% respectively. It shows that NABIL is more consistent in maintaining the current ratio among the three banks.
- The average quick ratio of EBL, HBL and NABIL are 8.76%, 3.20% and 4.59% respectively. It shows that EBL is in a better position of liquidity in terms of quick ratio as compared to HBL and NABIL.
- The average cash and bank balance to current deposit ratio of EBL, HBL and NABIL are 143.78%, 101.48% and 52.18% respectively. The high mean ratio of cash and bank balance to current deposit of EBL indicates the sound liquidity position of the bank than that of HBL and NABIL.
- The average mean ratio of cash and bank balance to total deposit of EBL, HBL and NABIL are 17.27%, 8.83% and 6.62% respectively. It reveals that EBL has

maintained adequate cash and bank balance to meet the unexpected as well as heavy withdrawal of deposits than that of HBL and NABIL.

- The average net profit of EBL, HBL and NABIL are 39.37%, 32.54% and 42.54% respectively. It shows that NABIL is comparatively earning higher rate of profit than EBL and HBL.
- The average ROE of EBL, HBL and NABIL are 27.67%, 21.47% and 27.06% respectively. It shows that EBL has been efficiently utilizing the owners' investment comparatively better than NABIL and HBL.
- The average ROA of EBL, HBL and NABIL are 3.31%, 3.15% and 3.09% respectively. The higher mean ratio of EBL states that EBL has been able to utilize its overall resources in efficient way in comparison with NABIL and HBL during the study period. The high ratio also reflects the successes of NABIL's management.
- The average ROCE of EBL, HBL and NABIL are 40.38%, 34.66 and 33.75% respectively. The higher mean ratio of EBL reveals efficient utilization of available resources supplied by the owners and creditors than that of HBL and NABIL.
- The average mean of EPS of EBL, HBL and NABIL are Rs. 72.39, Rs. 45.78 and Rs. 86.34 respectively. The higher EPS of NABIL means NABIL's shareholders can get higher amount on every share held.
- The average DPS of EBL, HBL and NABIL are Rs.30.97, Rs. 14.90 and Rs. 38.40 respectively. The higher mean DPS of NABIL signifies that NABIL is more successful to win the confidence of the investors. This mean NABIL can sell its shares more easily than those shares of EBL and HBL.
- The average dividend pay-out ratio of EBL, HBL and NABIL are 34.65%, 33.55% and 43.91% respectively. The high dividend pay-out ratio of NABIL means high percentage of net profit is paid out as dividend to the equity holders than that of EBL and HBL.
- The average earning yield ratio of EBL, HBL and NABIL are 5.86%, 4.89% and 3.87% respectively. Moreover, the C.V. of such banks is 30.40%, 22.48% and

47.38% respectively. HBL with lower C.V. is more consistent in earning yield ratio whereas NABIL with high C.V. seems less consistent.

- The average mean dividend yield ratio of EBL, HBL and NABIL are 2.06%, 1.47% and 1.71% respectively. Moreover, the C.V. of such banks is 44.76%, 57.58% and 69.50% respectively. On the basis of C.V., EBL with lower C.V. seems to be more consistent whereas HBL and NABIL with higher C.V. are less consistent.
- The trend analysis of Current Ratio of EBL, HBL and NABIL shows that EBL has an increasing trend whereas, HBL and NABIL have decreasing trend of EPS.
- The trend analysis of EPS of EBL, HBL and NABIL also shows that EBL has an increasing trend whereas, HBL and NABIL have decreasing trend of EPS.
- The trend analysis of net profit of EBL, HBL and NABIL shows that all these 3 banks have an increasing trend. However, NABIL's increasing trend is better than EBL and HBL.
- The correlation co-efficient between total deposit and cash and bank balance of EBL, HBL and NABIL are 0.96, 0.85 and 0.43 respectively. It shows that all 3 banks have positive relationship. However, EBL has high degree and NABIL has low degree of positive relationship between total deposit and cash and bank balance.
- The correlation co-efficient between total deposit and net profit of EBL, HBL and NABIL are 0.98, 0.43 and 0.95 respectively. It shows that there exists high degree of positive relationship between total deposit and net profit in EBL and NABIL, whereas, moderate degree of relationship exists in HBL.
- The regression equation of cash & bank balance (Y) on total deposits (X) of EBL is $Y=2646.29+0.268X$, HBL is $Y=4316.49+0.208X$ & NABIL is $Y=482.15+0.0445X$.
- The regression equation of net profit (Y) on total deposits (X) of EBL is $Y = 132.34+0.0247X$, HBL is $Y=170.87+0.124X$ & NABIL is $Y =11728.91 + 0.397X$.

- The calculation of t-test showed that the correlation co-efficient between total deposit and cash and bank balance of EBL is significant whereas that of HBL and NABIL are insignificant.
- The calculation of t-test showed that the correlation co-efficient between net profit and cash and bank balance of EBL and NABIL is significant whereas that of HBL is insignificant.
- The one- way ANOVA test of EPS of EBL, HBL and NABIL shows that there is significant difference on EPS of these 3 banks.
- The one- way ANOVA test of Current Ratio of EBL, HBL and NABIL shows that there is significant difference on EPS of these 3 banks.
- Simply looking on the investment report of these 3 banks under study, it is found that these banks invest their funds in government treasury bills, government securities, and foreign banks and in corporate shares. However, the most interesting point to be noted here is that these banks invests less than 1% of their funds in corporate shares.
- The analysis of different financial and statistical tools clearly shows that EBL and NABIL are healthier and sound banks than HBL on almost every aspect of the study. It reveals that EBL and NABIL have maintained a proper balance between liquidity and profitability. Due to the proper equilibrium between the liquidity and profitability, EBL and NABIL have clearly dominated the race as compared to HBL. But, it does not imply that HBL has failed to maintain the proper balance between liquidity and profitability. It has also tried its best in its own way in maintaining the proper equilibrium between the liquidity and profitability but comparatively less or below than EBL and NABIL during the period of FY 2064/65 to FY 2068/69.

CHAPTER – V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

This study has been prepared to know about the trade-off between liquidity and profitability position of EBL, HBL and NABIL. For the purpose of analysis and evaluation different financial and statistical tools have been used. Here, financial tools include liquidity ratio and profitability ratio whereas statistical tools include average mean, standard deviation, co-efficient of variation, trend analysis, correlation co-efficient, regression analysis, hypothesis (t-test) and ANOVA test. The data that have been analyzed by such financial and statistical tool includes from FY 2064/65 to FY 2068/69. For the systematic analysis of study, chapter plan have been made.

In the first chapter, the background and subject matter of the study consisting statement of the problem, significance and limitations of the study has been dealt. In the second chapter, the relevant review of literature has been made in terms of theoretical background of banking principles. Third chapter deals with the research methodology that has been used to evaluate the liquidity and profitability position of banks under study. In the fourth chapter, the data and information are presented, analyzed and interpreted by the help of financial and statistical tools. Finally, in the fifth chapter, summary, conclusion and recommendation have been made regarding the entire study.

5.2 Conclusion

The growth of financial sector In Nepal is much better compared to the other sectors in the country. The decade long conflict has had its toll on in every sector including the financial sector. Despite the conflict, private commercial banks continued growing. It is this very growth and many other reasons that have attracted investors towards the financial sector. There are a sizable number of commercial banks, development banks, finance companies and co-operatives operating in the country although bulk of the loan and deposit portfolio remains with private sector commercial banks.

The financial sector is supposed to be one of the growth engines of a country's economy. It plays a significant role in the promotion of economic growth, private sector development and poverty reduction. The concentration of private banks has been more in urban areas than rural parts of the country. This would have been understandable during the conflict period where each bank was looking forward to be secure and the staffs were looking for survival. Few years since the restoration of peace in the country, the banking services expansion still is confined to urban areas. Private Banks seems to be hesitant to go to rural or even sub-urban areas to open up branches. Some of the valid reasons for private banks not going into suburbs and rural parts of the country could be lack of collateral, lack of information, lack of quality manpower, lack of knowledge and skills, lack of efficient management and promoters, lack of formal education, lack of technology, etc.

Digging deeper into the loan portfolios of private banks, one can easily make out that the primary focus has been on big size corporate loans. Only a small portion of the loan portfolios could be seen to have been going to the small and medium sized enterprises, popularly known as SMEs. The big corporate accounts, compared to small accounts enjoy lower interest rates- the reason being a sheer lack of pricing know-how of the private banks. The smaller accounts on the other hand are paying higher interest rates even if their risk of going default is much lower. This 'high-risk' perception of private banks about SMEs is one of the primary reasons private banks do not venture branches in suburbs and rural parts of Nepal.

On the basis of current ratio and quick ratio, the liquidity position of EBL is comparatively better than HBL and NABIL. Moreover, on the basis of cash and bank balance to current deposit ratio and cash and bank balance to total deposit ratio, the liquidity position of EBL seems to be more sound than HBL and NABIL.

The average net profit ratio, ROE, ROA, EPS, DPS, Dividend Payout ratio and Dividend Yield Ratio of NABIL are comparatively better than EBL and HBL. It clearly shows that NABIL is a far better bank than EBL and HBL in almost every aspect that have been analyzed and evaluated in the study.

The trend analysis of Current Ratio as well as EPS of EBL, HBL and NABIL shows that EBL has an increasing trend of EPS in the past, present and future. Whereas,

HBL and NABIL have declining trend of EPS from the FY 2064/65 to FY 2068/69. On the other hand, the trend analysis of net profit ratio of all these 3 banks has an increasing trend. But when compared among these 3 banks, both the trend i.e. EPS and net profit, shows that EBL has a better increasing trend.

The correlation co-efficient between total deposit and cash and bank balance of EBL, HBL and NABIL are such that EBL has high degree of positive relationship, HBL has high degree of positive relationship and NABIL has low degree of positive relationship. Moreover, there exists high degree of positive relationship between total deposit and net profit in EBL and NABIL, whereas moderate degree of relationship exists in HBL.

The t-test of total deposit and cash and bank balance of EBL is significant, whereas, that of HBL and NABIL are insignificant. However, the t-test of total deposit and net profit of EBL and NABIL are significant, whereas, HBL is insignificant.

The analysis of one-way ANOVA test of EPS of EBL, HBL and NABIL clearly shows that all these 3 banks differ significantly in terms of EPS. Moreover, the analysis of same test of current ratio of these 3 banks also shows that these banks also differ in terms of current ratio.

Although the banks are reporting of steady profits, the banks have a tendency to hide bad loans by restructuring them to show good performance. In order to check such practice, the central bank has announced a new measure in its monetary policy, which requires all auditors to make long-time guidelines. The effort would help to trace the real situation of the banks so that the NRB could take corrective measures in time.

In the present context, in order to attract the customers towards the bank for higher deposit collection, various kinds of reward programs have been practiced by the banks. Such kinds of programs may have brought negative impacts in the different field of society.

The banks under study are found that they pay their amount of time in their performance, business growth rate, asset quality and governance practices. Apart from it, these banks also do consider in their market reputation, diversified service range,

rate of return provided to their shareholders etc. On the basis of such kinds of activities, banks are often and frequently named/awarded bank of the year.

The commercial banks are found more superior and far ahead than other local banks operating within the country. The banks are fully equipped with all kinds of modern and latest technologies. They are always spending their greater time in upgrading the technologies so that their customers can enjoy and have greater amount of satisfaction with the attachment with the bank. On the other hand, the local banks are still in the emerging trend in regards to modern and latest technologies. But it does not mean that these local banks are out of reach of upgraded technologies.

5.3 Recommendations

There is a direct effect of current state of political instability of our country in the field of commercial and financial situation. Due to the violating environment in the country, people have not been able to mobilize and utilize the resources. Most of the commercial banks have been struggling against the economic crisis. Despite such conditions, it is found that the banks under study are running on profit for the period of 2064/65 to 2068/69. Thus, all these banks should be appreciated for their banking transactions in spite of the present critical situation.

- Since the average current ratio and quick ratio of HBL is comparatively lower than the other 2 banks under study, and below the standard rate as well, so HBL is strongly suggested to increase its liquidity position in terms of current and quick ratio so that it can be able to meet the demand of the customers when required.
- The co-efficient of variation (C.V.) of HBL in terms of cash and bank balance to current deposit is high and that of NABIL is low. It implies HBL and NABIL are comparatively less consistent in maintaining the cash and bank balance from the deposits than EBL. Thus, HBL and NABIL are advised to be more consistent under this regard.
- Nepalese shareholders are very much concerned about the payment of cash dividend by the banks. So, the banks are suggested to pay the cash dividend consistently. Hence the bank especially EBL with having high C.V. is recommended to maintain consistent dividend policy.

- The trend analysis of EPS of banks clearly shows that HBL and NABIL have a declining trend of EPS. Thus, HBL and NABIL are strongly suggested to pay due consideration in this regard, so that it can take the necessary steps to overcome the declining trend of EPS.
- The banks are found that the saving from the rural communities is neglected, without which they can't contribute much to the economic development of the country. Thus, these banks under study are suggested to open their branches in rural areas too and provide their services which will consequently be helpful for the upliftment of the nation.
- Since, Nepal has fixed exchange rate regime with India, it is suggested to the entire financial institutions within the country including these 3 banks under study to control the credit and maintain the inflation rate in a limit because at the present scenario of inter-relation between Nepali economy with India's, Nepal would lose if it floats its currency.
- The bank should give continuity in providing both conceptual and practical training to the staff to enhance their knowledge, skill and competency level. The bank should remain consistently vigilant in enhancing their moral and motivation. Similarly, the bank should enhance effectiveness, efficiency and proper co-ordination of its departmental tasks by continuously reviewing its structural design in accordance with the need of the changing time and situation.
- Since, NRB already stated that it will impose restrictions on lucky draws and gifts, all these banks under study are recommended to close down all its reward programs immediately as soon as possible. Moreover, these banks are suggested to come up with other kinds of modern and latest facilities and services to attract the customers' deposit rather than conducting reward programs.
- All these banks under study are suggested to concentrate more on their performance, business growth rate, asset quality and governance practices. Apart from these, market reputation, diversified service range and return of shareholders should also be taken into account by the banks so that it is not only beneficial for the bank but it will also play a vital criteria or tool regarding a reward as one of the best bank of the nation.

BIBLIOGRAPHY

Books:

- Bhandari, D.R. (2003). *Banking and Insurance: Principles & Practice*. Kathmandu: Aayush Publication.
- Clark, J. (1999). *International Dictionary of banking and Finance*. New York: Glenlake Publication Co Ltd and AMACOM American Management Association.
- Maisel, S.J. (1982). *Risk and Capital Adequacy in Commercial Banks*. Chicago: The University of Chicago Press.
- Pandey, I.M. (1995). *Financial Management*. New Delhi: Vikash Publishing House Pvt. Ltd.
- Patheja, A. (1994). *Financial Management of Commercial Banks*. Delhi: South Asia Publications.
- Rosenburg, J.M., (1982). *Dictionary of banking and finance*. New York: John Wiley & Sons.
- Shekhar, K.C. & Shekhar, L. (1998). *Banking theory and practice* (Rev. ed.). New Delhi: Vikash Publishing House Pvt. Ltd.
- Shrestha, M.S. (2009) *Fundamental of Banking*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.
- Verma, H.L. & Malhotra, A.K.(1993). *Funds Management in Commercial Banks*. New Delhi: Deep & Deep Publications.
- Wolf, H.K. & Pant, P.R. (2007). *Social Science Research and Thesis Writing*. Kathmandu: Buddha Academic Enterprises Pvt. Ltd.

Thesis:

- Dhungana, Reema, (2008). *Liquidity Position of Commercial Banks of Nepal With reference to BOK, HBL, Standard Chartered Bank (SCB), Nepal Bank Limited, NIB and EBL*, Master Degree Thesis, Shankar Dev Campus, Kathmandu.

- Gumanju, Chutra Bahadur, (2007). *A cooperative Study of Financial Performance Analysis of HBL and NIB*, Master Degree Thesis, Nepal Commerce Campus, Kathmandu.
- Paudel, Ramesh, (2008) *Liquidity Management of Commercial Banks in Nepal*, Master Degree Thesis, Central Department, Kathmandu, 2006.
- Poudel, Kishor,(2007) *A Study on Liquidity and Investment Position of Joint Venture Banks in Nepal*, Master Degree Thesis, Nepal Commerce Campus, Kathmandu.
- Shrestha, Sarada, (2009) *Performance Measurement of Joint Venture Banks in Nepal with reference of EBL, SCB, NSBI and NABIL*. Master Degree Thesis, Public Youth Campus, Kathmandu.
- Tamang, Makar Bahadur, (2010) *Financial Performance Analysis of Commercial banks of Nepal with reference to NIB and NABIL*, Master Degree Thesis, Shankar Dev Campus, Kathmandu.

Reports:

- Annual Report of EBL (FY2064/65 – FY2068/69)
Annual Report of HBL (FY2064/65 – FY2068/69)
Annual Report of NABIL (FY2064/65 – FY2068/69)

Websites:

- www.ebl.com.np
www.hbl.com.np
www.nabilbank.com.np
www.mof.gov.np
www.cbs.gov.np

APPENDIX 1

Calculation of Average Mean of EBL, HBL and NABIL

We have,
$$\bar{X} = \frac{X_1 + X_2 + \dots + X_n}{N} = \frac{\sum X}{N}$$

- a. Calculation of Mean of Current Ratio of EBL, HBL and NABIL

$$EBL(t) \times \frac{4.40 \Gamma 12.13 \Gamma 11.74 \Gamma 8.42 \Gamma 7.09}{5} \times 8.80$$

$$HBL(t) \times \frac{2.90 \Gamma 4.77 \Gamma 4.48 \Gamma 3.97 \Gamma 5.44}{5} \times 4.29$$

$$NABIL(t) \times \frac{7.43 \Gamma 4.84 \Gamma 5.07 \Gamma 2.79 \Gamma 2.97}{5} \times 4.58$$

- b. Calculation of Mean of Quick Ratio of EBL, HBL and NABIL

$$EBL(t) \times \frac{4.40 \Gamma 12.32 \Gamma 11.73 \Gamma 8.40 \Gamma 7.07}{5} \times 8.76$$

$$HBL(t) \times \frac{2.88 \Gamma 4.75 \Gamma 4.45 \Gamma 3.92 \Gamma 5.32}{5} \times 3.20$$

$$NABIL(t) \times \frac{7.40 \Gamma 4.82 \Gamma 5.03 \Gamma 2.78 \Gamma 2.95}{5} \times 4.59$$

- c. Calculation of Mean of Cash & Bank Balance to Current Deposit Ratios of EBL, HBL & NABIL

$$EBL(t) \times \frac{107.5 \Gamma 126.84 \Gamma 187.35 \Gamma 127.78 \Gamma 169.94}{5} \times 143.78$$

$$HBL(t) \times \frac{30.27 \Gamma 124.26 \Gamma 134 \Gamma 80.24 \Gamma 138.78}{5} \times 101.48$$

$$NABIL(t) \times \frac{109.25 \Gamma 61.54 \Gamma 17.71 \Gamma 29.06 \Gamma 43.35}{5} \times 52.18$$

- d. Calⁿ of Mean of C&B Balance to Total Deposit Ratios of EBL, HBL & NABIL

$$EBL(t) \times \frac{11.33 \Gamma 18.50 \Gamma 21.17 \Gamma 14.88 \Gamma 20.72}{5} \times 17.27$$

$$HBL(t) \times \frac{4.55 \Gamma 83.79 \Gamma 10.28 \Gamma 7.24 \Gamma 13.32}{5} \times 8.83$$

$$NABIL(t) \times \frac{8.37 \Gamma 9.03 \Gamma 3.02 \Gamma 4.95 \Gamma 7.82}{5} \times 6.62$$

e. Calculation of Mean of Net profit Ratios of EBL, HBL and NABIL

$$EBL(t) \times \frac{25.59 \Gamma 26.06 \Gamma 24.77 \Gamma 60.72 \Gamma 59.71}{5} \times 39.37$$

$$HBL(t) \times \frac{26.95 \Gamma 26.17 \Gamma 14.14 \Gamma 47.83 \Gamma 47.71}{5} \times 32.54$$

$$NABIL(t) \times \frac{32.02 \Gamma 32.65 \Gamma 25.01 \Gamma 62.66 \Gamma 60.43}{5} \times 42.54$$

f. Calculation of Mean of Return on Equity of EBL, HBL and NABIL

$$EBL(t) \times \frac{23.49 \Gamma 28.99 \Gamma 30.15 \Gamma 29.94 \Gamma 26.09}{5} \times 27.67$$

$$HBL(t) \times \frac{25.30 \Gamma 24.13 \Gamma 14.79 \Gamma 22.38 \Gamma 20.74}{5} \times 21.475$$

$$NABIL(t) \times \frac{30.63 \Gamma 32.94 \Gamma 29.70 \Gamma 29.39 \Gamma 12.82}{5} \times 27.06$$

g. Calculation of Mean of Return on Assets of EBL, HBL and NABIL

$$EBL(t) \times \frac{3.37 \Gamma 3.18 \Gamma 3.70 \Gamma 3.06 \Gamma 3.25}{5} \times 3.31$$

$$HBL(t) \times \frac{3.09 \Gamma 3.51 \Gamma 3.64 \Gamma 2.69 \Gamma 2.87}{5} \times 3.15$$

$$NABIL(t) \times \frac{3.29 \Gamma 2.35 \Gamma 22.27 \Gamma 3.43 \Gamma 4.17}{5} \times 3.09$$

h. Calculation of Mean of ROCE of EBL, HBL and NABIL

$$EBL(t) \times \frac{41.24 \Gamma 41.69 \Gamma 44.10 \Gamma 37.88 \Gamma 37.29}{5} \times 40.38$$

$$HBL(t) \times \frac{32.98 \Gamma 38.88 \Gamma 40.49 \Gamma 30.96 \Gamma 29.98}{5} \times 34.66$$

$$NABIL(t) \times \frac{30.23 \Gamma 25.08 \Gamma 27.06 \Gamma 41.95 \Gamma 44.33}{5} \times 33.75$$

i. Calculation of Mean of EPS of EBL, HBL and NABIL

$$EBL(t) \times \frac{62.91 \Gamma 78.42 \Gamma 91.82 \Gamma 66.92 \Gamma 61.92}{5} \times 72.39$$

$$HBL(t) X \frac{62.74 \Gamma 61.89 \Gamma 31.80 \Gamma 37.21 \Gamma 35.48}{5} X 45.78$$

$$NABIL(t) X \frac{108.31 \Gamma 106.76 \Gamma 78.61 \Gamma 67.20 \Gamma 70.83}{5} X 86.34$$

j. Calculation of Mean of DPS of EBL, HBL and NABIL

$$EBL(t) X \frac{28.65 \Gamma 34.14 \Gamma 33.26 \Gamma 41.49 \Gamma 13.41}{5} X 30.97$$

$$HBL(t) X \frac{25.00 \Gamma 12.00 \Gamma 11.84 \Gamma 14.03 \Gamma 11.67}{5} X 14.90$$

$$NABIL(t) X \frac{63.46 \Gamma 35.00 \Gamma 30.00 \Gamma 30.14 \Gamma 33.41}{5} X 38.40$$

k. Calculation of Mean of DPR of EBL, HBL and NABIL

$$EBL(X) X \frac{3120 \Gamma 34.14 \Gamma 33.21 \Gamma 40.87 \Gamma 33.881}{5} X 33.95$$

$$HBL(X) X \frac{39.85 \Gamma 19.39 \Gamma 37.23 \Gamma 37.70 \Gamma 33.60}{5} X 34.37$$

$$NABIL(X) X \frac{58.59 \Gamma 32.78 \Gamma 38.16 \Gamma 42.45 \Gamma 47.86}{5} X 54.72$$

l. Calculation of Mean of Earning Yield Ratio of EBL, HBL and NABIL

$$EBL(X) X \frac{2.93 \Gamma 4.07 \Gamma 6.14 \Gamma 7.60 \Gamma 8.59}{5} X 4.19$$

$$HBL(X) X \frac{3.17 \Gamma 3.52 \Gamma 3.90 \Gamma 7.77 \Gamma 6.11}{5} X 3.89$$

$$NABIL(X) X \frac{2005 \Gamma 2018 \Gamma 3030 \Gamma 5.64 \Gamma 6.17}{5} X 3.20$$

m. Calculation of Mean of Dividend Yield Ratio of EBL, HBL and NABIL

$$EBL(X) X \frac{2.93 \Gamma 4.07 \Gamma 6.14 \Gamma 7.60 \Gamma 8.59}{5} X 4.19$$

$$HBL(X) X \frac{3.17 \Gamma 3.52 \Gamma 3.90 \Gamma 7.77 \Gamma 6.11}{5} X 3.89$$

$$NABIL(X) X \frac{2005 \Gamma 2018 \Gamma 3030 \Gamma 5.64 \Gamma 6.17}{5} X 3.20$$

APPENDIX 2

Calculation of Standard Deviation of EBL, HBL and NABIL

We have,
$$= \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

a. Calculation of Standard Deviation of Current Ratio of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{134.68}{5}} = 5.19$$

$$\text{HBL}(\sigma) = \sqrt{\frac{5.1}{5}} = 1.01$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{5.62}{5}} = 1.06$$

b. Calculation of Standard Deviation of Quick Ratio of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{134.68}{5}} = 5.19$$

$$\text{HBL}(\sigma) = \sqrt{\frac{5.1}{5}} = 1.01$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{5.62}{5}} = 1.06$$

c. Calculation of Standard Deviation of Cash and Bank Balance to Current deposit Ratios of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{4410.45}{5}} = 29.70$$

$$\text{HBL}(\sigma) = \sqrt{\frac{14236.45}{5}} = 53.36$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{7121.54}{5}} = 37.74$$

- d. Calculation of Standard Deviation of Cash and Bank Balance to Total Deposit Ratio of EBL, HBL and NABIL

$$EBL(\sigma) = \sqrt{\frac{103.51}{5}} = 4.55$$

$$HBL(\sigma) = \sqrt{\frac{26.68}{5}} = 2.31$$

$$NABIL(\sigma) = \sqrt{\frac{38.92}{5}} = 2.79$$

- e. Calculation of Standard Deviation of Net profit Ratios of EBL, HBL and NABIL

$$EBL(\sigma) = \sqrt{\frac{8.98}{5}} = 1.34$$

$$HBL(\sigma) = \sqrt{\frac{129.54}{5}} = 5.09$$

$$NABIL(\sigma) = \sqrt{\frac{127.51}{5}} = 5.05$$

- f. Calculation of Standard Deviation of Return on Equity of EBL, HBL and NABIL

$$EBL(\sigma) = \sqrt{\frac{43.81}{5}} = 2.96$$

$$HBL(\sigma) = \sqrt{\frac{102.15}{5}} = 4.52$$

$$NABIL(\sigma) = \sqrt{\frac{15.14}{5}} = 1.74$$

- g. Calculation of Standard Deviation of Return on Assets of EBL, HBL and NABIL

$$EBL(\sigma) = \sqrt{\frac{0.42}{5}} = 0.29$$

$$\text{HBL}(\sigma) = \sqrt{\frac{0.42}{5}} = 0.29$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{357.86}{5}} = 8.46$$

h. Calculation of Standard Deviation of ROCE of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{12.64}{5}} = 1.59$$

$$\text{HBL}(\sigma) = \sqrt{\frac{72.96}{5}} = 3.82$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{366.37}{5}} = 8.56$$

i. Calculation of Standard Deviation of EPS of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{1273.61}{5}} = 15.96$$

$$\text{HBL}(\sigma) = \sqrt{\frac{868.56}{5}} = 13.18$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{2601.48}{5}} = 22.81$$

j. Calculation of Standard Deviation of DPS of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{208.66}{5}} = 6.46$$

$$\text{HBL}(\sigma) = \sqrt{\frac{351.14}{5}} = 8.26$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{5206.76}{5}} = 32.27$$

k. Calculation of Standard Deviation of DPR of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{414.96}{5}} = 9.11$$

$$\text{HBL}(\sigma) = \sqrt{\frac{775.01}{5}} = 12.45$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{1744.71}{5}} = 18.68$$

l. Calculation of Standard Deviation of Earning Yield Ratio of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{8.06}{5}} = 1.27$$

$$\text{HBL}(\sigma) = \sqrt{\frac{3.78}{5}} = 0.87$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{11.55}{5}} = 1.52$$

m. Calculation of Standard Deviation of Dividend Yield Ratio of EBL, HBL and NABIL

$$\text{EBL}(\sigma) = \sqrt{\frac{2.11}{5}} = 0.65$$

$$\text{HBL}(\sigma) = \sqrt{\frac{3.2}{5}} = 0.80$$

$$\text{NABIL}(\sigma) = \sqrt{\frac{8.19}{5}} = 1.28$$

APPENDIX 3

Calculation of C.V. of EBL, HBL and NABIL

We have, $C.V. = \frac{\sigma}{\bar{X}} \times 100\%$

a. Calculation of C.V. of Current Ratio of EBL, HBL and NABIL

$$EBL(CV) = \frac{5.19}{8.80} * 100 = 80.20\%$$

$$HBL(CV) = \frac{1.01}{4.29} * 100 = 22.34\%$$

$$NABIL(CV) = \frac{1.06}{4.58} = 18.30\%$$

b. Calculation of C.V. of Quick Ratio of EBL, HBL and NABIL

$$EBL(CV) = \frac{5.19}{8.67} * 100 = 80.20\%$$

$$HBL(CV) = \frac{1.01}{13.20} * 100 = 22.44\%$$

$$NABIL(CV) = \frac{5.76}{4.59} = 10.40\%$$

c. Calⁿ of C.V. of C&B Balance to Current Deposit Ratio of EBL, HBL & NABIL

$$EBL(CV) = \frac{29.70}{143.78} * 100 = 21.23\%$$

$$HBL(CV) = \frac{53.36}{101.48} * 100 = 75.33\%$$

$$NABIL(CV) = \frac{37.74}{52.18} = 52.18\%$$

d. Calⁿ of C.V. of C&B Balance to Total Deposit Ratio of EBL, HBL & NABIL

$$EBL(CV) = \frac{4.55}{17.27} * 100 = 30.25\%$$

$$HBL(CV) = \frac{2.31}{80.83} * 100 = 32.16\%$$

$$NABIL(CV) = \frac{2.79}{6.62} = 47.06\%$$

e. Calculation of C.V. of Net Profit Ratio of EBL, HBL and NABIL

$$\text{EBL(C.V.)} = \frac{1.34}{39.37} * 100 = 5.44\%$$

$$\text{HBL(C.V.)} = \frac{6.46}{30.97} * 100 = 22.45\%$$

$$\text{NABIL(C.V.)} = \frac{1.34}{30.97} * 100 = 15.47\%$$

f. Calculation of C.V. of ROE of EBL, HBL and NABIL

$$\text{EBL(C.V.)} = \frac{2.96}{26.40} * 100 = 11.22\%$$

$$\text{HBL(C.V.)} = \frac{4.52}{22.61} * 100 = 19.97\%$$

$$\text{NABIL(C.V.)} = \frac{1.74}{31.98} * 100 = 5.45\%$$

g. Calculation of C.V. of ROA of EBL, HBL and NABIL

$$\text{EBL(C.V.)} = \frac{0.29}{3.26} * 100 = 8.85\%$$

$$\text{HBL(C.V.)} = \frac{0.29}{3.28} * 100 = 8.91\%$$

$$\text{NABIL(C.V.)} = \frac{8.46}{7.19} * 100 = 117.61\%$$

h. Calculation of C.V. of ROCE of EBL, HBL and NABIL

$$\text{EBL(C.V.)} = \frac{1.59}{41.72} * 100 = 3.80\%$$

$$\text{HBL(C.V.)} = \frac{3.82}{38.43} * 100 = 9.93\%$$

$$\text{NABIL(C.V.)} = \frac{8.56}{32.80} * 100 = 26.09\%$$

i. Calculation of C.V. of EPS of EBL, HBL and NABIL

$$\text{EBL(C.V.)} = \frac{15.96}{86.66} * 100 = 0.18\%$$

$$\text{HBL(C.V.)} = \frac{13.18}{55.27} * 100 = 0.24\%$$

$$\text{NABIL (CV)} = \frac{22.81}{86.34} * 100 = 0.20\%$$

j. Calculation of C.V. of DPS of EBL, HBL and NABIL

$$\text{EBL(CV)} = \frac{6.46}{30.97} * 100 = 0.22\%$$

$$\text{HBL(CV)} = \frac{8.26}{14.90} * 100 = 0.44\%$$

$$\text{NABIL(CV)} = \frac{32.27}{38.40} = 0.50\%$$

k. Calculation of C.V. of DPR of EBL, HBL and NABIL

$$\text{EBL(CV)} = \frac{9.11}{34.65} * 100 = 26.83\%$$

$$\text{HBL(CV)} = \frac{12.45}{33.55} * 100 = 36.24\%$$

$$\text{NABIL(CV)} = \frac{18.68}{43.91} = 34.13\%$$

l. Calculation of C.V. of Earning Yield Ratio of EBL, HBL and NABIL

$$\text{EBL(CV)} = \frac{1.27}{5.86} * 100 = 30.40\%$$

$$\text{HBL(CV)} = \frac{0.87}{4.89} * 100 = 22.48\%$$

$$\text{NABIL(CV)} = \frac{1.52}{3.87} = 47.35\%$$

m. Calculation of C.V. of Dividend Yield Ratio of EBL, HBL and NABIL

$$\text{EBL(CV)} = \frac{0.65}{2.06} * 100 = 44.76\%$$

$$\text{BL(CV)} = \frac{0.80}{1.47} * 100 = 57.58\%$$

$$\text{NABIL(CV)} = \frac{1.28}{1.71} = 69.50\%$$

APPENDIX 4

Calculation of Trend Value of Current Ratio of EBL by Least Square Method

years(t)	Current Ratio (Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	4.40	-2	-8.8	4	0.55
2065/66	12.33	-1	-12.33	1	3.51
2066/67	11.74	0	0	0	6.47
2067/68	8.42	1	8.42	1	9.43
2068/69	7.09	2	14.18	4	12.39
n = 5	Y=36.89	X=0	XY=1.47	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots\dots\dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$36.89 = 5a + b(0)$$

$$\text{Or, } 5a = 36.89$$

$$\text{Or, } a = 1.38$$

Again, putting the respective values in equation 3, we have

$$-1.47 = a(0) + 10b$$

$$\text{Or, } 10b = -1.47$$

$$\text{Or, } b = -0.15$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 6.47 + (-0.15) X$$

Estimated Trend Values of EPS of EBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	15.35	18.31	21.27	24.23	27.19

APPENDIX 5

Calculation of Trend Value of Current Ratio of HBL by Least Square Method

years(t)	Current Ratio (Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	2.90	-2	-5.8	4	20.10
2065/66	4.77	-1	-4.77	1	19.96
2066/67	4.88	0	0	0	19.78
2067/68	3.97	1	3.97	1	19.62
2068/69	5.44	2	5.44	4	19.46
n = 5	Y=21.96	X=0	XY=-1.63	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$21.96 = 5a + b(0)$$

$$\text{Or, } 5a = 21.96$$

$$\text{Or, } a = 4.53$$

Again, putting the respective values in equation 3, we have

$$-1.63 = a(0) + 10b$$

$$\text{Or, } 10b = -1.63$$

$$\text{Or, } b = -0.16$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 4.53 - 0.16X$$

Estimated Trend Values of EPS of HBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	19.30	19.14	18.98	18.82	18.66

APPENDIX 6

Calculation of Trend Value of Current Ratio of NABIL by Least Square Method

years(t)	Current Ratio (Y)	t- 2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	7.43	-2	-14.86	4	6.37
2065/66	4.84	-1	-4.84	1	6.08
2066/67	5.07	0	0	0	5.79
2067/68	2.79	1	2.79	1	5.5
2068/69	2.97	2	5.94	4	5.21
n = 5	Y=23.1	X=0	XY= - 10.97	X²=1 0	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$23.1 = 5a + b(0)$$

$$\text{Or, } 5a = 23.1$$

$$\text{Or, } a = 4.62$$

Again, putting the respective values in equation 3, we have

$$-10.97 = a(0) + 10b$$

$$\text{Or, } 10b = -10.97$$

$$\text{Or, } b = -1.97$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 5.79 - 1.97.X$$

Estimated Trend Values of EPS of NABIL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	4.92	4.63	4.34	4.05	3.76

APPENDIX 7

Calculation of Trend Values of EPS of EBL by Least Square Method

Years(t)	EPS(Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	91.82	-2	-183.64	4	68.63
2065/66	99.99	-1	-99.99	1	77.64
2066/67	100.06	0	0.00	0	86.65
2067/68	83.18	1	83.18	1	95.56
2068/69	88.55	2	177.10	4	104.67
n = 5	ΣY=463.6	ΣX=0	ΣXY=-23.35	ΣX²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$463.6 = 5a + b(0)$$

$$\text{Or, } 5a = 463.6$$

$$\text{Or, } a = 92.72$$

Again, putting the respective values in equation 3, we have

$$-23.35 = a(0) + 10b$$

$$\text{Or, } 10b = -23.35$$

$$\text{Or, } b = -2.35$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 92.72 + (-2.35) X$$

Estimated Trend Values of EPS of EBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	113.68	122.69	131.70	140.71	149.72

APPENDIX 8

Calculation of Trend Values of EPS of HBL by Least Square Method

Years(t)	EPS(Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	62.74	-2	-125.48	4	65.99
2065/66	61.89	-1	-61.89	1	60.63
2066/67	31.80	0	0.00	0	55.27
2067/68	37.21	1	37.21	1	49.91
2068/69	35.48	2	70.96	4	44.55
n = 5	Y=229.12	X=0	XY= -79.2	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots\dots\dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$229.12 = 5a + b(0)$$

$$\text{Or, } 5a = 229.12$$

$$\text{Or, } a = 45.82$$

Again, putting the respective values in equation 3, we have

$$-79.2 = a(0) + 10b$$

$$\text{Or, } 10b = -79.2$$

$$\text{Or, } b = -7.92$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 45.82 + (-7.92).X$$

Estimated Trend Values of EPS of HBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	39.19	33.83	28.47	23.11	17.75

APPENDIX 9

Calculation of Trend Values of EPS of NABIL by Least Square Method

Years(t)	EPS(Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	108.31	-2	-216.62	4	138.29
2065/66	106.76	-1	-106.76	1	125.14
2066/67	78.61	0	0.00	0	111.99
2067/68	70.67	1	70.67	1	98.84
2068/69	83.57	2	167.14	4	85.69
n = 5	Y=372.92	X=0	XY= -85.57	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots\dots\dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$372.92 = 5a + b(0)$$

$$\text{Or, } 5a = 372.92$$

$$\text{Or, } a = 74.59$$

Again, putting the respective values in equation 3, we have

$$-85.57 = a(0) + 10b$$

$$\text{Or, } 10b = -85.57$$

$$\text{Or, } b = -8.56$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 74.59 + (-8.56).X$$

Estimated Trend Values of EPS of NABIL in the Future Years

Year:	2067/68	2068/69	2069/70	2070/71	2071/72
Yc:	72.54	59.39	46.24	33.09	19.94

APPENDIX 10

Calculation of Trend Value of Net Profit of EBL by Least Square Method

years(t)	Net Profit (Y)	t- 2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	451.21	-2	-902.42	4	185.14
2065/66	638.73	-1	-638.73	1	338.16
2066/67	831.76	0	0.00	0	491.18
2067/68	1331.01	1	1331.01	1	644.20
2068/69	1558.03	2	3116.01	4	797.22
n =95	Y=4810.00	X=0	XY=2905.86	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$4810 = 5a + b(0)$$

$$\text{Or, } 5a = 4810$$

$$\text{Or, } a = 962$$

Again, putting the respective values in equation 3, we have

$$2905.86 = a(0) + 10b$$

$$\text{Or, } 10b = 2905.86$$

$$\text{Or, } b = 290.58$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 962 + 290.58 X$$

Estimated Trend Values of EPS of EBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	950.24	1103.26	1256.28	1409.30	1562.32

APPENDIX 11

Calculation of Trend Value of Net Profit of HBL by Least Square Method

years(t)	Net Profit (Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	635.86	-2	-914.90	4	496.63
2065/66	752.83	-1	-491.82	1	532.99
2066/67	508.79	0	0.00	0	569.35
2067/68	1237.73	1	752.83	1	605.71
2068/69	1389.09	2	1017.58	4	642.07
n = 5	Y=2846.75	X=0	XY= 363.69	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$2846.75 = 5a + b(0)$$

$$\text{Or, } 5a = 2846.75$$

$$\text{Or, } a = 569.35$$

Again, putting the respective values in equation 3, we have

$$363.69 = a(0) + 10b$$

$$\text{Or, } 10b = 363.69$$

$$\text{Or, } b = 36.36$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 569.35 + 36.36X$$

Estimated Trend Values of EPS of HBL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	678.43	714.79	751.15	787.51	823.87

APPENDIX 12

Calculation of Trend Value of Net Profit of NABIL by Least Square Method

years(t)	Net Profit (Y)	t-2066/67(X)	XY	X ²	Trend Value (Yc)
2064/65	746.46	-2	-1270.52	4	572.22
2065/66	1031.05	-1	-673.95	1	708.69
2066/67	1139.09	0	0.00	0	845.16
2067/68	1918.10	1	1031.05	1	981.63
2068/69	2426.82	2	2278.18	4	1118.10
n = 5	Y=4225.81	X=0	XY=1364.76	X²=10	

Let the trend line is given by the equation,

$$Y_c = a + bX \dots \dots \dots \text{Equation 1}$$

Its normal equations are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

Putting the respective value in equation 2, we have

$$4225.81 = 5a + b(0)$$

$$\text{Or, } 5a = 4225.81$$

$$\text{Or, } a = 845.16$$

Again, putting the respective values in equation 3, we have

$$1364.76 = a(0) + 10b$$

$$\text{Or, } 10b = 1364.76$$

$$\text{Or, } b = 136.47$$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y_c = a + bX$$

$$\text{Or, } Y_c = 845.16 + 136.47X$$

Estimated Trend Values of EPS of NABIL in the Future Years

Year:	2069/70	2070/71	2071/72	2072/73	2073/74
Yc:	1254.57	1391.04	1527.51	1663.98	1800.45

APPENDIX 13

Correlation Co-efficient between Total Deposit (X) and Cash and Bank Balance (Y) of EBL

Year	X	Y	X ²	Y ²	XY
2064/65	23976.29	2667.97	190506245.8	2411684.762	21434575.1
2065/66	33322.94	6164.37	330737870.4	5718889.616	43490842.4
2066/67	36932.31	7818.81	574862482.2	7118063.921	63968022.43
2067/68	41127.91	6122.86	1110418330	37999457.5	205414931.6
2068/69	50006.10	1036.30	1363995522	61133789.82	288766714.8
N = 5	X = 126220.14	Y = 20595.53	X² = 3570520451	Y² = 114381885.6	XY = 623075086.3

We have,

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

$$= \frac{5 \times 623075086.3 - 126220.14 \times 20595.53}{\sqrt{5 \times 3570520451 - (126220.14)^2} \sqrt{5 \times 114381885.6 - (20595.53)^2}}$$

$$= \frac{3115375432 - 2599570680}{\sqrt{17852602255 - 15931523741.61} \sqrt{571909428 - 424175856}}$$

$$= \frac{515804752}{43830.10 \times 12154.57}$$

$$= \frac{515804752}{532736018.6}$$

$$= 0.96$$

Therefore, Co-efficient of determination (r^2) = $(0.96)^2 = 0.92$ i.e. 92%.

APPENDIX 14

Correlation Co-efficient between Total Deposit (X) and Cash and Bank Balance (Y) of HBL

Year	X	Y	X ²	Y ²	XY
2062/63	31842.78	1448.14	701765133.7	2949291.023	45494061.25
2063/64	34681.34	3048.52	902906943.5	3088243.876	52805272.83
2064/65	37611.20	3866.49	1013962638	2097109.46	46112803.43
2065/66	40920.62	2964.65	1202795344	9293474.19	105726758.6
2066/67	47730.99	6362.29	1414602365	14949744.92	145423328.7
N = 5	X = 160674.58	Y = 11837.84	X² = 5236032425	Y² = 32377863.47	XY = 395562224.8

We have,

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

$$= \frac{5 \times 395562224.8 - 160674.58 \times 11837.84}{\sqrt{5 \times 5236032425 - (160674.58)^2} \sqrt{5 \times 32377863.47 - (11837.84)^2}}$$

$$= \frac{1977811124 - 1902039970}{\sqrt{26180162125 - 25816320658.17} \sqrt{161889317.4 - 140134455.9}}$$

$$= \frac{75771154}{19074.62 \times 4664.21}$$

$$= \frac{75771154}{88968033.35}$$

$$= 0.85$$

Therefore, Co-efficient of determination (r^2) = $(0.85)^2 = 0.72$ i.e. 72%.

APPENDIX 15

Correlation Co-efficient between Total Deposit (X) and Cash and Bank Balance (Y) of NABIL

Year	X	Y	X ²	Y ²	XY
2062/63	31915.04	2671.14	374321499.8	397189.8529	12193305.6
2063/64	37348.25	3372.51	544862035.6	1959496.032	32674990.39
2064/65	46410.70	1400.09	1018569778	7134988.9	85249539.95
2065/66	49608.37	2458.54	1394891778	11373823.7	125957346.6
2066/67	54905.67	4294.04	2153953074	1960252.008	64979156.96
N = 5	X = 158363.66	Y = 9473.79	X² = 5486598166	Y² = 22825750.49	XY = 321054339.5

We have,

$$\begin{aligned}
 r &= \frac{N\sum XY - \sum X \cdot \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 321054339.5 - 158363.66 \times 9473.79}{\sqrt{5 \times 5486598166 - (158363.66)^2} \sqrt{5 \times 22825750.49 - (9473.79)^2}} \\
 &= \frac{1605271698 - 1500304058}{\sqrt{27432990830 - 25079048808.59} \sqrt{114128752.5 - 89752696.96}} \\
 &= \frac{104967640}{48517.44 \times 4937.21} \\
 &= \frac{104967640}{239540789.9} \\
 &= 0.43
 \end{aligned}$$

Therefore, Co-efficient of determination (r^2) = $(0.43)^2 = 0.18$ i.e. 18%.

APPENDIX 16

Correlation Co-efficient between Total Deposit (X) and Net Profit (Y) of EBL

Year	X	Y	X ²	Y ²	XY
2062/63	23976.29	451.21	190506245.8	56548.84	3282210.72
2063/64	23976.29	638.73	330737870.4	87852.96	5390389.68
2064/65	33322.94	831.76	574862482.2	203590.4641	10818341.81
2065/66	41127.91	1331.01	1110418330	407976.0129	21284361.47
2066/67	50006.10	1558.03	1363995522	691824.6976	30718818.17
N = 5	X = 126220.14	Y = 2455.9	X² = 3570520451	Y² = 1447792.975	XY = 71494121.84

We have,

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

$$= \frac{5 \times 71494121.84 - 126220.14 \times 2455.9}{\sqrt{5 \times 3570520451 - (126220.14)^2} \sqrt{5 \times 1447792.975 - (2455.9)^2}}$$

$$= \frac{357470609.2 \mid 309984041.8}{\sqrt{17852602255 - 15931523741.61} \sqrt{7238964.875 - 6031444.81}}$$

$$= \frac{47486567.4}{43830.10 \times 1098.87}$$

$$= \frac{47486567.4}{48163581.99}$$

$$= 0.98$$

Therefore, Co-efficient of determination (r^2) = $(0.98)^2 = 0.96$ i.e. 96%.

APPENDIX 17

Correlation Co-efficient between Total Deposit (X) and Net Profit (Y) of HBL

Year	X	Y	X ²	Y ²	XY
2062/63	31842.78	635.86	701765133.7	209260.5025	12118239.33
2063/64	34681.34	752.83	902906943.5	241886.9124	14778409.01
2064/65	37611.20	508.79	1013962638	404317.9396	20247550.09
2065/66	40920.62	1237.73	1202795344	566753.0089	26109153.19
2066/67	47730.99	1389.09	1414602365	258867.2641	19136202.45
N = 5	X = 160674.58	Y = 2846.75	X² = 5236032425	Y² = 1681085.628	XY = 92389554.07

We have,

$$\begin{aligned}
 r &= \frac{N\sum XY - \sum X \cdot \sum Y}{\sqrt{N\sum X^2 - (\sum X)^2} \sqrt{N\sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 92389554.07 - 160674.58 \times 2846.75}{\sqrt{5 \times 5236032425 - (160674.58)^2} \sqrt{5 \times 1681085.628 - (2846.75)^2}} \\
 &= \frac{461947770.4 \mid 457400360.6}{\sqrt{26180162125 - 25816320658.17} \sqrt{8405428.14 - 8103985.56}} \\
 &= \frac{4547409.8}{19074.62 \times 549.03} \\
 &= \frac{4547409.8}{10472538.62}
 \end{aligned}$$

$$= 0.43$$

Therefore, Co-efficient of determination (r^2) = $(0.43)^2 = 0.18$ i.e.18%.

APPENDIX 18

Correlation Co-efficient between Total Deposit (X) and Net Profit (Y) of NABIL

Year	X	Y	X ²	Y ²	XY
2062/63	31915.04	746.46	374321499.8	403555.2676	12290622.97
2063/64	37348.25	1031.05	544862035.6	454208.6025	15731529.61
2064/65	46410.70	1139.09	1018569778	557202.5316	23823300.76
2065/66	49608.37	1918.10	1394891778	1063064.103	38507913.16
2066/67	54905.67	2426.82	2153953074	1297526.028	52865964.26
N = 5	X = 158363.66	Y = 4225.81	X² = 5486598166	Y² = 3775556.532	XY = 143219330.8

We have,

$$\begin{aligned}
 r &= \frac{N \sum XY - \sum X \cdot \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}} \\
 &= \frac{5 \times 143219330.8 - 158363.66 \times 4225.81}{\sqrt{5 \times 5486598166 - (158363.66)^2} \sqrt{5 \times 3775556.532 - (4225.81)^2}} \\
 &= \frac{716096654.1669214738.1}{\sqrt{27432990830 - 25079048808.59} \sqrt{18877782.66 - 17857470.16}} \\
 &= \frac{46881915.9}{48517.44 \times 1010.10} \\
 &= \frac{46881915.9}{49007466.14}
 \end{aligned}$$

$$= 0.95$$

Therefore, Co-efficient of determination (r^2) = $(0.95)^2 = 0.90$ i.e. 90%.

APPENDIX 19

Regression Equation of Cash and Bank Balance (Y) on Total Deposit (X) of EBL

Let the regression equation of Y on X be,

$$Y = a + bX \dots \dots \dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

X	X ²	Y	XY	n
126220.14	3570520451	20595.53	623075086.3	5

Source: Appendix 7

Putting the respective value in equation 2 and 3, we have

$$20595.53 = 5a + 126220.14b \dots \dots \dots \text{Equation 4}$$

$$623075086.3 = 126220.14a + 3570520451b \dots \dots \dots \text{Equation 5}$$

Multiplying equation 4 by 25244.028 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$519914136 = 126220.14a + 3186304748b$$

$$623075086.3 = 126220.14a + 3570520451b$$

$$\hline -103160950.3 = -384215703b$$

Or, $b = 0.268$

Putting the value of b in equation 4, we have

$$20595.53 = 5a + 126220.14(0.268)$$

Or, $a = 2646.29$

Now, substituting the value of a and b in equation 1, we have

$$Y = 2646.29 + 0.268X$$

This is the estimated regression equation of Cash and Bank Balance (Y) on Total Deposit (X) of EBL.

APPENDIX 20

Regression Equation of Cash and Bank Balance (Y) on Total Deposit (X) of HBL

Let the regression equation of Y on X be,

$$Y = a + bX \dots\dots\dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

X	X ²	Y	XY	N
160674.58	5236032425	11837.84	395562224.8	5

Source: Appendix 8

Putting the respective value in equation 2 and 3, we have

$$11837.84 = 5a + 160674.58b \dots\dots\dots \text{Equation 4}$$

$$395562224.8 = 160674.58a + 5236032425b \dots\dots\dots \text{Equation 5}$$

Multiplying equation 4 by 32134.916 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$380407994 = 160674.58a + 5163264132b$$

$$395562224.8 = 160674.58a + 5236032425b$$

$$\begin{array}{r} \underline{\hspace{10em}} \\ -15154230.8 = -72768293.36b \end{array}$$

Or, $b = 0.208$

Putting the value of b in equation 4, we have

$$11837.84 = 5a + 160674.58(.208)$$

Or, $a = 4316.49$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y = 4316.49 + 0.208X$$

This is the estimated regression equation of Cash and Bank Balance (Y) on Total Deposit (X) of HBL.

APPENDIX 21

Regression Equation of Cash and Bank Balance (Y) on Total Deposit (X) of NABIL

Let the regression equation of Y on X be,

$$Y = a + bX \dots\dots\dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

X	X²	Y	XY	n
158363.66	5486598166	9473.79	321054339.5	5

Source: Appendix 9

Putting the respective value in equation 2 and 3, we have

$$9473.79 = 5a + 158363.66b \dots\dots\dots \text{Equation 4}$$

$$321054339.5 = 158363.66a + 5486598166b \dots\dots\dots \text{Equation 5}$$

Multiplying equation 4 by 31672.732 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$300060811.7 = 158363.66a + 5015809762b$$

$$321054339.5 = 158363.66a + 5486598166b$$

$$\begin{array}{r} \hline -20993527.8 = -470788404b \end{array}$$

Or, $b = 0.0446$

Putting the value of b in equation 4, we have

$$9473.79 = 5a + 158363.66(0.0446)$$

Or, $a = 482.15$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y = 482.15 + 0.0445X$$

This is the estimated regression equation of Cash and Bank Balance (Y) on Total Deposit (X) of NABIL.

APPENDIX 22

Regression Equation of Net profit (Y) on Total Deposit (X) of EBL

Let the regression equation of Y on X be,

$$Y = a + bX \dots\dots\dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

X	X²	Y	XY	n
126220.14	3570520451	2455.9	71494121.84	5

Source: Appendix 10

Putting the respective value in equation 2 and 3, we have

$$2455.9 = 5a + 126220.14b \dots\dots\dots \text{Equation 4}$$

$$71494121.84 = 126220.14a + 3570520451b \dots\dots\dots \text{Equation 5}$$

Multiplying equation 4 by 25244.028 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$61996808.37 = 126220.14a + 3186304748b$$

$$71494121.84 = 126220.14a + 3570520451b$$

$$\begin{array}{r} \underline{\hspace{10em}} \\ -9497313.47 = -384215703b \end{array}$$

Or, $b = 0.0247$

Putting the value of b in equation 4, we have

$$2455.9 = 5a + 126220.14(0.0247)$$

Or, $a = 132.34$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y = 132.34 + 0.0247X$$

This is the estimated regression equation of Net Profit (Y) on Total Deposit (X) of EBL.

APPENDIX 23

Regression Equation of Net Profit (Y) on Total Deposit (X) of HBL

Let the regression equation of Y on X be,

$$Y = a + bX \dots\dots\dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots\dots\dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots\dots\dots \text{Equation 3}$$

X	X²	Y	XY	n
160674.58	5236032425	2846.75	92389554.07	5

Source: Appendix 11

Putting the respective value in equation 2 and 3, we have

$$2846.75 = 5a + 160674.58b \dots\dots\dots \text{Equation 4}$$

$$92389554.07 = 160674.58a + 5236032425b \dots\dots\dots \text{Equation 5}$$

Multiplying equation 4 by 32134.916 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$91480072.12 = 160674.58a + 5163210145b$$

$$92389554.07 = 160674.58a + 5236032425b$$

$$-909481.95 = -72822280b$$

Or, $b = 0.0124$

Putting the value of b in equation 4, we have

$$2846.75 = 5a + 160674.58(0.0124)$$

Or, $a = 170.87$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y = 170.87 + 0.0124X$$

This is the estimated regression equation of Net Profit (Y) on Total Deposit (X) of HBL.

APPENDIX 24

Regression Equation of Cash and Bank Balance (Y) on Total Deposit (X) of NABIL

Let the regression equation of Y on X be,

$$Y = a + bX \dots \dots \dots \text{Equation 1}$$

Where,

Y is dependent variable, a and b are constant, and X is independent variable.

Then, two normal equations estimating a and b are,

$$Y = na + b \sum X \dots \dots \dots \text{Equation 2}$$

$$\sum XY = a \sum X + b \sum X^2 \dots \dots \dots \text{Equation 3}$$

X	X ²	Y	XY	n
158363.66	5486598166	4225.81	143219330.8	5

Source: Appendix 12

Putting the respective value in equation 2 and 3, we have

$$4225.81 = 5a + 158363.66b \dots \dots \dots \text{Equation 4}$$

$$143210330.8 = 158363.66a + 5486598166b \dots \dots \dots \text{Equation 5}$$

Multiplying equation 4 by 31672.732 and equation 5 by 1, then subtracting equation 5 from equation 4, we have

$$133842947.6 = 158363.66a + 5015809762b$$

$$321054339.5 = 158363.66a + 5486598166b$$

$$\begin{array}{r} \underline{\hspace{1.5cm} - \hspace{1.5cm} - \hspace{1.5cm} -} \\ -187211391.9 = -470788404b \end{array}$$

Or, $b = 0.397$

Putting the value of b in equation 4, we have

$$4225.81 = 5a + 158363.66(0.397)$$

Or, $a = 11728.91$

Now, substituting the value of **a** and **b** in equation 1, we have

$$Y = 11728.91 + 0.397X$$

This is the estimated regression equation of Net Profit (Y) on Total Deposit (X) of NABIL.

APPENDIX 25

T –test of Correlation of Co-efficient between Total Deposit and Cash and Bank Balance of EBL

Step 1: Null Hypothesis $H_0: P = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis $H_1: p \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned}t_{cal} &= \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2} \\&= \frac{0.92}{\sqrt{1 - 0.84}} \times \sqrt{5 - 2} \\&= \frac{0.92}{\sqrt{0.16}} \times \sqrt{3} \\&= \frac{0.92}{0.4} \times 1.73 \\&= 2.3 \times 1.73 \\&= 3.979\end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} > t_{tab}$, thus, H_1 is accepted, which means that the variables in the population are correlated i.e. r is significant of correlation in the population.

APPENDIX 26

T –test of Correlation of Co-efficient between Total Deposit and Cash and Bank Balance of HBL

Step 1: Null Hypothesis $H_0: P = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis $H_1: p \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned} t_{cal} &= \frac{r}{\sqrt{1 - r^2}} \times \sqrt{n - 2} \\ &= \frac{0.72}{\sqrt{0.49}} \times \sqrt{3} \\ &= \frac{0.72}{0.7} \times 1.73 \\ &= 1.02 \times 1.73 \\ &= 1.76 \end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} < t_{tab}$, thus, H_0 is accepted, which means that the variables in the population are uncorrelated i.e. r is insignificant of correlation in the population.

APPENDIX 27

T –test of Correlation of Co-efficient between Total Deposit and Cash and Bank Balance of NABIL

Step 1: Null Hypothesis H_0 : $\rho = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis H_1 : $\rho \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned} t_{cal} &= \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \\ &= \frac{0.18}{\sqrt{1-0.0324}} \times \sqrt{5-2} \\ &= \frac{0.18}{\sqrt{0.9676}} \times \sqrt{3} \\ &= \frac{0.18}{0.98} \times 1.73 \\ &= 0.183 \times 1.73 \\ &= 0.316 \end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} < t_{tab}$, thus, H_0 is accepted, which means that the variables in the population are uncorrelated i.e. r is insignificant of correlation in the population.

APPENDIX 28

T –test of Correlation of Co-efficient between Total Deposit and Net Profit of EBL

Step 1: Null Hypothesis $H_0: P = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis $H_1: p \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned} t_{cal} &= \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \\ &= \frac{0.96}{\sqrt{1-0.92}} \times \sqrt{5-2} \\ &= \frac{0.96}{\sqrt{0.08}} \times \sqrt{3} \\ &= \frac{0.96}{0.28} \times 1.73 \\ &= 3.4 \times 1.73 \\ &= 5.882 \end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} > t_{tab}$, thus, H_1 is accepted, which means that the variables in the population are correlated i.e. r is significant of correlation in the population.

APPENDIX 29

T –test of Correlation of Co-efficient between Total Deposit and Net Profit of HBL

Step 1: Null Hypothesis $H_0: P = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis $H_1: p \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned} t_{cal} &= \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \\ &= \frac{0.18}{\sqrt{1-0.0324}} \times \sqrt{5-2} \\ &= \frac{0.18}{\sqrt{0.96}} \times \sqrt{3} \\ &= \frac{0.18}{0.96} \times 1.73 \\ &= 0.18 \times 1.73 \\ &= 0.311 \end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} < t_{tab}$, thus, H_0 is accepted, which means that the variables in the population are uncorrelated i.e. r is insignificant of correlation in the population.

APPENDIX 30

T –test of Correlation of Co-efficient between Total Deposit and Net Profit of NABIL

Step 1: Null Hypothesis $H_0: P = 0$

There is no significance difference between correlations in the population.

Step 2: Alternative Hypothesis $H_1: p \neq 0$

There is significance difference between correlations in the population.

Step 3: Test Statistics under H_0

$$\begin{aligned} t_{cal} &= \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2} \\ &= \frac{0.90}{\sqrt{1-0.81}} \times \sqrt{5-2} \\ &= \frac{0.90}{\sqrt{0.19}} \times \sqrt{3} \\ &= \frac{0.90}{0.43} \times 1.73 \\ &= 2.09 \times 1.73 \\ &= 3.61 \end{aligned}$$

Step 4: Critical Values under H_1

The tabulated value of t for d.f. = $5 - 2 = 3$ at 5% level of significance due to two tailed test is given by,

$$t_{tab} = 3.182$$

Step 5: Decision

Since, $t_{cal} > t_{tab}$, thus, H_1 is accepted, which means that the variables in the population are correlated i.e. r is significant of correlation in the population.

APPENDIX 31

One-way ANOVA Tests of EPS of EBL, HBL, NABIL

Year	EBL (X ₁)	HBL (X ₂)	NABIL (X ₃)	X ₁ ²	X ₂ ²	X ₃ ²
2064/65	91.82	62.74	108.31	8430.95	3936.20	11730.38
2065/66	99.99	61.89	106.76	9997.24	3830.96	11398.18
2066/67	100.16	31.80	78.61	10031.29	1011.23	6178.91
2067/68	83.18	44.66	70.67	6918.29	1994.51	4994.24
2068/69	88.55	39.94	83.57	7841.10	1595.20	6983.94
N = 5	463.6	229.12	372.92	38566.89	15967.29	64793.39

$$\begin{aligned}
 \text{Total} &= X_1 + X_2 + X_3 \\
 &= 463.6 + 229.12 + 372.92 \\
 &= 1269.58
 \end{aligned}$$

$$\text{Correlation Factor (CF)} = \frac{\text{Total}}{N} = \frac{1269.58}{15} = 84.63$$

$$\begin{aligned}
 \text{Sum Square due to Total (SST)} &= X_1^2 + X_2^2 + X_3^2 - CF \\
 &= 38566.89 + 15967.29 + 64793.39 - 84.63 \\
 &= 119242.94
 \end{aligned}$$

$$\begin{aligned}
 \text{Sum Square due to Column (SSC)} &= \frac{(\sum X_1)^2}{n_1} + \frac{(\sum X_2)^2}{n_2} + \frac{(\sum X_3)^2}{n_3} - CF \\
 &= \frac{(433.29)^2}{5} + \frac{(276.33)^2}{5} + \frac{(559.96)^2}{5} -
 \end{aligned}$$

$$\begin{aligned}
 &84.63 \\
 &= 37548.04 + 15271.65 + 62711.04 - 84.63 \\
 &= 115446.1
 \end{aligned}$$

$$\begin{aligned}
 \text{Sum Square due to Error} &= \text{SST} - \text{SSC} \\
 &= 119242.94 - 115446.1 \\
 &= 3796.84
 \end{aligned}$$

APPENDIX 32

Step 1: Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3$

There is no significance difference between 3 EPS.

Step 2: Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3$

There is significance difference between 3 EPS.

Step 3: Test Statistics under H_0

Source of Variation	Sum square	d.f.	Mean Sum Square	F Ratio
Due to Column	SSC = 115446.1	$C - 1 = 3 - 1 = 2$	MSC = 577723.05	$F_{cal} = 1825.92$
Due to error	SSE = 3796.84	$N - C = 15 - 3 = 12$	MSE = 316.40	

Calculations

$$MSC = \frac{SSC}{C - 1} = \frac{115446.1}{2} = 577723.05$$

$$MSE = \frac{SSE}{N - C} = \frac{3796.84}{12} = 316.40$$

$$F_{cal} = \frac{MSC}{MSE} = \frac{577723.05}{316.40} = 1825.92$$

Step 4: Critical values under H_1

The tabulated value of F for degree of freedom (d. f.) 2, 12 at 5% level of significance is given by,

$$F_{tab} = 3.89$$

Step 5: Decision

Since, $F_{cal} > F_{tab}$, thus H_1 is accepted, which means there is significance difference between 3 EPS.

Note: Here, C denotes Number of Sampled Columns i.e. 3 (EBL, HBL, NABIL)

APPENDIX 33

One-way ANOVA Test of Current Ratio of EBL, HBL and NABIL

Year	EBL (X ₁)	HBL (X ₂)	NABIL (X ₃)	X ₁ ²	X ₂ ²	X ₃ ²
2064/65	4.40	2.90	7.43	19.39	8.41	39.18
2065/66	12.33	4.77	4.84	152.14	22.78	28.70
2066/67	11.74	4.88	5.07	137.86	20.09	55.13
2067/68	8.42	3.97	2.79	152.14	15.76	7.78
2068/69	7.09	5.44	2.97	137.86	29.59	8.82
N =15	36.89	21.96	23.1	317.18	106.87	172.20

$$\begin{aligned}
 \text{Total} &= X_1 + X_2 + X_3 \\
 &= 36.89 + 21.96 + 28.96 \\
 &= 81.95
 \end{aligned}$$

$$\text{Correlation Factor (CF)} = \frac{\text{Total}}{N} = \frac{81.95}{15} = 5.46$$

$$\begin{aligned}
 \text{Sum Square due to Total (SST)} &= X_1^2 + X_2^2 + X_3^2 - CF \\
 &= 317.18 + 106.87 + 172.20 - 5.46 \\
 &= 590.66
 \end{aligned}$$

$$\begin{aligned}
 \text{Sum Square due to Column (SSC)} &= \frac{(\sum X)^2}{n_1} + \frac{(\sum X_2)^2}{n_2} + \frac{(\sum X_3)^2}{n_3} - CF \\
 &= \frac{(32.36)^2}{5} + \frac{(22.67)^2}{5} + \frac{(28.96)^2}{5} - 5.59 \\
 &= 209.43 + 102.78 + 167.73 - 5.59 \\
 &= 474.35
 \end{aligned}$$

$$\begin{aligned}
 \text{Sum Square due to Error (SSE)} &= \text{SST} - \text{SSC} \\
 &= 590.66 - 474.35 \\
 &= 116.31
 \end{aligned}$$

APPENDIX 34

Step 1: Null Hypothesis (H_0): $\mu_1 = \mu_2 = \mu_3$

There is no significance difference between 3 Current Ratio.

Step 2: Alternative Hypothesis (H_1): $\mu_1 \neq \mu_2 \neq \mu_3$

There is significance difference between 3 Current Ratio.

Step 3: Test Statistics under H_0

Source of Variation	Sum square	DF	Mean Sum Square	F Ratio
Due to Column	SSC = 474.35	$C - 1 = 3 - 1 = 2$	MSC = 237.175	$F_{cal} = 24.47$
Due to error	SSE = 116.31	$N - C = 15 - 3 = 12$	MSE = 9.69	

Calculations

$$MSC = \frac{SSC}{C - 1} = \frac{474.35}{2} = 237.175$$

$$MSE = \frac{SSE}{N - C} = \frac{116.31}{12} = 9.69$$

$$F_{cal} = \frac{MSC}{MSE} = \frac{237.175}{9.69} = 24.47$$

Step 4: Critical values under H_1

The tabulated value of F for degree of freedom (d. f.) 2, 12 at 5% level of significance is given by,

$$F_{tab} = 3.89$$

Step 5: Decision

Since, $F_{cal} > F_{tab}$, thus H_1 is accepted, which means there is significance difference between 3 Current Ratio.

Note: Here, C denotes Number of Sampled Columns i.e. 3 (EBL, HBL, NABIL)

APPENDIX 35

Everest Bank Limited

Particulars	2064/65	2065/66	2066/67	2067/68	2068/69
Current Assets	3,390,187,298	6,656,537,314	8,355,002,699	9,974,333,740	11,490,601,540
Current Liabilities	769,873,292	539,674,728	711,596,474	1,185,851,453	1,620,428,824
Quick Assets	3,387,514,876	6,650,488,792	8,346,704,978	9,949,881,153	11,464,400,050
Cash and Bank Balance	2,667,971,830	6,164,371,163	7,818,815,003	6,122,862,952	10,363,306,307
Current Deposit	2,492,346,111	4,859,946,758	4,173,319,653	4,791,202,774	6,098,254,263
Net Profit	451,218,613	638,732,757	831,765,632	1,331,015,674	1,558,038,707
Operating Income	1,763,373,584	2,451,436,257	3,358,454,932	2,192,940,000	2,609,735,240
Net Profit after Tax	451,218,613	638,732,757	831,765,632	1,331,015,674	1,558,038,707
Shareholder's Equity	1,921,237,580	2,203,625,055	2,759,137,855	3,113,546,056	4,177,302,887
Net profit after Interest	916,047,868	1,173,940,639	1,529,661,178	1,331,015,674	1,558,038,707
Total Assets	27,149,342,884	36,916,848,654	41,382,760,711	43,492,283,940	47,949,501,890
Capital Employed	2,221,237,580	2,815,625,055	3,463,737,855	3,513,546,056	4,177,302,887
NP after Pref. Dividend	451,218,613	638,732,757	831,765,632	931,303,628	1,090,564,222
No of EPS	4,914,000	6,388,210	8,304,673	13,915,704	17,611,264
Dividend Paid	140,790,370	218,080,345	276,252,832	576,897,424	30,646,879
Total Deposit	23,976,298,535	33,322,946,246	36,932,310,008	41,127,914,339	50,006,100,272

APPENDIX 36

Himalayan Bank Limited

Particulars	2064/65	2065/66	2066/67	2067/68	2068/69
Current Assets	2,542,525,000	4,864,280,000	5,229,715,000	5,211,795,410	8,062,049,170
Current Liabilities	876,573,000	1,019,096,000	1,166,717,000	1,310,098,581	1,501,423,840
Quick Assets	2,522,807,872	2,522,807,872	5,187,034,000	5,148,544,309	7,979,801,856
Cash and Bank Balance	1,448,143,000	3,048,527,000	3,866,491,000	2,964,651,321	6,362,296,158
Current Deposit	4,784,216,160	2,453,294,891	2,885,401,105	3,694,249,426	4,584,233,497
Net Profit	635,869,000	752,835,000	508,798,000	1,237,733,655	1,389,091,555
Operating Income	2,359,136,000	2,876,483,000	3,599,143,000	2,586,743,976	2,911,212,795
Net Profit after Tax	635,869,000	752,835,000	508,798,000	893,115,143	958,638,260
Shareholder's Equity	2,512,992,000	3,119,881,000	3,439,205,000	3,995,478,273	4,632,010,133
Net profit after Interest	1,139,903,000	1,407,420,000	1,595,075,000	1,237,733,655	1,389,091,555
Total Assets	36,857,624,000	40,046,686,000	43,860,251,000	45,966,265,210	48,332,847,390
Capital Employed	3,456,170,000	3,456,170,000	3,939,205,000	3,995,478,273	4,632,010,133
NP after Pref. Dividend	635,869,000	752,835,000	508,798,000	893,115,143	958,638,260
No of EPS	10,135,125	12,162,150	16,000,000	24,000,000	27,600,000
Dividend Paid	253,378,000	145,946,000	189,474,000	336,842,000	322,106,400
Total Deposit	31,842,789,000	34,681,345,000	37,611,202,000	40,920,627,030	47,730,993,909

APPENDIX 37
NABIL Bank Limited

Particulars	2064/65	2065/66	2066/67	2067/68	2068/69
Current Assets	5,229,895,405	4,790,096,476	5,430,907,688	5,420,912,619	6,680,344,500
Current Liabilities	704,362,820	989,352,123	1,070,240,585	1,937,245,579	2,249,755,681
Quick Assets	5,211,955,826	4,763,867,675	5,385,179,840	5,383,511,679	6,641,741,667
Cash and Bank Balance	2,671,141,055	3,372,512,471	1,400,097,804	2,458,549,590	4,294,046,006
Current Deposit	2,444,909,153	5,480,533,468	7,904,619,852	8,456,894,633	9,904,619,852
Net Profit	746,468,394	1,031,053,098	1,139,099,399	1,918,125,104	2,426,843,162
Operating Income	2,331,418,896	3,157,872,250	4,554,647,955	3,061,980,958	4,014,853,041
Net Profit after Tax	746,468,394	1,031,053,098	1,139,099,399	1,918,125,104	2,426,843,162
Shareholder's Equity	2,437,198,989	3,130,240,637	3,834,754,525	4,572,056,219	5,460,524,108
Net profit after Interest	1,220,260,515	1,031,053,098	1,139,099,399	1,918,125,104	2,426,843,162
Total Assets	37,132,759,149	43,867,397,504	55,115,027,343	55,962,139,210	58,180,522,420
Capital Employed	4,037,198,989	4,111,545,637	4,209,654,525	4,572,056,219	5,460,524,108
NP after Pref. Dividend	746,468,394	1,031,053,098	1,139,099,399	1,344,179,420	1,700,375,650
No of EPS	6,892,160	9,657,470	14,491,240	20,297,694	24,357,230
Dividend Paid	437,373,004	338,011,450	434,737,200	608,930,820	811,907,760
Total Deposit	31,915,047,467	37,348,255,840	46,410,700,628	49,608,376,346	54,905,676,208

End: