CHAPTER-1
INTRODUCTION

1.1. General Background

Nepalese economy is distinctly different in its character from the regional economies. Poverty, less developed geographical situation, technological backwardness, land locked and dominated by large economies, etc. are the main features of Nepalese economy. Most of the population of the country lives in the rural areas, so there is no access of banking facilities. Due to lack of awareness and guidance to the poor, the poor are still in severe condition at many places. From the beginning of the 1970s some programs were introduced focused to rural and the poverty – stricken areas people. But these programs did not achieve significant result in the area of the poverty reduction. Nepalese Economy experienced the internal and external shocks. Budget and current account deficits, Skewed BOP towards import also affected the nation's economy. Budget deficit created the requirement of the internal and external loans. Import was controlled and the domestic industrial sector was protected through high custom duties. Regulation in import of capital goods too, limited the industrialization in the country. Generally, low growth rate, high inflation, and deficits in budget and current account etc became the general phenomenon.

To overcome the critical situation, the program of Economic Stabilization, in initiation of International Monetary Fund, was introduced in 1985 A.D. The program included: reduction of unproductive expenditure, self sustaining the public enterprises, prioritization of the development projects, cancellation of the low priority projects, limiting the budget deficit within the certain of the Gross Domestic Product, limiting the public loan from the banking sector, interest rate deregulation, decreasing import barriers through the reduction in custom duties and auctioning import licensing etc. The outcome of the program was less satisfactory. Open general licensing increased revenue and import capital goods. At the same time, the government introduced a new Economic Policy to stimulate private sector in agriculture, education, health and financial sector, through the overall impact of economic stabilization was not satisfactory.

The development of banking in Nepal is of relatively recent origin. The establishment of "Tejarath Adda" during the year 1877 A.D. was the first step in institutional development of banking sector in Nepal. Tejarath Adda did not collect deposit from public but granted loans to public against the collateral of bullions. Consequently the major parts of the country remained untouched from these limited-banking activities. The development of trade with India and other countries increased the necessity of the institutional banker, which can act more widely to enhance the trade and commerce and to touch the remote non-banking sector in the economy. Reviewing this situation, the "Udhyog Parishad" was constituted in 1936 A.D. Nepal Bank Limited was established under Nepal Bank Act in 1937 A.D. as a first commercial bank of Nepal with 10 million authorized capital. Modern banking practices emerged with the establishment of Nepal Bank Limited in 1937 A.D. However the stand of Nepal Bank Limited alone in total monetary and financial sector was not sufficient and satisfactory. Thus Nepal Rastra Bank was set up in 1956 A.D. (2013.01.14) as a central bank under Nepal Rastra Bank Act, 1956 A.D. (2012 B.S.). Similarly, in 1966 A.D. (2022.10.10) Rastriya Banijya Bank was established as a fully government owned commercial bank. With the emergence of RBB, banking services spread to both the urban and rural areas but customers failed to have taste of quality and competitive service because of excessive political and bureaucratic interference. For industrial development, Industrial Development Center was set up in 1956 A.D (2013 B.S.) which was converted to Nepal Industrial Development Corporation (NIDC) in 1959 A.D. (2016B.S.). Similarly, Agriculture Development Bank (ADB) was established in 1976 A.D. (2024 B.S.) with an objective to provide agricultural loans so that agricultural productivity could be enhanced through introduction of modern agricultural techniques. As the country moved towards economic liberalization since 1980 A.D. foreign banks were permitted to operate in Nepal. The financial scenario has changed with the establishment of joint venture banks from 1984. The number of commercial banks has been increasing. Since then, various financial institutions like JVBs, Domestic Commercial Banks, Development Banks, Finance Companies, Co-operative Banks, Credit Guarantee Corporation, Employee Provident Funds, National Insurance Corporation, and Nepal stock Exchange have come into existence to cater the

financial needs of the country thereby assisting financial development of the country. In 1990 A.D. after the restoration of democracy in Nepal, government highlighted the agenda of economic liberalization policies and emphasized to invite Foreign Direct Investment (FDI) in the Banking sector of Nepal. After the announcement of liberal and free market economic based policy, Nepalese banks and financial sectors are having greater network and access to national and international markets. They have to go with their portfolio management very seriously. Fighting various challenges in order to increase their regular basis of income as well as to enrich the quality base of service for the attraction of good clients. In this competitive and market oriented open economy, each and every commercial banks and financial institutions have to play a determining role by widening various opportunities for the sake of expanding provisions of best service to their customers and by making themselves as a strong and potential financial intermediaries as per country's need of present scenario to obtain the desired level of economic development of nation Joint venture banks are the mode of trading to achieve mutual of goods and services for sharing competitive advantage by performing joint investment scheme between Nepalese investors, financial and non-financial institutions as well as private investors and their parent banks, each supplying 50 percent of total investment. The parent banks, which have experiences in highly merchandised and efficient modern banking 14 services in many parts of the world have come to Nepal with higher technology, advance management skills. Joint venture banks are established by joining different force and with ability to achieve a common goal and with each of the partners. They are more efficient and effective monetary institutions in modern banking fields than other old types of banks in Nepalese context. In Nepal, commercial banks play a vital role in the economic growth. Its investment ranges from small-scale cottage industries to all types of social and commercial loans and large industries. Generally the investment of the commercial banks include the investment on government securities, like treasury bills, development bonds, national saving bonds, foreign government securities, shares of government owned companies and nongovernment companies and investment on debentures, similarly the commercial bank use their funds as loan and advances.

The state of the economy is more linked with the economic status and growth rate. The soundness of the economy can be well understood and analyzed from the soundness in the financial system and again the soundness in financial system can be analyzed from the investment portfolio of banks.

1.1.1 Introduction to HBL bank Ltd:

One of the pioneers in Nepal's banking industry, Himalayan Bank Limited (HBL) was established in 1993 in joint venture with Habib Bank Limited of Pakistan. Under the leadership and guidance of renowned personalities of that time as the founder members, HBL began banking service from Employees Provident Fund Building, popularly known as Sanchayakosh Building at Thamel in Kathmandu. HBL holds proud legacy of introducing new banking services in Nepal. It is the first bank in Nepal to introduce ATM and Tele-banking services. HBL was also the first one to launch debit and credit card service in the country. HBL has carved a niche in the already crowded financial industry of the country.

HBL has been leading in several forefronts in Nepal's banking industry and thrives continue doing so in the days to come. With innovative products and services, sound capital structure, bonafide human resource and focused top-level management, the bank has made substantial progress. HBL is known for its innovative approaches to merchandising and customer service. From deposit products to loan, remittance, card and ancillary services, HBL offers a wide range of choice to its customers. HBL, which had initial authorized capital worth Rs240 million and initial paid up capital worth Rs60 million at the time of inception, today has the highest deposit base and loan portfolio amongst private sector banks. Extending guarantees to correspondent banks covering exposure of other local banks under their credit standing with foreign correspondent banks. Likewise, all branches are integrated with banking software Globus. This makes it convenient for customers as they are able to provide 'Any Branch Banking Facility', Internet Banking and SMS Banking. HBL is not just limited to banking industry. It has developed exclusive and proprietary online money transfer software – HimalRemitTM. HBL is among top three remittance service providers the country having ties with

financial institutions based in the Middle East and Gulf region. HBL, today, stands as the biggest inward remittance handling bank in Nepal. HBL have pioneered several products and services in Nepal and the innovation continues to be the order of the day. HBL has total of 857 employees, 42 no. of branches across country, 84 no. of ATM network, 5 lakh customer base, 5000 plus himal remit agent and 436 POS machine across country. Total capital base of HBL has reached 8.11 billion, total loan and advances at NPR 85.45 Billion and deposit base of NPR 96.32 billion.

Here, we shall be analyzing the investment portfolio of a particular bank-Himalayan Bank Ltd. to better understand the diversification of investment portfolio. With this study we will understand the investment portfolio of last five years of HBL and their relation with the deposit, loan & advances, reserves and borrowing. The investment portfolio of the bank is guided by their own investment policy, which will led to study on how cautiously the bank segregates its investment portfolio into equity, government treasury bills, government bonds and placement.

1.2. Statement of the Problem

Establishment and expansion of a number of banks and other financial institutions in Nepal has created keen competition among themselves. This has created a lot of challenges to them. The problems the commercial banks are facing in Nepal include the problems of resources mobilization, poor investment climate, heavy regulatory procedure, uncertain government policy, and NRB's directives etc. Lack of sound investment policy is another reason for commercial banks not utilizing its deposits that is making loan and advances or lending for a profitable project. This condition may even lead the commercial banks to the position of liquidation. 16 Commercial banks invest their funds in limited areas to achieve highest amount of profit. They are found to be more interested to invest in less risky and highly liquid sectors i. e. treasury bills, development bonds and other securities. There is hesitation to invest on long-term projects because commercial banks are much more safety minded. So, they seem to follow conservative and un-effective investment policy. In Nepal, every commercial bank

has invested in the similar sectors. These major sectors include tourism, garments, and trading as well. But given the current situation of the country it is not up to them to decide in which sector they want to invest. Once the economic and political situation is stabilized, then only commercial banks can consider rationally as to where they should invest and grow. Till then it is a question of moving into sectors as and when things develop. So, security problem is the big problem for every commercial bank to invest their funds in any sectors. Nepalese commercial banks do not seem to have formulated their investment policy in an organized manner They mainly rely upon the instructions and guidelines of Nepal Rastra Bank. They do not have clear view towards investment policy. Furthermore, the implementation of policy is not done in an effective way. Lack of farsightedness in policy formulation and absence of strong commitment towards its proper implementation has caused many problems to commercial banks.

Different commercial banks has adopted their own strategy and policy for investment. The investment decision and policy is more related directly or indirectly with the different variables of both mirco and macro environment. The investment policy and mechanism is more likely same for different commercial banks which only differs along their risk appetite and efficient management. In this regards, this study will concentrate on particular bank-Himalayan Bank Ltd. to better understand the investment analysis on below mentioned ground.

1. What are the different variables to the investment portfolio of HBL Bank Ltd.?
2. Does reserves, borrowings, loan and advances and deposits play crucial role in determining investment of HBL Bank Ltd.
3. What is the trend of investment portfolio of HBL Bank Ltd.?
4. What is the purpose and aspect of investment portfolio of HBL Bank Ltd.?
5. What are the key factors that impact the investment portfolio?

1.3. Objectives of the Study

Objectives of the study are guidelines by which the study can be conducted in a systematic manner. The main objective is to assess the investment portfolio of Himalayan Bank Ltd. The specific objectives are:

- To understand the key variables and their structure in investment portfolio of HBL Bank Ltd over series of time.
- To examine the relation between borrowing and investment portfolio of HBL bank Ltd.
- To analyze the relation between reserves and investment portfolio of HBL bank Ltd.
- To calculate the relation between deposits and investment portfolio of HBL bank Ltd.
- To find out the relation between equity and investment portfolio of HBL bank Ltd.
- To understand relation between risk & return and investment portfolio.
- To determine the trend of investment portfolio of HBL over a period of time.
- To identify the purpose and aspect of investment of bank.

1.4. Research Hypotheses

The following testable hypothesis which are implied in the research questions are considered appropriate for this study and therefore subjected to empirical investigation. The following hypotheses have been posed.

Hypothesis-1

Null Hypothesis: There is no significant effect of deposit on investment portfolio of HBL.
Alternative Hypothesis: There is significant effect of deposit on investment portfolio of HBL.

Hpothesis-2

Null Hypothesis: There is no significant effect of bank's borrowing on investment portfolio of HBL.

Alternative Hypothesis: There is a significant effect of bank's borrowing on investment portfolio of HBL.

Hypothesis-3

Null Hypothesis: There is no significant effect of reserves on investment portfolio of HBL.

Alternative Hypothesis: There is a significant effect of reserves on investment portfolio of HBL.

Hypothesis-4

Null Hypothesis: There is no significant effect of equity on investment portfolio of HBL.

Alternative Hypothesis: There is a significant effect of equity on investment portfolio of HBL.

1.5. Significance of the Study

The main focus of the study is to highlight the investment policy of HBL Bank Ltd. which will also give slight overview on general trend of investment portfolio analysis of commercial banks. The study will attempt to analysis the different aspect of investment of HBL like equity, treasury bills, government bonds and placements over the period of time. On the other hand, the study would provides information to management of the bank that would help get insight into the investment portfolio over the series of time and their relationship with different hypothesis analyzed. In the context of Nepal, there is less availability of research works, journal and articles in investment analysis of commercial banks as well as other financial institutions. The success and prosperity of the bank heavily relies upon the successful investment policy adopted that takes into account the resulting variables which has direct or indirect impact besides, the government fiscal policy/budget and NRB monetary policy reviewed each year will also be crucial factor in determining the investment portfolio of bank. Successful formulation and effective implementation of investment policy and investment analysis is the prime requisite for the successful performance of commercial banks. There are various problems in effective

investment of commercial banks of Nepal, which affect their performance to the great extent. Hence, the main significance of this study is investment portfolio analysis of Himalayan Bank Ltd. Similarly, the study will also further attempt to understand the relationship of investment of HBL with other covenants like reserves, borrowing, deposits and equity.

1.6. Limitation of the Study

There are some limitations in the study which are illustrated below. There are other marco economic factors and components which have impact on investment policy of commercial banks like fiscal policy of government, monetary policy of NRB, inflation rate, GDP growth, economic growth rate etc. However, the study does not incorporate these macro economic terms into the study but limit the study on particular banks variable components. Although the macroeconomic terms are not considered for study but the banks investment policy has been reviewed and revised time and again in line with the monetary policy and fiscal policy. Hence, the study attempt to concentrate only on the different variables and their relationship with the investment of bank over the series of time.

This study is specially concentrated to investment portfolio of HBL Bank Ltd. So the limitations of the study are follows.

- The study comprises data over ten year's period only to understand the investment analysis of HBL.
- Despite other macroeconomic variables which have direct impact on investment decision of bank like fiscal policy, monetary policy, inflation rate, interest rate, liquidity, economic growth rate etc. the study rather concentrate only on micro indicators of bank like deposit, borrowing, equity and reserves.
- No comparison has been made with other commercial banks, which may not conclude to give clear insight over entire banking industry.
- The study is primarily based on secondary data only.

1.7. Organization of the Study

The study has been divided in five chapters along with appendixes. The whole study is divided as introduction, Review of literature, Research methodology; Presentation and analysis of data, summary, conclusion and recommendation are presented along with the references and appendix. In first chapter introduction general background, investment variables of HBL Bank Ltd., investment policy of commercial banks has been highlighted. In second chapter review of theoretical and empirical literature along with conceptual framework and research gap has been mentioned. In third chapter the research methodology used in this study is explained which includes research designs, nature and sources of data, methods of statistical analysis. The fourth chapter concerns with the application of defined research methods on the collected data and information, presentation and data analysis. The fifth chapter deals with the summary, conclusions and recommendations of the study. Finally this study ends up with appendices and bibliography.

CHAPTER-II

REVIEW OF THE LITERATURE

This chapter has been broadly classified into two sub heading, namely review of literature related to bank's investment policy and its analysis, conceptual framework and research gap. In the theoretical review, theories related with bank's investment analysis, borrowing, loan & advances, deposits, reserves etc. have been discussed. Under conceptual framework dependent and independent variables are identified and thus outline of the study is discussed and finally in research gap what are the attempts made in this study which differs from other research works.

2.1. Theoretical Overview

A bank makes investments for the purpose of earning profits. First it keeps primary and secondary reserves to meet its liquidity requirements. This is essential to satisfy the credit needs of the society by granting short-term loans to its customers. Whatever is left with the bank after making advances is invested for long period to improve its earning capacity.

Before understanding the investment policy of a commercial bank, it is instructive to distinguish between a loan and an investment because the usual practice is to regard the two as synonymous. The bank gives a loan to a customer for a short period on condition of repayment. It is the customer who asks for the loan. By advancing a loan, the bank creates credit which is a temporary source of fund for the bank. An investment by the bank, on the other hand, is the outlay of its funds for a long period without creating any credit. A bank makes investments in government securities and in the stocks of large reputed industrial concerns, while in the case of a loan the bank advances money against recognized securities and bills. However, the goal of both is to increase its earnings. But it has to keep in view the safety and liquidity of its resources so as to meet the potential demand of its customers.

Since the objective of profitability conflicts with those of safety and liquidity, the wise investment policy is to strike a judicious balance among them. Therefore, a bank should lay down its investment policy in such a manner so as to ensure the safety and liquidity of its funds and at the same time maximize its profits. This requires adherence to certain principles.

Mrs. Preeti Singh has defined investment in this way; investment is the employment of funds with the aim of achieving additional income or growth in value (Singh, 1992; 1) 23 In the words of Gitman and Joehank, investment is any vehicle into which funds can be placed with the expectation that will preserve or increase in value and generate positive returns. (Gitman and Joehank, 1990; 1)

Charles P. Jones has defined that, investment as the commitment of funds to one or more assets that will be held over some future time period. Investment is concerned with the management of an investor's wealth, which is the sum of current income and present value of all income. (Charles, 1991; 2).

The initial step an investing policy involves is determining the investment objectives and the amount of one's investable fund. Investment is always related with risks and returns. Making money alone cannot be an appropriate objective. It is appropriate to state that the objective is to make a lot of money by recognizing the possible losses. Therefore, investment objective should be stated in terms of both risks and returns. Setting a clear investment policy also involves the identification of the potential categories of financial assets for consideration in the ultimate portfolio. The identification of assets depends upon many things, such as investment objectives, investable fund, tax consideration etc. (Bhattarai Rabindra, 2004; 3).

Investments are made in assets. Assets in all are of two types, real assets (land, buildings, factories etc) and financial assets (stocks, bond, T-bill etc.). These two investments are not competitive but complementary. Highly –developed institutions for financial investment greatly facilitate real investment. (Bhattarai Rabindra, 2004; 3).

2.2. Review of Related Studies

Investment is the commitment of funds to one or more assets that will be held over some future time period in anticipation of return. The term investment refers to creation of financial assets and in particular to acquiring of marketable securities. With liberalization and development of financial markets and integration of domestic markets with external markets, investment decision has become more complex. Expected returns from investment in any marketable securities/assets has become a function of numerous unpredictable variables, which affects the return from such assets and change overall perception of the market. In order to safeguard and manage risk from such variables, every bank has their own investment policy as approved by the respective board of directors and their assets liability management committee (ALCO).

As many of the research studies is concerned about the comparative investment policy and risk associated with investment, the main underlying objective of investment portfolio is to churn the excess resources (liquidity) resulting from slack loan demand and/or deposits inflow into earning assets. Alternatively, the portfolio will be drawn down when necessary to accommodate loan demands, deposit withdrawals, or other contingencies.

Bijaya Prakash Shrestha (2011) has made research about 'Long Term Profitability analysis of Commercial Banks in Nepal'. The study highlight that with the growing number of commercial banks in the country, a question as to whether they remain profitable in the long-term has become relevant. To address the question, the article has sampled 7 commercial banks established in and before 1995 and having positive net-worth growth for the period between 2003/04 and 2009/10. Considering the net-worth of commercial banks as the long-term investment, the study has examined their profitability in terms of various financial tools and indicators to conclude that they are likely to be financially sound and viable in the next 5 years also. Profitability analysis shows that all the sample banks are sound as per used criteria (i.e., NPV, PI and IRR). From the study, it is concluded that NPV is positive, PI is greater than 1 and IRR is greater than cost of capital. This means that profitability in future is sound for the commercial banks in

Nepal. Since the only 15 years old commercial banks are selected as a sample and weighted interest rate is used as discounting rate, the result should not be generalised from this study

Prakash Pokharel (2012) has written a research paper about 'A Research Report on Source o Funds and its Mobilization in Commercial Bank (A comparative study of Standard Chartered Bank Nepal Ltd. and Nabil Bank Ltd)'. The study says that the number of commercial banks and financial institutions are establishing speedily. These institutions have been established to assist the process of economic development of the country. The major problem in almost all underdeveloped countries and Nepal is a formation and proper utilization of capital. Banking institutions are inevitable for the resource mobilization. Bank collects fund as a saving from public of country and invest in highly return yielding firm. This study is concerned with whether SCBNL and NABIL are adopting efficient fund mobilizing policy or not. It is seen from the study that comparatively joint venture banks are mobilizing funds effectively. By effectively mobilizing the funds they are succeed to earn high rate of return. But because of lack of sufficient knowledge towards saving with people banks are unable to raise adequate fund which is hampering country's growth.

Biwesh Neupane (2013) has written a journal about 'Efficiency and Productivity of Commercial Banks in Nepal: A Malmquist Index Approach'. This study investigates the change in efficiency and productivity of banking industry during the period of 2007/08 to 2011/12 and analyzes the effects of various indicators on the efficiency of the twenty two commercial banks in Nepal. Malmquist Index is used as to measure the efficiency and productivity where as Tobit regression is used as to analyze the determinants of efficiency. Overall, the results show that the productivity change of commercial banks in Nepal has improved over the sample period and that the increase in productivity change in Nepalese commercial banks is due to the technical progress rather than efficiency components. It also reports that the decline in efficiency change is due to decline in both pure efficiency change and scale efficiency change. The Tobit regression model found positive relationship between debt to equity ratio and efficiency as well as between

capital adequacy and efficiency. Further, profitable banks with lower leverage and higher capital adequacy ratio are found to be more efficient and bank loans seem to be more highly valued than alternative bank outputs i.e., investments and securities.

Shivshankar Yadav (2013) in his research about 'Bond Market in Nepal: Impediments to Growth Compared to Bank Financing (Loans) states that the Nepalese bond market is not well developed and the investors and borrowers still prefer bank loans against the bonds. Even within the bond market, the government bond composes higher proportion than that of corporate sector. The corporate sectors, public regulatory sector (NRB), brokers and other experts hold different views regarding the lack of incentive for bond market growth and development. Compared to some of the developing countries in South Asia, the bond market of Nepal is yet to develop in terms of investor awareness, proper implementation of regulatory framework, integration of efforts for bond market development among the regulatory body, issuers and traders. Even within the corporate bond issuers, the banks and financial institutions are the major players and this can create yet another concentration risk for the investors.

K.S. Thirumalai Uthaya Chandar (2014) have written a research article about 'Investment Policy by Commercial Banks'. In the study of the financial institutions, the investment and investment problems will revolve around the concept of managing the surplus financial assets in such a way, that will lead to the wealth maximization and providing a significant further source of income. Thus the investment is the management of the surplus resources in such a way that it works for providing benefits to the supplier of the funds that is the banks. However, the investment needs to be a procedural task. It must follow a definite process, to ensure the formulation of proper investment policy. Banks are disbursing their money as investment in trade business and industry. Therefore, banks should be following the principle of investment for profit. An investment policy should ensure maximum profit and minimum Risk. A huge collection and investment policy plays vital role for the economic development of whole economy. The main focus of this study will be towards the investment practices of the banks. The study suggests the way

to the policy makers to improve the management of investment policy and recommends suggestions to raise the profit.

Kazi Iqbali, Mir Ariful Islamt (2014) has published an article about 'Commercial Banks' Investment in Capital Market and It's Impact on Private Sector Credit'. The article states that the period 2007-2010 is marked by boom and bust in the stock market, greater capital market investment by banks, higher profits of the banking sector and fall in growth of credit to the private sector in Bangladesh. In this backdrop, using bank level data for the period 1990-2009, the study examines the impact of banks' greater investment in capital market on the expansion of private sector credit. Descriptive statistics shows that medium sized banks have much higher investment in capital market than the small and large banks. The investment in capital market is also higher for the 2nd generation banks and banks with merchant banks and brokerage houses. Both OLS and fixed effect results provide strong indication that banks' greater investment in the capital market crowded out private investment during 2000-2009. The results show that 1 per cent increase in banks' capital market investment is associated with 0.006 per cent to 0.007 per cent decrease in banks' credit to the private sector. This crowding out effect is found to be more pronounced for the banks having merchant banks and brokerage wings.

Sanjay Shrestha (2015) has written a journal about 'Asset Liability Management and Commercial Bank's Profitability in Nepal'. This study examines the effect of ALM on commercial banks' profitability in Nepal. ALM deals with the optimal investment of assets in view of meeting current goals and future liabilities. For this purpose top seven private commercial banks were taken as sample, which constitutes 49 percent share of total net profit of overall 30 commercial banks over 7 years time period from 2007-08 to 2013-14. The report emphasizes that the rate of return on assets is positive and varies across assets, and the rate of cost on liabilities is negative and varies across liabilities. The pooled OLS regression analysis result showed that all assets, including fixed assets, mainly loans and advances as well as other assets affect profitability positively, while all liabilities, mainly deposits, and other liabilities have negative effect on commercial banks profitability. With regard to macroeconomic variables, GDP and Inflation rate has

negative effect on commercial banks profitability. As a result, the study recommended that commercial banks should focus on increasing public awareness to mobilize more saving and fixed deposits and this will enhance their performance in provision of loans and advance to customers.

Prof. Dr. Radhe Shyam Pradhan (2016) has written a journal about 'Effects of bank lending on economic growth in Nepal'. This study examines the effects of commercial bank lending on economic growth in Nepal. The study has conducted correlation and regression analysis using panel data of twenty four commercial banks during the period of 1996 -2015. The empirical results show that bank lending has positive effects on the economic growth in Nepal. The study implies that the policy makers should focus their attention more on the development of formal sector financing, adequate development of modern banking sector, development of efficient financial market and infrastructures and establishment of interest sensitive investment environment to increase the bank lending which is instrumental to promote economic growth in Nepal.

Mathew Kipleting Rop, Dr. Yusufkibet, Dr. Jared Bokongo (2016) has written an article about 'Effect of investment diversification on the Financial Performance of Commercial Banks in Kenya'. The study is states that in the Kenyan economy, commercial banks have enlarged and opened many branches over the previous few years. This has resulted in extremely tremendous increase in deposit liabilities and in turn, a rise in volumes of investment portfolios. At every decision purpose, the portfolio manager has a list of investment opportunities at hand and may decide wherever to require a foothold supported market conditions and additionally the assessment of determinants. However most commercial banks in Kenya haven't mixed their portfolios this therefore has greatly influenced their performance. Many banks mostly still focus on constant common portfolios inside the markets. The main purpose of this study was to investigate the effect of portfolio diversification on the financial performance of commercial banks in Kenya. The specific objectives was to: investigate the effect of insurance investment on the financial performance of commercial banks in Kenya, establish the effect of government securities on the financial performance of commercial banks in Kenya, determine the

effect of real estate investment on the financial performance of commercial banks in Kenya and to establish the effect of buying shares on the financial performance of commercial banks in Kenya. This study adopted exploratory research design because it was trying to explain the cause relationship between independent variable and dependent variable. The population of interest in this study consisted of 40 commercial banks. A sample of 40 operational commercial banks in Kenya was studied. Secondary data was collected using data collection sheets as the main data collection tool and interview schedule as the primary data. Data collection sheets were used to collect data guided by the objectives of the study. The data collected was analyzed using explanatory and inferential statistics with help of SPSS package version 20.inferential statistics were done through ANOVA and multiple regression. The average capital structure for banks in the banking sector was 64.040 with a standard deviation of 3.87239. The study concluded that a majority of the banks over the years have in practice employed the use of insurance investment on the financial performance of commercial banks in Kenya. The study recommended that banks should focus its work to promote the confidence in portfolio diversification, and develop marketing policies that encourage its use.

Neelam Timsina (2017)haw written a paper about ‘Determinants of Bank Lending in Nepal’. The paper states that commercial banks constitute a major chunk of total assets in the banking system in Nepal and extension of credit is one of the major functions of banking institutions. If banks are not efficient in their lending behavior, it may not contribute to economic growth. On the other hand, their inefficient and imprudent banking practices may lead to riskier financial instability. The main objective of the study is to test and confirm the effectiveness of the determinants of commercial bank lending behavior in Nepal by using time series Ordinary Least Square regression approach for empirical analysis. The model involves Nepalese commercial banks' private sector credit (pvct) as dependent variable and other variables such as their volume of deposits (dep), interest rate (Ir), stipulated cash reserve requirements ratio (crr), their liquidity ratio (lr), inflation (inf), exchange rate (exr), and gross domestic product (gdp) as independent variables for the period; 1975 – 2014. From the regression analysis, it was found that Gross Domestic Product and liquidity ratio of banks have the greatest impacts on their

lending behavior. Granger Causality Test shows the evidence of unidirectional casual relationship from GDP to private sector credit. The study implies that GDP is the barometer of the economy and commercial banks should pay their attention to the overall macro economic situation of the country, factors affecting the GDP in general and their liquidity ratio in particular while taking lending decision.

Bishnu Prasad Bhattarai (2018) has written an article about 'Impact of Bank Specific and Macroeconomic variables in Investment of Commercial Banks of Nepal'. The main purpose of this study is to analyze the impact of bank specific and macroeconomic variables on investment of commercial banks in Nepal. This study is based on secondary data commercial banks for the period of 2009/10 - 2015/16. The data are obtained from annual report of concerned banks. The descriptive and causal comparative research design has been used for the study. The relationship between investment and size(SZ), non interest income(NII), credit to deposit ratio (CD), Spread, cost of production(COP), cash, return on assets(ROA), profit before tax(PRFT), gross domestic product(GDP), Interest rate, exchange rate(ER), inflation rate has been analyzed with the help of the multiple regression technique from SPSS- 18 version. The limitation of this research is that only sample commercial banks annual reports for the period 2009/2010 to 2015/2016 have been taken in order to address the subject under investigation. The predictors of investment have been limited by size(SZ), non interest income(NII), credit to deposit ratio (CD), Spread, cost of production(COP), cash, return on assets(ROA), profit before tax(PRFT), gross domestic product(GDP), Interest rate, exchange rate(ER), inflation rate(IR). Thus, this study concludes that NII, CD, GDP and ER the major factors are affecting the investment of commercial banks in Nepal. Whereas NII is positive impact on Investment and rest three variables are negative effects. The findings of the study is valuable for bank managers, board of directors and regulator in assessing the strengths and weakness of the banks in the management of investment, where as its impact heading about in the future.

Sabin Karki (2018) writes an article about 'Bond Investments in Nepal'. The article states that bonds are among the major investment instruments in the world along with stocks.

Stocks are shares of the individual companies, but bonds are debt. Investors on bonds are paid interest on loans they have lent to the entities and government while stockholders are part of the ownerships of the companies they have invested on and get dividends depending on the companies´ financial performance. The Nepalese bond market is relatively small and has not done effective work in the security market for years. Nepal Stock Exchange (NEPSE) is the only trading floor that trades mainly shares and comparatively low numbers of development bonds in the country. On the other hand, the USA being the major developer of the bond market in the world has different types of bonds to invest in and the yield curves and credit rating agencies that help to analyze investors to risk their capital. The neighboring country India still also has an underdeveloped debt market where the two main factors corruption and political instability are quite similar to that of Nepal. Though it has some credit rating agencies which Nepal totally lacks, it has been found that ratings by such agencies are misleading to investors. While considering the present financial market situation in the country, bankers, brokerages, and academicians have some recommendations to all the parties involved in the trading of every kind of assets, especially debt security. With their many years of experience they have proposals to the government of Nepal on how the bond market could be developed in a shorter time and why is it critical to let people know about bonds and bond terms for the country´s economic growth.

The development of bond market is yet a long path to follow, but the progressive steps need to be taken by various sectors: regulatory bodies, potential issuers and the investors. The challenges for bond market can be tackled through steps in the forms of improvement in the public awareness, encouragement to the issuers for bond market development, proper implementation of the regulatory framework, support from the traders and building confidence about the security of the investments in bond market. The development and growth of bond market needs lots of exercise from every related sector.

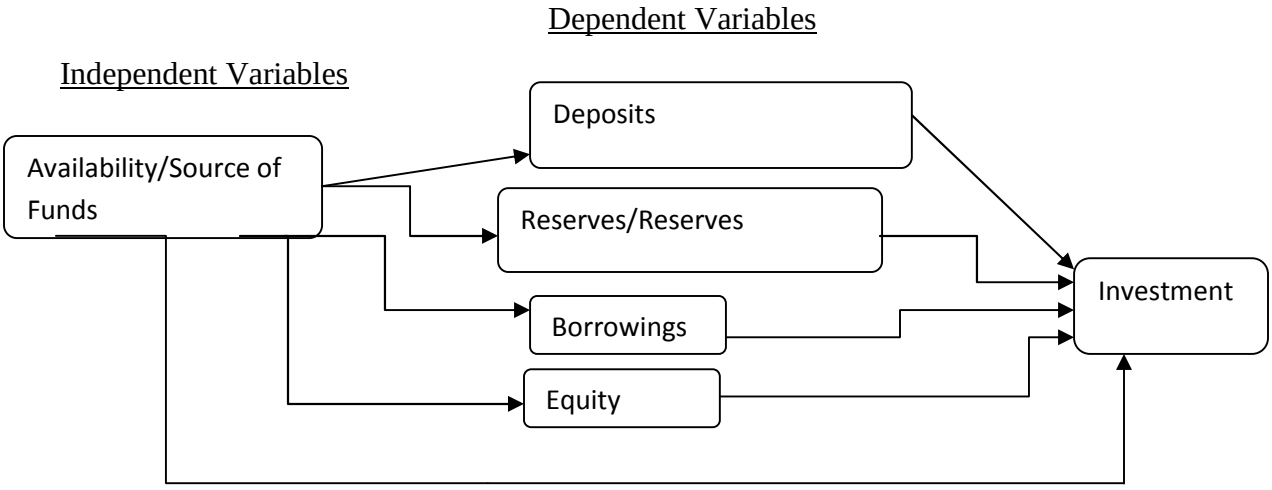
2.3. Conceptual Framework

After going through this different research work, this research attempts to conduct a systematic theoretical analysis of the relationship between investment and borrowing, investment and deposits, investment and reserves/reserves using the comprehensive data available for HBL Bank Ltd. The purpose of using this conceptual framework is to outline the relationship in the course of action. First different variables are identified which will have both direct and indirect relationship with investment. The priority in the selection of these various variables is based on literatures.

Moreover in order to find out and analyze the effect of different variables on investment of HBL Bank Ltd. several micro economic variables like availability of deposits, borrowing of banks, reserves/reserves, equity are identified and hence their relationship with investment portfolio is analyzed individually through simple regression models as shown in the following diagram:

Dependent Variable		Independent Variable
Deposits	←	Investment Portfolio
Borrowings	←	Investment Portfolio
Reserves	←	Investment Portfolio
Equity	←	Investment Portfolio

Furthermore, this report comprises of analysis of important impacts of deposits on investment portfolio, impacts of borrowings on investment portfolio, impacts of reserves on investment portfolio and impacts of equity on investment portfolio. Here investment portfolio constitutes of loan and advances, treasury bills, government bonds/placement and equities. Besides, the investment portfolio is also highly dependent on the interest rate and return. An integrated conceptual framework about the possible impacts of availability of funds from different sources on investment portfolio of HBL Bank Ltd. is presented in diagram below:



2.4. Research Gap

Above reviewed literature are related to various impacts of availability of funds. Most of the research and studies highlights that the availability of funds is highly depended on the interest rate, inflation, government expenditure, remittance inflow etc. Likewise different studies are done which emphasis on the availability of funds and its mobilization by different commercial banks. The availability of funds is highly dependent on government budget expenditure and remittance inflow. Most of the research works based on primary data covers a certain area and such studies are conducted to find out the availability and mobilization of funds. In Nepalese context also various studies have been conducted in this regard as they have been reviewed above. Various research work has been performed in order to analyze investment policy and investment decision of commercial banks with various microeconomic variables of respective banks but this study focuses to analyze the relationship of availability of funds with some selected variables i.e. deposits, retained earnings/reserves and borrowings in context of analysis of investment of HBL Bank Ltd.

One of the recent study by Prakash Pokhrel (2012) about A Research Report on Source of Funds and its Mobilization in Commercial Bank (A comparative study of Standard Chartered Bank Nepal Ltd. and Nabil Bank Ltd)'has been done. From the analysis of liquidity ratio, the liquidity position of SCBNL is comparatively better than NABIL.

SCBNL has made enough investment on government securities. NABIL has invested less part of current assets in government securities. Considering asset management aspect of two banks, NABIL is relatively providing more loan and advances for the purpose of earning profit while SCBNL is providing less. But SCBNL is investing more of its collected deposits in comparison to NABIL. In comparison to NABIL, SCBNL seems more successful in mobilizing total fund on different types of government securities to maximize its earning capacity While NABIL has not invested its fund efficiently. Again, SCBNL has successfully invested more working funds in debentures and shares of other company whereas NABIL is in weak position to make investment on shares and debentures. SCBNL appears to be more successful to earn profit on loan and advances than NABIL. The average ratio of return on total working fund indicates that working fund of NABIL is well managed and efficiently utilized Whereas, total working fund of SCBNL has not well managed. The liquidity risk ratio of SCBNL is higher than that NABIL which specified that NABIL has kept idle funds in the form of cash and bank balance but this reduces profitability. SCBNL has the lower credit risk ratio. Credit risk involved in loan and advances and total investment of NABIL is more than SCBNL. It may arise due to default risk or non-repayment of loan. 21 A.B Management Consulting Growth ratio of total deposits, total investment and net profit of SCBNL seems weak in comparison to NABIL. Therefore, we must say that NABIL is successful to increasing its sources of funds and its mobilization. Deposit is the strongest sources of fund whereas borrowings cover fewer portions of sources of fund. SCBNL has higher amounts in deposits contribution than NABIL in terms of total sources of fund of the bank. Among the uses of funds, loan and advances covers maximum portion and interest accrued covers less portion. Correlation coefficient between deposit and total investment of SCBNL and NABIL elucidates the positive relationship or there is high degree of positive correlation. Most of the investment decision of SCBNL and NABIL depends upon deposits and only few decisions are depend upon other variables. Moreover by considering the probable error, the value of coefficient of determination of SCBNL is less than 6 P.E. so it is insignificant i.e. there is no significant relationship between deposits and total investment though there is positive relation between them. On the other hand there is significant relationship between deposits and total investment of NABIL. Correlation coefficient

between deposits and loan and advances indicates the positive relationship between the variables of both banks. In almost all cases it has been found that loan and advance decision depends upon the deposits and only few decisions depend upon other variables. a considering the probable error, the value of coefficient of determination of all banks is greater than that of 6 P.E. so it can be concluded that the value of correlation coefficient is significant i.e. there is significant relationship between total deposits and loan and advances.

As this study comprises the study of comparative study of two bank in availability of fund and its mobilization, this work is different from other in the sense that no any such research work has been conducted during this period regarding analyses of investment portfolio of particular bank with its resource/fund availability over series of time period. This study also attempt the analyze the investment portfolio of HBL Bank Ltd. over the series of time to understand the impact resulting from the deposits, reserves, borrowings. The study will also focus on cost of funds, return on investment and investment option that impact in decision regarding investment. With the analysis of investment of HBL Bank Ltd. we can presume and understand the overall commercial banks practice in general since, the investment decision is more or less similar in the industry as the underlying variables like availability or source of fund is same for the banks. Hence, this study will more emphasis the relationship between the deposits, reserves, equity and borrowing with investment portfolio over the series of time period for HBL Bank Ltd.

CHAPTER-III

METHODOLOGY

This chapter basically deals with the framework on which this research has been carried out. It is essential before presenting and analysis of data and gives the work plan to the research by describing, explaining and predicting a basic framework on which this study is based on. Several aspects like research plan and design, data collection procedures, nature and sources of data, descriptive and statistical analysis of the data are used in order to achieve the objective of this study.

3.1. Research Design

This research deals with the assumption that the investment decision and analysis is highly dependent on the underlying variables like deposits, capital, borrowings and reserves of banks. In this scenario, the research attempts to understand the investment analysis of HBL bank ltd. in relation to the said variables. The statistical tools have been adopted to evaluate the impact of borrowings, deposits, capital and reserves on investment of HBL Bank Ltd. This study is based on the data for last ten years from fiscal year 2064/65 to 2073/74. Both descriptive as well as analtical method of data analysis is used. A descriptive approach is used in order to identify the impacts of different variables on investment of HBL Bank Ltd. Moreover, this study depends on correlation research design in order to find out the direction and magnitude of the correlation among dependent and independent variable used in this study.

3.2. Study Period

The study period in this research covers the years from FY 2064/65 to 2073/74, which is a period of ten years. In Nepal, the modern banking with different tools of investment and banking industry as whole has been observed as growth in last ten years period. Hence, understanding the variables of investment over the last ten years will depict the investment decision influenced by the different variables during liquidity crisis/flush, market up/down, low/high investment confidence, political instability, economic

indicators like inflation, GDP, remittance growth etc. The study period over last ten years from FY 2064/65 to FY 2073/74, will help to understand the investment decision influenced by the underlying variables like borrowings, capital, deposits and reserves. The study will also help to understand the macro economic indicators which influence the organization decision on investment over the series of time.

3.3 Nature and Sources of Data

This study uses secondary data which were obtained from various published sources. To obtain required data in the study data and reports published by following agencies were used :

- www.himalayanbank.com/publication/Annual Report of HBL Bank Ltd. from FY 2064/65 to FY 2073/74
- Nepal Rastra Bank,
- Ministry of Finance ,
- Central Bureau of statistics, Nepal and
- Other related reports and authentic publications.

3.4. Data Collection Technique

To collect the required data for the study published materials were viewed in various books, journals and articles, internet websites of different related agencies and online library. For the required data in this study, HBL Bank Ltd. website and NRB website is mostly visited. The NRB monetary policy over the period were also understood and studied over the period, which also has major impact on investment decision.

3.5 Data Processing and Analysis

Descriptive study of all the dataset is done through calculation of mean, median, standard deviation and the relationship between each of the variables is measured using Pearson's correlation matrix. At first this study uses simple regression model in order to find out the relationship between investment and borrowings, deposits, capital and reserves/reserves. And then, this study uses investment as dependent variable and borrowings, deposits,

reserves and capital as independent variable and the dataset here includes the period from FY 2064/65 to 2073/74, which is 10 years period. So Augmented Dickey Fuller unit root test has been done to test stationary properties of the data and then using log model, growth model and lag model the relationship between the variables are analyzed. At last, in order to determine the casual relationship between two variables at a time, Granger causality technique has been applied. All the necessary computations has been made using E-views version 8.

3.6 Data Analysis Variables

The operational definitions of the study variables are:

Borrowings: The interbank lending market is a market in which banks extend loans to one another for a specified term. Most interbank loans are for maturities of one week or less, the majority being overnight. Such loans are made at the interbank rate (also called the overnight rate if the term of the loan is overnight).Banks are required to hold an adequate amount of liquid assets, such as cash, to manage any potential bank runs by clients. If a bank cannot meet these liquidity requirements, it will need to borrow money in the interbank market to cover the shortfall. Some banks, on the other hand, have excess liquid assets above and beyond the liquidity requirements. These banks will lend money in the interbank market, receiving interest on the assets.

Deposits: A deposit is the monetary amount that is placed with some entity. The deposit is a credit for the party (individual or organization) who placed it, and it may be taken back (withdrawn), transferred to some other party, or used for a purchase at a later date. This financial concept is often used with respect to banks, where deposits are usually their main source of funding.

Capital: Paid-up capital is the amount of money a company has received from shareholders in exchange for shares of stock. Paid-up capital is created when a company sells its shares on the primary market, directly to investors. When shares are bought and sold among investors on the secondary market, no additional paid-up capital is created as proceeds in those transactions go to the selling shareholders, not the issuing company.

Reserves: Reserves are the cumulative net earnings or profit of a firm after accounting for dividends — some people refer to them as earnings surplus. Reserves are the net earnings after dividends that are available reinvestment in the company's core business or to pay down its debt. Companies record reserves under shareholders' equity on the balance sheet. The formula calculates reserves by adding net income to or subtracting any net losses from beginning reserves and subtracting any dividends paid to shareholders.

3.7. Descriptive Statistics

This study has used the summary of descriptive statistics associated with investment and its determining components using study period of 10 years for HBL Bank Ltd. The descriptive statistics such as mean, standard deviation, minimum and maximum values have been used to describe the pattern and trend of dependent and independent variables used in this study.

Arithmetic mean is the average return over periods. Arithmetic mean of a given set of observation is their sum divided by the number of observations. In this study, total study period is taken as 10 years and each average values of the variables has been compared and their average values thus obtained is calculated and analyzed.

Standard Deviation measures the absolute dispersion. The greater the standard deviation, the greater would be the magnitude of the deviations of the values from their mean. A small standard deviations means a high degree of uniformity of the observations as well as homogeneity of a series and vice versa.

3.8. Correlation

It enables us to determine the degree and direction of relationship of two variables. In this study Karl Pearson's Correlation Coefficient have been used. It is given by

$r=\frac{cov.(x,y)}{\sigma x.\sigma y} = \frac{\sum xy}{\sqrt{\sum x \sum y}}$ where, cov. (x,y)= covariance between x and y.

σx = standard deviation of x

σy = standard deviation of y

x= X-$\frac{\sum X}{n}$, y=Y-$\frac{\sum Y}{n}$ where , n = no. of pair of observations.

When correlation coefficient r lies between 0.7 to 0.999 (-0.7 to -0.999) then the result can be interpreted as there lies a high degree of positive (or negative) correlation, When r lies between 0.5 to 0.699 (-0.5 to 0.699) then there is moderate positive (or negative) correlation. Likewisely, When r is less than 0.5 (or -0.5), then there is low degree of positive (or negative) correlation.

3.9. Unit Root Procedure

Augmented Dickey Fuller (ADF) unit root test is used to investigate time series properties of the time series data whether the series used in this study is stationary or not. The test of unit root is to ascertain whether the variables are I(0), I(1) or I(2).Thus in the first stage of testing for co-integration, the study tests for the time series properties of the variables that enters the liquidity-investment model to avoid the estimated coefficients being spurious by employing the Augmented Dickey-Fuller (ADF) proposed by Dickey and Fuller (1979;1981).Since the error term in the Dickey-Fuller (DF) test might be serially correlated, the possibility of such serial correlation is eliminated in the following Augmented Dickey-Fuller model (ADF):

$y_t=\mu+\delta y_{t-1}+\sum_{i=1}^{K}\beta_i y_{t-1}+e_t$……(3.1)

where,

$\delta=\alpha-1$

The null hypothesis of ADF is $\delta=0$ against the alternative hypothesis of $\delta<1$. Non-rejection of the null hypothesis implies that the time series is non-stationary whereas rejection means the time series is stationary.

3.10. Model Specification

Here at first simple regression models are used in order to analyze the impact of liquidity on investment variables. The variables like deposits Deposit, borrowings(BRW), reserves(RE) and capital(Capital) are considered as a independent variable and investment (Invst.) is taken as dependent variable. Their functional relationship is presented as below:

Deposits= f(Invst.)…….(3.2)
RE=f(Invst.)…….(3.3)
BRW=f(Invst.)……..(3.4)
Capital=f(Invst.)…….(3.5)

This study highlights the relationship between the dependent and independent variables. The impact of deposit (Deposit), reserves (RE), borrowings(BRW) and capital(Capital) on investment of HBL Bank Ltd.

rInvst=f(Capital, RE, BRW, Deposit)……(3.6)

3.10.1.Simple Regressions using Log Model

In order to analyze the effect of investment in each variable simple regression model is formulated as follow**:**

Model 1 : ℓnrDeposit=α+βℓnInvestmetn+u……(3.12)

Model 2 : ℓnBorowing= α +βℓnInvestment+u……(3.13)

Model 3 : ℓnRetained Earnigs=α +βℓnInvestment+u……(3.14)

Model 4 : ℓnCapital= α +βℓnInvestment+u……..(3.15)

3.10.2. Multiple regressions using Log Model

The study has specified several regression models to analyze the relationship between the Investment and borrowing, deposits, capital and reserves. Here investment is presented as dependent variable and other components are presented as independent variable in the equation below.

For empirical estimation, the equation (3.10) can be expressed in the following loglinear form:

$\ell nrInvst. = \beta_0 + \beta_1 \ell ndeposit + \beta_2 \ell nCapital + \beta_3 \ell nBorrowing + \beta_4 \ell nReserves + e_{t.....}$(3.16)

where,

t = year(1,2,…….)

β0= y-intercept

ℓnrInvst.= natural log of Investment

ℓndeposit=natural log of deposit

ℓnCapital=natural log of Capital

ℓnBorrowing=natural log of Borrowing

ℓnReserve=natural log of Reserve.

e_t= normally, independently and identically distributed error term.

3.10.3. Multiple Regression using Growth Model

The study has specified several regression models to analyze the relationship between the Investmetn and borrowing, deposits, capital and reserve. Here investment is presented as dependent variable and other components are presented as independent variable in the equation below using the growth rate of each variable expressed in percentage.

$grInvst. = \beta_0 + \beta_1 gdeposit + \beta_2 gborrowings + \beta_3 gCapital + \beta_4 gReserve + e$……(3.17)

where,

t = Year (1,2,……26)

gInvst.=growth rate of Investment

β_0= constant term

gdeposit=growth rate of deposits

gborrowings=growth rate of borrowings

gCapital=growth rate of capital

gReserve= growth rate of reserve

e= normally, independently and identically distributed error term.

3.11.Variation

Total Variation is sum of square of the deviation observed Y values about their mean values can be divided into two parts namely: explained and unexplained variation. A certain portion of total variation which is explained due to independent variable is called explained variation. The remaining portion of total variation is explained due to other factors which are not included in regression equation is said to be unexplained variation. Regression equation explains only a part of the total variation of the dependent variable and a part of the total variation remains unexplained.

Total Variation or Total sum of Squares(TSS)

The total variation in dependent variable (Y) is the sum of square of all deviation of the dependent variable from its mean value. It is the sum of the squares of the deviation of actual values of dependent variable (Y) from the mean value($\bar{Y}$), ie.,

TSS= $\sum(Y-\bar{Y})^2 = \sum y^2 = \sum Y^2 - n\bar{Y}^2$, where $y=Y-\bar{Y}$

Unexplained Variation or Residual or Error Sum of Square (SSE)

The unexplained variation is a part of total variation in dependent variable (Y) which is not explained by regression equation. SSE is the sum of the square of the deviation of actual individual value (Y) from the corresponding estimated value of dependent variable,($\hat{Y}$)i.e.,

SSE=$\sum(Y-\hat{Y})^2 = \sum e^2$

Explained Variation or Estimated Sum of Square (SSR)

The explained variation is a part of total variation in dependent variable (Y) which is explained by regression equation. SSR is the sum of deviation of estimated value of dependent variable($\hat{Y}$) from the mean value ($\overline{Y}$), i.e.

SSR= $\sum(\hat{Y}-\overline{Y})^2 = \sum \hat{y}^2$

The total variation (TSS) is the sum of explained variation (SSR) and unexplained (SSE) i.e. TSS=SSR+SSE.

3.12.Coefficient of Determination (r^2) and Coefficient of Multiple Determination(R^2)

The coefficient of determination is the proportion (percentage) of total variation in dependent variable (Y) which is explained by regression line. It is also known as

unadjusted coefficient of determination. It is the ratio of explained variation to total variation.

r^2 or R^2= Explained variation/Total Variation

$$=1-\frac{\sum e^2}{\sum y^2}$$

3.13.Coefficient of Adjusted Multiple Determination ($\bar{R}^2$)

Coefficient of adjusted determination is the proportion (percentage) of total variation in dependent variable(Y) which is explained by regression line. It can be calculated by

$\bar{R}^2=1-\frac{\sum e^2}{\sum y^2}x\frac{n-1}{n-k}$ where, n=number of observations and k= number of regression parameter.

3.14.Test of Significance

There are various assumptions of classical linear regression model. Some of the important assumptions are regarding the significance of the regression coefficients and overall significance. This study has employed t-statistic to perform significance test of regression of regression coefficients. In the language of significance test, a regression coefficient is said to be statistically significant if the critical P-value of test statistic is less than the level of significance specified. In other words, the statistical significance of the coefficient validates the explanatory power of associated independent variables. The level of significance specified in this study are at 1 and 5 percent.

3.15. Durbin-Watson Test (Test for Autocorrelation)

This test is widely used for detect in serial correlation in least square regression which is the ratio of the sum of squared differences in successive values of the disturbance terms to the sum of squares of errors i.e.

$$d=\frac{\sum_{t=2}^{n}(e_t-e_{t-1})2}{\sum_{t=1}^{n}e_t^2}$$

where, e_t=residual (error) at the time period t.

$\sum_{t=2}^{n}(e_t-e_{t-1})^2$ the square difference in two successive errors, summed from second observation to the n^{th} observations.

$\sum_{t=1}^{n}e_t^2$=the sum of square residuals(errors).

This statistics measures the correlation between each residual and the residual for the time period immediately preceding the one interest.In order to test whether the error terms are serially correlated or independent, D-W test is used.

Durbin and Watson had derived a lower bound d_L and an upper bound d_U where if the computed value of d-statistic lies outside the critical values, then there is presence of positive or negative serial correlation(auto-correlation)The value of $d_L$and $d_U$depend only on the number of observation n and the number of explanatory variables K.

Setting hypothesis:

Null hypothesis H0 : p=0, i.e., there is no first order positive (or negative) auto-correlation among the error terms which means absence of auto-correlation.

Alternative hypothesis H1 : p≠0, i.e., there is significant evidence of auto-correlation which means error terms are statistically dependent.

Level of significance: 5% level of significance.

Decision

If $4-d_L<d<d_L$, d is significant and null hypothesis is rejected and alternative hypothesis is accepted, i.e., there is auto-correlation among error terms.

If $d_U<d<4-d_U$,d is not significant and null hypothesis is accepted i.e, there is no auto-correlation among error terms i.e. error terms are independent.

3.16. Granger Causality Test

Here in this study granger Causality test is used to determine the casual relationship between two variables at a time. Using statistical analysis software E-views, Granger Causality test is conducted for investment and deposit, investment and capital, investment and borrowing and investment and reserves**.**

3.16.1. Investment and Deposit

Consider the following pair of regression to see the granger causality test between investment and deposits. Here μ_{1t} andμ_{2t} are uncorrelated and taking lag 3 .

$GRINVST.=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{t-1}+\sum_{j=1}^{m}\beta_j Deposit_{t-1}+\mu_{1t}$……(3.22)

$GRDEPOSIT=\alpha+\sum_{i=1}^{n}\beta_i GRINVST._{t-1}+\sum_{j=1}^{m}\beta_j Deposit_{t-1}+\mu_{2t}$……(3.23)

3.16.2. Investment and Capital

Consider the following pair of regression to see the granger causality test between Investment and Capital

$GRINVST=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{.t-1}+\sum_{j=1}^{m}\beta_j CAPITAL_{t-1}+\mu_{1t}$……..(3.24)

$GCAPITAL=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{.t-1}+\sum_{j=1}^{m}\beta_j CAPITAL_{t-1}+\mu_{2t}$……..(3.25)

3.16.3. Investment and Borrowings

Consider the following pair of regression equation is used to see the granger causality test between the Investment and Borrowings.

$GRINVST=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{t-1}+\sum_{j=1}^{m}\beta_j GBORROWNG_{t-1}+\mu_{1t}$……(3.26)

$GBORROWING=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{t-1}+\sum_{j=1}^{m}\beta_j GBORROWING_{t-1}+\mu_{2t}$……(3.27)

3.16.4. Investment and Reserves

Consider the following pair of regression equation is used to see the granger causality test between Investment and Reserves

$GRINVST=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{t-1}+\sum_{j=1}^{m}\beta_j GRESERVE_{t-1}+\mu_{1t}$……(3.28)

$GRESERVES=\alpha+\sum_{i=1}^{n}\beta_i GRINVST_{t-1}+\sum_{j=1}^{m}\beta_j GRESERVE_{t-1}+\mu_{2t}$……(3.29)

3.17. Validity and Reliability

For the validity and Reliability, the only published data from authorized sources are undertaken for the study. Data are extracted from website annual report of Himalayan Bank Ltd.

3.18. Analysis Plan

This section discusses how the analysis have been carried out in this study. It is necessary to follow the certain steps and procedures in analyzing data in order to understand the result and generalize the findings. The analysis of the data moves from its representation of trends of dependent and independent variables in different time period, their growth rates have been discussed with the descriptive statistics of the sample observations. Correlation analysis has been carried out followed by regression analysis using log model

and growth model. Finally to determine the casual relationship between two variables at a time, Granger Causality Test has been performed.

CHAPTER-IV

DATA ANALYSIS

This chapter has been organized into two different sections, which are Descriptive presentation of the basic data and inferential analysis. Under descriptive analysis of the average value, standard deviation, median and averages discussed briefly. Under inferential analysis the stationary of time series is checked by using ADF (Augmented Dickey-Fuller Test) test, log transformation is also done in order to reduce and compress the scale of data and regression models at level is being formulated followed by analysis. Furthermore granger causality test has been performed among the variables in order to empirically determine the effect of borrowings, deposits, capital and reserves on investment of HBL Bank Ltd.

4.1. Descriptive Presentation of Basic Data

In this section growth rate of each variable i.e. deposits, borrowings, capital, reserves and investments of HBL Bank Ltd. over the period of ten years is presented in tabular formand then presented in figures for descriptive analysis.

Table 4.1 shows the growth percentage of investments, deposits, capital, reserves and borrowings from fiscal year 2064/65 to 2073/74 with base year taken from 2063/64. In context of investment, the highest increment was seen in fiscal year 2072/73 which was by 63.29 %. Similarly if we observe the annual growth rate of capital in FY 2073/74, it is at high rate 901.85%.If we observe the annual growth rate of reserves, in FY 2073/74 it is 168.79% which is the highest growth rate during this study period. Observing the growth rate of deposit, we can see that in FY 2073/74 it is 209.11% which is the highest growth rate during this study period. Finally, the growth rate of borrowing is also at highest in the same FY 2073/74 323.73%. It is also relevant that when the borrowing, lending and business increases, the net profit increases with increase in reserves over the period of years. The net profit of the bank has increased over the year and is in growth trend, which

ultimately led to continuous growth in reserves. The net profit is increased with increase in business of the bank which mainly comprises of deposits and loan. Likewise, the capital has increased in 2073/74 mainly due to mandatory requirement of NRB to increase the capital up to NPR 8 billion by FY 2073/74, so drastic growth has been observed in the same year.

Table 4.1

Annual growth percentage of different Variables of HBL (2064-2074) from base year 2063/64.

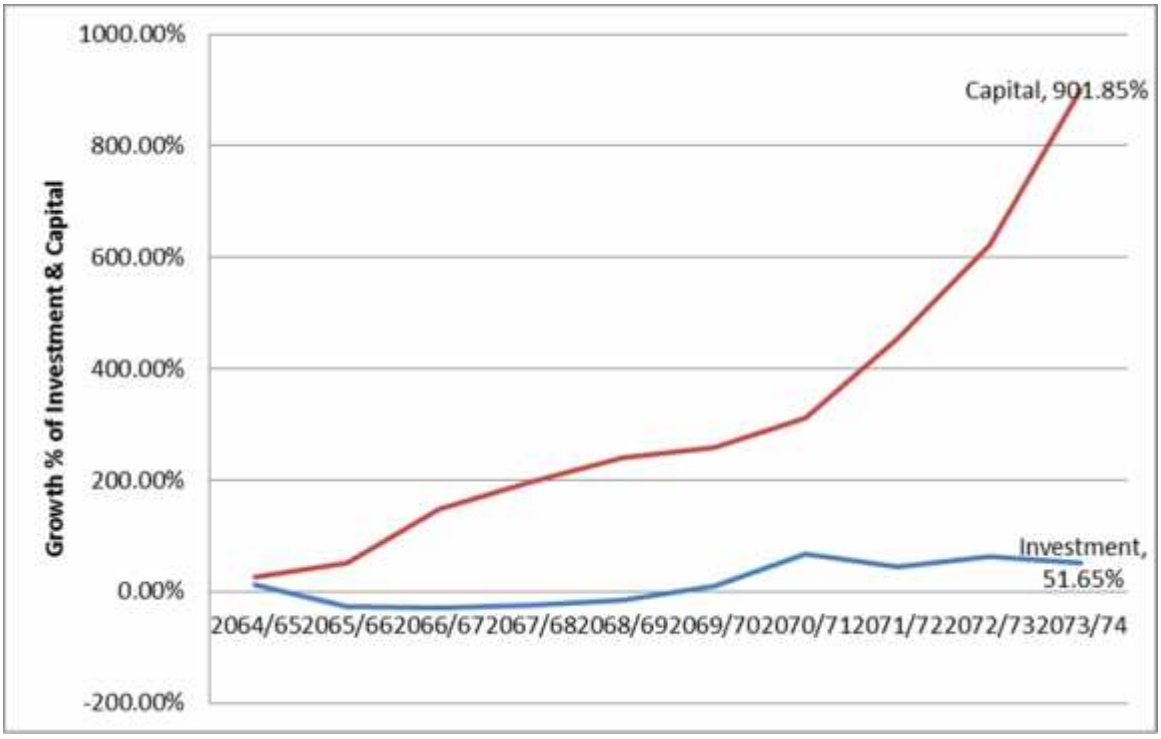
		(%) Percentage Change Over Year				
S.N.	Fiscal Year	Investment	Capital	Reserve	Deposits	Borrowings
1	2063/64					
2	2064/65	12.83%	25.19%	8.53%	5.97%	-64.83%
3	2065/66	-26.32%	50.12%	42.51%	15.42%	-100.00%
4	2066/67	-28.58%	146.91%	7.71%	25.17%	-100.00%
5	2067/68	-25.82%	196.30%	19.39%	36.18%	-95.76%
6	2068/69	-15.16%	240.74%	40.12%	58.85%	-100.00%
7	2069/70	9.89%	257.78%	79.79%	76.62%	-62.71%
8	2070/71	67.83%	311.36%	105.84%	115.24%	-100.00%
9	2071/72	44.74%	455.43%	84.13%	144.74%	-100.00%
10	2072/73	63.29%	622.10%	122.68%	190.65%	323.73%
11	2073/74	51.65%	901.85%	168.79%	209.11%	-83.05%

Source : The above data has been taken from annual report from FY 2064/65 to 2073/74 available at www.himalayanbank.com/publication.

Fig 4.1 illustrates the growth rate of investment has been irregular over the study period. However, capital, reserve and deposits has been in continuous growth trend over the study period. Likewise, borrowings of the bank has also been irregular during the study period. The investment of the bank is mainly influenced by availability of the funds, which includes capital, reserves, deposits and borrowings. Besides, the return over

investment, risk of investment is also equally important in investment of the bank. The growth of the bank over the period is influenced by the political and social environmental impact. We have observed highest growth in capital, reserve and deposits over FY 2073/74 and highest growth in investment during FY 2070/71. Likewise, highest growth in borrowings has been observed during FY 323.73%. It is normal trend to assume that the business of the bank increases over the period which includes deposits, lending. This ultimately led to increase in the net profit and then increases the reserves of the bank. Also, the mandatory requirement by NRB to increase capital has led to increase the capital drastically over FY 2073/74. However, the investment follows the indifferent pattern based on the risk, return and availability of fund for investment.

Fig 4.1. Growth Rate of Investment and Capital of HBL Bank Ltd. (2064-2074)

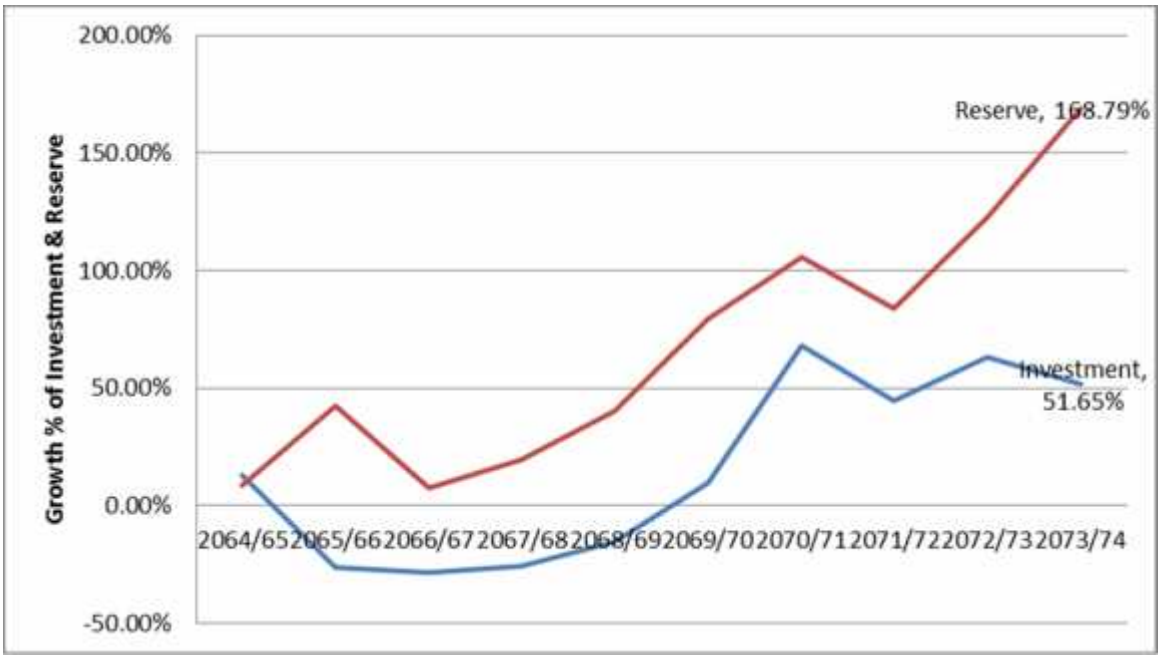


Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

Fig 4.2 explains the growth rate of investment of HBL Bank Ltd. along with growth rate of reserves. With the increase in the new business lending and growth of net profit over the period, the reserves of the unit has increase over the year. The reserves of HBL has

increased over the year and is in rising trend. Reserves has increased highest by 168.79% where as the investment has increased highest by 51.65%.

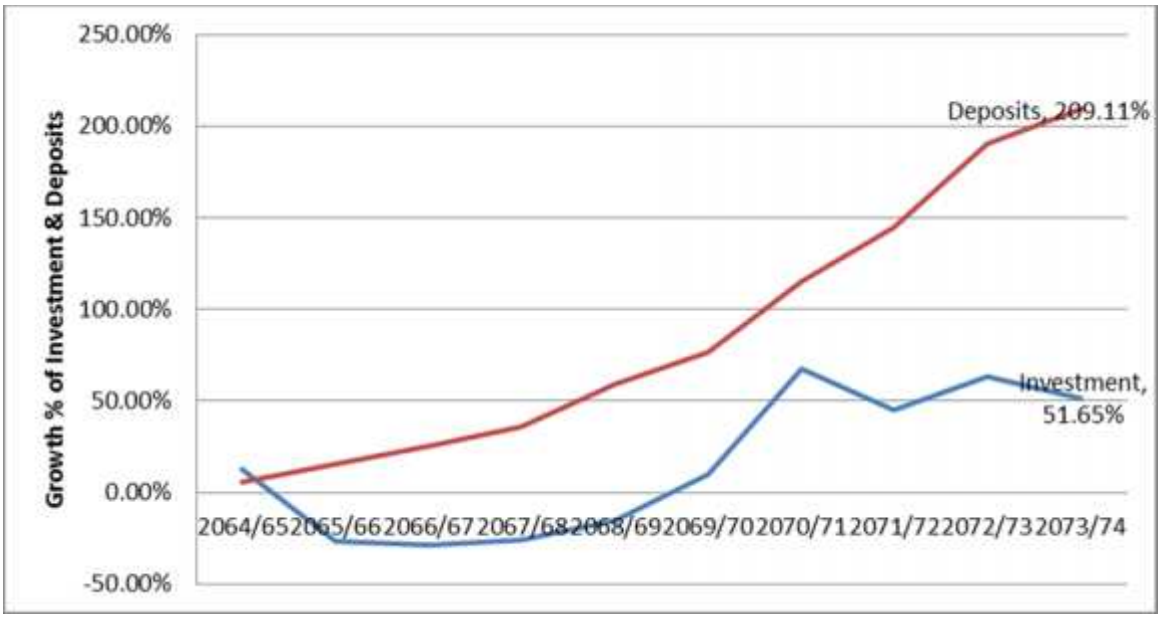
Fig 4.2.Growth Rate of Investment and Reserves of HBL Bank Ltd.(2064-2074).



Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

Fig 4.3 shows that as investment has increased over the year and the deposit of HBL has also increased over the year. The business of the bank has increase over the year which ultimately increase the deposit base. The highest deposit has observed over FY 2073/74 with 209.11%. Likewise, the investment has increased highest by 51.65%

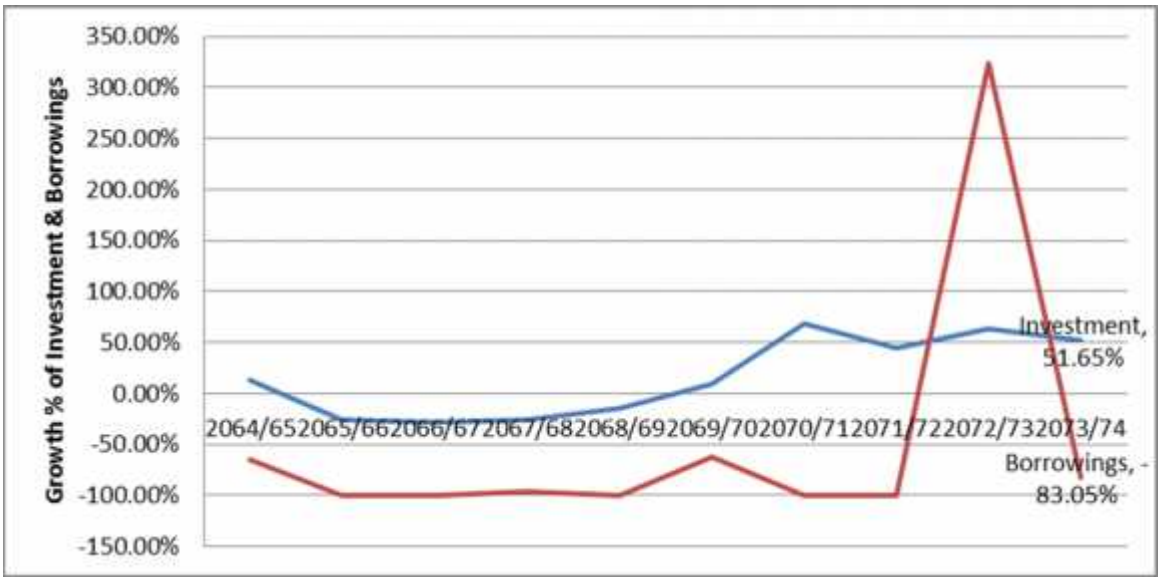
Fig.4.3.Growth Rate of Investment and Deposits of HBL Bank Ltd.(2064-2074).



Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

Fig 4. 4 shows that the borrowings of the HBL bank Ltd. has increased and decreased over the study period. The highest growth has been observed during FY 2072/73. Likewise, the investment has also been in increasing trend and has recorded highest growth by 51.65%.

Fig.4.4. Growth Rate of Investment and Borrowings of HBL Bank Ltd.(2064-2074).



Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

Table 4.2 depicts the summary statistics of all the variables: investment, capital, reserves, deposits & borrowings. Here the value of standard deviation illustrates how the data are spread from average value or mean. Dataset of investment and deposits seems to be spread from the average value. During the study period from FY 2064/65 to 2073/74 which is of 10 years the average value of investment is 13648, capital is 3408, reserves is 2244, deposits is 56429 and borrowings is 122.

Table 4.2

Descriptive Statistics of Different Variables (In NRs Million)

Variables	*Investment*	*Capital*	*Reserves*	*Deposits*	*Borrowings*
Mean	13648	3408	2244	56429	122
Standard Deviation	4589	2199	717	22120	310
Minimum	8444	1014	1439	31843	0
Maximum	19842	8115	3591	92881	1000
Range	11398	7101	2152	61038	1000
No. of years	10	10	10	10	10

Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

Table 4.3 shows various changes in all the variables during different time period. Here we have fragmented our study period as 2064/65 to 2068/69 and 2069/70 to 2073/74 as five year time period. We have found that the highest average growth rate of investment, reserve, deposits and borrowings on the period of 2069/70 to 2073/74 except for capital which has been seen highest growth during 2064/65-2068/69. Similarly, as deposit, capital, reserves and borrowings influences investment their relationship has also been seen in above average values. From FY 2064/65 to FY 2068/69 and from FY 2069/70 to 2073/74, there is highest average growth rate in capital has been observed. In recent years, the table shows that there is maximum growth rate in capital because of mandatory requirement of NRB to maintain capital of NPR 8Billion by FY 2073/74. Hence, the growth has always been observed at highest rate for capital.

Table 4.3
Five Year Average Values and Growth Rate

Fiscal Year	Investment		Capital		Reserves		Deposits		Borrowings	
	Mean	AGR	Mean	AGR	Mean	AGR	Mean	AGR	Mean	AGR
2064/65-2068/69	9859	-1.34%	1878	28.89%	1652	8.73%	38557	9.75%	19	-52.97%
2069/70-2073/74	17436	14.83%	4939	24.75%	2836	14.78%	74300	14.37%	226	-39.20%

Source : The figure has been determined from the available data from webpage of Himalayan bank annual report from FY 2064/65 to 2073/74.

4.2. Relationship Among the Variables

This section of the study presents the results and discussions of the correlation analysis. The correlation analysis has been carried out to investigate the direction and magnitude of the relationship of variables used in this study via investment, capital, deposits, reserves and borrowings. The correlation measures the strength of the linear relationship between variables. The table below depicts the Pearson correlation coefficient of different independent and dependent variables based on the data of 10 years i.e. from 2064/65 to 2073/74.

Here the diagonal contains coefficient of 1.0 that signify the relationship of each variable with itself. The table shows that each variable is highly correlated with each other as Pearson correlation (r) lies between 0.29 to 0.967. The correlation between investment and capital, investment and reserves, investment and deposits and investment and borrowings is positive and significant at 1% level of significance. So, we can say that there is association between dependent variable and independent variable.

Table 4.4

Pearson's Correlation Matrix for the Dependent and Independent Variables

		Investment	Capital	Reserves	Deposits	Borrowings
Investment	Pearson Correlation	1				
	Sig. (2-tailed)	0				
	N	10				
Capital	Pearson Correlation	.696**	1			
	Sig. (2-tailed)	0				
	N	10	10			
Reserves	Pearson Correlation	.802**	.921**	1		
	Sig. (2-tailed)	0	0			
	N	10	10	10		
Deposits	Pearson Correlation	.820**	.967**	.949**	1	
	Sig. (2-tailed)	0	0	0		
	N	10	10	10	10	
Borrowings	Pearson Correlation	.423**	.319**	.291**	.408**	1
	Sig. (2-tailed)	0	0	0	0	
	N	10	10	10	10	10
** Correlation is significant at the 0.01 level (2-tailed).						

4.3. Unit Root Test

It is important to find out if a time series possesses a unit root or not. So in order to check each time series of Appendix A are stationary or not, ADF (Augmented Dickey-Fuller Test) test is conducted at level, first difference and then at second difference. The data consists for the evaluation considered the sample period of 2064/65 to 2073/74 for all variables.

4.3.1 Unit Root Test at Level

A time series may contain more than one unit and most of the time series data's has unit root at level, stationary at first differences or at second differences. All the selected variables in this study which are investment, capital, deposits, borrowings and reserves import are presented in Appendix and testing each variable individually whether they possess unit root or not.

The results of the unit root test are provided in table 4.5. The results of the ADF(Augmented Dickey-Fuller Test) test explain that the calculated values are greater than their critical values for all the variables. Therefore, it is concluded that all variables used in the study are non-stationary with and without trend at level. The first difference of all the variables is generated. The same procedure is repeated to check the stationary of these generated variables. However time series are stationary at first difference. So, observing the results, it can be concluded that first difference should be taken.

Table 4.5

Result of Unit Root Tests at level

Time Series	ADF (Augmented Dickey-Fuller Test) Test					
	RW(none)		RWD(Intercept)		RWDT(Trend and Intercept)	
	Prob.	t-value	Prob.	t-value	Prob.	t-value
Investment	0.754	0.3082	0.7553	-0.8612	0.5862	-1.892
Capital	1	7.507	1	4.542	1	2.210
Deposit	1	6.815	0.9995	2.295	0.9596	-0.426
Reserve	0.9802	1.986	0.9608	0.253	0.636	-1.789
Borrowing	0.0083	-2.912	0.0488	-3.229	0.0689	-3.758

4.4. Log Transformation Model

This study used the software E-VIEWS to obtain the result or to analyze the data. Log transformation can reduce the problem of heteroscedasticity because it compresses the scale in which the variables are measured, thereby reducing a tenfold differences between two values to a twofold difference (Gujarati, 1995).

Here deposits, borrowings, capital and reserve of HBL Bank Ltd.is considered as an independent variable and investment is taken as dependent variable .Regression analysis is performed individually and the result is discussed.

Table 4.6 shows the regression analysis of natural log capital on natural log investment during 10 years. In the model R square is 0.4843 (i.e.48.43%). This means that 48.43 percent variation in capital is explained by variation in investment. F-statistics of the model figured 8.451 and its corresponding p-value is 0.000 which is less than 5 percent. So, the model is fitted. T-statistics of natural log capital is 5.0751 and its corresponding value Probability is 0.000 which is less than 5percent.So, we can say that there is significant effect of capital on investment which means accepting alternative hypothesis 1.

Model 1: ℓnrCapital=9134.045+1.370623ℓnInvestment+U……..(4.1)

Table 4.6

Regression Analysis of Capital on Investment

Variables	Coefficient	Std. Error	t-Statistic	p-value	Coefficient Diagnostic	
Constant	9134.045	1799.77	5.075117	0.000667	R square	0.484364
lnInvestment	1.370623	0.471392	2.907609	0.017379	S.E. of Regression	3321.814
					F-Statistic	8.45419
*indicates the coefficient is significant at 5 % level					Prob.F-Stat.	0.000<5%

The value of R square presented in table 4.10. is 0.6717 (i.e. 67.17%). Thus, 67.17 percent variation in deposits was explained by variation in investment. F statistics of Model 2 is 18.42008 and its corresponding probability is 0.000 which is less than 5 percent. So, the model is fitted. T-statistics of natural log Investment is 4.29 and its corresponding probability is 0.002 which is less than 5 percent. So, the alternative hypothesis 2 is accepted. Thus, deposits has significant impact on investment. The model below depicts that with one percent change in deposits it will change investment by 16%.

Model 2 : ℓnDeposit=4821.932+0.16028ℓnInvestment+U……..(4.2)

Table 4.7						
Regression Analysis of Deposits on Investment						
Variables	Coefficient	Std. Error	t-Statistic	p-value	Coefficient Diagnostic	
Constant	4821.932	2170.236	2.221847	0.053403	R square	0.671773
lnInvestment	0.16028	0.037345	4.291862	0.002015	S.E. of Regression	2650.274
					F-statistic	18.42008
*indicates the coefficient is significant at 5 % level					Prob.F-Stat.	0.000<5%

In table 4.8, the value of R square is 0.643(i.e.64.30%). Thus, 64.30 percent variation in reserves is explained by variation in investment. F-statistics in the model is 16.21 and its corresponding probability is 0.001 which is less than 5 percent which implies the model is fitted. Here t-statistics of natural log investment is 4.026 and its corresponding p-value is 0.002 which is less than 5 percent. So the alternative hypothesis 3 is accepted which means reserves has significant effect on investment. Model 3 depicts that with one percent change in reserves, it will bring 479% percent change in investment.

Model 3: ℓnReserves=3111.538+4.79827ℓnInvestment+U…….(4.3)

Table 4.8						
Regression Analysis of Reserves on Investment						
Variables	Coefficient	Std. Error	t-Statistic	p-value	Coefficient Diagnostic	
Constant	3111.538	2706.947	1.149464	0.279993	R square	0.643045
InInvestment	4.79827	1.191653	4.026568	0.002988	S.E. of Regression	2763.826
					F-Statistic	16.21325
*indicates the coefficient is significant at 5 % level					Prob.F-Stat.	0.001<5%

Table 4.9. depicts that regression analysis of natural log borrowings on natural log investment during 10 years. Here, R square figured 0.1792(i.e. 17.922%) which implies that 17.92 percent variation in investment is explained by variation in borrowings. F-statistics is 1.965 and its corresponding probability is 19.45% which is less than 5 percent. So, the model is not fitted and here t-statistics of natural log borrowings is 9.066 and its corresponding p-value is 1.4018 which is less than 5 percent. So, the alternative hypothesis 4 is accepted. It shows that borrowings has significant impact on investment. The model 4 depicts that one percent change in borrowings will bring 626 percent change in investment.

Model 4 : ℓnBorrowings=12651.89+6.266ℓnInvestment+U……(4.4)

Table 4.9						
Regression Analysis of Borrowings on Investment						
Variables	Coefficient	Std. Error	t-Statistic	p-value	Coefficient Diagnostic	
Constant	12651.89	1395.461	9.066461	8.04E-06	R square	0.179226
InInvestment	6.266433	4.470033	1.401876	0.194486	S.E. of Regression	4190.981
					F-Statistic	1.965257
*indicates the coefficient is significant at 5 % level					Prob.F-Stat.	19.45%>5.00%

Ranking the coefficient values of natural log of investment income in table 4.10, it indicates that change in borrowings highly influence investment and lower impact is seen in deposits.

Table 4.10			
Impact of deposit, reserves, capital and borrowings on Investment			
Models	Dependent Variables	Coefficient of Remit	Rank
Model IV	Borrowings	6.266433	1
Model III	Reserves	4.79827	2
Model I	Capital	1.370623	3
Model II	Deposits	0.16028	4

4.5. Granger Causality Test

Correlation does not necessarily imply causation in any meaningful sense of that word. Above we have discussed the using regression analysis we have discussed the relationship between dependent variable investment and other independent variable. Granger Causality Test is a method of determining the casual relationship between two variables at a time. Using the statistical analysis software E-views, Granger Causality Test was conducted for investment and capital, investment and deposit, investment and reserves, investment and borrowings.

4.5.1. Capital and Investment

Consider the following pair of regression to see the granger causality test between and investment. Here μ_{1t} andμ_{2t} are uncorrelated and taking lag 3 .

$$GRCAPITAL=\alpha+\sum_{i=1}^{n}\beta_i GRINVESTMENT_{t-1}+\sum_{j=1}^{m}\beta_j INVESTMENT_{t-1}+\mu_{1t} \quad \ldots\ldots(4.13)$$

$$GRINVESTMENT=\alpha+\sum_{i=1}^{n}\beta_i GRCAPITAL_{t-1}+\sum_{j=1}^{m}\beta_j INVESTMENT_{t-1}+\mu_{2t} \quad \ldots\ldots(4.14)$$

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CAPITAL does not Granger Cause INVESTMENT	9	3.56240	0.1293
INVESTMENT does not Granger Cause CAPITAL		1.41443	0.3431

For first null hypothesis, probability is 12.93% which is great than 5% which means we can accept null hypothesis. Similarly, in second hypothesis also probability is 34.31% which implies we cannot reject null hypothesis. It means that capital does not cause investment and investment does not cause capital.

4.7.2. Deposits and Investment

Consider the following pair of regression to see the granger causality test between investment and deposit.

$GRINVESTMENT = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j DEPOSIT_{t-1} + \mu_{1t}$……(4.15)

$GDEPOSIT = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j DEPOSIT + \mu_{2t}$……(4.16)

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INVESTMENT does not Granger Cause DEPOSITS	9	0.27774	0.7710
DEPOSITS does not Granger Cause INVESTMENT		2.30880	0.2155

Here in this table also both the probability value is greater than 5% we cannot reject null hypothesis. This means that deposits does not cause investment and investment does not cause deposits.

4.7.3. Reserves and Investment

Consider the following pair of regression equation is used to see the granger causality test between the investment and reserves.

$GRINVESTMENT = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j RESERVES_{t-1} + \mu_{1t}$…(4.17)

$GRESERVES = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j RESERVES_{t-1} + \mu_{2t}$……4.18)

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INVESTMENT does not Granger Cause RESERVES	9	0.06484	0.9382
RESERVES does not Granger Cause INVESTMENT		2.41963	0.2048

As both the probability exceeds 5% it shows that we have to accept null hypothesis that is reserves does not cause investment and investment does not granger cause reserves.

4.7.4. Borrowing and Investment

Consider the following pair of regression equation is used to see the granger causality test between investment and borrowings.

$GRINVESTMENT = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j BORROWING_{t-1} + \mu_{1t}$ (4.19)

$GBORROWING = \alpha + \sum_{i=1}^{n} \beta_i GRINVESTMENT_{t-1} + \sum_{j=1}^{m} \beta_j BORROWING_{t-1} + \mu_{2t}$ …(4.20)

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INVESTMENT does not Granger Cause BORROWINGS	9	8.52803	0.0361
BORROWINGS does not Granger Cause INVESTMENT		2.85166	0.1699

Here Probability of first hypothesis is statistically below 5% level of significance we cannot reject null hypothesis which implies that borrowings does granger cause investment. In second hypothesis as the probability value is 16.99% it shows that null hypothesis cannot be rejected which means that borrowings does not granger cause investment. It shows that there is unidirectional relationship between investment and borrowings.

Table 4.18.

Summary of Granger's Causality Test

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CAPITAL does not Granger Cause INVESTMENT	9	3.56240	0.1293
INVESTMENT does not Granger Cause CAPITAL		1.41443	0.3431
DEPOSITS does not Granger Cause INVESTMENT	9	2.30880	0.2155
INVESTMENT does not Granger Cause DEPOSITS		0.27774	0.7710
RESERVES does not Granger Cause INVESTMENT	9	2.41963	0.2048
INVESTMENT does not Granger Cause RESERVES		0.06484	0.9382
BORROWINGS does not Granger Cause INVESTMENT	9	2.85166	0.1699
INVESTMENT does not Granger Cause BORROWINGS		8.52803	0.0361
DEPOSITS does not Granger Cause CAPITAL	9	1.77557	0.2806
CAPITAL does not Granger Cause DEPOSITS		1.45821	0.3345
RESERVES does not Granger Cause CAPITAL	9	24.5696	0.0057
CAPITAL does not Granger Cause RESERVES		3.94039	0.1134
BORROWINGS does not Granger Cause CAPITAL	9	0.95894	0.4569
CAPITAL does not Granger Cause BORROWINGS		5.22819	0.0766
RESERVES does not Granger Cause DEPOSITS	9	0.86783	0.4864
DEPOSITS does not Granger Cause RESERVES		4.88050	0.0845
BORROWINGS does not Granger Cause DEPOSITS	9	6.81905	0.0514
DEPOSITS does not Granger Cause BORROWINGS		7.32927	0.0460
BORROWINGS does not Granger Cause RESERVES	9	0.80963	0.5067
RESERVES does not Granger Cause BORROWINGS		2.32409	0.2139

When time series X causes time series Y, the patterns in X is approximately repeated in Y after some time lag. Thus, past values of X can be used for prediction of future values of Y. The result clearly reflects that the above shown variables do not granger cause to one another except the casual relationship between borrowings and investment. From above result we can conclude that borrowings granger does cause investment which is unidirectional in nature.

4.8. Major Findings

In this study under descriptive statistics we have following major findings:

1. As we have divided our study period into five years we have found that average growth rate of investment, deposits, reserves and borrowings is found to be maximum during 2069/70 to 2073/74. However, average growth rate of capital is found to be maximum during 2064/65 to 2068/69. The growth of capital has been observed due to mandatory requirement by NRB in different time interval for minimum capital. Besides, the growth of reserves has been in rising trend with increase in net profit arising from increase deposits and lending. Likewise, investment has been increased based on the risk and return and availability of fund and liquidity of the bank.

2. The correlation between dependent variable investment and different independent variable: deposits, capital, borrowings and reserves is positive and significant at 1 percent level of significance. The table above shows that each variable is highly correlated with each other as Pearson correlation (r) lies between 0.29 to 0.967. The correlation between investment and capital, investment and reserves, investment and deposits and investment and borrowings is positive and significant at 1% level of significance. So, we can say that there is association between dependent variable and independent variable.

3. Under inferential analysis we have used regression analysis. Using this time series data covering 10 years, simple regression models have been used to find out the impact of capital, deposits, borrowings and reserves on investment of the HBL Bank Ltd. This study has found that deposits has high R-square of 67.17%, which has significant positive impact on investment with borrowing having least impact with R-square of 17.92%. After this using multiple regression log model, the

coefficient of deposit, reserves, deposits and borrowings is positive and statistically significant at 1% and 5% level of significance

4. There is unidirectional causality running from borrowing to investment. But there is no any granger causal relationship of capital to investment, deposits to investment and reserves to investment.

At last we can conclude that the investment decision of the HBL Bank Ltd. over the series of time period of ten years shows that the deposits, borrowing, reserves and capital has positive impact on investment decision. The deposits has high positive impact and investment has least impact on the investment of the HBL Bank Ltd. The investment of the bank is also determined by the pricing factors like interest rate, inflation of the economy and government spending. The higher the interest rate of deposits, borrowings the higher will be the cost of investment. The major investment tool for bank is treasury bills, government bonds and debenture. The return on investment is also crucial in making investment decision for the bank. The investment of the bank also relies on the rate of inflation in the economy which ultimately have impact on the interest rate and thus the investment decision of the bank. Likewise, the government spending on timely led to liquidity in the market which then result in making investment decision. Hence, in overall there are other macro economic variables besides the micro economic variable which has impact on the decision making regarding investment of the bank. The banks adopt its own investment policy while making investment. The investment decision is also based on the risk appetite of the bank with higher return on high risk and low return on low risk. The return is high on long term investment and low short term investment. The findings of this article are consistent with the findings of this study. Here in this study the variables deposits, borrowings, capital and reserves has positive impact on investment decision of the HBL Bank Ltd.

4.9. Suggestions for Future Research

Though this research work tries to find out the impact of deposits, borrowing, capital and reserves has positive impact on the investment decision of HBL Bank Ltd., it has not been able to cover most of the macroeconomic variables like inflation, government expenditure, interest rate, GDP and so on. So, future research can be conducted by including these variables. Regarding the findings of this study, it is vividly clear that in all the models used in this study there is positive relationship between depotsit, borrowing, capital and reserves with the investment of the bank. So, further research can be accomplished in finding that does investment of the bank is really influenced by inflation? Or interest rate? Or government expenditure? Or real GDP? For future research, this research leaves the room for analyzing the mentioned problem based on the macroeconomic variables.

CHAPTER- V

SUMMARY AND CONCLUSIONS

5.1. Summary

The whole study has been divided into five chapters along with appendices and bibliography where first chapter deals with the introduction, second chapter puts light on various existing theoretical issues along with related review of related studies, third chapter deals with the research methods used in this study, fourth chapter presents the data along with its analysis and interpretation and finally chapter five summarizes the whole study and reach to conclusions.

The main focus of the study is to highlight the investment policy of HBL Bank Ltd. which will also give slight overview on general trend of investment portfolio analysis of commercial banks. The study will attempt to analysis the different aspect of investment of HBL like equity, treasury bills, government bonds and placements over the period of time. On the other hand, the study would provides information to management of the bank that would help get insight into the investment portfolio over the series of time and their relationship with different hypothesis analyzed. In the context of Nepal, there is less availability of research works, journal and articles in investment analysis of commercial banks as well as other financial institutions. The success and prosperity of the bank heavily relies upon the successful investment policy adopted that takes into account the resulting variables which has direct or indirect impact besides, the government fiscal policy/budget and NRB monetary policy reviewed each year will also be crucial factor in determining the investment portfolio of bank. Successful formulation and effective implementation of investment policy and investment analysis is the prime requisite for the successful performance of commercial banks. There are various problems in effective investment of commercial banks of Nepal, which affect their performance to the great extent. Hence, the main significance of this study is investment portfolio analysis of Himalayan Bank Ltd. Similarly, the study will also further attempt to understand the relationship of investment of HBL with other covenants like reserves, borrowing, deposits and equity.

Under descriptive analysis average value and standard deviation of each variable is carried out. Under same, the growth percentage of investments, deposits, capital, reserves and borrowings from fiscal year 2064/65 to 2073/74 with base year taken from 2063/64. In context of investment, the highest increment was seen in fiscal year 2072/73 which was by 63.29 %. Similarly if we observe the annual growth rate of capital in FY 2073/74, it is at high rate 901.85%.If we observe the annual growth rate of reserves, in FY 2073/74 it is 168.79% which is the highest growth rate during this study period. Observing the growth rate of deposit, we can see that in FY 2073/74 it is 209.11% which is the highest growth rate during this study period. Finally, the growth rate of borrowing is also at highest in the same FY 2073/74 323.73%. It is also relevant that when the borrowing, lending and business increases, the net profit increases with increase in reserves over the period of years. The net profit of the bank has increased over the year and is in growth trend, which ultimately led to continuous growth in reserves. The net profit is increased with increase in business of the bank which mainly comprises of deposits and loan. Likewise, the capital has increased in 2073/74 mainly due to mandatory requirement of NRB to increase the capital up to NPR 8 billion by FY 2073/74, so drastic growth has been observed in the same year.

Regression analysis using log transformation model based as deposits, borrowings, capital and reserves of HBL Bank Ltd.is considered as an independent variable and investment is taken as dependent variable .Regression analysis is performed individually and the result is discussed. The regression analysis of natural log capital on natural log investment during 10 years. In the model R square is 0.4843 (i.e.48.43%). This means that 48.43 percent variation in capital is explained by variation in investment. F-statistics of the model figured 8.451 and its corresponding p-value is 0.000 which is less than 5 percent. So, the model is fitted. T-statistics of natural log capital is 5.0751 and its corresponding value Probability is 0.000 which is less than 5percent.So, we can say that there is significant effect of capital on investment.

The value of R square for investment is thus, 67.17 percent variation in deposits was explained by variation in investment. F statistics of Model 2 is 18.42008 and its corresponding probability is 0.000 which is less than 5 percent. So, the model is fitted. T-statistics of natural log Investment is 4.29 and its corresponding probability is 0.002 which is less than 5 percent. So, the alternative hypothesis 2 is accepted. Thus, deposits has significant impact on investment. The model below depicts that with one percent change in deposits it will change investment by 16%. The regression analysis of natural log borrowings on natural log investment during 10 years. Here R square figured 0.1792(i.e. 17.922%) which implies that 17.92 percent variation in investment is explained by variation in borrowing. F-statistics is 1.965 and its corresponding probability is 19.45% which is less than 5 percent. So, the model is not fitted and here t-statistics of natural log borrowing is 9.066 and its corresponding p-value is 1.4018 which is less than 5 percent. So, the alternative hypothesis 4 is accepted. It shows that borrowings has significant impact on investment. The model 4 depicts that one percent change in borrowings will bring 626 percent change in investment.

Finally, There is unidirectional causality running from borrowing to investment. But there is no any granger causal relationship of capital to investment, deposits to investment and reserve to investment.

5.2. Conclusions

Main aim of this study is to analyze the impact of deposits, borrowing, capital and reserves on investment of HBL Bank Ltd. over the series of ten years. This study covers the period of 10 years. The analysis is carried on using simple regression model, log transformation model, growth model in E-views software to confirm the quantitative relationship between the used variables in the system of equations.

At last we can conclude that the investment decision of the HBL Bank Ltd. over the series of time period of ten years shows that the deposits, borrowing, reserves and capital has positive impact on investment decision. The deposits has high positive impact and borrowings has least impact on the investment of the HBL Bank Ltd. The investment of

the bank is also determined by the pricing factors like interest rate, inflation of the economy and government spending. The higher the interest rate of deposits, borrowings the higher will be the cost of investment. The major investment tool for bank is treasury bills, government bonds and debenture. The return on investment is also crucial in making investment decision for the bank. The investment of the bank also relies on the rate of inflation in the economy which ultimately have impact on the interest rate and thus the investment decision of the bank. Likewise, the government spending on timely led to liquidity in the market which then result in making investment decision. Hence, in overall there are other macro economic variables besides the micro economic variable which has impact on the decision making regarding investment of the bank. The banks adopt its own investment policy while making investment. The investment decision is also based on the risk appetite of the bank with higher return on high risk and low return on low risk. The return is high on long term investment and low short term investment. The findings of this article are consistent with the findings of this study. Here in this study the variables deposits, borrowings, capital and reserves has positive impact on investment decision of the HBL Bank Ltd.

5.3.Recommendations

Going through the series of data of investment of HBL Bank Ltd. and different variables like deposits, borrowings, capital and reserve, we have found that the variables has positive impact on investment decision of HBL Bank Ltd. over the period of time with deposits having high positive impact and borrowing having least positive impact. On the basis of discussion made in this study, following recommendations are drawn.

- At most of the time the investment decision of the bank relies on other macro economic variables like interest rate, rate of return, liquidity, government budget, monetary policy, GDP, inflation rate etc. Hence, we have not considered the same in our study. Based on the secondary data of bank, we conclude that all the variables have positive impact on investment. The deposits volume increase will led to space for investment of HBL Bank Ltd. However, the rate of return determines the investment decision.

- The decision of investment need to be focused on banks own investment policy which focuses on the investment based on the time period of investment, rate of return on investment and pricing associated. Hence, HBL Bank Ltd. need to focus on the investment based on the available liquidity i.e. deposit and investment based on the return. The bank need to also concentrate over the risk factor, monetary policy, rate of return over the period of time to assess the investment of the bank.
- Regularly reviewing the investment portfolio and policy of the bank as per macroeconomic variables will led to better investment decision of the bank. The bank needs to continuously strive for new investment opportunity based on analyzing the variables having positive and negative impact. Besides, the policy need to be mould as per the micro and macro economic variables having impact towards investment of the bank.

APPENDIX A: LIST OF DATA (in million NRs.)

Year	Year	Investment	Capital	Reserves	Deposits	Borrowings
	2063/64	11823	811	1336	30048	236
1	2064/65	13340	1014	1450	31843	83
2	2065/66	8711	1216	1904	34681	0
3	2066/67	8444	2000	1439	37611	0
4	2067/68	8770	2400	1595	40920	10

5	2068/69	10031	2760	1872	47730	0
6	2069/70	12992	2898	2402	53072	88
7	2070/71	19842	3332	2750	64674	0
8	2071/72	17113	4499	2460	73538	0
9	2072/73	19306	5849	2975	87335	1000
10	2073/74	17929	8115	3591	92881	40

Source : The data has been taken from annual report of Himalayan Bank from 2064/65 to 2073/74.

APPENDIX B : LOG MODEL

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.695963
R Square	0.484364
Adjusted R Square	0.427072
Standard Error	3321.814
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	93287303	93287303	8.45419	0.017378756
Residual	9	99310018	11034446		
Total	10	1.93E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	9134.045	1799.77	5.075117	0.000667	5062.681389	13205.41	5062.681	13205.41
X Variable 1	1.370623	0.471392	2.907609	0.017379	0.30426059	2.436985	0.304261	2.436985

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.819618
R Square	0.671773
Adjusted R Square	0.635304
Standard Error	2650.274
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.29E+08	1.29E+08	18.42008	0.002015
Residual	9	63215577	7023953		
Total	10	1.93E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	4821.932	2170.236	2.221847	0.053403	-87.4827	9731.348	-87.4827	9731.348
X Variable 1	0.16028	0.037345	4.291862	0.002015	0.0758	0.244761	0.0758	0.244761

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.801901
R Square	0.643045
Adjusted R Square	0.603383
Standard Error	2763.826
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.24E+08	1.24E+08	16.21325	0.002988
Residual	9	68748605	7638734		
Total	10	1.93E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	3111.538	2706.947	1.149464	0.279993	-3012	9235.077	-3012	9235.077
X Variable 1	4.79827	1.191653	4.026568	0.002988	2.102565	7.493976	2.102565	7.493976

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.423351
R Square	0.179226
Adjusted R Square	0.088029
Standard Error	4190.981
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	34518412	34518412	1.965257	19.45%
Residual	9	1.58E+08	17564323		
Total	10	1.93E+08			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	12651.89	1395.461	9.066461	8.04E-06	9495.14	15808.64	9495.14	15808.64
X Variable 1	6.266433	4.470033	1.401876	0.194486	-3.84548	16.37835	-3.84548	16.37835

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