IMPACT OF LIQUIDITY ON PROFITABILITY OF PRIVATE COMMERCIAL BANKS: A COMPARATIVE STUDY OF NABIL AND NICA BANKS LIMITED

A Dissertation submitted to the Office of the Dean, Faculty of Management, Tribhuwan University, Kritipur, Kathmandu, in partial fulfilment of the requirements for the Degree of Masters of Business Studies (MBS)

by

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Kathmandu, Nepal
August, 2022

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CERTIFICATION OF AUTHORSHIP

I hereby declare that I have researched and submitted the final draft of dissertation entitled “Impact of liquidity on profitability of private commercial banks: A comparative study of Nabil and Nica Banks limited ”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it has been proposed and presented as part of requirements for any other academic purposes.

The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

.....

Aswin Pradhan

01-08-2022

REPORT OF RESEARCH COMMITTEE

Aswin Pradhan has defended research proposal entitled "Impact of liquidity on profitability of private commercial bank: A comparative study of NABIL and NICA bank limited" successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per and submit the thesis for evaluation.

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APPROVAL SHEET

This thesis entitled "Impact of liquidity on profitability of private commercial bank: A comparative study of NABIL and NICA bank limited." submitted by Aswin Pradhan to the faculty of management, Tribhuvan University, in partial requirements for the degree of Master of business studies has been found satisfactory in scope and quality. Therefore, we hereby certify that the presented dissertation is acceptable for the award of MBS degree.

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This study entitled “Impact of liquidity On Profitability of Private Commercial Bank: A Comparative Study of NABIL and NICA Bank LTD” has been prepared for partial fulfillment of requirements for the degree of Masters of Business Studies. It is directed towards determining the factors that influence the profitability on liquidity of the banks. This would not have been possible without the kind support and help of many individuals. Therefore, I would like to acknowledge with gratitude to all of them. It is a genuine pleasure to express my deep sense of thanks and gratitude towards Rajan Bilas Bajracharya for giving me the responsibility to prepare this report along with their guidance, valuable advice, continuous encouragement, and motivational support.

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Aswin Pradhan
01-08-2022

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ABBREVIATIONS

ALCO	:	Accounts and Finance Department, Treasury & Fund Management Department, Asset Liability Committee
ATM	:	Automatic Teller Machines
BOD	:	Board Of Director
CABTDR	:	Cash and bank balance to total deposit ratio
CHTDR	:	Cash in hand to total deposit ratio
CORE Banking	:	Centralized online Real-time Electronic Banking
CDR	:	Cash Deposit Ratio
CDTA	:	Cash & due from banks to total assets
FY	:	FISCAL YEAR
GDP	:	Gross Domestic Product
IDR	:	Investment Deposit Ratio
LDR	:	Loan to Deposit Ratio
LFTAR	:	Liquid fund to total asset ratio
LFTCLR	:	Total liquid fund to current liabilities ratio
LFTDR	:	Liquid fund to deposit ratio
MIS	:	Management Information System
NABIL	:	Nepal Arab Bank Limited
NICA	:	Nepal Industrial and Commercial Bank and Bank Of Asian
NIM	:	Net Interest Margin
NRB	:	NEPAL RASTRA BANK
NBFIs	:	Non-Bank Financial Institutions
INVESTDA	:	Investment to total assets
NRBTDR	:	NRB Balance to total deposit ratio
POS	:	Point of Sale
PTL	:	Provision to total loan ratio
ROA	:	Return on asset
ROA	:	Return on Asset
ROE	:	Return on Equity
VIF	:	Variance Inflation Factor

ABSTRACT

Liquidity management is crucial, given highly volatile markets and increasingly complex investment options. The misalignment of a portfolio's liquidity profile with cash flow demands can lead to a liquidity squeeze and cause drastic effect on bank profitability. Accordingly, the overall performance of an institution will be adversely affected. This study intended to investigate the impact of liquidity on profitability to address the objectives, the article has sampled 2 commercial bank NABIL Bank and NICA Bank quantitative data were used for the objective of the study. Considering the liquidity management can increase the profitability of the bank. Descriptive method and Casual comparative method was used in this study. The time series data taken from the audited financial statements of the Bank, particularly balance sheet and income statements during FY 2016/17 to FY 2020/21 were analyzed using Financial ratios, regressions and correlation. Results of the correlation and regression analysis shows positive relationship between LFTDR, LFTAR, CHTDR, CABTDR and LFTCL with ROA which indicate increasing in LFTDR, LFTAR, CHTDR, CABTDR AND LFTCR will increase ROA of bank. Similarly, There is NEGATIVE RELATION BETWEEN NRBTDR and ROA which indicate increase in NRBTDR will decrease ROA of bank. In addition, the existing liquidity measurement tools were found out to be applicable and effective in terms of liquidity measurement and management. Finally, the study concluded that the impact of liquidity on profitability of NABIL Bank and NICA Bank was positive and significant.

CHAPTER I
INTRODUCTION

1.1. Background of the study

Banks are financial institutions that play intermediary role in the economy through channeling financial resources from surplus economic units to deficit economic units. In turn, they facilitate the saving and capital formation in the economy. In performing these activities, banks are highly dependent upon public confidence and requirement to meet increasing customers' needs and expectations. To fulfil these expectations banks' liquidity position plays a significant role.

The principal types of banking in the modern industrial world are commercial banking and central banking. A commercial banker is a dealer in money and in substitutes for money, such as checks or bills of exchange. The banker also provides a variety of other financial services. The basis of the banking business is borrowing from individuals, firms, and occasionally i.e., receiving "deposits" from them. With these resources and with the bank's own capital, the banker makes loans or extends credit and invests in securities. The banker makes profit by borrowing at one rate of interest and lending at a higher rate and by charging commissions for services rendered. Commercial banks are the major financial institutions that occupy quite an important place in the framework in the economy development sectors as well as in saving and investment sectors. Commercial banks are suppliers of finance they are the life blood for circulation of countries trade and industry and play a vital role in the economic development and financial life of the country. They also provide an opportunity in the development of individual industries, trade and business organization by investing savings and collected deposits. Besides they also render numerous services to its customers in a view of providing facilities to theirs economic and social life in the community. Banks accept deposit, make loans, and derive a profit from the difference in the interest rates paid and charged, respectively. Depositors may be either individual or institutions. These deposits may be current, saving or fixed and the tenure depends upon the mutual agreements between the bank may be either an individual or institutions. The tenure of the loan may vary as per the demand, criteria and the usefulness of the loan. Some banks also have the power to create money

Bank is considered as the backbone in the development of the national economy. It is financial institution, which act as a transaction of money by accepting various types of deposit, disbursing loans and rendering other financial services. So, among the various function to provide loan to the investors is the major function. Liquidity of respected banks or firms consider to be ability to meet all its obligations. The banks need to repay its depositors and full fill the all of transaction without delay. In banking sector, liquidity issues consider to be important because its smoothness build public trust (Anggari & Dana, 2020). Rosyid and Irawan Noor (2018) stated that the Loan to Deposit Ratio is how far the bank's ability to repay the withdrawal of funds. Loan to deposit ratio is one of important ratio that measure the liquidity condition of banks. Kusumastuti and Alam (2019) found that LDR has negative effect and has no significant effect on profitability. Rosyid and Irawan Noor (2018) also found that LDR has significant effect on profitability of commercial banks. This research expected LDR have both negative and positive affect on profitability of commercial banks.

Basel Committee on Banking Supervision (2008) defined liquidity as the ability of a bank to fund increase in assets and meet its obligations as they come due without incurring unacceptable losses. Hence, liquidity risk arises from the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans. Through the loan, there will be increase in the environment of the investment and the bank has the major role in creating such an environment *(*Singh, 2007*).*

Liquidity risk is said to be assassin of banks. This risk can adversely affect both bank’s earnings and the capital. Therefore, it becomes the top priority of a bank’s management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs. The optimal of liquidity management could be achieve by company that mange the trade off between liquidity and profitability Episodes of failure of many conventional banks from the past and the present provide the testimony to this claim. It is evident that liquidity and liquidity risk is very up-to-date and important topic. Therefore banks and more so their regulators are keen to keep a control on liquidity position of banks. As there has been number of commercial banks established, the research has been taken into

consideration of NABIL and NICA. Therefore, short glimpse of these commercial banks are given as:

Nepal Arab Bank Ltd (NABIL)

Nabil Bank Limited is the nation's first private sector bank, commencing its business since July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 118 points of representation. In addition to this, Nabil has presence through over 1500 Nabil Remit agents throughout the nation.

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes international standard banking software that supports the E-channels and E-transactions.

Nabil is moving forward with a Mission to be **"1st Choice Provider of Complete Financial Solutions"** for all its stakeholders; Customers, Shareholders, Regulators, Communities and Staff. Nabil is determined in delivering excellence to its stakeholders in an array of avenues, not just one parameter like profitability or market share. It is reflected in its Brand Promise **"Together Ahead"**. The entire Nabil Team embraces a set of Values "C.R.I.S.P", representing the fact that Nabil consistently strives to be Customer Focused, Result Oriented, Innovative, Synergistic and Professional.

Nepal Industrial and Commercial Asia Bank (NICA)

NIC ASIA Bank has its antecedents in NIC Bank which was established on 21st July 1998. The Bank was rechristened as NIC ASIA Bank after the merger of NIC Bank with Bank of Asia Nepal on 30th June 2013. This was a historic merger in the annals of the Nepalese financial landscape as the first of its kind merger between two

successful commercial banks in the country. Today, NIC ASIA has established itself as one of the most successful commercial banks in Nepal.

During the post-merger integration phase, NIC ASIA managed the transition very smoothly receiving accolades from the regulators as well as the stakeholders, paving the way for other mergers and consolidation in the Nepalese financial sector. After the merger, NIC ASIA was recognized as ”Bank of the Year 2013-Nepal” by The Banker, Financial Times, UK. This is the second time that the Bank was recognized with this prestigious award, the previous occasion being in 2007.

NIC ASIA Bank is now, one of the largest private-sector commercial banks in the country in terms of capital base, balance-sheet size, number of branches, ATM network, and customer base. The Bank has 352 branches, 75 extension counters 80 branchless banking, and 471 ATMs across Nepal with a network covering all major financial centers of the country. The Bank strongly believes in Meritocracy, Transparency, Professionalism, Team spirit, and Service Excellence. These core values are internalized by all functions within the Bank and are reflected in all actions the Bank takes during its business.

1.2. Statement of the Problem

In the course of the financial inter-mediation role, commercial banks reactivate the idle funds borrowed from the lenders (depositors) by investing such funds in different classes of portfolios. Such business activity of a bank is not without problems since the deposits from these fund savers which have been invested by the banks for profit maximization, can be recalled or demanded when the later is not in position to meet their financial obligations. Considering the public loss of confidence as a result of bank distress which has affected the financial sector in the last decade. Both the liquidity deficit and more liquidity surplus indicate the problems in banks as it reduce the return on assets. Similarly, liquid deficit also cost much to the bank in term of the higher purchasing price of liquidity and affects reputation of the banks and the intensity of competition in the banking sector due to the emergence of large number of new banks, every commercial bank should ensure that it operates for profit and at the same time meets the financial demands of its depositors by maintaining adequate liquidity.

Tseganesh (2014) made a study so as to identify determinants of commercial banks liquidity in Ethiopia and then to spot the impact of banks liquidity upon financial performance through the significant variables explaining liquidity. Accordingly, the researcher found out that there exist non-linear relationship between liquidity and bank performance. Lily (2014) to assess the impact of liquidity on profitability of Awash International Bank S.C., it was also found out that there is non-linear relationship between liquidity and profitability.

Bassey & Tobi (2016) This study support the fact that there is a strong relationship between banks reserve requirement and bank deposits in one hand, and bank investment and cash ratio in the other handMalik, Awais, & Khursheed (2016) reached at a step that obviously there is negative relationship between the Profitability Ratio and the Liquidity Ratio. Some-times, there may be a weak positive relation between these ratios.

Hlebik & Ghillani (2017) explain that If banks decide to increase the liquid portion of assets, risk weights diminish and consequently required capital is reduced.

(Shrestha, 2018) indicate that there is a significant relationship between Profitability of commercial banks and Credit Deposit Ratio and Cash Reserve Ratio. The conclusion of the study is that CRR has great impact on ROA than other components which are influenced by other factors such as savings, interest rates other than CRR and CDR

(Satyakama & Pradhan, 2019). It is found that there is a significant negative effect of CDR and IDR on ROA. However, in the case of ROE, it is found that there is no significant relationship between banks' profitability and liquidity.

(Khati, 2020) The findings of such study clarify that cash-deposit ratio (CDR) has positive and insignificant relationship with banks profitability when it is analyzed by banks profitability determinants return on assets (ROA) and return on equity (ROE). The finding indicates that credit-deposit (CDR) has positive but insignificant relationship with ROA. However credit-deposit (CDR) has negative and insignificant relationship with return on equity (ROE). This reveals that profitability ratio ROE has no relationship with those liquidity ratios.

Dzapasi (2020) indicated that a positive and significant relationship does exist between liquidity management and financial performance. However, Onyango and Olando (2020) analyzed the impact of bank-specific factors on the profitability of commercial banks in Kenya and the results show that liquidity has a negative effect on ROA

(Niroula & Singh, 2021) The finding shows that the CAR has highly significant and negative effect on ROE. Furthermore, variable CRR has positive and significant effect on both ROA and ROE.

(Javid, Chandia, Zaman, & Akhtar, 2021) study found a negative relationship of liquidity creation with profitability meanwhile positive relation with banking stability. However, this study shows a negative relation of political instability with liquidity creation, profitability and stability of overall banks of Pakistan.

Therefore, this study will attempt to investigate this trade-off and what kind of relationship exists between the aforementioned two variables (liquidity and profitability) in the context of comparative analysis between NABIL and NICA Banks.

The study will be directed towards answering following questions :

- What is the relationship of LFTDR, LFTAR, NRBTDR, CHTDR, CABTDR and LFTCLR with ROA of NABIL and NICA Bank?
- What is the Impact of LFTDR, LFTAR, NRBTDR, CHTDR, CABTDR and LFTCLR with ROA of NABIL and NICA Bank?

1.3 Objective Of The Study

The main objective of this study is to identify the impact of liquidity on profitability of private commercial bank in Nepal.

The Specific objectives are as follows

- To identify the profitability and liquidity position of NABIL and NICA
- To investigate the relationship that prevails between liquidity and profitability of NABIL and NICA

- To find out the extent to which liquidity affects profitability of the NABIL and NICA
- To evaluate the effect of external factors on performance of NABIL and NICA

1.4 Hypothesis of the study

H01:- There is a significant effects of liquidity fund to current liabilities ratio (LFTCLR) on return on assets (ROA) in both NABIL and NICA.

H02 :- There is a significant effects of liquidity fund to total deposits ratio (LFTDR) on return on assets (ROA) in both NABIL and NICA.

H03 :- There is a significant effects of total liquidity fund (LFTAR) on return on assets (ROA) in both NABIL and NICA.

H04 ;- There is a significant effects of NRB balance to total deposits ratio (NRBTDR) on return on assets (ROA) in both NABIL and NIC

H05 :- There is a significant effects of cash in hand to total deposits ratio (CHTDR) on return on assets (ROA) in both NABIL and NICA.

H06 :- There is a significant effects of cash and bank balance to total deposits ratio (LFTCLR) on return on assets (ROA) in both NABIL and NICA.

1.5 Rational of the Study

- The research will identify the technical and operational challenges of NABIL and NICA Bank to remain liquid and at the same time profitable.
- This research will also add to the body of literature about determining the impact of liquidity on profitability of commercial banks.
- The outcome of this study will further assist other researchers in paving the way for additional studies in the area of the topic under study.

1.6 Limitations of the Study

Never the less, the analysis performed and conclusion drawn regarding the liquidity and profitability position of commercial Bank; there is considerable place for arguing about its accuracy and reliability. There are limitations, which weaken the conclusion e.g. inadequate data, time and other variable.

- Though there are around 27 commercial banks, the study covers only 2 commercial banks: NABIL Bank Limited and NICA Bank Limited.
- The study period cover five fiscal years beginning from FY2016/017 to FY2020/021
- The study has considered only the secondary data. The data collection conducting primary survey has not been taken into consideration. Hence, the result of the study is not broad and flexible. It is limited to the data available in the annual reports of the banks and financial reports published by Nepal Rastra Bank.
- the study has focused only on commercial bank and has excluded other institution such as development banks, finance companies, and microfinance
- All the portion of the analysis is based on the secondary data and available information. Therefore the consistency of finding and conclusion are dependent upon the reliability of secondary data and information.
- Many factors affect liquidity of bank, International liquidity and valuation of firm however only related factor are taken into consideration in this study.

1.7. Chapter Plan

The study is organized into five chapters. The first chapter provides background of the study, background of the company, statement of the problems, objectives of the study, research questions, significance of the study and scope and limitations of the study. In the second chapter, review of literature and empirical studies are covered. The research design and methodology is presented in the third chapter. The fourth chapter deals with analysis, presentation and interpretation of data. The fifth chapter provides summary, conclusion and recommendation of the study. Finally the bibliography and appendices are attached with the research paper.

CHAPTER II
LITERATURE REVIEW

2.1 Theoretical Review

Financial intermediation role of commercial banks is the bed-rock of the two major functions of commercial banks namely deposit mobilization and credit extension. An adequate financial intermediation requires the purposeful attention of the bank management to profitability and liquidity, which are two conflicting goals of the commercial banks. These goals are parallel in the sense that an attempt for a bank to achieve higher profitability will certainly erode its liquidity and solvency positions and vice versa.

Bank Liquidity simply means the ability of the bank to maintain sufficient funds to pay for its maturing obligations. It is the bank's ability to immediately meet cash, cheques, other withdrawals obligations and legitimate new loan demand while abiding by existing reserve requirements.

Definition of Liquidity by Basel Committee on Banking Supervision

The Basel Banking Supervision Committee defines liquidity as an entity's capacity to finance increases in its volume of assets and to comply with its payment obligations on maturity, without incurring unacceptable losses.

In this regard, liquidity risk can be expressed as the probability of incurring losses through insufficient liquid resources to comply with the agreed payment obligations within a certain time horizon, and having considered the possibility of the entity managing to liquidate its assets in reasonable time and price conditions.

Liquidity Management

According to Adebayo et.al (2010), Liquidity management refers to the planning and control necessary to ensure that the organization maintains enough liquid assets either as an obligation to the customers of the organization so as to meet some obligations incidental to survival of the business or as a measure to adhere to the monetary policies of the central bank. For a commercial bank to plan for or manage its liquidity position, it first manages its money position by complying with the legal requirement.

Actually, management of money position is essential if a bank must avoid excesses or deficiencies of required primary reserves. Where there is a decline in market price of securities or where additional funds needed to correct the bank reserve position are for a very short time, it will be definitely expensive to sell securities than to borrow from another bank.

Moreover, it may be more desirable to borrow for bank's liquidity needs than to call back outstanding loans or to cancel or place embargo on new loans, a situation that will reduce the existing and potential customers of a bank. Commercial banks are expected to maintain certain levels of reserves. These reserves are statutory requirements stipulated by the central bank specifying the cash reserves equal to certain fraction of the banks' deposits or loans and advances which bank must maintain. The purpose of liquidity management is to ensure that every bank is able to meet fully its contractual commitments. The ability to fund increases in assets and meet obligations as they come due is critical to the ongoing viability of any bank.

Therefore, managing liquidity is among the most important activities conducted by banks.

Sound liquidity management can reduce the probability of serious problems. Indeed, the importance of liquidity transcends the individual bank, since a liquidity shortfall at a single bank can have system-wide repercussions. For this reason, the analysis of liquidity requires the management of the bank not only to measure the liquidity position of the bank on an ongoing basis, but also to examine how funding requirements are likely to evolve under various scenarios, including adverse conditions (NBE Risk Management Guidelines, 2010).

2.1.1 Theories of Liquidity and Liquidity Management

The theories and management of liquidity are outlined and explained in this section.

Anticipated Income Theory :-

This theory holds that a bank's liquidity can be managed through the proper phasing and structuring of the loan commitments made by a bank to the customers. Here the liquidity can be planned if the scheduled loan payments by a customer are based on

the future of the borrower. According to Nzotta (1997) the theory emphasizes the earning potential and the credit worthiness of a borrower as the ultimate guarantee for ensuring adequate liquidity. Nwankwo (1991) posits that the theory points to the movement towards self- liquidating commitments by banks. This theory has encouraged many commercial banks to adopt a ladder effects in investment portfolio.

Shift ability Theory :-

This theory posits that a bank's liquidity is maintained if it holds assets that could be shifted or sold to other lenders or investors for cash. This point of view contends that a bank's liquidity could be enhanced if it always has assets to sell and provided the Central Bank and the Discount Market stands ready to purchase the asset offered for discount. Thus this theory recognizes and contends that shiftability, marketability or transferability of a bank's assets is a basis for ensuring liquidity.

This theory further contends that highly marketable security held by a bank is an excellent source of liquidity. Liquidity management theory according to Dodds (1982) consists of the activities involved in obtaining funds from depositors and other creditors (from the market especially) and determining the appropriate mix of funds for a particularly bank. This point of view contends that liability management must seek to answer the following questions:

- How do we obtain funds from depositors?
- How do we obtain funds from other creditors?
- What is the appropriate mix of the funds for any bank?

Management examines the activities involved in supplementing the liquidity needs of the bank through the use of borrowed funds.

The liquidity management theory focuses on the liability side of bank balance sheet. This theory contends that supplementary liquidity could be derived from the liabilities of a bank. According to Nwankwo (1991) the theory argues that since banks can buy all the funds they need, there is no need to store liquidity on the asset side (liquidity asset) of the balance sheet.

Liquidity theory has been subjected to critical review by various authors. The general consensus is that during the period of distress, a bank may find it difficult to obtain

the desired liquidity since the confidence of the market may have seriously affected and credit worthiness would invariably be lacking. However, for a healthy bank, the liabilities (deposits, market funds and other creditors) constitute an important source of liquidity.

Commercial Loan Theory :-

A critical underlying assumption of the theory held that short-term commercial loans were desirable because they would be repaid with income resulting from the commercial transaction financed by the loan. This theory has been subjected to various criticisms by Dodds (1982) and Nwankwo (1992). From the various points of view, the major limitation is that the theory is inconsistent with the demands of economic development especially for developing countries since it excludes long term loans which are the engine of growth. The theory also emphasizes the maturity structure of bank assets (loan and investments) and not necessarily the marketability or the shiftability of the assets.

Moreover, the theory fails to reflect in the normal stability of demand deposits in the liquidity consideration.

This obvious view may eventually have impact on the liquidity position of the bank. Also the theory assumes that repayment from the self-liquidating assets of a bank would be sufficient to provide for liquidity. This ignores the fact that seasonal deposit-withdrawals and meeting credit request could affect the liquidity position adversely.

2.1.2 Importance of Liquidity

Banks are facing problems with the liquidity crisis because of poor liquidity management. As every transection or commitment has implication for a banks liquidity, managing liquidity risk are of paramount importance. Liquidity risk has become one of the most important elements in enterprise-wide risk management framework. A bank’s liquidity framework should maintain sufficient liquidity to withstand all kinds of stress events that will be faced. Constant assessment of liquidity risk management framework and liquidity position is an importance supervisor action

that will ensure the proper functioning of the banks. The importance of liquidity is mention below:

For withdrawal of deposits for lending loans and advance for meeting official and personnel expense. For invest money in different sector. For catching external opportunitie. For fulfillment of administrative expenses. Fpr meeting contingent liabilities such as invocation of guarantee, payment pf LC, and other payment like fines etc.

2.1.3 Sources for Bank's Liquidity

- Primary Depsoites : Bank accept deposit from customers in cash, cheques and remittance from various banks. This increase the bank's cash in hand or deposits with other banks, which is an increase in the bank's liquidity.
- Capital : By issuance of shares, liquidity is supplied to the bank.
- Loans : Borrowing made by banks and from central banks under refinance facility increase the bank's liquidity.
- Repayment of Loan ; When loan or its interest is repaid by the customers, bank's liquidity increases.
- Miscellaneous sources ; Cheque sent on collection, fund transferred fron the other banks and sales of assets increases the bank's liquidity.

2.1.4 Need and Importance of liquidity Management for Commercial Banks

People deposits their savings into the banks to safeguard them, earn interest, and get back whenever they need. Therefore, banks must maintain liquidity to refund the deposits, when accountholders withdraw deposits. Hence, liquidity is the life-blood of bank, without which a bank cannot survive for long. Banking transection are more dependent upon the mutual faith between bankers and customers. It is essential to maintain sufficient cash reserve in banks to maintain the public faith (Singh, 2007). The basic importance of effective liquidity management can be presented as given below:

- Payment of Cash.
- Cash Reserve ratio
- Statutory Liquidity Ratio

- Loan Advancement
- Administrative expenses
- Dividend payment
- Risk
- Expansion and Growth

2.1.5 Liquidity Measurement in Commercial Banks

Practically, liquidity management in commercial banks is surrounding both size of the prospective needs for liquidity at any given time and the availability of sources of liquidity sufficient to meet them. The importance of accurate liquidity measurement cannot be over stressed as it reveals the liquidity positions of the banks through which the operators of the financial market and other creditors adjudged the credit worthiness of the banks.

Liquidity can be measured as a stock or as a flow. From the stock perspective, liquidity management requires an appraisal of holdings of assets that may be turned into cash. The determination of liquidity adequacy within this framework requires a comparison of holding of liquid assets with expected liquidity needs. Stock concept of liquidity management has been criticized as being too narrow in scope.

The flow concept of liquidity measurement views liquidity not only as the ability to convert liquid assets into cash but also the ability of the economic units to borrow and generate cash from operators. This approach recognizes the difficulty involved in determining liquidity standards since future demands are not known. It also recommends accurate forecast of cash needs and expected level of liquid assets and cash receipts over a given period of time for there to be a realistic appraisal of a bank's liquidity position.

Between the two concepts, the stock concept is the widely used and involving the application of financial ratios in the measurement of liquidity positions of commercial banks. One of the popular financial ratios used in such measurement is liquidity ratios which measures the ability of the bank to meet its current obligations. The liquidity ratios are composed of current ratio and quick ratio.

Current ratio is a measure of a commercial bank's short term solvency and is calculated by dividing current assets by current liabilities incurred. The current assets are composed of cash and those assets which can be converted into cash in a short period which include marketable securities, receivables, inventories, and prepaid expenses. Current liabilities consist of all obligations maturing within a year. They include accounts payable, bills payable, note payable, accrued expenses and tax liability. A current ratio that is greater than one is adjudged satisfactory for most business firms even though it is difficult to authoritatively set one standard for all firms. The problem associated with the measure of liquidity with current ratio is that it is the test of quantity and not quality of the assets and hence, it does not reveal the true position of a firm's liquidity. Current ratio gives a rough idea of the firm's liquidity.

Another aspect of liquidity ratio is quick ratio, which indicates the relationship between liquid assets and current liabilities. Quick ratio is calculated by dividing the quick asset (current asset less inventories) by current liabilities. The quick assets are the assets that can be converted into cash immediately without losing their values. Inventories are subtracted from the current assets because they normally require some time for realizing cash and their value has a tendency to fluctuate.

Quick ratio is considered to be a better guide to the short-term solvency of a firm. A quick ratio is considered to represent a satisfactory current financial condition. However, each industry has its own operating characteristics which demands different financial standards.

Other ratios which have been developed to measure liquidity are liquid assets to total assets; liquid assets to total deposits; loans and advances to deposits. Calculating the ratio of liquid assets to total assets explains the importance of a bank's liquid assets among its total assets. It indicates the proportion of a bank's total assets that can be converted into cash at a short notice. The ratio of liquid assets to total deposits shows what percentage of a bank's deposits is held in liquid form. It relates liquid assets directly to deposit level.

The ratio of loan and advances to deposits reflects the quantity or proportion of the customers' deposits that has been given out in form of loans and the percentage that is

retained in the liquid forms. The ratio serves as a useful planning and control tool in liquidity management since commercial banks use it as a guide in lending and investment, and to make a total evaluation of their expansion program. When the ratio rises to a relatively high level, banks are encouraged to lend and invest and vice versa, to take some benefit of profitability.

Cash ratio i.e. ratio of cash to total deposits or assets is another measure of bank liquidity. Its advantage over others is that liquid assets are related directly to deposits rather than to loans and advances that constitute the most illiquid of banks assets. Its drawback is that a substantial part of the cash assets is not really available to meet most liquidity assets.

According to Obilor (2013), another measure of bank liquidity is the loan to liabilities ratio. The approach recognises that liabilities other than deposits ratio represent potential drain on bank funds.

According to State Bank of Pakistan category, all the above mentioned ratios and measures are classified in the following manner:

i. **Cash Flow Ratios and Limits.** One of the most serious sources of liquidity risk comes from a bank's failure to "roll over" a maturing liability. Cash flow ratios and limits attempt to measure and control the volume of liabilities maturing during a specified period of time.

ii. **Liability Concentration Ratios and Limits.** Liability concentration ratios and limits help to prevent a bank from relying on too few providers or funding sources. Limits are usually expressed as either a percentage of liquid assets or an absolute amount. Sometimes they are more indirectly expressed as a percentage of deposits, purchased funds, or total liabilities.

iii. **Other Balance Sheet Ratios.** Total loans/total deposits, total loans/total equity capital, borrowed funds/total assets etc are examples of common ratios used by financial institutions to monitor current and potential funding levels.

2.1.6 The Concept of Profitability in Banks

Corporate profit planning remains one of the most difficult and time consuming aspects of financial management because of the many variables involved in the decision which are often outside the control of the company. It is even more difficult if the company is operating in a highly competitive economic environment. A business unit can only grow focusing on its inner strengths to exploit the opportunities in the market. Consequently, the best definition as cited in Obilor (2013) that was opined by Tsomocos (2003) should be adopted from a survival growth perspective as business unit should think of surviving before making profit. Again, optimizing profit involves two variables; revenue and cost. The issue of profitability is a continuous issue that a company has to consistently make. Essentially profitability is concerned with the level of turnover that must be achieved in order to cover the level of turnover that must be achieved in order to cover costs and make surplus.

Corporate profitability may be improved through ratio analysis, breakeven analysis, marginal analysis, cost control or through financial control. It is therefore necessary to mention at this juncture that whether a bank is planning for profit or taking steps to improve its profitability, it must ensure that it has adequate liquidity to transact business and finance operations. If the plan is to improve or increase profitability by increasing the income level, the bank must be able to determine the financing needs for the new income level.

2.1.7 Measure of Bank Performance

a) Income

Net operating income is computed by subtracting the operating expenses from the operating income of the Bank. It is closely watched by bank managers, bank shareholders, and bank regulators because it indicates how well the bank is doing on an ongoing basis. Net income, usually referred to as profits after taxes, is the figure that tells us most directly how well the bank is doing because it is the amount that the bank has available to keep as retained earnings or to pay out to stockholders as dividends.

b) Return on Asset (ROA)

The return on assets ratio, often called the return on total assets, is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. ROA is a basic measure of bank's profitability that corrects for the size of a bank. In other words, the return on assets ratio measures how efficiently a bank can manage its assets to produce profits during a period.

Since company assets' sole purpose is to generate revenues and produce profits, this ratio helps management see how well the company can convert its investments in assets into profits.

c) Return on Equity (ROE)

This ratio indicates how profitable a bank is by comparing its net income to its average shareholders' equity. The return on equity ratio (ROE) measures how much the shareholders earned for their investment in the bank. The higher the ratio percentage, the more efficient management is in utilizing its equity base and the better return is to investors.

d) Net Interest Margin (NIM)

Net interest margin (NIM) is a measure of the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets.

It is a performance metric that examines how successful a bank's investment decisions are compared to its debt situations. A negative value denotes that the firm did not make an optimal decision, because interest expenses were greater than the amount of returns generated by investments.

Although net income gives an idea of how well a bank is doing, it suffers from one major drawback: It does not adjust for the bank's size, thus making it hard to compare how well one bank is doing relative to another or at various levels of asset position. Return on Equity on the other hand is concerned about how much the bank is earning on owners equity investment instead of earning assets. In addition to this, the major weakness of Net Interest Margin as a measure of profitability is that it focuses only on income related to interest by disregarding other forms of income like fees,

commissions and others. In general, the aforementioned measurements fail to show the overall performance of a bank. Therefore, for this specific study, the researcher preferred to use ROA as a measure of bank performance due to the above mentioned reasons.

2.2. Empirical Review

A study undertaken by Obilor (2013) on the same topic in Nigerian commercial banks with a sample of 3 commercial banks came up with the finding that for banks to resolve the liquidity/profitability trade-off, there is a need for each bank to determine its optimal liquidity position.

The researcher has identified 3 variables such as Bank cash asset, Bank balances, and Treasury Bills and Certificate of Deposit as its independent variables and profit as dependent variable. The source of data and method of data analysis employed by this study were secondary data and regression analysis respectively.

Bordeleau & Graham (2010) the question of liquidity impact on banking profitability is a complex issue which could depend upon many factors, including the bank's business model.

Tseganesh (2014) that tries to identify determinants of commercial banks liquidity in Ethiopia and then to spot the impact of banks liquidity upon financial performance through the significant variables explaining liquidity. Balanced fixed effect panel regression was used for the data of eight commercial banks in the sample covered the period from 2000 to 2011. Eight factors affecting banks liquidity were selected and analyzed.

Dereje (2015), made an exploratory study titled assessment of liquidity risk management practices at Wegagen Bank. The researcher used questionnaires, interview and annual audited reports and identified that the Bank has been trying to establish independently organized liquidity risk management functions and established Asset Liability Management Committee and put in place polices and limits though they are not effective in dealing with liquidity risks. Despite the Bank has a problem in monitoring and controlling liquidity position in light of the existing

policies and limits, weak management information system and there exist concentration risk of funding sources.

Pradhan & Shrestha (2016) Indicated that increase in liquidity ratio and quick ratio leads to decrease in the performance and profitability of the Nepalese commercial banks. Rifat (2016) analyzed a panel data-set consisting of seven NBFI with a time-span of 12 years (2003-2014) is analyzed for this purpose. Among macroeconomic variables, GDP growth rate, inflation rate and broad money in GDP are used. To capture management ability, firm-specific variables like, loan growth, loan to asset ratio, return on asset and relative size of firm were included in the study. Results show that firm-specific factors were more significant for non-performing loan of the NBFIs. Among macroeconomic variables, money supply was found to have significant impact.

Hakimi & Zaghdoudi (2017) aim to investigate the effect of liquidity risk on bank performance. To this end, resercher used a sample of 10 Tunisian banks during the period 1990-2013. The econometric method served in this study is panel data analysis precisely the random effect model. Empirical results show that liquidity risk decreases significantly bank performance. Also, findings indicate that international financial crisis and inflation act negatively and significantly on bank performance. However, the effect of the other bank specifics such as credit risk, size and capital adequacy ratio are not significant.

Akhtar (2018) revealed the results of the empirical study indicate that liquidity and profitability combined explain about 66.23% and 98.85% of the bank's operating efficiency under Fixed Effect Regression Model and Panel Correlated Standard Error Model respectively, and after maintaining minimum liquidity, banks are motivated to follow high quality lending policy and ensure proper utilization of their customer's deposits and borrowings through making high-quality loan portfolio to ensure earnings for their shareholders.

Chen et al. (2018) The question of liquidity impact on banking profitability is a complex issue which could depend upon many factors, and different financial systems within which the bank is operating.

Abbas et. al., (2019) The study shows that the liquidity has strong influence on profitability as compared to other variables.

Paul, Bhowmik and Famanna (2020) investigate the effect of banks' liquidity on its profitability. A quantitative analysis is performed on a statistical sample of forty (40) commercial banks in Bangladesh. Secondary data is used to evaluate the performance of the last ten years (2009-2018) of the annual report of the commercial banks in Bangladesh. It is observed that LDR, DAR and CDR had a substantial effect on the profitability measured as ROE, but LAR and CR proved insignificant. Therefore, it can be concluded that, in general, the impact of liquidity has a significant effect on the profitability in the commercial banking sector of Bangladesh.

Lebbaz, & Boukhari, (2020). The study conducted a panel regression analysis, to estimates the variation of the performance measures using fixed and random effects methods, after that, a Hausman's test was established to determine the appropriate model to estimate. The results show that financial performance in Algerian banks measured using ROA and ROE, have a significant relationship with both bank specific variables and macroeconomic variables: interest rate risk (IRR), funding liquidity ratio (FL), provision to total loans ratio (PTL), GDP, inflation, real exchange rate (USD/DZD) and to real interest rate. Findings also indicate that Algerian banks need to improve loan quality and have sound credit risk management procedures

2.3 Conceptual Framework

Summarizing the results from numerous studies; Liquidity ratio and loan to deposit ratio (Adebayo et.al. 2011 and Oblior, 2013) were taken as internal factors affecting banks performance. On the other hand; Gross Domestic Product, inflation, interest rate and NBE Bills to Net Loans and Advances ratio were among the external factors that can affect the Overall, the framework shows the internal and external factors as the independent variables and bank profitability, which is expressed as Return on Asset as the dependent variable.

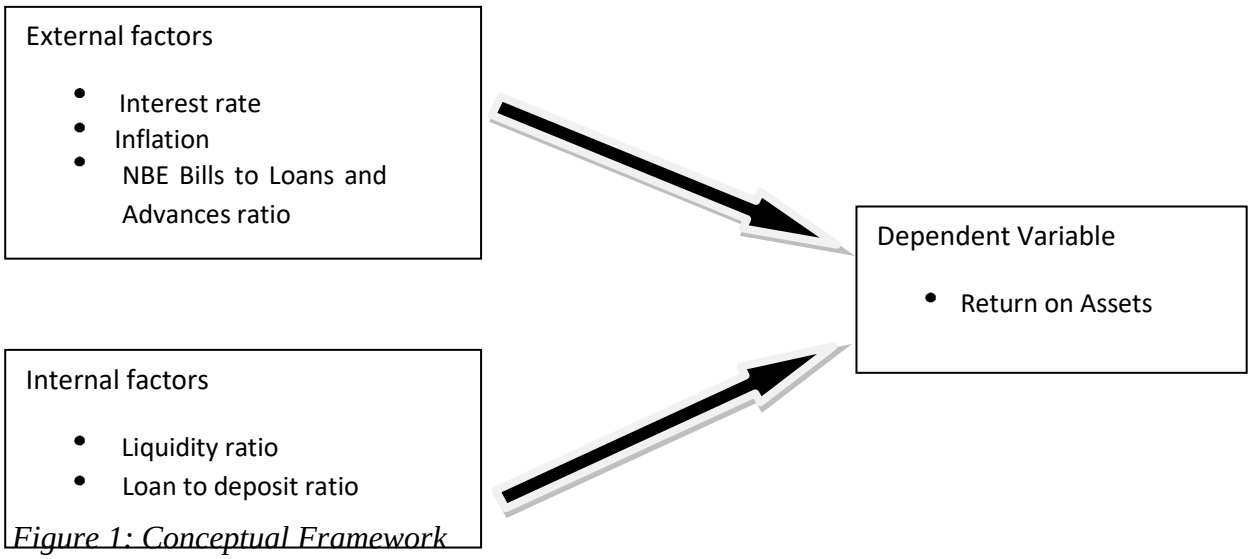

Figure 1: Conceptual Framework

Note : From performance of a particular bank (NABIL Bank LTD and NICA Bank LTD).

2.3.1 Definition of Terms

For the purpose of this paper,

i. **Interest rate**: refers to the cost of fund that will be incurred by commercial banks while mobilizing deposits. In fact, the minimum rate of saving deposit is determined by NBE.

ii. **Annual Inflation rate**: it measures the overall percentage increase in consumer price indices for all goods and services. considering the findings of previous studies (Demirguc-Kunt & Huizinga, 1999), proposed a positive association between inflation and bank profitability. In consideration of this, the study is expected to show a positive relationship between inflation rate and performance of the private commercial banks.

iii. **Profitability :** It is a business ability to produce a return on an investment based on its resources in comparison with an alternative.

iv. **Liquidity ratio:** here liquidity was measured as the ratio of liquid assets to total current liabilities.

v. **Loans to Deposit Ratio**: the ratio of credit to deposits may give indications of the ability of the bank to mobilize deposits to meet credit demand. This

indicates the degree to which a bank can support its core lending business through its deposits.

vi. **Return on Assets (ROA):** shows how profitable a company's assets are in generating revenue. Return on assets is computed as net income divided by average total assets

2.4 Research Gap

From the above literature, it can be concluded that there is no any similar findings of the studies. Most of the studies have used either time series or cross section data. In the context of Nepal only few efforts have been made to examine the issue related to liquidity and profitability. It is clear that the new research cannot found on that extent topic comparative analysis on liquidity and profitability analysis of these two selected banks. Under this topics many researcher have been done but none of the researcher undertaken regarding the study of impact of liquidity on profitability analysis of NABIL Bank Limited and NICA Bank Limited. NABIL banks is consider as a blue-chip bank and of the well managed bank in banking sector and NICA Bank is the example of one of the fastest growing banks for commercial banking sector in Nepal.. Hence, this study fulfills the prevailing research gap about the in depth analysis of liquidity and profitability which is the major concern of the shareholders and stakeholders, not only that because of COVID-19 pandemic entire world is suffering from economic crises and it's the one of the major question of now and challenging situation to commercial banks for managing liquidity levels and sustain profitability. Specifically, the study is primarily designed to fill the gap of similar studies in Nepalese context. This study has attempted to carry out distinctly from the previous studies in terms of sample size, nature of the sample firms and the research methodology used. This study has covered 2 blue-chip banks with 5 years data. This study mostly used foreign writer's articles to explore impact of liquidity on profitability of commercial banks. This study has applied casual comparative research design and descriptive research design to explore the in depth analysis. Though, a number of studies in various developing and developed countries have been carried out, findings of these studies may not be applied in Nepalese context. The study attempted to explore the various factors affecting the impact of the liquidity on profitability of Nepalese commercial banks.

CHAPTER III
RESEARCH METHODOLOGY

Research method is plan to obtain to answer of the research questions throw analysis the data. It is systematic way to solving the overall problem. Research methodology refers overall process to analysis the data and finding and solving the problems. Research methodology refers to the overall research process, which a researcher conduct during their overall study. Research can be conducted based on various data. Here in the study all the data and observe data are analyzed with using appropriate financial tools, To evaluate, analyze and interpret on every subject and discipline a detailed research plan is required. On top of this, the type of model and the components of the model meaning both the dependent and the independent variables together with model specification will be explained

3.1 Research framework

The general objective of this study will be investigating the impact of liquidity on profitability of NABIL Bank and NIICA Bank to conduct the research, a mixed use approach will be employed. The use of such mixed approach would substantiate and validate the finding from different data sources. In this research historical data are used to identify and analyze the liquidity and profitability of sample of banks. In line with this, the study will use inferential statistical tool such as correlation, regression to analyze the secondary data and to make comparative study between these two banks.

3.2. Sources and Tools of Collection

The study based on the secondary data, secondary data are used to analyze historical tools in liquidity management and measuring profitability after defining the research design, how the work comes to define the sources of relevant data for the research study. The audited annual financial statements of the Bank will be used in order to gather the required secondary data to investigate the relationship that prevails between liquidity and profitability of the Bank as well as to find out the extent to which liquidity affects profitability of the Bank. On top of this, annual reports of will be used to evaluate the effect of external factors on performance of the Bank. However, besides the annual report various others sources of data have also been used for the

purpose of the study plan documents, newspaper, magazine, economic journal, NRB reports etc.

3.3. Population and Samples

The population of the study is 27 commercial banks in Nepal and their annual report published since their establishment. In order to observe the the impact of financial distress on profitability of Nepalese commercial banks, this study contains a sample of 2 commercial banks of Nepal for the time period of 2016/17 to 2020/21. The samples of banks are as follows :-

- Nepal Arab Bank Limited (NABIL)
- Nepal Industrial and Commercial Bank and Bank Of Asian (NICA)

NABIL bank is taken as a sample among population because it is a first bank in Nepal incepted by multinational (primarily foreign) investors (as Nepal Arab Bank Ltd) on 12 July 1984. Nabil bank consider as the blue chip in commercial banking sector. The bank was incorporated with the objective of providing modern, international-standard financial services to businesses. It is the nation's first private sector bank, commencing its business in Nepal. The bank has proven that, they posses leading capacity in terms of service, deposit and profit.

NICA bank is taken as a sample among population because in the past few year they have prove that NICA is also a strong competitor in commercial bank sector. By their intense corporate policy, expansion of their branches, and sophisticated service they have succeed to increase deposit drastically and break through on profit scenario of bank. NICA bank has drastically improved their management, investing sector, and drastically changed in profit as well, they has succeed to be the highest deposits from customer among the commercial banks of Nepal. NICA has deposited of RS 268.1 Arba until Poush end, 2077.

3.4. Method of Analysis

Various financial tools have been used in the study. The analysis of the data will be done according to pattern of data available. The relationship between different figures topic will be drawn out using ratios analysis. The various calculated results are then

tabulated under different heading which are later compared each other to interpret the result.

3.5 Data Analysis Tools

The study will use correlation and regression technique to analyze the secondary data which will be collected from the Bank's audited financial statements and other secondary sources. This method was chosen due to the nature of the data which comprise of time-series elements reflected by the period of study FY 2016/017 to FY 020/021.

The various results obtained with the help of financial, accounting and statistical tools are tabulated under different headings. Then they are compared with each other to interpret the results. Two kinds of tools have been used to achieve the certain goals.

- Financial Tools
- Statistical Tools

3.5.1 Financial Tools

1. Total liquid fund to current liabilities ratio (LFTCLR) :-

It indicates that the ratio total liquid fund on current liabilities (i.e., Sum of Current Deposits, Saving Deposits, Bills payables and Creditors) as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment opportunity.

$$\text{LFTCLR} = \frac{\text{Total Liquidity Fund}}{\text{Current Liabilities}}$$

2. Liquid fund to deposit ratio (LFTDR) :-

It shows that the ratio between total liquid fund (i.e., cash balance plus outside bank balance and money at call) and total deposits collection by the commercial banks. Higher ratio indicates more sound liquidity position of the banks.

$$\text{LFTDR} = \frac{\text{Total Liquid Fund}}{\text{Total Deposits}}$$

3. Liquid fund to total asset ratio (LFTAR) :-

It shows the ratio of total liquid fund on total assets as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment opportunity

$$\text{LFTAR} = \frac{\text{Total Liquidity Fund}}{\text{Total Assets}}$$

4. NRB Balance to total deposit ratio :-

It indicates ratio of the amount deposited in Nepal Rastra Bank and total deposits collected by the commercial banks. Higher ratio means that there is a high liquidity position in the banks.

$$\text{NRBTDR} = \frac{\text{NRB Balance}}{\text{Total Deposits}}$$

5. Cash in hand to total deposit ratio (CHTDR) :-

It is the ratio of cash balance on total deposit collection by the commercial banks. Higher ratio indicates there is a sufficient cash balance to pay creditors of the banks.

$$\text{CHTDR} = \frac{\text{Cash in hand}}{\text{Total Deposits}}$$

6. Cash and bank balance to total deposit ratio (CABTDR) :-

It shows the ratio of cash and bank balance on total deposits per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that gives more useful for new investment opportunity.

$$\text{CABTDR} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

7. Return on asset (ROA) :-

It shows the ratio of net profit after tax as per given in profit and loss account to total assets as shown in balance sheets of the NABIL and NICA. Higher ratio shows the higher profitability position of the banks that gives the strength of the banks. Though

different indicators can be used to measure the profitability of banks, return on assets (ROA) is used in this study as per given in annual reports of the NABIL and NICA.

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

Though different indicators can be used to measure the profitability of banks, return on assets (ROA) is used in this study as per given in annual reports of the sampled banks.

3.6 Statistical Tools

To meet the objectives of the study statistical tools are equally important. It helps us to analyze the relationship between two or more variables. In this research, Simple analytical tools are used such as coefficient of determination, regression, probable error, standard deviation, Karl Pearson's coefficient of correlation; trend analysis adopted which are as follows:

i. Mean

The most popular and widely used measure of representing the entire data by the one value is known as average. Its value is obtained by adding together all times and the summation of times is divided by the number of sample periods. If the past items of the sample periods are $X_{t,\ number}$ of periods are, then Mean is defined as follows.

ii. Standard Deviation (S.D.)

The standard deviation is an important and widely used measure of dispersion. The measurement of the scatterings of the mass of figure in a series about an average is known as dispersion. The greater the value of dispersion, greater the standard deviation. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series; a large standard deviation means just the opposites it is denoted by the letter σ**.**

$$S.D(\sigma) = \sqrt{\frac{\sum(X-\bar{X})^2}{N-1}}$$

Where,

N = Number of observations

X = Expected return of the historical data

iii. Coefficient of Variation (C.V.)

The coefficient of variation is the most commonly used measure of relative variation. It is used in such problems where the researcher wants to compare the variability of more than two years. Greater the C.V, the variable or conversely less consistent, less uniform, more consistent, more uniform, more stable and homogeneous.

$$C.V. = \frac{Standard\ Deviation}{Expected\ Return}$$

iv. Coefficient of corrélation (r)

This statistical tool has been used to analyze, identify and interpret the relationship between two or more variables. It interprets whether two or more variables are correlated positively or negatively. Statistical tool analyses the relationship between those variables and helps the selected banks to make appropriate investment policy regarding to profit maximization and deposit collection; fund mobilization through providing loan and advances.

For the purpose of decision-making, interpretation is based on following term:

- When r = 1, there is perfect positive correlation.
- When r = -1, there is perfect negative correlation.
- When r = 0, there is no correlation.

Regression Coefficients

Regression coefficients are estimates of the unknown population parameters and describe the relationship between a predictor variable and the response. In linear regression, coefficients are the values that multiply the predictor values The regression coefficients are a statically measure which is used to measure the average functional relationship between variables. In regression analysis, one variable

is dependent and other is independent. Also, it measures the degree of dependence of one variable on the other(s).

v. Probable Error (P.E)

Probable error is measured for testing the reliability of an observed value of correlation coefficient. It is computed to find the extent to which it is dependable. If correlation coefficient is greater than 6 times P.E the observed value of r is said to be significant, otherwise nothing can be concluded with certainty. But if the calculated (r) is less than the P.E correlation is not at all significant. It is calculated by using following formula:

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

Where,

P.E. (r) = Probable error of correlation coefficient

r = Correlation coefficient

n = Number of observations

CHAPTER IV
RESULT AND DISCUSSION

From various sources and also presents and analyzes them to measure the various dimensions of the problems of the study. This is the section where, the filtered data are presented and analyzed. This is one of the major chapters of this study because it includes detail analysis and interpretation of data from which concrete result can be obtained. This chapter consists of various Calculation made for the financial performance analysis of the sample banks. To make our study effective, precise and easily understandable, this chapter is categorized in five parts. The first section deals with data presentation and analysis, second section deals with descriptive statistics, third section deals with the correlation analysis, fourth section deals with regression analysis and the final section wraps up this chapter with concluding remarks about the result derived from the secondary data.

4.1 Data Presentation and Analysis

This chapter "Data presentation and Analysis" is an important part of the study. Here, the calculated data are interpreted and analyzed to fulfill the objectives of this research. Under this chapter various financial ratios are used which are related to analyze the investment policy of the selected banks. The financial indicators of selected banks are compared with the help of statistical tools i.e. mean, S.D etc.

4.1.1 Liquidity Ratio

Liquidity ratios focus on current assets and liabilities and are use to ascertain the short-term solvency position of a firm. Following ratios are used to measure the liquidity position of sample banks.

4.1.1.1 Liquid fund to deposit ratio (LFTDR)

It shows that the ratio between total liquid fund (i.e., cash balance plus outside bank balance and money at call) and total deposits collection by the commercial banks. Higher ratio indicates more sound liquidity position of the banks.

$$\text{LFTDR} = \frac{\text{Total Liquid Fund}}{\text{Total Deposits}}$$

The following table shows the LFTDR of sample banks over the past five years of the study period.

Table 1

Liquid fund to deposit ratio

Year	**NABIL**	**NICA**
2016/2017	28.64	22.89
2017/2018	18.9	18.32
2018/2019	23.5	25.49
2019/2020	24.06	18.18
2020/2021	17.36	13.36
Mean	22.49	19.65
S.D	4.4864	4.693

Noted from: Appendix A1 and Appendix A8.

Table 1 show that the highest LFTDR ratio of NABIL and NICA are 28.64percent and 25.49 percent respectively. Similarly, the lowest LFTDR ratio maintained by NABIL and NICA are 17.36 percent and 13.36 percent respectively. The mean value of LFTDR ratio of NABILis 22.49 percent, which are greater than that of NICA 19.65 percent. This shows that NABIL has maintained higher LFTDR ratio in average as compared to NICA. Also comparing two banks, S.D. of NABIL i.e. 4.4864 is lower than that of NICA 4.693.So; NABIL is less risky than NICA in term of S.D.

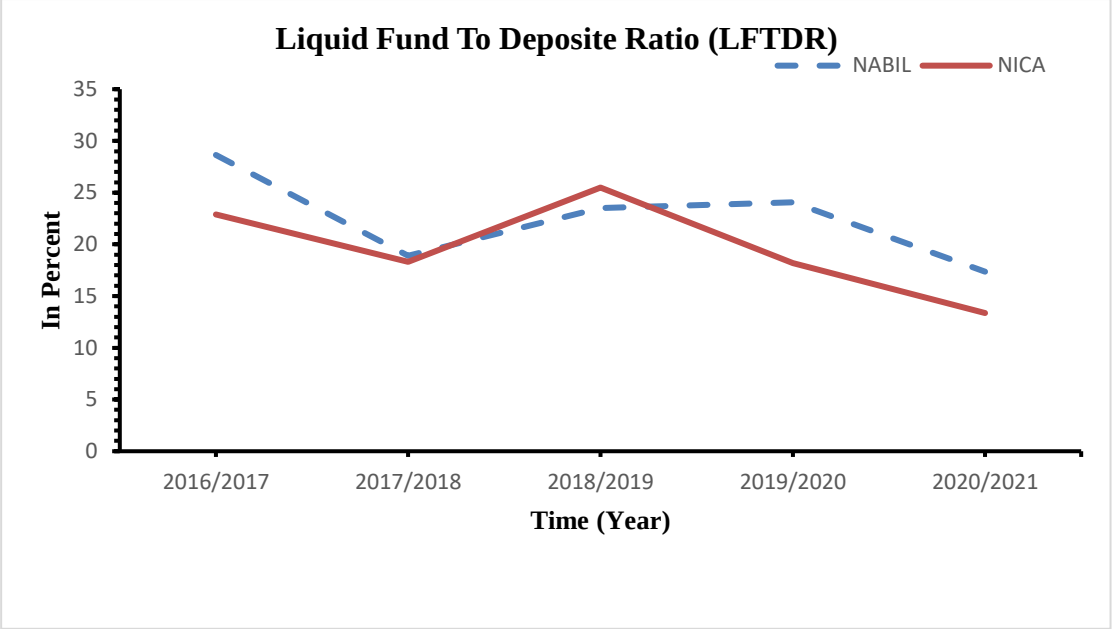

Figure 1: Liquid fund to deposit ratio

The above figure 4.1 shows that Liquid fund to deposit ratio (LFTDR) of NICA seem quite volatile. LFTAR has rapidly increased in FY 2018/019 and has continuously decreased thereafter. On the other hand, Liquid fund to deposit ratio (LFTDR) of NABIL has highest in FY 2016/017 then in FY 2018/19 LFTDR is increased then after NABIL tries to attend LFATR in constant position, which is NABIL strong point comparing with NICA.

4.1.1.2 Liquid fund to total asset ratio (LFTAR)

It shows the ratio of total liquid fund on total assets as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment opportunity.

$$\text{LFTAR} = \frac{\text{Total Liquidity Fund}}{\text{Total Assets}}$$

The following table shows the LFTAR of sample banks over the past five years of the study period.

Table 2

Liquidity fund to total asset ratio

Year	NABIL	NICA
2016/2017	23.36	17.74
2017/2018	15.83	14.96
2018/2019	19.04	19.7
2019/2020	19.32	14.63
2020/2021	13.33	11.07
Mean	18.176	15.62
S.D	3.805	3.288

Noted from: Appendix A2 and Appendix A9.

Table 2 show that the highest LFTAR ratio of NABIL and NICA are 23.36 percent and 19.7percent respectively. Similarly, the lowest LFTAR ratio maintained by NABIL and NICA are 13.33 percent and 11.07 percent respectively. The mean value of LFTAR ratio of NABIL is 18.176 percent, which are greater than that of NICA 15.62 percent. This shows that NABIL has maintained higher LFTDR ratio in average as compared to NICA. Also comparing two banks, S.D. of NICA i.e. 3.288 is lower than that of NABIL 3.805. So, NICA is less risky than NABIL in term of LFTAR rat.

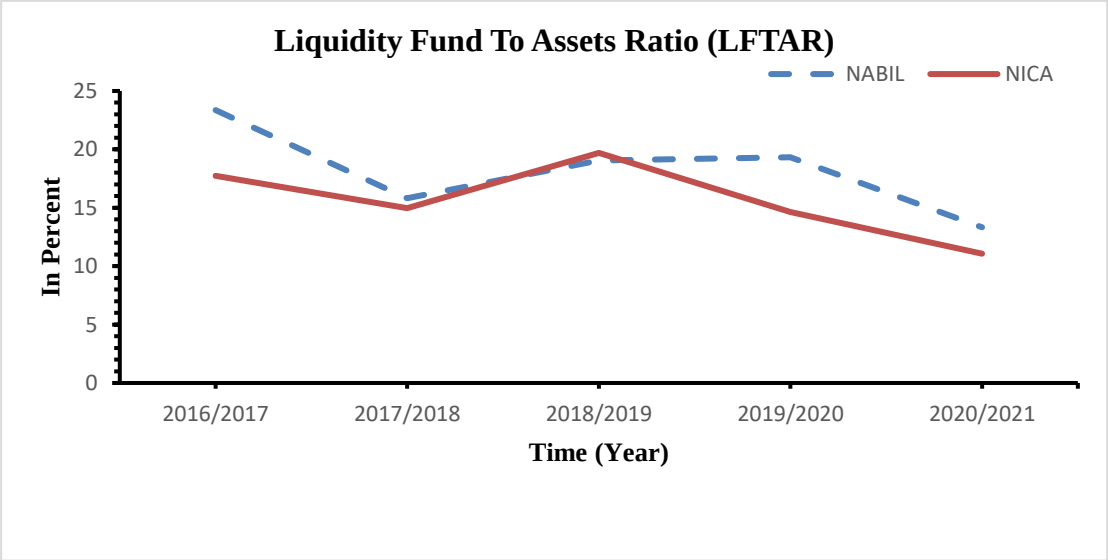

Figure 2 Liquid fund to total asset ratio

In the above figure 4.2 shows thar LFATR of NICA has fluctuating constantly. In FY 2018/19 it has in the peak thereafter, it has continuously decreased. NABIL has also

seems to be very fluctuating it has highest peak in FY 2016/017 then is decline directly and tries to recover their position from FY 2017/018 to 2019/020 and again it declined in FY 2020/2021.

4.1.1.3 NRB Balance to total deposit ratio (NRBTDR)

It indicates ratio of the amount deposited in Nepal Rastra Bank and total deposits collected by the commercial banks. Higher ratio means that there is a high liquidity position in the banks.

$$\text{NRBTDR} = \frac{\text{NRB Balance}}{\text{Total Deposits}}$$

The following table shows the NRBTDR of sample banks over the past five years of the study period.

Table 3

NRB Balance to total deposit ratio

Year	**NABIL**	**NICA**
2016/2017	4.45	12.88
2017/2018	4.39	11.36
2018/2019	4.52	9.39
2019/2020	10.5	9.29
2020/2021	3.58	3.16
Mean	5.488	9.216
S.D	2.8275	3.699

Noted from: Appendix A3 and Appendix A10.

Table 3 show that the highest NRBTDR ratio of NABIL and NICA are 10.5 percent and 12.88percent respectively. Similarly, the lowest NRBTDR ratio maintained by NABIL and NICA are 3.58 percent and 3.16 percent respectively. The mean value of NRBTDR ratio of NABIL is 5.488%, which are lesser than that of NICA 9.216 percent. This shows that NICA has maintained higher NRBTDR ratio in average as compared to NABIL. Also comparing two banks, S.D. of NABIL i.e. 2.8275 is lower than that of NICA 3.699. So, NABIL is less risky than NICA in term of NRBTDR ratio.

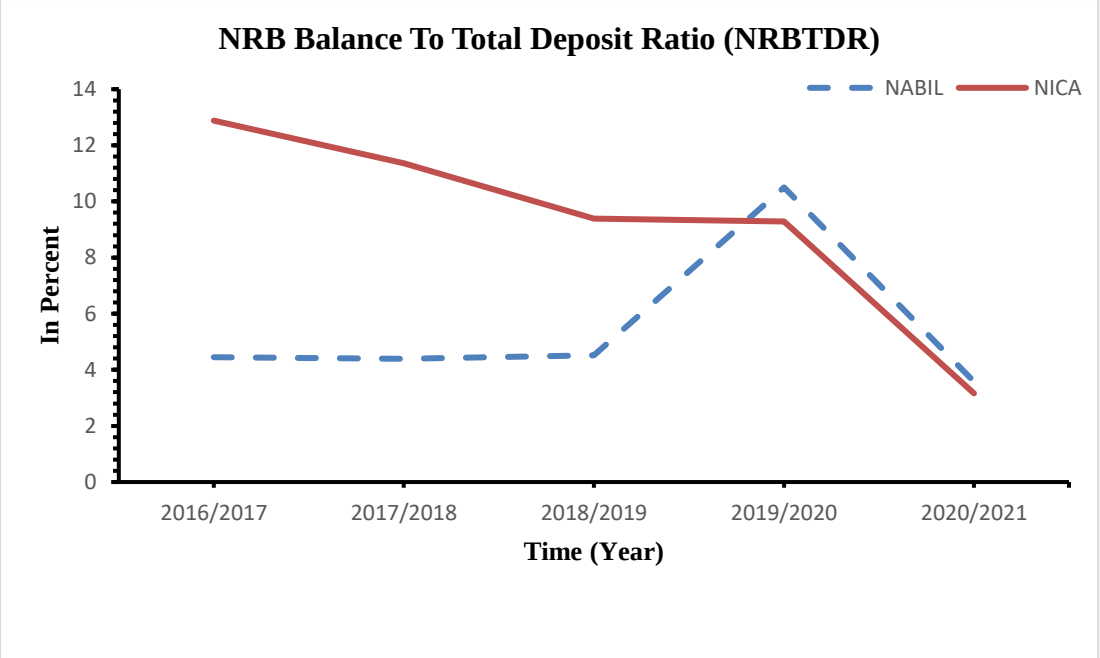

Figure 3 NRB Balance to total deposit ratio

In Figure 4.3 NABIL bank has constantly maintained their NRBTDR from FY 2016/07 at almost same point and in FY 2019/18 NABIL has drastically increased their NRBTDR then again it is drop to almost same point of last FY. NICA has highest NRBDTR in FY 2016/17 and has continuously decreased thereafter, which is not good sign for organizational health.

4.1.1.4 Cash in hand to total deposit ratio (CHTDR)

It is the ratio of cash balance on total deposit collection by the commercial banks. Higher ratio indicates there is a sufficient cash balance to pay creditors of the banks.

$$\text{CHTDR} = \frac{\text{Cash in hand}}{\text{Total Deposits}}$$

The following table shows the CHTDR of sample banks over the past five years of the study period

Table 4

Cash in hand to total deposit ratio

Year	NABIL	NICA
2016/2017	6.1	4.35
2017/2018	31.2	5.83
2018/2019	7.66	11.79
2019/2020	2.52	6.1
2020/2021	3.26	8.32
Mean	10.15	7.28
S.D	11.952	2.894

Noted from: Appendix A4 and Appendix A11.

Table 4 show that the highest CHTDR ratio of NABIL and NICA are 31.2 percent and 11.79 percent respectively. Similarly, the lowest CHTDR ratio maintained by NABIL and NICA are 2.52 percent and 4.35 percent respectively. The mean value of CHTDR ratio of NABIL is 10.15 percent, which are higher than that of NICA 7.28 percent. This shows that NABIL has maintained higher CHTDR ratio in average as compared to NICA. Also comparing two banks, S.D. of NABIL i.e. 11.952 is higher than that of NICA 2.894. So, NICA is less risky than NABIL in term of CHTDR ratio.

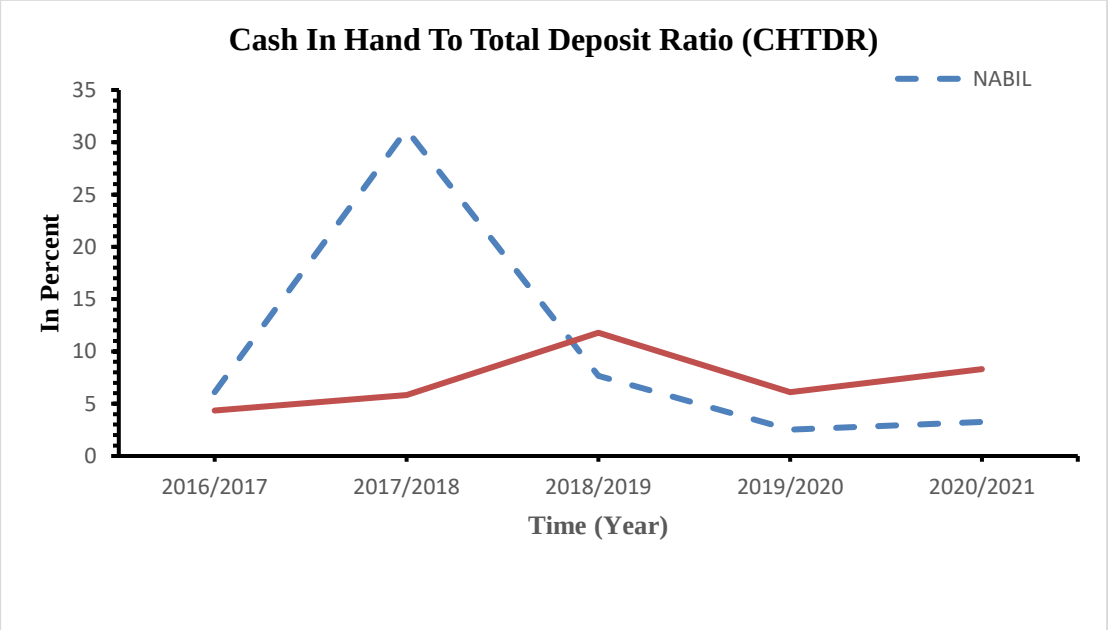

Figure 4 Cash in hand to total deposit ratio

The above figure 4.4 shows that CABTDR of NABIL has volatile trend comparing with NICA from FY 2016/017 to 2017/018 it has increased drastically and thereafter it has direct fall up to 2019/020 and then in FY 2020/021 it has slightly increased. NICA has continuously increased up to FY 2018/019 and it has slightly decreased and again increases.

4.1.1.5 Cash and bank balance to total deposit ratio (CABTDR)

It shows the ratio of cash and bank balance on total deposits per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that gives more useful for new investment opportunity.

$$\text{CABTDR} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

The following table shows the CABTDR of sample banks over the past five years of the study period.

Table 5

Cash and bank balance to total deposit ratio

Year	NABIL	NICA
2016/2017	28.62	19.1
2017/2018	18.9	17.41
2018/2019	18.26	21.41
2019/2020	18.37	15.38
2020/2021	11.27	11.49
Mean	19.08	16.96
S.D	6.189	3.775

Noted from: Appendix A5 and Appendix A12.

Table 5 show that the highest CABTDR ratio of NABIL and NICA are 28.62 percent and 21.41 percent respectively. Similarly, the lowest CABTDR ratio maintained by NABIL and NICA are 11.27 percent and 11.49 percent respectively. The mean value of CABTDR ratio of NABIL is 19.08%, which are higher than that of NICA 16.96 percent. This shows that NABIL has maintained higher CABTDR ratio in average as compared to NICA. Also comparing two banks, S.D. of NABIL i.e. 6.189 is higher

than that of NICA 3.775. So, NICA is less risky than NABIL in term of CABTDR ratio.

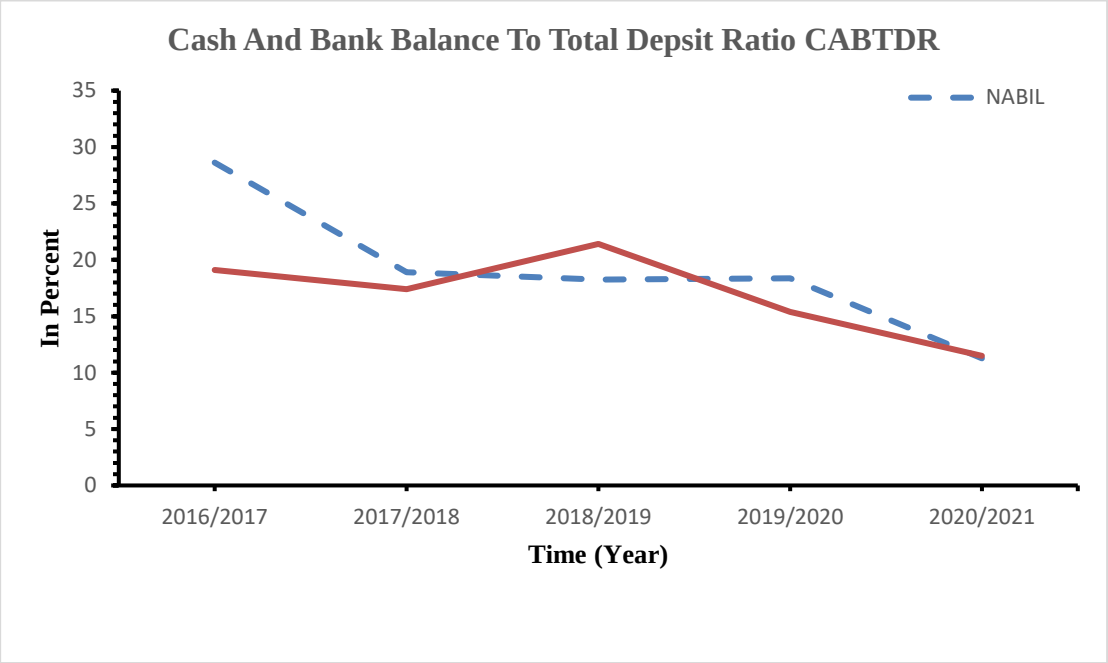

Figure 5 Cash and bank balance to total deposit ratio

In the above figure NABIL is Continuously declined form 2016/017 to 2020/2021 making bad reputation of company. NICA has tried to maintain sustainable CABTDR and increased in FY 2018/19 but thereafter it also declines.

4.1.1.6 Total liquid fund to current liabilities ratio (LFTCLR)

It indicates that the ratio total liquid fund on current liabilities (i.e., Sum of Current Deposits, Saving Deposits, Bills payables and Creditors) as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment opportunity.

$$\text{LFTCLR} = \frac{\text{Total Liquidity Fund}}{\text{Current Liabilities}}$$

The following table shows the LFTCLR of sample banks over the past five years of the study period.

Table 6

Total liquid fund to current liabilities ratio

Year	NABIL	NICA
2016/2017	23.78	18.19
2017/2018	16.16	15.97
2018/2019	19.41	20.28
2019/2020	19.65	15.11
2020/2021	13.58	11.44
Mean	18.52	16.2
S.D	3.864	3.3356

Noted from: Appendix A6 and Appendix A13.

Table 6 show that the highest LFTCLR ratio of NABIL and NICA are 23.78 percent and 20.28percent respectively. Similarly, the lowest LFTCLR ratio maintained by NABIL and NICA are 13.58 percent and 11.44 percent respectively. The mean value of LFTCLR ratio of NABIL is 18.52 percent, which are higher than that of NICA 16.2 percent. This shows that NABIL has maintained higher CABTDR ratio in average as compared to NICA. Also comparing two banks, S.D. of NABIL i.e. 3.864 is higher than that of NICA 3.3356. So, NICA is less risky than NABIL in term of LFTCLR ratio.

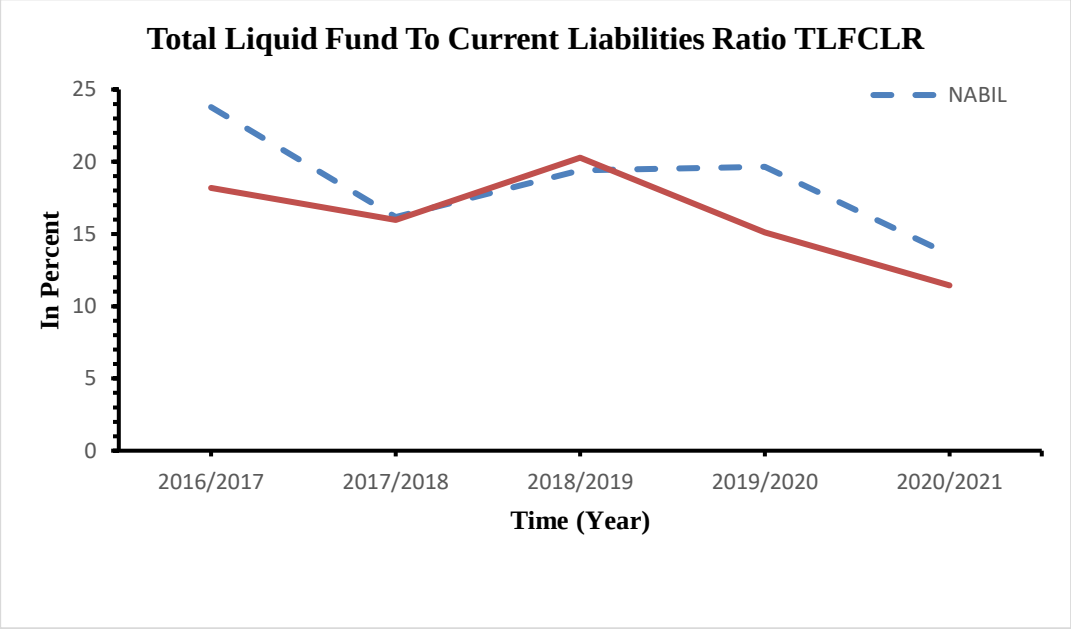

Figure 6 Total liquid fund to current liabilities ratio

The above figure 4.6 Depicts that LFCLR of NABIL bank has volatile trend in other hand NICA has highest in FY 2018/019 then thereafter it has continuously declined.

4.1.2 Profitability Ratio

Profitability ratios focus on profit of particular organization. There are many ways to determine the profit of commercial banks but we have use ROA as a major factor of profitability.

4.1.2.1 Return on asset (ROA)

It shows the ratio of net profit after tax as per given in profit and loss account to total assets as shown in balance sheets of the NABIL and NICA. Higher ratio shows the higher profitability position of the banks that gives the strength of the banks. Though different indicators can be used to measure the profitability of banks, return on assets (ROA) is used in this study as per given in annual reports of the NABIL and NICA.

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

Though different indicators can be used to measure the profitability of banks, return on assets (ROA) is used in this study as per given in annual reports of the sampled banks. The following table shows the Return on asset of sample banks over the past five years of the study period.

Table 7

Return on asset

Year	**NABIL**	**NICA**
2016/2017	2.5708	1.3243
2017/2018	2.4736	0.7809
2018/2019	2.1074	1.3763
2019/2020	1.4571	1.2365
2020/2021	1.5555	0.9398
Mean	2.033	1.13
S.D	0.512	0.259

Noted from: Appendix A7 and Appendix A14.

Table 7 show that the highest ROA ratio of NABIL and NICA are 2.5708 percent and 1.3763 percent respectively. Similarly, the lowest ROA ratio maintained by NABIL and NICA are 1.4571 percent and 0.7809 percent respectively. The mean value of LFTDR ratio of NABIL is 2.033 percent, which are greater than that of NICA 1.13 percent. This shows that NABIL has maintained higher ROA ratio in average as compared to NICA. Also comparing two banks, S.D. of NABIL i.e. 0.512 is lower than that of NICA 0.259. So, NABIL is less risky than NICA in term of S.D.

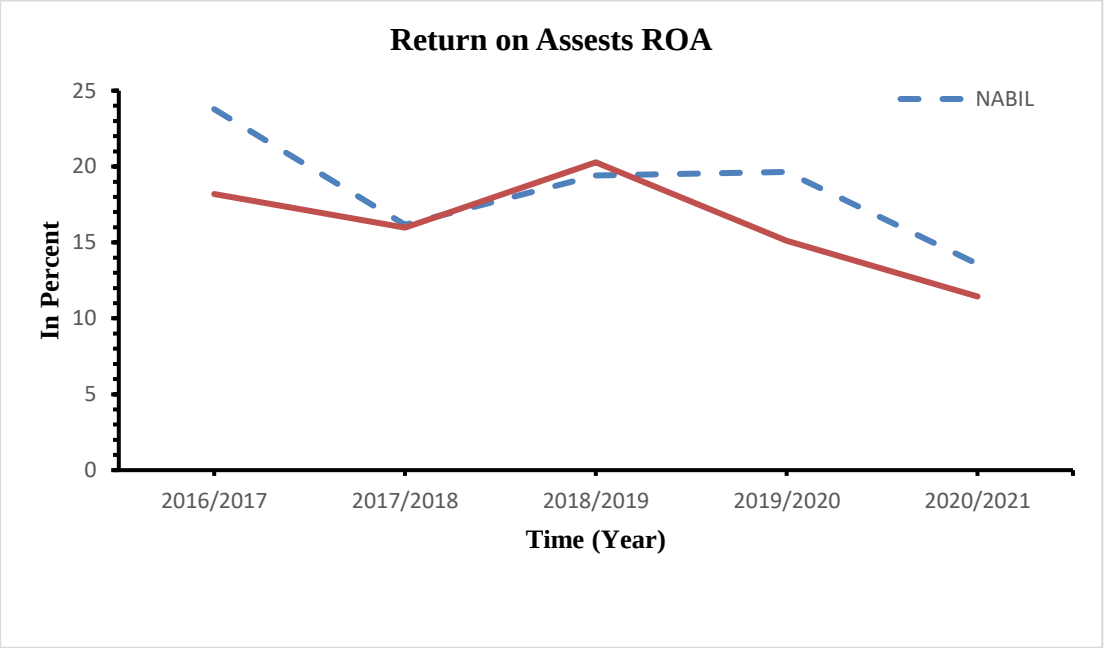

Figure 7 Return on asset

The above figure 4.7 Shows that NABIL ROA has declined from FY 2016/017 to FY 2019/020 and again slightly increased in FY 2020/021. NICA ROA has very volatile in nature but has no match with NABIL ROA.

4.2 Descriptive analysis

The descriptive statistical used in this study consists of mean, median, standard deviation minimum and maximum values associated with variables under consideration. Table summarizes the descriptive statistics for the Nepalese commercial banks used in this study during the period 2016/17 through 2020/21 for 2 sample commercial banks of Nepal. This table shows the descriptive statistics of dependent and independent variables. Dependent variables is ROA (Return on asset defined as net income to total assets, in percentage) and independent variables are

LFTDR (Liquid fund to total deposit ratio), LFTAR (Liquid fund to total asset ratio), NRBTDR (NRB balance to total deposit ratio), CHTDR (Cash in hand to total deposit ratio), CABTDR(Cash and bank balance to total deposit ratio) and LFTCLR(Total liquid fund to current liability ratio). The descriptive statistics are based on panel data of 2 banks with 10 observations for the period of 2016/17 to 2020/21 in Nepal.

Table 8

Descriptive statistics

Variables	N	Minimum	Maximum	Mean	Median
ROA	10	0.7809	2.5708	1.5822	1.4167
LFTDR	10	13.36	28.64	21.07	20.895
LFTAR	10	11.07	23.36	16.9	16.78
NRBTDR	10	3.16	12.88	7.35	6.9
CHTDR	10	2.52	31.2	8.713	6.1
CABTDR	10	11.27	28.62	18.021	18.315
LFTCLR	10	11.44	23.78	17.357	17.175

Noted from: Researcher calculation

Table 8 shows the descriptive statistics of dependent and independent variables for the Nepalese Commercial banks. Clearly, return on assets ranges from minimum of 0.7809 percent to maximum of 2.5708 percent leading to an average of 1.5822 percent. The average LFTDR of selected banks during the study period is noticed to be with a minimum of 13.36 percent and a maximum of 28.64 percent with an average of 21.07 percent. Likewise, LFTAR revealed a minimum of 11.07 percent to maximum of 23.36 percent with an average of 16.9 percent. The average of NRBTDR of selected banks during the study period is noticed to be 7.35 percent with minimum of 3.16 percent and maximum of 12.88 percent. Similarly, the average of CHTDR during the study period is noticed to be 8.713 percent with a minimum of 2.52 percent and a maximum of 31.2 percent. And the average ratio of CABTDR ranges from minimum of 11.27 percent to maximum of 28.62 percent, leading to an average 18.021 percent. However the average LFTCLR of selected banks during the study period is noticed to be with a minimum of 11.44 percent and a maximum of 23.78 percent with an average of 17.357 percent.

4.3 Correlation analysis

Pearson's correlation is used to analyze the relationship between LFTDR, LFTAR, NRBTDR, CHTDR, CABTDR, LFTCLR with ROA in Nepalese commercial banks. Pearson's coefficient is often used as a test statistic in a statistical hypothesis test to establish whether two variables may be regarded as statistically dependent. Correlation measures the strength and the direction of a linear relationship between dependent and independent variables. The study has used correlation analysis to show the correlation between the dependent variable Return on Assets (ROA) and the independent variables are LFTDR, LFTAR, NRBTDR, CHTDR, CABTDR, and LFTCLR

This table shows the bi-variant Pearson's correlation coefficients between dependent and independent variables. independent variables are LFTDR (Liquid fund to total deposit ratio), LFTAR (Liquid fund to total asset ratio), NRBTDR (NRB balance to total deposit ratio), CHTDR (Cash in hand to total deposit ratio), CABTDR (Cash and bank balance to total deposit ratio) and LFTCLR (Total liquid fund to current liability ratio).The correlation statistics are based on panel data of 2 banks with 10 observations for the period 2016/17 to 2020/21in Nepal.

Table 9

Pearson's correlation coefficients matrix

Variables	**ROA**	**LFTRD**	**LFTAR**	**NRBTDR**	**CHATDR**	**CABTDR**	**LFTCLR**
ROA	1						
LFTDR	0.530	1					
LFTAR	0.587	0.991**	1				
NRBTDR	-0.512	0.236	0.185	1			
CHTDR	0.476	-0.132	-0.074	-0.319	1		
CABTDR	0.593	0.888**	0.921**	0.154	0.117	1	
LFTCLR	0.557	0.989**	0.998**	0.218	-0.081	0.929**	1

Notes: The asterisk signs (**) and (*) indicate that the results are significant at 1 percent and 5 percent level respectively.

The result shows that higher the ratio of LFTDR, higher would be ROA of bank. There is a positive relationship between return on asset and LFTDR. Likewise, there

is positive relationship between LFTAR and return on asset which indicates that increase in LFTAR leads to increase in return on asset. Similarly, there is negative relationship between NRBTDR and return on asset. It indicates that more the NRBTDR ratio lower would be return on asset. Likewise, there is positive relationship between CHTDR and return on asset which indicates that higher the ratio of CHTDR, higher would be the return on asset. Likewise, there is positive relation between CABTDR and return on asset which shows that increase in the proportion CABTDR ratio leads to increase in return on asset. Similarly, there is positive relationship between LFTCLR ratio and return on assets. It indicates that more the LFTCLR ratio the firm has; higher would be the return on assets.

4.4 Regression analysis

In order to test the statistical significance and robustness of the results, this study relies on secondary data analysis based on the regression models specified in chapter three. Regression analysis having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and the results are shown in the table below. The regression analysis has been conducted to examine whether there is any impact of liquidity ratio on profitability. The regression of return on assets has been analyzed. To be more specific, it shows the regression results of LFTDR, LFTAR, NRBTDR, CHTDR, CABTDR, and LFTCLR.

The results are based on cross-sectional data of 2 banks with 10 observations from2016/17 to 2020/21 by using linear regression model. The models are $ROA = \alpha_0 + \alpha_1 LFTDR + \alpha_2 LFTAR + \alpha_3 NRBTDR + \alpha_4 CHTDR + \alpha_5 CABTDR + \alpha_6 LFTCLR + e_{it}$, where ROA (Return on assets defined as net income to total assets, in percentage) is the dependent variable. Independent variables are LFTDR (Liquid fund to total deposit ratio), LFTAR (Liquid fund to total asset ratio), NRBTDR (NRB balance to total deposit ratio), CHTDR (Cash in hand to total deposit ratio), CABTDR (Cash and bank balance to total deposit ratio) and LFTCLR (Total liquid fund to current liability ratio). The regression statistics are based on panel data of 2 banks with 10 observations for the period 2016/17 to 2020/21 in Nepal. The value in parentheses is p-value.

Table 10

Estimated regression results of LFTDR0, LFTAR, NRBTDR, CHTDR, CABTDR and LFTCLR on return on asset.

Model	Constant	LFTDR	LFTAR	NRBTDR	CHTDR	CABTDR	LFTCLR	R2	F
1	0.095	0.53						0.281	3.127
	(0.001)	(0.115)							
2	-0.092		0.587					0.345	4.205
	(0.001)		(0.074)						
3	2.207			-0.512				0.262	2.843
	(0.001)			(0.130)					
4	1.279				0.476			0.227	2.345
	(0.001)				(0.164)				
5	0.269					0.593		0.352	4.338
	(0.001)					(0.071)			
6	-0.048						0.557	0.310	3.593
	(0.001)						(0.095)		

Noted from: Researcher calculation.

In model 1, while introducing LFTDR as independent variable and by controlling LFTAR,NRBTDR,CHTDR,CABTDR and LFTCLR, the impact on return on asset is observed to be positive with the coefficient of 0.53 and insignificant (p >0.001) with the explaining power of 28.1%, since F is less than 5 so the model is not fit.

In model 2, while introducing LFTAR as independent variable and by controlling LFTDR,NRBTDR,CHTDR,CABTDR and LFTCLR, the impact on return on asset is observed to be positive with the coefficient of 0.587 and insignificant (p >0.001) with the explaining power of 34.5%, since F is less than 5 so the model is not fit.

In model 3, while introducing NRBTDR as independent variable and by controlling LFTDR, LFTAR, CHTDR, CABTDR and LFTCLR, the impact on return on asset is observed to be negative with the coefficient of -0.512 and insignificant (p >0.001) with the explaining power of 26.2%, since F is less than 5 so the model is not fit.

In model 4, while introducing CHTDR as independent variable and by controlling LFTDR, LFTAR, NRBTDR, CABTDR and LFTCLR, the impact on return on asset is observed to be positive with the coefficient of 0.476 and insignificant (p >0.001) with the explaining power of 22.7%, since F is less than 5 so the model is not fit.

In model 5, while introducing CABTDR as independent variable and by controlling LFTDR, LFTAR, NRBTDR, CHTDR, and LFTCLR, the impact on return on asset is observed to be positive with the coefficient of 0.593 and insignificant (p >0.001) with the explaining power of 35.2%, since F is less than 5 so the model is not fit.

In model 6, while introducing LFTCLR as independent variable and by controlling LFTDR, LFTAR, NRBTDR, CHTDR and CABTDR, the impact on return on asset is observed to be positive with the coefficient of 0.557 and insignificant (p >0.001) with the explaining power of 31%, since F is less than 5 so the model is not fit.

4.5 Multicollinearity Analysis

In the study, Variance inflation factor analysis (VIF) is performed to find out the correlation between explanatory variable and exclude the variables having correlation ≥ 0.8 and VIF > 5

Table 11

Test of Multicollinearity

Variable	VIF	1/VIF
NRBTDR	2.163	0.462321
CHTDR	1.645	0.607903
Mean	1.904	

The result shows that there is no multicollinearity among the selected variables as correlation < 0.80 (Table 9) and VIF < 5 as follows (Table 11).

4.6 Concluding remarks

This chapter is devoted to analyze and present results derived from the use of secondary data. This study attempts to study the impact of liquidity ratio on profitability of Nepalese commercial banks. The descriptive analysis shows that the averages return on asset of Nepalese commercial banks are Rs. 1.5822 percent. The average LFTDR of selected banks during the study period is noticed to be 21.07%. Likewise, LFTAR has average of 16.9 percent. The average ratio of NRBTDR of selected banks during the study period is noticed to be 7.35%. Similarly, the average of CHTDR during the study period is noticed to be 8.713%. Likewise, CABTDR has average of 18.021 percent. And the LFTCLR is 17.357% on an average of selected commercial banks.

The correlation analysis shows that there is a negative relationship between return on asset and NRBTDR which reveals that higher the ratio of NRBTDR lower would be the return on asset. Likewise, there is positive relationship between LFTDR and return on asset which indicates that increase in LFTDR leads to increase in return on asset. Similarly, there is positive relationship between LFTAR and return on asset. It indicates that more the LFTAR firm has; higher would be the return on asset. Likewise, there is positive relationship between CHTDR and return on asset which indicates that higher the ratio CHTDR, higher would be the return on asset. Likewise, there is positive relation between CABTDR and return on asset which shows that increase in the proportion of CABTDR leads to increase in return on asset. . Similarly, there is positive relationship between LFTCLR and return on asset. It indicates that more the LFTCLR firm has; higher would be the return on asset.

The regression analysis shows that there is a negative impact of NRBTDR on return on asset which reveals that higher the ratio of NRBTDR lower would be the return on asset. Likewise, there is positive impact of LFTDR on return on asset which indicates that increase in LFTDR leads to increase in return on asset. Similarly, there is positive impact of LFTAR on return on asset. It indicates that more the LFTAR firm has; higher would be the return on asset. Likewise, there is positive impact of CHTDR on return on asset which indicates that higher the ratio CHTDR, higher would be the return on asset. Likewise, there is positive impact of CABTDR on return on asset which shows that increase in the proportion of CABTDR leads to increase in return on asset. . Similarly, there is positive impact of LFTCLR on return on asset. It indicates that more the LFTCLR firm has; higher would be the return on asset.

CHAPTER V
SUMMARY AND CONCLUSION

This chapter presents the brief summary of the entire study and highlights major findings of the study. In addition, the major conclusions are discussed in separate section of this chapter which is followed by some implications and the recommendations regarding the effect of the liquidity on profitability of Nepalese commercial banks. Finally, the chapter ends with the scope of the future research in same field.

The aim of this research paper was to assess the impact of liquidity on profitability of NABIL Bank and NICA Bank. To achieve the intended objective, the study used secondary data sources. Hence, the secondary data was gathered through the secondary sources, time series data was used that covered 5 years of operation from 2016/17 – 2020/21 i.e. 5 budget year of the bank. The secondary data was based on the audited financial statements of the bank and basically the balance sheet and income statements of NABIL and NICA Bank are used.

5.1 Summary

Liquidity as the ability of a bank to fund increase in assets and meet its obligations as they come due without incurring unacceptable losses. Hence, liquidity risk arises from the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans. More specifically; liquidity risk arises when liability holders such as depositors demand the most liquid asset- cash or when holders of off-balance sheet loan commitments exercise their right to claim the amount (Saunders, et al, 2004). Thus, bank's management must be able to measure and monitor its liquidity position frequently to be able to directly meet liability holder's and borrowers demand so that it can maximize its profit

Liquidity risk is said to be assassin of banks. This risk can adversely affect both bank's earnings and the capital. Therefore, it becomes the top priority of a bank's management to ensure the availability of sufficient funds to meet future demands of providers and borrowers, at reasonable costs. The optimal of liquidity management could be achieved by company that mange the trade of between liquidity and

profitability Episodes of failure of many conventional banks from the past and the present provide the testimony to this claim. It is evident that liquidity and liquidity risk is very up-to-date and important topic. Therefore banks and more so their regulators are keen to keep a control on liquidity position of banks.

The major objective of the study is to analyze the impact of liquidity on profitability of Nepalese commercial banks. The specific objectives are to analyze the structure and pattern of LFTDR (Liquid fund to total deposit ratio), LFTAR (Liquid fund to total asset ratio), NRBTDR (NRB balance to total deposit ratio), CHTDR (Cash in hand to total deposit ratio), CABTDR (Cash and bank balance to total deposit ratio) and LFTCLR (Total liquid fund to current liability ratio) of Nepalese commercial banks. To determine the relationship of Liquid fund to total deposit ratio, Liquid fund to total asset ratio, NRB balance to total deposit ratio, Cash in hand to total deposit ratio, Cash and bank balance to total deposit ratio and Total liquid fund to current liability ratio with return on assets of Nepalese commercial banks. To examine the impact of Liquid fund to total deposit ratio, Liquid fund to total asset ratio, NRB balance to total deposit ratio, Cash in hand to total deposit ratio, Cash and bank balance to total deposit ratio and Total liquid fund to current liability ratio on earnings per share of Nepalese commercial banks. To identify the most significant factor affecting the profitability of Nepalese commercial banks.

This study based on the secondary source of data which were gathered for a sample of 2 commercial banks of Nepal within the time period from 2016/17-2020/21, leading to the total of 10 observations . The secondary data have been obtained from annual report of selected banks. The research design adopted in this study is descriptive and causal comparative types as it deals with liquidity factors prevailing in Nepalese banking sector along with its impact on profitability of the banks. Study shows the relationship using liquidity variables like Liquid fund to total deposit ratio, Liquid fund to total asset ratio, NRB balance to total deposit ratio, Cash in hand to total deposit ratio, Cash and bank balance to total deposit ratio and Total liquid fund to current liability ratio with return on assets . The statistical methods used in the analysis are descriptive statistics, correlation analysis and regression analysis. The sampling method used in this study is convenience sampling.

Based on the analysis of data, the major findings are summarized as under:

- The average LFTDR is highest for NABIL bank (22.49%) and lowest for NICA bank (19.65%).Similarly standard deviation of NABIL bank is lower than NICA bank so that liquidity risk is lower For NABIL bank
- The average LFTAR is highest for NABIL bank (18.176%) and lowest for NICA bank (15.62%).Similarly standard deviation of NABIL bank is higher than NICA bank so that liquidity risk is higher For NABIL bank
- The average NRBTDR is lowest for NABIL bank (5.488%) and highest for NICA bank (9.216%).Likewise standard deviation of NABIL bank is lower than NICA bank so that liquidity risk is lower For NABIL bank
- The average CHTDR is highest for NABIL bank (10.15%) and lowest for NICA bank (7.28%).Similarly standard deviation of NABIL bank is higher than NICA bank so that liquidity risk is higher For NABIL bank
- The average CABTDR is highest for NABIL bank (19.08%) and lowest for NICA bank (16.96%).Likewise standard deviation of NABIL bank is higher than NICA bank so that liquidity risk is higher For NABIL bank
- The average LFTCLR is highest for NABIL bank (18.52%) and lowest for NICA bank (16.2%).Likewise standard deviation of NABIL bank is higher than NICA bank so that liquidity risk is higher For NABIL bank
- The average ROA is highest for NABIL bank (2.033%) and lowest for NICA bank (1.13%).Similarly standard deviation of NABIL bank is lower than NICA bank so that liquidity risk is lower For NABIL bank
- The descriptive analysis shows return on asset ranges from a minimum of 0.7809% to a maximum of 2.5708%, leading to the average of 1.5822%.
- The descriptive analysis the average LFTDR of selected banks during the study period is noticed to be with a minimum of 13.36 percent and a maximum of 28.64 percent with an average of 21.07 percent.

- The descriptive analysis shows LFTAR revealed a minimum of 11.07 percent to maximum of 23.36 percent with an average of 16.9 percent.
- The descriptive analysis shows average of NRBTDR of selected banks during the study period is noticed to be 7.35 percent with minimum of 3.16 percent and maximum of 12.88 percent.
- The descriptive analysis the average of CHTDR during the study period is noticed to be 8.713 percent with a minimum of 2.52 percent and a maximum of 31.2 percent.
- The descriptive analysis shows the average ratio of CABTDR ranges from minimum of 11.27 percent to maximum of 28.62 percent, leading to an average of 18.021 percent.
- The descriptive analysis shows LFTCLR revealed a minimum of 11.44 percent to maximum of 23.78 percent with an average of 17.357 percent.
- The correlation of the commercial banks shows that there is a negative relationship between return on asset and NRB balance to total deposit ratio.
- The correlation of the commercial banks shows that there is a positive relationship between return on asset and liquid fund to total deposit ratio.
- The correlation of the commercial banks shows that there is a positive relationship between return on asset and liquid fund to total asset ratio.
- The correlation of the commercial banks shows that there is a positive relationship between return on asset and cash in hand to total deposit ratio.
- The correlation of the commercial banks shows that there is a positive relationship between return on asset and cash and bank balance to total deposit ratio.
- The correlation of the commercial banks shows that there is a positive relationship between return on asset and total liquid fund to current liability ratio.

- The beta coefficients for NRB balance to total deposit ratio is negative and insignificant with return on asset. It indicates that NRB balance to total deposit ratio has negative impact on return on asset.
- The beta coefficients for liquid fund to total deposit ratio, liquid fund to total asset ratio, cash in hand to total deposit ratio, cash and bank balance to total deposit ratio and total liquid fund to current liability ratio are positive and insignificant with return on asset. This reveals that liquid fund to total deposit ratio, liquid fund to total asset ratio, cash in hand to total deposit ratio, cash and bank balance to total deposit ratio and total liquid fund to current liability have positive impact on return on asset.

5.2 Conclusion

The major conclusion of this study is that profitability of Nepalese commercial banks is affected by liquidity factors. The study sought to determine the influence of liquidity on profitability of commercial banks in Nepal. From the results of the analysis conducted by the study and hypothesis tested, it was concluded that liquid fund to total deposit ratio, liquid fund to total asset ratio, cash in hand to total deposit ratio, cash and bank balance to total deposit ratio and total liquid fund to current liability ratio has a positive and significant influence on the profitability of commercial banks in Nepal.

The study shows that the liquid fund to total deposit ratio, liquid fund to total asset ratio, cash in hand to total deposit ratio, cash and bank balance to total deposit ratio and total liquid fund to current liabilities ratio have positive impact on the return on asset. However, the result shows that there is negative impact of NRB balance to total deposit ratio on return on asset.

5.3 Implications

Based on the above findings, the following recommendations are made:

- The study observed positive relationship between liquid fund to total deposit ratio and return on assets. Hence, the banks willing to increase return on assets should increase liquid fund to total deposit ratio.

- The study observed positive relationship between liquid funds to total asset ratio and return on assets. Hence, the banks willing to increase return on assets should increase liquid fund to total asset ratio.
- The study observed positive relationship between cash in hand to total deposit ratio and return on assets. Hence, the banks willing to increase return on assets should increase cash in hand to total deposit ratio.
- The study observed a negative relationship between the NRB balance to total deposit ratio and return on assets and hence commercial banks willing to increase the return on assets should decrease NRB balance to total deposit ratio.
- The study observed positive relationship between cash and bank balance to total deposit ratio and return on assets. Hence, the banks willing to increase return on assets should increase cash and bank balance to total deposit ratio.
- The study observed positive relationship between total liquid fund to current liability ratio and return on assets. Hence, the banks willing to increase return on assets should increase liquid fund to current liability ratio.
- The Bank should adopt international standards in the liquidity management practice as it affects the overall performance;
- The Bank should provide adequate training to the concerned staff members as to the utilization and analysis on liquidity measurement tools;
- The Bank should introduce new liquidity measurement tools as per the current international practice;
- Decision is the day to day activities of management. In the current dynamic and competitive business environment timely information is mandatory. Thus, the Bank should have effective Management Information System (MIS) to provide relevant information and mitigate any potential liquidity risk;
- The Bank should broaden the deposit bases into the masses so as to minimize the expected concentrations and sudden deposit run-off;

- The bank should enhance coordination among Accounts and Finance Department, Treasury & Fund Management Department, Asset Liability Committee (ALCO) and other functional units;
- The ultimate responsible organ of the Bank is the Board of Directors. Thus, trainings related to liquidity management practices and the associated liquidity risk should be provided to BOD's members;

5.3.1 Future scope

The study has examined the impact of liquidity variables on profitability of Nepalese commercial banks. There remains enough ground of scope in terms of data, models and methodology for studies in days to come. The study remains enough ground for the further studies, which are listed below:

- The result of the study is basically from the commercial banks of Nepal. Thus, the future study may include other financial sectors such as development bank, finance companies and micro finance companies.
- Similarly, further studies can be done by using some advance statistical tools. For example, the future studies can use non-linear statistical tools and causality tools.
- This study is based only on secondary data. Thus, the further study can make much more comprehensive by using primary source such as survey, questionnaire, special group discussion etc. The qualitative phenomena can be considered for the research in future.
- There are many other variables that define the profitability in banking sector. So, the future studies can add more dependent variables like return on equity, profit margin ,EPS etc.

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Appendices

Liquidity Ratios Of NICA Bank

Appendix A1: LFTDR

Year		Total Liquid Assets	Total Deposit	LFTDR	Percent
073/74	016/17	18293219874	79905602416	0.22894	22.894
074/75	017/18	25573166678	139589607845	0.1832	18.32
075/76	018/19	43702416121	171428410596	0.25493	25.493
076/77	019/20	36652239980	201630384459	0.18178	18.178
077/78	020/21	38308330113	286820615213	0.13356	13.356

Appendix A2: LFTAR

Year		Total Liquid Assets	Total Assets	LFTAR	Percent
073/74	016/17	18293219874	103108361998	0.17742	17.742
074/75	017/18	25573166678	170943177826	0.1496	14.96
075/76	018/19	43702416121	221849999497	0.19699	19.699
076/77	019/20	36652239980	250590379057	0.14626	14.626
077/78	020/21	38308330113	345940258246	0.11074	11.074

Appendix A3: NRBTDR

Year		NRB Balance	Total Deposit	NRBTDRR	Percent
073/74	016/17	10291445440	79905602416	0.1288	12.88
074/75	017/18	15860733092	139589607845	0.11362	11.362
075/76	018/19	16097915246	171428410596	0.0939	9.3905
076/77	019/20	18721482611	201630384459	0.09285	9.2851
077/78	020/21	9072897671	286820615213	0.03163	3.1633

Appendix A4: CHTDR

Year		Cash Balance	Total Deposit	CHTDR	Percent
073/74	016/17	3479828475	79905602416	0.04355	4.3549
074/75	017/18	8132486809	139589607845	0.05826	5.826
075/76	018/19	20214540268	171428410596	0.11792	11.792
076/77	019/20	12294510663	201630384459	0.06098	6.0975
077/78	020/21	23876051962	286820615213	0.08324	8.3244

Appendix A5: CABDTR

Year		Cash & Bank Balance	Total Deposit	CABTDR	Percent
073/74	016/17	15264658883	79905602416	0.19103	19.103
074/75	017/18	24307149092	139589607845	0.17413	17.413
075/76	018/19	36696405514	171428410596	0.21406	21.406
076/77	019/20	31015993274	201630384459	0.15383	15.383
077/78	020/21	32948949633	286820615213	0.11488	11.488

Appendix A6: LFTCLR

Year		Total Liquid Assets	Total Current Aseets	LFTCLR	Percent
073/74	016/17	18293219874	100568546394	0.1819	18.19
074/75	017/18	25573166678	160168701093	0.15966	15.966
075/76	018/19	43702416121	215461735432	0.20283	20.283
076/77	019/20	36652239980	242496221656	0.15115	15.115
077/78	020/21	38308330113	334773124373	0.11443	11.443

Appendix A7: ROA

Year		NPAT	Total Assets	ROA	Percent
073/74	016/17	1365415593	103108361998	0.01324	1.3243
074/75	017/18	1334861927	170943177826	0.00781	0.7809
075/76	018/19	3053304065	221849999497	0.01376	1.3763
076/77	019/20	3098536965	250590379057	0.01236	1.2365
077/78	020/21	3251084144	345940258246	0.0094	0.9398

Liquidity Ratios Of NABIL Bank

Appendix A8: LFTDR

Year		Total Liquid Assets	Total Deposit	LFTDR	Percent
073/74	016/17	33639090554	117436362752	0.28645	28.645
074/75	017/18	25484916719	134810669677	0.18904	18.904
075/76	018/19	38289311829	162953999572	0.23497	23.497
076/77	019/20	45910838200	190806469972	0.24061	24.061
077/78	020/21	38790352863	223474470361	0.17358	17.358

Appendix A9: LFTAR

Year		Total Liquid Assets	Total Assets	LFTAR	Percent
073/74	016/17	33639090554	144017861128	0.23358	23.358
074/75	017/18	25484916719	160978071329	0.15831	15.831
075/76	018/19	38289311829	201138821464	0.19036	19.036
076/77	019/20	45910838200	237680029570	0.19316	19.316
077/78	020/21	38790352863	291066222914	0.13327	13.327

Appendix A10: NRBTDR

Year		NRB Balance	Total Deposit	NRBTDRR	Percent
073/74	016/17	5231334342	117436362752	0.04455	4.4546
074/75	017/18	5924569696	134810669677	0.04395	4.3947
075/76	018/19	7372284966	162953999572	0.04524	4.5242
076/77	019/20	20021031281	190806469972	0.10493	10.493
077/78	020/21	8001196207	223474470361	0.0358	3.5804

Appendix A11: CHTDR

Year		Cash Balance	Total Deposit	CHTDR	Percent
073/74	016/17	7167160590	117436362752	0.06103	6.103
074/75	017/18	7952350362	134810669677	0.31204	31.204
075/76	018/19	12479697526	162953999572	0.07658	7.6584
076/77	019/20	4799629907	190806469972	0.02515	2.5154
077/78	020/21	7285636456	223474470361	0.0326	3.2602

Appendix A12: CABTDR

Year		Cash & Bank Balance	Total Deposit	CABTDR	Percent
073/74	016/17	33606435179	117436362752	0.28617	28.617
074/75	017/18	25484916719	134810669677	0.18904	18.904
075/76	018/19	29750254270	162953999572	0.18257	18.257
076/77	019/20	35051240651	190806469972	0.1837	18.37
077/78	020/21	25175020285	223474470361	0.11265	11.265

Appendix A13: LFTCLR

Year		Total Liquid Assets	Total Current Aseets	LFTCLR	Percent
073/74	016/17	33639090554	141481546841	0.23776	23.776
074/75	017/18	25484916719	157743934068	0.16156	16.156
075/76	018/19	38289311829	197288638924	0.19408	19.408
076/77	019/20	45910838200	233695469713	0.19646	19.646
077/78	020/21	38790352863	285609446048	0.13582	13.582

Appendix A14: ROA

Year		NPAT	Total Assets	ROA	Percent
073/74	016/17	3702382810	144017861128	0.02571	2.5708
074/75	017/18	3981892950	160978071329	0.02474	2.4736
075/76	018/19	4238853581	201138821464	0.02107	2.1074
076/77	019/20	3463240822	237680029570	0.01457	1.4571
077/78	020/21	4527552838	291066222914	0.01556	1.5555

IMPACT OF LIQUIDITY ON PROFITABILITY OF PRIVATE COMMERCIAL BANKS: A COMPARATIVE STUDY OF NABIL AND NICA BANKS LIMITED

A THESIS PROPOSAL

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1. INTRODUCTION

1.1 Background of the Study

Bank is the main financial institution, which plays an important role in the economic development of the nation. It is the backbone as well as the foundation for the development of the country. Its principal operations are concerned with the accumulation on the temporary idle money of the public for advancing others for expenditures. In other words, Bank is an institution that deals in money and its substitutes and provides other financial services. The principal types of banking in the modern industrial world are commercial banking and central banking. A commercial banker is a dealer in money and in substitutes for money, such as checks or bills of exchange. also The banker provides a variety of other financial services. The basis of the banking business is borrowing from individuals, firms, and occasionally i.e., receiving "deposits" from them. With these resources and with the bank's own capital, the banker makes loans or extends credit and invests in securities. The banker makes profit by borrowing at one rate of interest and lending at a higher rate and by charging commissions for services rendered. Commercial banks are the major financial institutions that occupy quite an important place in the framework in the economy development sectors as well as in saving and investment sectors. Commercial banks are suppliers of finance for trade and industry and play a vital role in the economic and financial life of the country. They also provide an opportunity in the development of individual industries, trade and business organization by investing savings and collected deposits. By investing the saving and collected deposits in the productive sectors, they help in the formation of capital. Besides they also render numerous services to its customers in a view of providing facilities to theirs economic and social life in the community. Banks accept deposit, make loans, and derive a profit from the difference in the interest rates paid and charged, respectively. Depositors may be either individual or institutions. These deposits may be current, saving or fixed and the tenure depends upon the mutual agreements between the bank may be either an individual or institutions. The tenure the loan may vary as per the demand, criteria and the usefulness of the loan. Some banks also have the power to create money A financial institution is the lifeblood of economic development of the country. Financial institution acts as catalyst in the process of economic growth of the

country. A bank is a financial institution, which can play a significant role in the upliftment of the economic situation of the developing country like Nepal. Bank plays a vital role to encourage thrift and discourage hoarding by mobilizing the resources and removing the habit of hoarding. They pursue economic growth rapidly, developing the banking habit among the people by collecting the small-scattered resources in one bulk, using them in the further productive purposes, and rendering other valuable service to the country. Thus, this gives the individual an opportunity to borrow funds against future income, which may improve the economic well being of the borrower. Bank deals with the offer of collected deposits and provides the loan for commercial purpose. Bank is considered as the backbone in the development of the national economy. It is financial institution, which act as a transaction of money by accepting various types of deposit, disbursing loans and rendering other financial services. So, among the various function to provide loan to the investors is the major function. Through the loan, there will be increase in the environment of the investment and the bank has the major role in creating such an environment *(Singh, 2007, 26).* Liquidity is much more important than we may realize, because both excess as well as insufficient liquidity is injurious to the banks' profitability. In order to pay current obligations, liquidity management is very important for every business organization. Liquidity management is of crucial importance in financial management decision. The optimal of liquidity management is could be achieve by company that manage the trade-off between profitability and liquidity management Liquidity management refers to the planning and control necessary to ensure that the organization maintains enough liquid assets either as an obligation to the customers of the organization so as to meet some obligations incidental to survival of the business or as a measure to adhere to the monetary policies of the central bank. For a commercial bank to plan for or manage its liquidity position, it first manages its money position by complying with the legal requirement. Actually, management of money position is essential if a bank must avoid excesses or deficiencies of required primary reserves. Where there is a decline in market price of securities or where additional funds needed to correct the bank reserve position are for a very short time, it will be definitely expensive to sell securities than to borrow from another bank. Moreover, it may be more desirable to borrow for bank's liquidity needs than to call back outstanding loans or to cancel or place embargo on new loans, a situation that will reduce the existing and potential customers of a bank. Commercial banks are

expected to maintain certain levels of reserves. These reserves are statutory requirements stipulated by the central bank specifying the cash reserves equal to certain fraction of the banks' deposits or loans and advances which bank must maintain.

1.1.1 Profile of the Sample Banks

As there has been number of commercial banks established, the research has been taken into consideration of HBL and SBL. Therefore, short glimpse of these commercial banks are given as:

Nepal Arab Bank Ltd (NABIL)

Nabil Bank Limited is the nation's first private sector bank, commencing its business since July 1984. Nabil was incorporated with the objective of extending international standard modern banking services to various sectors of the society. Pursuing its objective, Nabil provides a full range of commercial banking services through its 118 points of representation. In addition to this, Nabil has presence through over 1500 Nabil Remit agents throughout the nation.

Nabil, as a pioneer in introducing many innovative products and marketing concepts in the domestic banking sector, represents a milestone in the banking history of Nepal as it started an era of modern banking with customer satisfaction measured as a focal objective while doing business. Operations of the bank including day-to-day operations and risk management are managed by highly qualified and experienced management team. Bank is fully equipped with modern technology which includes international standard banking software that supports the E-channels and E-transactions.

Nabil is moving forward with a Mission to be **"1st Choice Provider of Complete Financial Solutions"** for all its stakeholders; Customers, Shareholders, Regulators, Communities and Staff. Nabil is determined in delivering excellence to its stakeholders in an array of avenues, not just one parameter like profitability or market share. It is reflected in its Brand Promise **"Together Ahead"**. The entire Nabil Team embraces a set of Values "C.R.I.S.P", representing the fact that Nabil consistently

strives to be Customer Focused, Result Oriented, Innovative, Synergistic and Professional.

Nepal Industrial and Commercial Asia Bank (NICA)

NIC ASIA Bank has its antecedents in NIC Bank which was established on 21st July 1998. The Bank was rechristened as NIC ASIA Bank after the merger of NIC Bank with Bank of Asia Nepal on 30th June 2013. This was a historic merger in the annals of the Nepalese financial landscape as the first of its kind merger between two successful commercial banks in the country. Today, NIC ASIA has established itself as one of the most successful commercial banks in Nepal.

During the post-merger integration phase, NIC ASIA managed the transition very smoothly receiving accolades from the regulators as well as the stakeholders, paving the way for other mergers and consolidation in the Nepalese financial sector. After the merger, NIC ASIA was recognized as ”Bank of the Year 2013-Nepal” by The Banker, Financial Times, UK. This is the second time that the Bank was recognized with this prestigious award, the previous occasion being in 2007.

NIC ASIA Bank is now, one of the largest private-sector commercial banks in the country in terms of capital base, balance-sheet size, number of branches, ATM network, and customer base. The Bank has 352 branches, 75 extension counters 80 branchless banking, and 471 ATMs across Nepal with a network covering all major financial centers of the country. The Bank strongly believes in Meritocracy, Transparency, Professionalism, Team spirit, and Service Excellence. These core values are internalized by all functions within the Bank and are reflected in all actions the Bank takes during its business.

1.2 Focus of the Study

This study is focused on the liquidity analysis of commercial banks in Nepal. Financial analysis is the process of determining the significant operating and financial characteristics of a firm from accounting data and financial statement. Financial ratio analysis is a widely used tool of financial analysis and its performance. The goal of such analysis is to determine the efficiency and the performance of the firm’s management as reflected in the financial record and report. This study tries to analysis

banks liquidity position and its relation with profitability. Financial ratios are evaluated with the help accounting data and financial statements like balance sheets and profit and loss accounts. With the help of these tools, we can measure the liquidity in rational way.

1.3 Statement of the Problems

Liquidity and Profitability is the most sensible and critical aspect of banks. The managers should be foresighted and able to predict future demand and supply of liquidity and Profitability. The bank must always stand ready to meet immediate cash demands made by the depositors and borrower that can be substantial at any time. Bank manager should know the trends of liquidity demand based on experience

(Thapa & Rawal, 2012, 106).

Bank must give high priority to meet demands for liquidity. Many depositors were crowded into bank to withdraw their deposit. In this situation, most banks in the Kathmandu valley suffered a lot from the scarcity of liquidity. Thus, one of the most important tasks of a liquidity manager is to keep close contact with the bank's largest depositors and holders of large unused credit line. It is essential to predict when withdrawals of fund will be made. Therefore, close contact and prediction of future liquidity demand provide the bank to make sure that adequate funds are available in time. Although many commercial banks are established, most of them are not seen so serious regarding dividend decision. Each company has its own policy. There are not any certain rules and regulations. In these circumstances, this study seeks to find out the solution of the following problems. Whether commercial banks are able to maintain adequate liquidity or not?

- Do commercial banks examine the liquidity and profitability?
- Are commercial banks are following NRB guideline with respect to liquidity?
- Is there any relationship that prevails between liquidity and profitability of the Banks?
- What is the level of effect of liquidity on profitability of the Banks?
- What are the external factors that affect performance of the Banks?

- What is the level of effectiveness of the Bank's liquidity measurement tools?

1.4 Objectives of the Study

Based on the aspect this thesis tries to deal with the study of liquidity and profitability position of Himalayan Bank International Limited and Siddhartha Bank Limited. The specific objectives of the study are:

- To analysis ability to maintain adequate liquid assets of commercial banks in Nepal
- (like cash reserve, balance with NRB, investment in government securities, etc)
- To analysis the profitability position of commercial banks in Nepal
- To study liquidity and its' profitability position of NABIL and NICA.
- To analyze the growth of total deposit, total investment, loan and advances and net profit of sample banks.
- To examine the trend of total deposit, loan and advances, and net profit.

1.5 Significance of the Study

Generally, the study gives emphasis liquidity and profitability position commercial banks in Nepal. While preparing this thesis researcher gain knowledge through their own experience enabling them to deal with problems relating to studies. The study also intends to let reader know about required information by him or herself. The significance of the study is mentioned below-

- This study helps to be acquainted with some aspect of liquidity by performing various financial analyses.
- This study is beneficial to come to conclusion about the liquidity and profitability position of commercial Banks.
- This study helps to find out the position of commercial bank in the banking field of Nepal.

1.6 Limitations of the Study

Never the less, the analysis performed and conclusion drawn regarding the liquidity and profitability position of commercial Bank; there is considerable place for arguing about its accuracy and reliability. There are limitations, which weaken the conclusion e.g. inadequate data, time and other variable.

• Though there are around 27 commercial banks, the study covers only 2 commercial banks: Nepal Arab Bank Ltd (NABIL) and Nepal Industrial and Commercial Asia Bank (NICA)

- The research is based to secondary data only.
- The study period cover five fiscal years beginning from FY 2016/017 to 2020/021.
- Being a student time and resources consentient.
- Limited variable has been selected.
- The truth of the project depends upon the available data from the bank.
- Many factors affect liquidity of bank, International liquidity and valuation of firm however only related factor are taken into consideration in this study.

1.7 Organizations of the Study

The study is classified into five different chapters, which are briefly discussed as follows:

Chapter I: Introduction

The first chapter dealt with introduction of the study. It includes background of the study, focus of the study, statement of the problems, objectives, significance, and limitations of the study and organizations of the study.

Chapter II: Review of Literature

The second chapter dealt with the review of literature, which included review of related books, journals, articles and previous unpublished master level thesis etc.

Chapter III: Research Methodology

This chapter explained the research methodology used in the study. It included research design, population and sampling, types and sources of data, data collection procedure, method of analysis and analytical tools used.

Chapter IV: Data presentation and Analysis

In chapter, four contains presentation and analysis of data. This is the main key chapter of the research study .In this chapter sources of data are collect in various method, which are presented in appropriate form.

Chapter V: Summary, Conclusions and Recommendations

This chapter contains the summary of study and the main conclusion drawn from the study and some recommendations as well as suggestions based on the study. Last but not least, an intensive Bibliography, Annex and are in corporate at the end of the study.

2. REVIEW OF LITERATURE

The chapter is concerned with review of literature relevant to the topic liquidity analysis of commercial banks. It helps in the reviewing the research studies or strength and weakness of the chosen bank. Therefore, the relevant literature has been concerned. The review of literature is arranged in the following order: Conceptual framework is a type of intermediate theory that has the potential to connect to all aspect of inquiry. Conceptual framework act like maps that give coherence to empirical inquiry. The frameworks cover the area of research work and theoretical concepts developed by various scholars.

3. RESEARCH METHODOLOGY

Research method is plan to obtain to answer of the research question throw analysis the data. It is systematic away to solving the overall problem. Research methodology refers overall process to analysis the data and finding and solving the problem. Research methodology refers to the overall research process, which a researcher conducts during their study. Research can be conducted based on various data. Here in the study all the data and observed data are analyzed with using appropriate financial tools. To evaluate, analyze and interpret on every subject and discipline a detailed research plan is required.

3.1 Research Design

The research design serves as a framework for the study, guiding the collection and analysis of the data, the research instruments to be utilized, and the sampling plan to be followed. Specially speaking, research design describes the general plan for collecting, analyzing and evaluating data after identifying what is researcher wants to know and what has to be deal in order to obtain the required information. The study is the blend of analytical type of research. Historical data are used to identify and analyze the liquidity and profitability of sample banks. Since only two banks have been selected for the study, thesis study is a comparative study between these two banks in liquidity and profitability analysis.

3.2 Sources of Data

The study based on the secondary data, secondary data are used to analyze historical tools in liquidity management after defining the research design, how the work comes to define the sources of relevant data for the research study. On the other hand secondary data are those data that are collected by someone else or used already & made available to other in the form of published statistics such as annual reports, periodicals, newspapers, magazines etcepal . once a primary data is used; it loses its originality & becomes secondary. This study is mainly depends on the use of secondary data that consists of annual reports of the concerned bank. However, besides the annual reports various other sources of data were gathered for the purpose of the study like ;- plan documents, newspaper, magazine, economic journals, NRB reports etc.

3.3 Population and Sample

Population or universe refers to the industries of the same-nature of its service & product. It is the collection or the aggregate of objects or the set of results of an operation. On the other hand sample means the representative parts of population selected from it with the objectives of investigating its properties. Thus, a sample is just a portion of the population selected with a view to draw conclusions about the population under study. In context of Nepal, 28 commercial banks are in operation in data. Among these 28 commercial banks, two commercial banks have been taken as sample from the whole population i.e. twenty eight banks. The sample banks are as follows:-

Nepal Arab Bank Ltd (NABIL)

Nepal Industrial and Commercial Asia Bank (NICA)

3.4 Method of Analysis

Various financial analysis tools have been used in this study. The analysis of data will be done according to pattern of data available. The relationship between different figures related to study topic will be drawn out using ratio analysis. The various

calculated results are then tabulated under different heading which are later on compared with each other to interpret the result.

3.5 Data Analysis Tools

Analysis and presentation of the data is the core of each and every research work. This study requires some financial and statistical tools to accomplish the objective of the study. The financial and statistical tools are most reliable. In this study various financial, statistical and accounting tools are used. These tools make the analysis more effective, convenience, reliable and authentic. Two kinds of tools are used to achieve the certain goals.

- Financial Tools
- Statistical Tools

3.5.1 Financial Tools

Financial tools basically help to identify the financial strengths and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account.

Financial Ratio Analysis

Ratio analysis is one of the most commonly used techniques of financial statement analysis. It is a simple but meaningful technique of measuring operating performance and evaluating managerial performance of a firm. The analysis is usually based on financial statements prepared by the firm. Financial analysis can serve on the basis of decision making. Ratio analysis is widely used tool of financial analysis. It is defined on the systematic use of ratios to interpret the financial statements so that the strength and weakness of a firm as well as its historical performance and current financial condition can be determined. Following ratios are used to analyze the liquidity and profitability of sample banks:

3.5.1.1 Liquidity Ratios

The liquidity ratios measure the liquidity position and short-term solvency indicating the company’s ability to meet short-term obligations. It measures the speed of firms to

convert the firms asset into cash to meet deposit withdraws and other current obligations. This is quick measure of the liquidity and financial strength of the firm. Various types of liquidity ratios are applied in these studies, which are explained below:

1. Total liquid fund to current liabilities ratio (LFTCLR) :-

It indicates that the ratio total liquid fund on current liabilities (i.e., Sum of Current Deposits, Saving Deposits, Bills payables and Creditors) as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment opportunity.

$$\text{LFTCLR} = \frac{\text{Total Liquidity Fund}}{\text{Current Liabilities}}$$

2. Liquid fund to deposit ratio (LFTDR) :-

It shows that the ratio between total liquid fund (i.e., cash balance plus outside bank balance and money at call) and total deposits collection by the commercial banks. Higher ratio indicates more sound liquidity position of the banks.

$$\text{LFTDR} = \frac{\text{Total Liquid Fund}}{\text{Total Deposits}}$$

3. Liquid fund to total asset ratio (LFTAR) :-

It shows the ratio of total liquid fund on total assets as per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that is beneficial for new investment oppurtunity

$$\text{LFTAR} = \frac{\text{Total Liquidity Fund}}{\text{Total Assets}}$$

4. NRB Balance to total deposit ratio :-

It indicates ratio of the amount deposited in Nepal Rastra Bank and total deposits collected by the commercial banks. Higher ratio means that there is a high liquidity position in the banks.

$$\text{NRBTDR} = \frac{\text{NRB Balance}}{\text{Total Deposits}}$$

5. Cash in hand to total deposit ratio (CHTDR) :-

It is the ratio of cash balance on total deposit collection by the commercial banks. Higher ratio indicates there is a sufficient cash balance to pay creditors of the banks.

$$\text{CHTDR} = \frac{\text{Cash in hand}}{\text{Total Deposits}}$$

6. Cash and bank balance to total deposit ratio (CABTDR) :-

It shows the ratio of cash and bank balance on total deposits per given in balance sheets of the commercial banks. Higher ratio shows the higher liquidity position of the banks that gives more useful for new investment opportunity.

$$\text{CABTDR} = \frac{\text{Cash and Bank Balance}}{\text{Total Deposits}}$$

3.5.1.2 Profitability Ratios

Profit is only appeared when there is positive difference between total revenues and total cost over a certain period of time. Profitability ratios show the combined effects of liquidity, assets management, and debt on operating results. Profitability ratios are very helpful to measure the overall efficiency of operations of a firm. It is a true indication of the financial performance of each and every business organization. Here profitability ratios are calculated and evaluated in terms of the relationship between net profit and assets. Profitability of the firms can be presented through the following different ways:

i. Return on Loan and Advances Ratio

Return on loan and advances ratio shows how efficiently the banks have utilized their resources to earn good return from provided loan and advances. This ratio is computed dividing net profit (loss) by the total amount of loan and advances and can be mentioned as,

$$\text{Return on Loan and Advances Ratio} = \frac{\text{Net Profit(Loss)}}{\text{Loans and Advances}} * 100$$

ii. Return on Total Working Fund Ratio

Return on total working fund ratio measures the profit earning capacity of the banks by utilizing available resources i.e. total assets. If the bank's well managed and efficiently utilized its working fund, it will get higher return. Maximizing taxes, this in the legal options available will also improve the return. It is computed as:

$$\text{Reuturn on total Working Fund Ratio} = \frac{\text{Net Proft(Loss)}}{\text{Total Working Fund}} * 100$$

iii. Interest Income to Total Loan and Advances

This ratio reflects the extent to which the banks are successful in mobilizing these total loans and advances to acquire income as interest. This ratio actually reveals the earning capacity of commercial banks by mobilizing its deposit. Higher the ratio higher will be the income as interest. We have,

$$\text{Total Interest Earned to TWF Ratio} = \frac{\text{Total Intrest Earned}}{\text{Total Working Fund}} *100$$

iv. Return on Equity Ratio (ROE)

Since, shareholders are entitled to the residual profits; ROE shows the relationship between net income and shareholders' fund. This ratio indicates the firm's ability of generating net income per rupee of shareholders' fund. The main objective of computing this ratio is to analyze how effectively the funds supplied by shareholders' have been utilized.

This ratio is of great interest to the present as well as the future prospective shareholders and also of great concern to management which has the responsibility of maximizing the owners' welfare. This ratio can be computed by using following formula:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Shareholders equity}} *100$$

v. Earnings per share (EPS)

The profitability of bank from the point of view of the ordinary shareholders is earning per share. The ratio explains net income for each unit of share. Earnings per share of an organization give the strength of the share in the market. It shows how much of the total earnings belong to the ordinary shareholders. EPS is calculated as:

$$\text{Earnings per share} = \frac{\text{Net Income}}{\text{No. of shares outstandings}} * 100$$

vi. Net Worth per Share (NWPS)

Net worth per Share is a measurement of the net worth of the company for each share of stock that has been issued. The book value per share formula is used to calculate the per share value of a company based on its equity available to common shareholders. The term "book value" is a company's assets minus its liabilities and is sometimes referred to as stockholder's equity, owner's equity, shareholder's equity, or simply equity.

Common stockholder's equity, or owner's equity, can be found on the balance sheet for the company. In the absence of preferred shares, the total stockholder's equity is used.

$$\text{Equity Net worth per share} = \frac{\text{Shareholders Equity}}{\text{No .of shareoutstanding}}$$

3.5.1.3 Growth Ratios

The growth ratios represent how well the commercial banks are maintaining their economic and financial position. The higher ratios represent the better performance of the selected firms to calculate, check and analyze the expansion and growths of the selected banks the following growth ratios are calculated. Growth ratios are directly related to the fund mobilization and investment of those firms.

i) Growth ratio of total deposits

ii) Growth ratio of total investment

iii) Growth ratio of loan and advances

iv) Growth ratio of net profit

3.5.2 Statistical Tools

To meet the objectives of the study statistical tools are equally important. It helps us to analyze the relationship between two or more variables. In this research, Simple analytical tools are used such as coefficient of determination, probable error, standard deviation, Karl Pearson's coefficient of correlation; trend analysis adopted which are as follows:

i. Mean

The most popular and widely used measure of representing the entire data by the one value is known as average. Its value is obtained by adding together all times and the summation of times is divided by the number of sample periods. If the past items of the sample periods are X_t, number of periods are, then Mean is defined as follows.

ii. Standard Deviation (S.D.)

The standard deviation is an important and widely used measure of dispersion. The measurement of the scatterings of the mass of figure in a series about an average is known as dispersion. The greater the value of dispersion, greater the standard deviation. A small standard deviation means a high degree of uniformity of the observation as well as homogeneity of a series; a large standard deviation means just the opposites it is denoted by the letter σ**.**

$$S.D(\sigma) = \sqrt{\frac{\sum(X-\overline{X})^2}{N-1}}$$

Where,

N = Number of observations

X = Expected return of the historical data

iii. Coefficient of Variation (C.V.)

The coefficient of variation is the most commonly used measure of relative variation. It is used in such problems where the researcher wants to compare the variability of more than two years. Greater the C.V, the variable or conversely less consistent, less uniform, more consistent, more uniform, more stable and homogeneous.

$$C.V. = \frac{\text{Standard Deviation}}{\text{Expected Return}}$$

iv. Coefficient of corrélation (r)

This statistical tool has been used to analyze, identify and interpret the relationship between two or more variables. It interprets whether two or more variables are correlated positively or negatively. Statistical tool analyses the relationship between those variables and helps the selected banks to make appropriate investment policy regarding to profit maximization and deposit collection; fund mobilization through providing loan and advances.

For the purpose of decision-making, interpretation is based on following term:

- When r = 1, there is perfect positive correlation.
- When r = -1, there is perfect negative correlation.
- When r = 0, there is no correlation.

a. Coefficient of correlation between deposit and loan and advances

Correlation coefficient between deposits and loan and advances measures the degree of relationship between two variables i.e. X and Y. In this analysis, deposit is independent variables (X) and loan and advances is dependent variables (Y). The main purpose of calculating correlation coefficient is to justify whether the deposits are significantly used in proper way or not and whether there is any relationship between these two variables.

b. Coefficient of correlation between deposit and net profit

Correlation coefficient between deposit and net profit is to measure the degree of relationship between deposit and net profit. In this analysis, deposit is independent variables (X) and net profit is dependent variables (Y).

c. Coefficient of correlation between cash reserve ratio and return on equity.

Correlation coefficient between cash reserve ratio and profitability ratio measures the degree of relationship between cash reserve ratio and profitability ratio. Here, cash reserve ratio is independent variable(x) and return on equity is dependent variable(y).

GeneYrally it is assumed that cash reserve ratio and the return on equity are negatively correlated, if cash reserve ratio increases the profit ratio will decreases and vice versa. The main purpose of analyzing this is to justify whether the profit is significantly correlated with total assets or not.

Karl Pearson's correlation coefficient can be obtained as.

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

Where,

n = number of observations in series X and Y

$\sum$ X = sum of observations in series X

$\sum$ Y = sum of observations in series Y

$\sum X_2$ =sum of squared observations in series X

$\sum Y_2$ = sum of squared observations in series Y

$\sum$ XY = sum of the product of observations in series X and Y

v. Probable Error (P.E)

Probable error is measured for testing the reliability of an observed value of correlation coefficient. It is computed to find the extent to which it is dependable. If correlation coefficient is greater than 6 times P.E the observed value of r is said to be significant, otherwise nothing can be concluded with certainty. But if the calculated (r) is less than the P.E correlation is not at all significant. It is calculated by using following formula:

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

Where,

P.E. (r) = Probable error of correlation coefficient

r = Correlation coefficient

n = Number of observations