

**IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL
BANKS IN NEPAL**

**(With Reference to NABIL Bank Limited, Nepal SBI Bank Limited and Standard
Chartered Bank Nepal Limited)**

A Dissertation Submitted to the office of the Dean, Faculty of Management
in partial fulfillment of the requirements for the Master's Degree

by

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July, 2022

CERTIFICATION OF AUTHORITY

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled “IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor has it been proposed and presented as part of requirements for any other academic purpose.

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has been prepared as approved by this department in the prescribed format of the faculty
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APPROVAL SHEET

We have examined the dissertation entitled “**IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL**” presented by Mr. Dipendra Khatri for the degree of Master of Business Studies. We hereby certify that the acceptable for the award of degree.

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ACKNOWLEDGEMENTS

I am delighted to present this dissertation entitled “IMPACT OF LIQUIDITY ON PROFITABILITY OF COMMERCIAL BANKS IN NEPAL” to the head of the research department, Nepal Commerce Campus, in partial fulfillment of the requirement for the degree of Masters in Business Studies (MBS), Faculty of Management, Tribhuvan University. The completion of this dissertation would have been considerably difficult without the help, co-operation and suggestion of my supervisors Prof. Dr. Basanta Kumar Dhakal and Pitambar Ghimire and Head of Research Department Asso. Prfo. Dr. Jitendra Pd. Upadhyay. I am indebted to him for his kind support in spite of his business. Moreover, I would also like to thank campus administration, staffs of library and faculties of Nepal Commerce Campus.

My thank also goes to my friend Mr. Krishna Lamichhane and others enabling me to carry out my study providing required information, reports as required in my study even in their busy schedule. I would also like to heartily thank to family member for enabling me to make this dissertation task finishing on time. Their cooperation and friendliness towards learner like me have always remained as a motivating factor.

Dipendra Khatri

MBS 4th Semester

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LIST OF ABBREVIATIONS

AD	:	Annon Domini
ANOVA	:	Analysis of Variances
C.V.	:	Coefficient of Variation
CAR	:	Capital Adequacy Ratio
CDR	:	Credit Deposit Ratio
CR	:	Core Capital Ratio
CRR	:	Cash Reserve Ratio
e	:	Error Terms
et. al.,	:	And Others
etc.	:	Etcetera
FEM	:	Fixed Effect Model
F-Value	:	Fishers Value
FY	:	Fiscal Year
i.e.	:	That is
M	:	Models
MPS	:	Market Price per Share
NABIL	:	Nepal Arab Bank Limited
NPLR	:	Non-performing Loan Ratio
NRB	:	Nepal Rastra Bank
NSBI	:	Nepal SBI Bank Limited
P-Value	:	Probability Value
r	:	Coefficient of correlation
R ²	:	Coefficient of de termination
ROA	:	Return on Assets
ROE	:	Return on Equity
Rs.	:	Rupees
S	:	Firm Size
S.D.	:	Standard deviation
SCBL	:	Standard Chartered Bank Limited
SN	:	Serial Number

ABSTRACT

The study is concerned with liquidity effect on profitability of Commercial banks in Nepal having three samples such as Nepal SBI, NABIL, and Standard Chartered Bank Limited out of total 27 commercial banks. The major objective of this study is to examine the effect and relationship between liquidity and profitability of Nepalese commercial banks. The samples have been chosen judgmentally considered. The total number of observations is thirty having ten years' annual financial statistics. As per research design, descriptive and correlational research design has been employed. The statistical tools consist of mean, standard deviation and coefficient of variation as well as the inferential statistic consists of mainly correlation, regression analysis and hypothesis testing for better evaluation of undertaken variables such as proxies (capital adequacy ratio, supplementary capital ratio, core capital ratio, non-performing loan ratio, credit deposit ratio and cash reserve ratio), also known as independent variables (predictors) and profitability proxies such as return on equity.

In conclusion, it is revealed that the profitability proxies return on equity is positively correlated capital adequacy ratio and non-performing loan ratio that indicates they lead each other in the same direction. When there is positive change in credit risk factors capital adequacy ratio and non-performing loan ratio, as a result positive change can be found in profitability. However, return on equity has negative correlation with supplementary capital ratio, core capital ratio, credit deposit ratio and cash reserve ratio which implies that they lead each other in the opposite direction. When there is positive change in these credit risk factors such as supplementary capital ratio, core capital ratio, credit deposit ratio and cash reserve ratio as a result it leads to negative effect on profitability of commercial banks. Similarly, the study also reveals that there is positive correlation between return on assets, capital adequacy ratio, core capital ratio, non-performing loan ratio, credit deposit ratio and cash reserve ratio thus they lead each other in the same direction. However, return on assets has negative correlation with supplementary capital ratio which indicates that they lead one another in the opposite direction.

CHAPTER-I

INTRODUCTION

1.1 Background of the Study

The major purpose of the study is as regard to impact of bank liquidity effect on profitability of commercial banks in Nepal. Specifically, it examines the effect of capital ratio, investment ratio, liquidity ratio and quick ratio to return on assets and return on equity of commercial banks of Nepal. Liquidity handling to commercial banks is a challenging job since higher and lower cash holding nature may bring liquidity crisis which ultimately may led to poor image and reputation of banks. Thus, it is necessary to banks to hold adequate but proper amount in cash vault to fulfil the requirements of banks' customers. In this particular study, cash reserve ratio is a proxy for liquidity measure whereas return on assets is major proxy for financial performance or profitability in commercial banks.

Bank liquidity refers to the ability of the bank to ensure the availability of funds to meet financial commitments or maturing obligations at a reasonable price at all times. Bank liquidity means a bank having money where they need it particularly to satisfy the withdrawal needs of the customers (Wasiuzzaman & Tarmizi, 2010). Liquidity is a financial term that means the amount of capital that is available for investment. Today, most of this capital is credit fund. That is because the large financial institutions that do most investments prefer using borrowed money (Felix & Claudine, 2008). Profitability and liquidity are effective indicators of the corporate health and performance of not only the commercial banks, but all profit-oriented ventures (Eljelly, 2004). These performance indicators are very important to the shareholders and depositors who are major publics of a bank.

A bank is responsible for the sound management of liquidity risk. A bank should establish a robust liquidity risk management that ensures it maintains sufficient liquidity, including a cushion of unencumbered, high quality liquid assets, to withstand a range of stress events, including those involving the loss or impairment of both unsecured and secured funding sources. Supervisors should assess the adequacy of both a bank's

liquidity risk management and its liquidity position and should take prompt action if a bank is deficient in either area in order to protect depositors and to limit potential damage to the financial system (Kumar & Yadav, 2013).

The performance of commercial banks can be affected by internal and external factors (Kosmidou, 2008). These factors can be classified into bank specific (internal) and macroeconomic variables. The internal factors are individual bank characteristics which affect the bank's performance. These factors are influenced by the internal decisions of management and board. The external factors are sector wide or countrywide factors which are beyond the control of the company and affect the profitability of banks. But this study is concerned with the relationship between the customer satisfaction and the bank performance To measure the profitability of commercial banks there are variety of ratios used of which Return on Asset, Return on Equity and Net Interest Margin are the major ones (Murthy & Sree, 2003).

As a result, the first JVB, Nepal Arab Bank Limited was established in 2041 (1985) under the Commercial Bank Act 2031 (1974) and the Companies Act 2021 (1965). In short, form, it is called NABIL Bank. Nepal entered a new era of development following the historic political changes with the restoration of parliamentary system of government based on multi-party democracy in 1991 A.D. As an important strategy in resource mobilization, democratic elected government has given high priority to foreign investment, private sector participation and economic liberalization. In this context, the government encouraged foreign investment in Nepal by providing attractive incentives and facilities with liberal and economic policy. The importance attached to foreign investment was clearly reflected in the new constitution. In the directive principles of the constitution, it is stated that a policy of attracting foreign capital and technology will be adapted. When democratically elected government introduced liberalization and open economic policy, the number of JVBs has increased rapidly. Apart from JVBs, a number of other financial institutions also emerged in the country.

It is clear that the growth of banks in Nepal is satisfactory. Certainly, it is not enough

satisfaction in comparison to other countries. First, the banks are not enough. Secondly, the competition is not found in banking functions. Thirdly, the banks are increased in number in urban areas only. Modern and joint investment banks are not established in rural areas. Hence, the rural people are not getting banking services. Banks face two central issues regarding liquidity. Banks are responsible for managing liquidity creation and liquidity risk. Liquidity creation helps depositors and companies stay liquid, for companies especially when other forms of financing become difficult. Managing liquidity risk is to ensure the banks own liquidity so that the bank can continue to serve its function (Vossenand & Ness, 2010). During the early “liquidity phase” of the financial crisis that began in 2007, many banks – despite adequate capital levels – still had trouble because they did not manage their liquidity in a prudent manner. The crisis drove home the importance of liquidity to the proper functioning of financial markets and the banking sector. Prior to the crisis, asset markets were buoyant and funding was readily available at low cost.

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. Episodes of failure of many conventional banks from the past and the present provide the testimony to this claim. For instance, as United States/U.S. subprime mortgage crisis reached its peak in the years 2008/9 unprecedented levels of liquidity support were required from central banks in order to sustain the financial system. Even with such extensive support, a number of banks failed, were forced into mergers or required resolution. A reduction in funding liquidity then caused significant distress. In response to the freezing up of the interbank market, the European Central Bank and U.S. Federal Reserve injected billions in overnight credit into the interbank market. Some banks needed extra liquidity supports (Longworth, 2010; Bernanke, 2008).

It is evident that liquidity and liquidity risk is very emerging and important topic. Therefore, banks and regulators are keen to keep a control on liquidity position of banks.

However, this fragility is also a source of efficiency. Diamond and Rajan (2001) argue that the financial intermediation structure is efficient in that it disciplines banks when carrying out their lending function. The threat of a run is an incentive for the bank to choose projects with high return. More generally, this also suggests that an “even more liquid” bank might not always be desirable for the efficiency of the financial system. Therefore, effective liquidity risk management helps ensure a bank's ability to meet cash flow obligations, which are uncertain as they are affected by external events and other agents' behavior and to keep their optimal profitability.

1.2 Problem Statement

Liquidity is the lifeblood for banking industry. They should maintain sufficient liquidity for efficient operation. Bank and financial institutions should perform day-to-day cash transactions. Each day they should maintain cash reserve as per the direction of central bank. If BFIs did not maintain sufficient liquidity there may be big trouble for them. Which shows the way of liquidation. Therefore, banks should maintain liquidity to grab the opportunities in market, to increase the goodwill, for effectiveness and to save from the penalties from regulator.

The performance of commercial banks can be affected by internal and external factors. Those factors can be classified into bank specific (internal) and macroeconomic variables (external). The internal factors are individual bank characteristics which affect the bank's performance. These factors are influenced by management decisions and effectiveness. The external factors are nationwide factors. Which affects the overall banking industry. Profitability is reward for investor. Investors are invest from present saving to get the reward in future. Profitability is the ability of a business to earn a profit. Liquidity means a bank having money where they need it particularly to satisfy the withdrawal needs of the customers. If banks hold excess cash in vault, the cash is unproductive and obviously, it may effect on profitability.

Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager or analyst an idea as to how efficient a company's

management is at using its assets to generate earnings. Return on assets is displayed as a percentage.

ROE is a key profitability ratio that investors use to measure the amount of a company's income that is returned as shareholders' equity. This metric reveals how effectively a corporation is generating profit from the money that investors have put into the business (by buying its stock). ROE is calculated by net income dividing by shareholders equity. Liquidity is the indication of paying capacity of business when it needed. Excess liquidity results increase in cost of fund. So higher and lower liquidity both are harmful for business. Profitability itself the indication of effectiveness of business.

- i. Does a sample bank provide sufficient return to their shareholders?
- ii. Does sample banks are able to maintain sufficient liquidity?
- iii. Does the liquidity (CRR) affect profitability (ROE) of the sample banks?
- iv. Is there statistically significant relationship between capital adequacy ratio, credit deposit ratio, non-performing loan ratio, core capital ratio, supplementary capital ratio, liquidity (CRR) ratio and profitability (ROE)?

1.3 Objectives of the Study

The major objective of the research is to examine the impact of liquidity on profitability of commercial banks in Nepal. The specific objectives of research are as follows:

- i. To explore the liquidity level in Commercial banks in Nepal.
- ii. To analyses the effect of capital adequacy ratio, credit deposit ratio, non-performing loan ratio, core capital ratio, supplementary capital ratio, and liquidity ratio on profitability.
- iii. To analyses the relationship between liquidity and profitability.
- iv. To examine the statistically significant relationship between capital adequacy ratio, credit deposit ratio, non-performing loan ratio, core capital ratio, supplementary capital ratio, liquidity (CRR) ratio on profitability (ROE).

1.4 Research Hypothesis

A hypothesis is a question which has been reworded into a form that can be tested and scientifically proved (Gangaram, 2019). Hypotheses are formulated as possible answer for the research question. The proposed research tentative assumptions will be as under:

- i. H1: There is significance relationship between capital adequacy ratio and return on equity.
- ii. H2: There is significance relationship between supplementary capital ratio and return on equity.
- iii. H3: There is significance relationship between core capital ratio and return on equity.
- iv. H4: There is significance relationship between liquidity (cash reserve ratio) and return on equity.
- v. H5: There is significance relationship between credit deposit ratio and return on equity.
- vi. H6: There significance relationship between non-performing loan ratio and return on equity.

1.5 Significance of the Study

The findings of this particular study will be significant and important to make proper decision regarding liquidity crisis and its maintenance for higher profitability or growth in shareholders' wealth. It will also be beneficial to the future researcher for review of literature purpose. In order to make proper strategic or decision-making in terms of boosting up the health and wealth of sample banks this study's major findings will definitely assist. Profitability and liquidity are the most prominent issues that management of each organization should take into account as their most important duties. Liquidity refers to the ability of a firm to meet its short-term obligations. Liquidity plays a crucial role in the successful functioning of a business firm. A study of liquidity is of major importance to both the internal and external analysts because of its close relationship with day-to-day operations of a business (Bhunias, 2010). Liquidity signifies the aptitude of a financial firm to keep up all the time a balance between the financial inflow and overflow over time (Vento & La Ganga, 2009).

1.6 Limitations of the Study

The following are the limitations of the study as every study is bounded with some limitations.

At present time, there are six licensed commercial banks in Nepal. All 27 licensed Nepalese commercial banks are considered as the total population, out of them only 3 Commercial banks have been selected as sample namely NABIL Bank Limited, Nepal SBI Bank Limited and Standard Chartered Bank Nepal Limited as a sample. The last 10 years published data have been incorporated in this study from fiscal year 2010/11 to 2019/20 (10 years').

This study is only focused on liquidity and profitability and related matters. Limited tools and techniques have been employed in order to get major findings and conclusion for this study. Dealing with the collection, analysis and interpretation of facts and figures. It includes different dependent and independent variables, types of research design, population and sample, sources of data, data collection and processing procedure, data analysis tools and techniques statistical and financial tools, software package to be used in the research.

The findings may not be applicable to international context commercial banks.

1.7 Organization of the Study

There are five chapters in the proposed study. They are as follows: Chapter I: Introduction

This part is the introductory chapter, which has covered background of the study, focus of the study, Statement of the problem, objectives of the study, significance of the study, limitation of the study etc.

Chapter II: Review of Literature

This chapter has included conceptual framework i.e. theoretical analysis and review of related different studies. In this chapter, it has been attempted to show how this presented study is different from previous studies.

Chapter III: Research Methodology

This chapter has dealt with the research design, population and sample, sources of

data, data collection and processing procedures. Conceptual framework and definition of variables.

Chapter IV: Results and Discussion

This chapter has dealt with the presentation of data, data analysis, interpretation, testing of hypothesis and major findings.

Chapter V: Summary and Conclusions

This chapter states the summary, conclusion of the whole study and implications. It also offers several avenues for future research. The exhibits and bibliography are incorporated at the end of the study.

CHAPTER-II

LITERATURE REVIEW

2.1 Conceptual Review

In this section of study the concept about key factor such as liquidity and profitability of banks have been elaborated. It is tried to present the core and major aspects of liquidity and profitability of commercial banks.

2.1.1 Concept of Liquidity

The term “liquidity” is widely used in the literature, though its understanding varies significantly. The goal of the first section of the Chapter is, thus, to provide an unambiguous definition, which could be referred to throughout the analysis. Firstly, existing notions of liquidity are reviewed and classified into two main approaches: one focusing on the characteristics of assets (asset liquidity) and the other one regarding the subject from the market perspective (market liquidity). In the second step, the concept of liquidity risk is introduced and integrated into these approaches; a two-dimensional notion of liquidity results. The second section of the Chapter is devoted to the analysis of sources of liquidity and liquidity risk. In particular, the main characteristics of investments and investment environments, which may have a significant impact on different aspects of liquidity, are discussed. The following, third section adds a practical dimension to the discussion. A review of assets with respect to which liquidity problems are especially severe is offered and their characteristics are analyzed. The identification of illiquid assets is also necessary to determine the scope of application of the methods developed later. Finally, the fourth section deals with the economic relevance of liquidity. Its role in the economy is discussed concentrating especially on individual investment decisions.

Paraphrasing the statement of the US Supreme Court on pornography some researcher’s state, “liquidity, like pornography, is easily recognized but not so easily defined”. Indeed, both the investment theory and the practice seem to have substantial difficulties in formulating a clear definition. The term is mostly used without further explanations under

the assumption any reader would know what is meant. In many cases, especially in the day-to-day trading, it is not necessary to theorize extensively on the meaning of liquidity. Most investors can intuitively qualify the main markets or asset types as liquid or illiquid and recognize the related effects. However, the lack of a formal definition causes serious problems when developing formal approaches considering liquidity as an investment criterion.

Liquidity is the status and part of the assets which can be used to meet the obligation. Liquidity can be viewed in terms of liquidity stored in the balance sheet and in terms of liquidity available through purchased funds. The degree of liquidity depends upon the relationship between cash assets plus those assets which can be quickly turned into cash and the liability awaiting payment. Generally, the definition of liquidity can't be found in the same way, in the countries of whole world. Because, it is known, as much as the development of the monetary sector take place or the use of monetary devices increases, so much the definition of it goes wider (Bhandari, 2003).

Liquidity ratio measures the ability of the firm to meet its current obligations. In fact, analysis of liquidity needs the preparation of cash budgets and cash and fund flow statements; but liquidity ratios, by establishing a ratio between cash and other current assets to current obligations, provide a quick measure of liquidity. A firm should ensure that it does not suffer from lack of liquidity, and that it does not have excess liquidity. The failure of a company to meet its obligations due to lack of sufficient liquidity will result in a poor creditworthiness, loss of creditors' confidence, or even in legal tangles resulting in the closure of the company. A very high degree of liquidity is also bad; idle assets earn nothing. The firm's fund will be unnecessarily tied up in current assets. Therefore, it is necessary to strike a proper balance between high liquidity and lack of liquidity (Pandey, 2000).

The liquidity position of bank is very important to maintain the public faith upon banks. People deposit their precious assets and funds into bank with the faith that banks repay it with guarantee as agreed terms and conditions. Therefore, bank must refund the public

deposit on demand or on expiry of predetermined time. When a bank fails to repay deposited money on demand, it leads to the loss of public faith upon banks. Then account holders rush into bank to withdraw their money deposited.

Lack of adequate liquidity is often one of the first signs that a bank is in serious financial trouble. The troubled bank usually begins to lose deposits. This erodes its supply of cash and forces the bank to dispose of more liquid assets. In this situation, other banks become more increasingly reluctant to lend the troubled bank any funds without additional security or a high rate of interest. This will further reduce the earnings of the problematic bank and threaten it with failure.

Liquidity management is much more important than it may realize, because a bank can be closed if it cannot raise enough liquidity even though technically it may still be solvent. Many banks assume that liquid funds can be borrowed virtually without limit any time they are needed. Therefore, they see little need to store liquidity in the form of easily marketed, stable-price assets. The enormous cash shortages experienced in recent years by banks in trouble make clear that liquidity needs cannot be ignored.

Liquidity is an important principle of bank lending. According to the principle of liquidity, banks should invest their funds in such sectors, where investment can be converted into cash easily and quickly without remarkable loss on their value. Banks should invest majority of their funds in government securities and first class securities, which possess sufficient liquidity (Singh, 2005).

There are certain securities such as central, state and local government bonds, which are easily saleable without affecting their market prices. The shares and debentures of ordinary firms are not easily marketable. Therefore, the banks should make investments in government securities and shares and debentures of reputed joint stock companies. This is the basic principle of liquidity.

The liquidity position of a firm would be satisfactory if it is able to meet its current

obligations when they become due. A firm can be said to have the ability to meet its short-term liabilities if it has sufficiently liquid funds to pay the interest on its short-maturing debt usually within a year as well as to repay the principal. This ability is reflected in the liquidity ratios of a firm. The liquidity ratios are particularly useful in credit analysis by banks and other suppliers of short-term loans.

2.1.2 Importance of Liquidity

A bank could not run without liquidity. The NRB from time to time changes the legal provision about the liquidity. The compulsion about the commercial banks should keep the cash about in their various funds shows the importance of liquidity. The commercial banks and financial institutions should maintain the balance of cash fund in required quantity that the law and the NRB fixed. The importance of liquidity is considered very sensitive because if it can't maintain the liquidity, it has to pay fine. The commercial banks and financial institutions should keep the stock of liquid assets in the ratio of their deposit liability, as fixed by the NRB.

The commercial banks and the financial institutions should keep a fund correctly which the percent fixed from time to time for the liability of total deposit. The process of fixing the fund is as fixed by the central bank from time to time. If a commercial bank or a financial institution does not keep the stock of liquid property as per the law and policy of the central bank, then there is a provision to fine them. In this way, if a commercial bank and a financial institution can't maintain liquidity, there is legal provision that the NRB can impose fine as a punishment. Therefore, there is no dispute that liquidity is the most important thing for a bank.

People deposit their savings into bank to safeguard them, earn interest, and get back whenever they need. Therefore, banks must maintain liquidity to refund the deposit, when account holders withdraw deposits. Hence, Liquidity is the life-blood of bank, without which a bank cannot survive for long run. Banking transactions are more dependent upon the mutual faith between bankers and customers. It is essential to maintain sufficient cash reserve in bank maintain the public faith. The basic importance

of bank liquidity can be presented as follows:

Liquidity is essential for the payment of all deposits such as current, saving, fixed and calls account of its customers.

- Liquidity is important to meet the daily expenses that are spent in the administrative functions.
- Liquidity is important to maintain statutory liquidity ratio in banks.
- Liquidity is important and inevitable factor to advance loan.
- Liquidity is needed to pay dividend to their shareholders.
- Liquidity is essential to face the economic rise and fall or economic crisis.
- Liquidity is essential to gain trust from the public including other sectors.
- Liquidity is necessary for the efficient and healthy competition among banks.

2.1.3 Concept of Profitability

Profitability is usually defined as the ability of a given investment to earn a return from its use. The term profitability is composed of two words profit and ability. The word profit has been defined in a number of ways, is the sum arrived by deducting total costs from sales revenue. The term ability reflects the power of an enterprise to earn profit. The ability is also referred to as earning power, earning capacity or operating performance of the concerned investment.

The overall objective of a business is to earn at least a satisfactory return on funds invested in it consistent with maintaining a sound financial position. Satisfactory return depends upon several factors including the nature of business risk involved in business etc. If an enterprise fails to earn profits, invested capital is eroded and if this situation is prolonged the enterprise may ultimately cease to exist.

Profitability of a business indicates the financial ability and tends to enhance the income earning capacity. Today, profitability analysis has stolen a march over other aspects which are highlighted in interpretation of financial statements, in developed and developing countries. Financial analysis is more external than internal; profitability analysis is internal as well as external.

Profitability analysis helps in critically analyzing and interpreting the current and prospective earning capacities of business corporations. It becomes all the more important when within the business there is an earning goal that helps to guide the behavior of managers and other employees. It also helps the external users of accounting information pertaining to a particular business concern, viz; bondholders, shareholders, potential investors, bankers and other creditors and numerous governmental agencies in maintaining its economic health by its net earnings. Common-size statements are miniatures of the originals. These statements are most valuable to an analyst in studying the current financial position and operating results of a business, especially in making comparisons between companies within the same industry in different years and in between different companies in a year.

2.1.4 Importance of Profitability

Clearly, bank profitability matters for financial stability. Profits are the first line of defense against losses from credit impairment. Retained earnings are an important source of capital, enabling banks to build strong buffers to absorb additional losses. Those buffers ensure that banks are able to provide financial services to euro area households and businesses, even in the face of adverse developments, thereby smoothing rather than amplifying the impact of negative shocks on the real economy.

Profitability ratios are a group of quantitative values that measure a company's profitability against its revenue, cost of sales, equity, and balance sheet assets. A metric measures a company's ability to generate income from its operations over a specific period. Profitability ratio is a category falling under financial ratios that are used by investors, bankers, financial institution, creditors and other stakeholders for evaluation of financial performance of the company in regards of annual profitability.

These ratios help them to assess how profitable an entity currently earns from using or managing the existing resources to generate profits and add value to its shareholders or owners. For example, the gross profit margin is the ratio used to assess how efficiently the company manages its costs compared to its competitors or industry averages. If the

margin is high competitors', it means that the company could generate high profit from 1 USD that it spends compare to competitors or industry averages. Even though these ratios are importance for most of key stakeholders, that ratios themselves also have the limitation.

Gross profit margin is a measure of the profit earned on sales. It denotes the profit part of the total revenue earned after deducting the costs of goods sold. It is significantly important since the gross profit is what covers the admin and office costs and the dividends to be distributed to the shareholders. The higher the gross profit the more profitable the company is and is a good catch to invest in. As mention above, it is also used to assess the efficiency of cost management. If the calculation shows that the ratio is now, then the key areas to look or improve are purchasing as well as productions in terms of economy and effectiveness.

The net profit margin is the final ratio that demonstrates the overall performance of a company. It could say that it is the most important ratio for the management since any disturbances in other ratios indirectly hit the net profit margin as well. For example, a low quick ratio may be because of low sales which would obviously lower the net profit margin as well. This ratio is important since it could help the company or investors to see where it could go wrong in the company's current operating expenses. Maybe the interest expenses are too high due to the financing strategy that weighs more to loan rather than equity.

Where the net profit margin is an important metric for the company itself, returns on equity are one of the most important ratios for the investors. It is a percentage of the earnings that shareholders get in return for the money invested in the company. The higher the ROE means the higher the dividends the shareholders will receive and hence, more investors are attracted.

Returns on capital employed (ROCE) measures how efficiently the company uses its assets. It helps the management minimize inefficiencies by evaluating the ROCE ratio.

The higher the ROCE as compared to other industries, the higher the efficiency in the production process of the company.

Return on assets (ROA) is a measure of every dollar of income earned on every dollar of the asset owned by the company. It is similar to the ROCE and helps the management in managing the utilization of assets.

2.1.5 Theories of Banks' Profitability

One of the crucial components of the financial systems and the economy are the commercial banks. In the recent years, commercial banks have contributed largely in the financial development of the economy of the region. Banks are responsible for allocation of funds to the organizations and individuals who need them. They deposit the funds of the organizations and individuals who have them in excess. Hence, they are responsible for mobilization of funds. Financial performance of the banks affects the capital allocation, expansion of the firms, economic growth of the industries and development of the economy. Profitability of the banks affects not only the commercial banks but it has its impact on the macroeconomic level. In presence of the current environment, the profits fetched by the banks reflect their financial performance. Banks come in stable state and they fetch high profits in case of maintenance of the profitability index of the commercial banks (Goddard et al., 2004). Hence, profitability becomes the important part of the performance of the banks which affects many sectors. Hence, factors influencing the performance of the banks in financial sector have grabbed the attention of the many research scholars, bank supervisors and financial markets. Scholars began conducting research on the performance of the banks between 1970 and 1980. They applied two models named as efficient structure theory and market power theory (Athanasoglou et al., 2006).

Another theory which is known as balanced portfolio theory helps in determining profits fetched by banks. It has also been used in the study of the profitability of banks (Nzongang and Atemnkeng, 2006). The performance of the banks is affected by the market structure of the industry stated by market power theory which was given by

Tregenna (2009). The SCP and the RMP theorem are the two different approaches of the market power theory. SCP approach states that banks in high concentration market have more potential to raise profits than firms in low concentration market as banks have the chance to get deposits at lower interest rates and allocate loans at higher interest rates due to the presence of monopolistic environment (Tregenna, 2009). The RMP approach states that profits fetched by the banks are affected by their shares in market. This approach assumes that the banks which have differentiated products can be price makers and experience more power in the market (Tregenna, 2009).

Another theory which is known as efficiency theory states that banks are more efficient than other so they earn more profits. This theory also possesses two different approaches named as Scale efficiency hypothesis and X efficiency. X efficiency states that efficient firms have lower cost hence; they are more profitable than others. On the other hand, approach of Scale efficiency focuses on high scale production and ignores any differences in management and technology of production. Large firms have benefit of economies of scale which leads to low per unit cost of product and high profits for the firms. Hence, they have high market share which leads to higher profits (Athanasoglou et al., 2006). Balanced portfolio theory also plays a vital role in the study of performance of the banks (Nzongang and Atemnkeng, 2006). This theory states that decisions regarding the policy affect the optimal presence of each asset in the investment of shareholder. These decisions are affected by a number of factors such as rate of return, size of the portfolio and risks associated with the holding of each asset. High profits can be achieved by possible set of liabilities and assets which are recognized by management and expenses incurred by banks. The performance of the banks is also affected by signaling, balance sheet ratio, bankruptcy costs and risk return trade off. Hence, equity to asset ratio also plays an important function in determining the performance of the banks.

Modigliani & Miller (1958) theory states that capital structure of the bank is not affected by the market value of the bank. According to financing theory, high levels of debt and low value of equity to asset ratio results in high risk which results in high rates of return. This also explains the risk return trade off theory (Van Ommeren, 2011). Some scholars

have also explained that higher profits can be fetched by high equity to asset ratio. According to Berger, these explanations are consequence of application of signaling and bankruptcy costs hypothesis. Market value of the bank increases with high equity ratio according to signaling hypothesis (Berger, 1995). On the other hand, bankruptcy cost hypothesis states that banks hold high equity because of unexpectedly high bankruptcy costs to avoid financial debt (Berger, 1995).

2.1.6 Theories of Liquidity

Liquidity Management: Theory # 1. The Real Bills Doctrine:

The real bills doctrine or the commercial loan theory states that a commercial bank should advance only short-term self-liquidating productive loans to business firms. Self-liquidating loans are those which are meant to finance the production, and movement of goods through the successive stages of production, storage, transportation, and distribution.

When such goods are ultimately sold, the loans are considered to liquidate themselves automatically. For instance, a loan given by the bank to a businessperson to finance inventories would be repaid out of the receipts from the sale of those very inventories, and the loan would be automatically self-liquidated.

The theory states that when commercial banks make only short-term self-liquidating productive loans, the central bank, in turn, should only lend to the banks on the security of such short-term loans. This principle would ensure the proper degree of liquidity for each bank and the proper money supply for the whole economy.

The central bank was expected to increase or diminish bank reserves by rediscounting approved loans. When business expanded and the needs of trade increased, banks were able to acquire additional reserves by rediscounting bills with the central banks. When business fell and the needs of trade declined, the volume of rediscounting of bills would fall, the supply of bank reserves and the amount of bank credit and money would also contract.

Liquidity Management: Theory # 2. The Shift-Ability Theory:

The shift-ability theory of bank liquidity was propounded by H.G. Moulton who asserted that if the commercial banks maintain a substantial amount of assets that can be shifted to the other banks for cash, without material loss in case of necessity, then there is no need to rely on maturities. According to this view, an asset to be perfectly shift able must be immediately transferable without capital loss when the need for liquidity arises.

This is particularly applicable to short-term market investments, such as treasury bills and bills of exchange which can be immediately sold whenever it is necessary to raise funds by banks. However, in a general crisis when all banks are in need of liquidity, the shift-ability theory requires that all banks should possess such assets which can be shifted on to the central bank which is the lender of the last resort.

This theory has certain elements of truth. Banks now accept sound assets which can be shifted on to other banks. Shares and debentures of large companies are accepted as liquid assets along with treasury bills and bills of exchange. This has encouraged term lending by banks.

Liquidity Management: Theory # 3. The Anticipated Income Theory:

The anticipated income theory was developed by H.V. Prochanow in 1944 on the basis of the practice of extending term loans by the US commercial banks. According to this theory, regardless of the nature and character of a borrower's business, the bank plans the liquidation of the term-loan from the anticipated income of the borrower. A term- loan is for a period exceeding one-year and extending to less than five years.

It is granted against the hypothecation of machinery, stock and even immovable property. The bank puts restrictions on the financial activities of the borrower while granting this loan. At the time of granting a loan, the bank takes into consideration not only the security but the anticipated earnings of the borrower.

Thus, a loan by the bank gets repaid out of the future income of the borrower in instalments, instead of in a lump sum at the maturity of the loan.

Liquidity Management: Theory # 4. The Liabilities Management Theory:

This theory was developed in the 1960s. According to this theory, there is no need for banks to grant self-liquidating loans and keep liquid assets because they can borrow reserve money in the money market in case of need.

A bank can acquire reserves by creating additional liabilities against itself from different sources. These sources include the issuing of time certificates of deposit, borrowing from other commercial banks, borrowing from the central banks, raising of capital funds by issuing shares, and by ploughing back of profits.

Time Certificates of Deposits:

These are the principle source of reserve money for a commercial bank in the USA. Time certificates of deposits are of different maturities ranging from 90 days to less than 12 months. They are negotiable in the money market. So a bank can have access to liquidity by selling them in the money market. But there are two limitations.

First, if during a boom, the interest rate structure in the money market is higher than the ceiling rate set by the central bank, time deposit certificates cannot be sold in the market. Second, they are not a dependable source of funds for the commercial banks. Bigger commercial banks are at an advantage in selling these certificates because they have large certificates which they can afford to sell at even low interest rates. So the smaller banks are at a disadvantage in this respect.

Borrowing from other Commercial Banks:

A bank may create additional liabilities by borrowing from other banks having excess reserves. However, such borrowings are only for a very short duration, for a day or week at the most. The interest rate of such borrowings depends upon the prevailing rate in the money market. Nevertheless, borrowings from other banks are only possible during normal economic conditions. In abnormal times, no bank can afford to lend to others.

Borrowing from the Central Bank:

Banks also create liabilities on themselves by borrowing from the central bank of the country. They borrow to meet their liquidity needs for short term and by discounting bills from the central bank. Nevertheless, such borrowings are relatively costlier than borrowings from other sources.

Raising Capital Funds:

Commercial banks acquire funds by issuing fresh shares or debentures. However, the availability of funds through this source depends on the amount of dividend or interest rate which the bank is prepared to pay. Usually the banks are not in a position to pay rates higher than paid by manufacturing and trading companies. Therefore, they are not able to get sufficient funds from this source.

Ploughing Back Profits:

Another source of liquid funds for a commercial bank is the ploughing back of its profits. However, how much it can get from this source will depend upon its rate of profit and its dividend policy. It is the larger banks that can depend on this source rather than the smaller banks.

2.2 Review of Previous Studies

Various studies have been conducted on the impact of liquidity on profitability of commercial banks on different aspects. The conclusion of the previous studies on the different aspects is relevant to this study. Thus, the studies of previous research are reviewed in this regard.

Liquidity of banks was one of the major determinants of Kenyan banks profitability. This is the case because adequate liquidity helps the bank minimize liquidity risk and financial crises. The bank can absorb any possible unforeseen financial position. The effect on profitability is higher when the liquid assets are not held exclusively, because exclusive liquid assets have no or little interest generating capacity. In addition, the opportunity cost of holding low return assets would eventually outweigh the benefit of any increase in

the banks liquidity resiliency as perceived by funding markets (Mashhad, 2012).

Shahchera (2012) analyzed the profitability of listed banks using unbalanced panel data for the period 2002-2009, and used the liquidity asset and liquidity asset- square for estimating liquid asset and profitability relationship. The estimated relationship between liquid assets and bank profitability is as predictable. Coefficients for the liquid assets ratio, its square, business cycle, regulation and its product of interaction business cycle and regulation are all statistically significant. The study found evidence of a non- linear relationship between profitability and liquid asset holdings. A substantial result of this study is that the business cycle significantly influences bank profits. The coefficient of regulation is negative and significant. Therefore, if regulators minimize the constraints imposed on banks, banks obtain profit.

Sthapit and Maharjan (2012) found that the overall trend of liquidity ratios is in not smoothing in both NABIL and Standard Chartered Bank Nepal (SCBN). However, variation in liquidity ratios as well as profitability in SCBN is lower than NABIL. Fluctuating trend of the liquidity ratios make difficult in increase trend of profitability of the banks. Therefore, according to liquidity and profitability, SCBN seems to be more efficient than NABIL. There is a significant effect of LFTDR, NRBTD and CHTDR on profitability in SCBN only. This indicates that increase in these liquidity ratios boost the bank profitability and vice-versa. However, there are no significant effects of the liquidity ratios on profitability in NABIL. This reveals that profitability has no relationship with those liquidity ratios. The highly fluctuation of liquidity ratios may cause the insignificance of the hypotheses. The overall average ROA of NABIL and SCBN are similar but coefficient of variation (C.V.) of SCBN is lower than that of NABIL. This means that profitability position is more consistent in SCBN. Therefore, SCBN is better in profitability position in terms of low variation. Therefore, the liquidity performance of SCBN is better than NABIL.

Alshatti (2014) concluded that there is an effect of the liquidity management on profitability in the Jordanian commercial banks as measured by ROE or ROA, where the

effect of the investment ratio and quick ratios on the profitability is positive when measured by ROE, and the effect of capital ratio on profitability is positive as measured by ROA, and the effect of the other independent variables on the two measures of profitability (ROE and ROA) is negative, the researcher thinks that this negative effect is due to the increased volume of untapped deposits at the Jordanian commercial banks.

Pradhan and Shrestha (2016) revealed that return on equity is positively related to investment ratio. This indicates that higher the investment ratio higher would be the return on assets and return on equity. Similarly, correlation between capital ratio and ROA and ROE is found to be positive indicating higher the capital ratio, higher would be ROA and ROE. However, the correlation between return on equity and liquidity ratio is found to be negative indicating higher the liquidity in the bank, lower would be the return on equity. Further, the correlation is found to be negative for quick ratio with return on equity.

Bwacha and Xi (2017) conducted a research work to examine the relationship between that liquidity and profitability was measured using the LDR, DAR and CDR while profitability ROE and ROA. LDR was found not to have any significant impact on profitability measured either as ROE or ROA. This is due to the increase in the interest rates at which banks would borrow both from depositors as well as meeting their liquidity needs that offset their marginal interest income from investments in assets like loans. DAR was found to have significant impact on profitability as measured in terms of ROE but none in the light of ROA. This is because banks were able to reap superior interest income from investments in assets comparative to the interest payable to depositors. However, when this superior interest income is compared to the huge volume of assets held by banks it is almost insignificant and that is the possible reason why DAR does not significantly affect ROA. Like LDR, CDR was found not to have significant impact on profitability for both its proxies ROE or ROA. This is for the reason that the increase in liquid assets in the aftermath of the crisis meant an increase in the opportunity cost of holding liquid assets and the high interest rates on deposits counteracted the interest income on liquid assets.

Shrestha (2018) found that liquidity management and profitability in commercial banks are two sensitive issues in the operations of commercial banks and of which information on them are seriously hoarded. The major concern of his study was to reconcile the conflicting requirements of bank liquidity and bank profitability arising from the conflicting desires of the two major providers of the bank resources namely the shareholders and the depositors. The shareholders desire maximum profitability as a return on their capital, while the depositors opt for a maximum liquidity as a guarantee for safety and ability to pay their money on demand. From the study, researcher conclude that both illiquidity and excess liquidity are "financial diseases" that can easily erode the profit base of a bank as they affect bank's attempt to attain high profitability- level. The pursuit of high profit without consideration to the liquidity level can cause great illiquidity, which reduces the customers' patronage and loyalty. Therefore, any bank that has the aim of maximizing its profit level must adopt effective liquidity management. Effective liquidity management also requires adequate liquidity level which will help commercial banks to estimate the proportion of depositor's funds that will be demanded at any period and arrange on how to meet the demand.

Muiruri (2017) Concludes that there is positive relationship between liquidity and profitability in Kenya's commercial banks. Bank should not only focus on profitability but also ensure that there is effective and efficient management. This will enhance the growth of Kenyan commercial banks. Banks should also not have excessive liquidity but also have other ways of maintaining liquidity such as overnight borrowing or discounting bills. The excessive liquidity should be invested in short-term instrument to increase return on investment.

Khan and Ali (2018) empirically proved through analysis that liquidity has positive relationship with profitability, and has considerable impact on the profitability of commercial banks in Pakistan. With the growing liquidity level to ascertain limit, the profitability also increases. None of the variable shows negative relationship. Every ratio of liquidity shows positive relation with all the ratios of liquidity. Hence, this research indicates that liquidity has positive relationship with profitability. Therefore, it is

suggested that banks should keep considerable amount of their liquid assets in order to get higher rate of profit.

Charmler, Musah, Akomeah and Gakpetor (2018) found that bank liquidity is very important as its affect their profitability. They revealed that there is positive association between bank liquidity and profitability consistent with the study hypothesis. These result however should be interpreted with caution as previous studies have suggested that there is a limit to bank liquidity improves profitability. This means that even though bank liquidity improves profitability, at some stage increase in liquidity could be counterproductive and will reduce the profitability of banks. Their study implies that banks must take critical look at their liquidity if they want to improve their performance in terms of profitability. Their results revealed that variables such as net interest margin, capital adequacy ratio, the size of the banks and foreign ownership have positive relationship with bank profitability. Their results have several implications to banks and their managers as well as regulators of the sector.

Mohanty and Mehrotra (2018) concluded that liquidity has a significant negative influence on the profitability as measured by ROA because of banks having excessive liquidity instead of investing the money to generate profit. However, there is no statistically significant relationship between ROE and liquidity measures considering all the variables, irrespective of the type or form of commercial banks in India. This leads to the conclusion that the commercial banks can focus on increasing their profitability without affecting their liquidity and vice versa. However, this is not guaranteed because the situation might change, especially changes in the macroeconomic environment that are outside the control of the commercial banks.

Gopali (2019) conducted a research work to measure the liquidity and profitability of commercial banks. The researcher found that the NABIL bank solvency position is greater than Sanima bank. The study results revealed that liquidity position of both banks were sound in case of mobilized the funds of shareholders efficiently into profit generating projects also, Sanima bank doesn't mobilized and NABIL has been

successfully in providing more rate of return to its shareholders by the proper use of their available fund than others. In term of loan and advances against deposits, Sanima bank has used more percentage of its total deposits into loan and advance than NABIL bank. NABIL has mobilized highest percentage of its total deposits into total investment. From profitability ratio, NABIL bank has highest return of assets as compare to Sanima bank. Return on equity ratio of NABIL bank is also higher compare to sanima bank. This concludes that the profit earning capacity of NABIL bank is greater as compare to Sanima bank.

Khalid, Rashed and Hossain (2019) investigated on the impact of liquidity on Bank's financial performance, and has been tried to get the relationship between liquidity and financial performance of banks in the Bangladesh perspective. In order to conduct the experiment Dhaka Stock Exchange enlisted banks were selected. In a nutshell, from the research it can say that liquidity has no significant impact on return on asset (ROA) and as well as return on equity (ROE) as financial performance. Researcher's related with research also believe that further research is required to justify the empirical findings of this research.

Khatri (2020) reveled that using Hausman test and thereafter-fixed effects approach, the result showed that assets quality (AQ) has negative and significant relationship with return on assets (ROA) whereas it has positive and significant relationship with return on equity (ROE). Cash-deposit ratio (CADR) has positive and insignificant relationship with return on assets (ROA) and return on equity (ROE). However, the study reveals that credit-deposit (CDR) has positive but insignificant relationship with ROA and has negative and insignificant relationship with return on equity (ROE).

2.3 Research Gap

Khatri (2020) reveled that using Hausman test and thereafter fixed effects approach; the result had been achieved undertaking variables such as assets quality (AQ), return on assets (ROA), equity (ROE) and cash-deposit ratio (CADR). However, in this study the cash reserve ratio (CRR), capital adequacy ratio (CAR),Credit deposit ratio(CDR) ,Non-

Performing loan ratio(NPLR), supplementary capital ratio (SCR) and core capital ratio (CR) have been considered along with return on equity (ROE) which is an obvious gap in previous study.

In international context, few research have found negative relation between liquidity and profitability and some researchers also revealed that the impact of liquidity on financial performance is non-linear and the other stated there is no significant impact of liquidity on profitability. On the contrary, in Nepalese context, most of the researcher has revealed that the liquidity is positively associated with commercial banks profitability. Due to change in time, market factors, banking services and other significant factors, there arises drastic change in the banking field. Since, few studies are conducted in Nepal. Some areas need to be researched numerously. So, this research is tend to fulfill the lack of previous studies with analysis of current data which uses more scientific tools and techniques.

CHAPTER-III

RESEARCH METHODOLOGY

The entire process based on philosophies, principles and mechanism of research, by which is attempt to solve problems or search the answer to question are collectively known as the Research Methodology. It is the way of systematically solving the research problem. It is the process of arriving at the solution of the problem through planned and systematic dealing with the collection, analysis and interpretation of facts and figures. It includes different dependent and independent variables, types of research design, population and sample, sources of data, data collection and processing procedure, data analysis tools and techniques (statistical and financial tools, software package to be used in the research).

3.1 Research Design

Research design refers to the planning or making a decision before starting with the research study. It is the planning of strategy of conducting research. It is the processing detailing, what is to be observed, how it is to be observed, when/where it is to be observed, why it is to be observed, how to record observation, how to analyze and interpret observation and, how to generalize. Thus, it is blueprint for research. It is the plan, structure, and strategy of investigation conceived to obtain answer to research questions and control variances. For the fulfillment of the objectives of proposed research, descriptive research designs have been used.

3.2 Population and Sample

Under the study of the impact of liquidity on profitability of Commercial commercial banks in Nepal, the total number of commercial banks including domestic and Commercial banks operating in Nepal is twenty-seven. At present time, there are six licensed Commercial commercial banks in Nepal. All twenty-seven licensed Nepalese commercial banks are consider as the total population, out of them this study is concern with three commercial banks namely NABIL Bank Limited, Nepal SBI Bank Limited and Standard Chartered Bank Nepal Limited as a sample. The sample banks are taken

under purposive sampling according to their operating history and its data related to profitability are comparatively studied. The data have been employed from fiscal year 2010/11 to 2019/20 (10 years'). These three banks have also been selected on the basis of highest paid up capital as compared to others Commercial banks.

3.3 Sources of Data

The proposed research is mainly based on secondary data of sample banks, Nepal Rastra Bank, published thesis, online journals and different libraries. The data have been employed from fiscal year 2010/11 to 2019/20 (10 years'). The review of literature of the proposed study is based on the Past thesis, textbooks, journals etc. the necessary data and information have been collected from relevant institutions and authorities. In addition information are collected from Research Department (Nepal commerce campus), central library, Library of Nepal Commerce Campus, Central Bureau of Statistics (CBS) etc. The major sources of data and information are as follows:

- Annual reports of sample banks
- Website of sample banks
- Banking and financial statistics
- Economy survey
- Monetary policy
- Ministry of finance
- Budget
- Other relevant authorities

3.4 Data Collection and Processing Procedure

Data refers to the raw form of information. It may sign, symbol, number or other unstructured form. Data collection is the process of gather data from relevant sources. Which should be accurate, relevant and consistent? It is focus on quantitative data rather than qualitative data. These data collect from secondary sources. The secondary sources are governmental sources, semi-governmental sources, private organization, Non-government organization, International non-government organization, newspapers,

Google, YouTube etc. After collection of data to gather information these steps are followed;

- Editing
- Coding
- Classification
- Tabulation
- Presentation

3.5 Data Analysis Tools and Techniques

For the fulfillment of the objective of research, various financial and descriptive statistical tools and techniques, Excel (Software) have used. The analyses of data are done according to the pattern of data available. Due to limited time and resources, simple analytical statistical tool such as percentile is to be use in this research. Likewise, some financial tools such as ratio analysis are used for financial analysis.

3.5.1 Statistical Tools

Under statistical tools, the following tools may use:

Descriptive Statistical Tools

Descriptive Statistical tools help to find out the trend of financial position of the sample banks .it also analyze the relationship between variables and helps banks to take appropriate decisions regarding to fulfillment of organization goals. Descriptive analytical tools such as percentage, mean (arithmetic), variance and standard deviation may be used in the proposed thesis.

Inferential Statistical Tools

Unlike with the data description which have the focus of describing the sample data, while the focus of inferential analysis is on estimation or hypothesis testing, by using sample purely to make inferences about the population. This process is formally known as inferential statistics. There are two major groups of inferential statistics, (i) parametric and (ii) non-parametric. The parametric test as per the need have only been employed. Under the parametric test, correlation analysis and regression analysis are used.

The Multiple Regression Model,

$$ROE_{it} = \beta_0 + \beta_1 \text{ CAR} + \beta_2 \text{ SC} + \beta_3 \text{ CC} + \beta_4 \text{ CRR} + \beta_5 \text{ CDR} + \beta_6 \text{ NPLR} + \varepsilon_{it}$$

Where,

β_0	=	Constant Value
$\beta_1, \beta_2, \beta_3, \beta_4$	=	Coefficient of Independent Variables
ROE	=	Return on Equity
CAR	=	Capital Adequacy Ratio
SC	=	Supplementary Capital Ratio
CC	=	Core Capital Ratio
CRR	=	Cash Reserve Ratio
CDR	=	Credit Deposit Ratio
NPLR	=	Non-performing Loan Ratio
ε_{it}	=	Error Terms

3.7 Data analysis

The collected data were recorded in excel sheet then analyze with the help of SPSS 25 version. The method of analysis employed in this study includes descriptive analysis and inferential analysis has been applied. Under descriptive the mean, minimum, maximum and standard deviation has been used to analyze the data. Along with descriptive statistics, a correlation matrix including the variables is also presented. The correlation matrix shows that some of the independent variables are significantly correlated with each other. The regression analysis has been carried out to establish the relationship between dependent and independent variables.

3.7.1 Financial Tools

Under financial tools, ratio analysis is use to determine the information. The major ratios to be used in the proposed thesis are liquidity (cash reserve ratio), credit deposit ratio, non-performing loan ratio, supplementary capital ratio, core capital ratio and capital adequacy ratio as predictors and return on equity as dependent variables.

Table 1**List of Undertaken Variables**

Variables	Notion	Measure
Dependent variables		
Return on equity	ROE	Total Net Profit/Total Shareholders' Equity
Independent variables		
Liquidity Ratio	CRR	Reserve Requirement/ Total Deposits
Credit Deposit Ratio	CDR	Total Credit/Bank Deposit
Capital Adequacy Ratio	CAR	Sum of Supplementary and Core Capital Ratio
Supplementary Capital Ratio	SCR	Tier 2 Capital/Total Risk Weighted Assets
Core Capital Ratio	CR	Tier 1 Capital/Total Risk Weighted Assets
Non-performing Loan Ratio	NPLR	Total non-performing loan/Total Loan

3.8 Research Framework

The figure 1 represent the theoretical framework has been developed on the basis of dependent variable i.e. return on equity and independent variables such as liquidity (cash reserve ratio), supplementary capital ratio, core capital ratio, price earnings ratio, dividend payout ratio and capital adequacy ratio. The whole dissertation revolves around these variables to find out the impact of liquidity on profitability of commercial banks.

Independent Variables

Dependent Variables

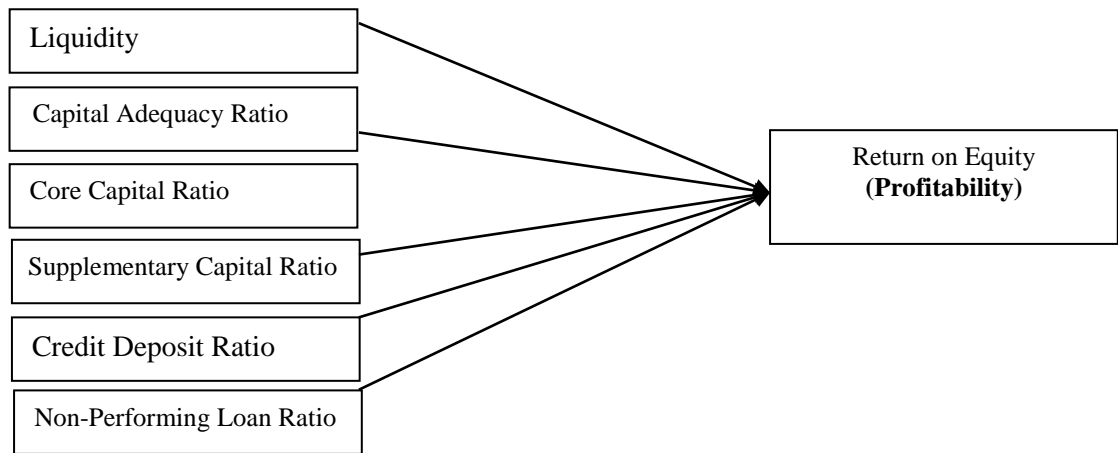


Figure 1: Research Framework

3.9 Definitions of Variables

Liquidity (CCR)

This ratio only includes the most liquid of current assets to current liabilities. The rise in the value of this ratio expresses high liquidity of the company. This ratio excludes prepaid expenses and inventory from current assets being difficult conversion into cash (Sinha, 2012). Customer deposits enable commercial banks to invest in technological innovations, these innovations helps in reducing costs and increasing efficiency in operations of commercial banks this in turn contributes to an increase in customers' deposits. This can play an important role in risk reduction and vulnerability for poor groups, and raising the opportunity for individuals and households to access basic services like health and education, thus having a more direct impact on reduction of poverty in the economy (Shaw, 1973).

Return on Equity (ROE)

Return on equity is the ratio of net income after taxes divided by total equity capital. ROE is a financial ratio that refers to how much profit a company earned compared to the total amount of shareholder equity invested or found on the balance sheet. ROE is what the shareholders look in return for their investment. It represents the rate of return earned

on the funds invested in the bank by its shareholders. ROE reflects how effectively a bank management is using shareholder funds (Khrawish, 2011).

Capital Adequacy Ratio (CAR)

Bonfim and Kim (2012) defined capital adequacy is the Tier 1 capital ratio determined as core capital divided by total deposits. Ayele (2012) points that capital adequacy is a measure of a bank's financial strength, in terms of its ability to withstand operational costs and fund liquidity. Capital adequacy also indicates the ability of bank to undertake additional business. The size of capital provides financial flexibility for bank and financial institution. Ongore and Kasu (2013) argued that capital adequacy ratio shows the internal strength of the bank to withstand losses during crisis.

Core Capital Ratio (CC)

The tier 1 capital ratio is the ratio of a bank's core tier 1 capital that is its equity capital and disclosed reserve to its total risk-weighted assets. It is a key measure of a bank's financial strength that has been adopted regulation. The bank should maintain at least 6 percent of bank's total assets which may entail declared reserves (retained assets). The tier 1 capital ratio measures a bank's core equity capital against its total risk-weighted assets which include all the assets the bank holds that are systematically weight for credit risk.

Supplementary Capital Ratio (SC)

Tier 2 capital includes undisclosed funds that do not appear on a bank's financial statement, revaluation reserves, hybrid capital instruments, subordinated term debt also known as junior debt securities and generate loan loss or uncollected reserved, revalued reserve is an accounting method that recalculated the current value of the holding that is higher than what is was originally recorded as such as with real estate. Under capital adequacy, ratio minimum 11 percent need to be maintained whereas core capital ratio deals with minimum 6 percent and others is concerned with supplementary capital. Tier 2 capital is supplementary capital because it is less reliable than tier 1 capital. It is more difficult to accurately measure due to its composition of assets that are difficult to

liquidate often. Banks will split these funds into upper and lower level pools deepening on the characteristics of the individual assets.

Credit Deposit Ratio (CDR)

Credit-deposit ratio is a ratio between the banks total loans and total deposits. The ratio is generally expressed in percentage terms if the ratio is lower than one, the bank relied on its own deposits to make loans to its customers, without any outside borrowing. In calendar year 2020, the credit-deposit (CD) ratio has consistently declined from 75% levels in January to 71.3% on 4 December, with the hit becoming evident in the first months of the covid-19 pandemic as credit growth slumped (NRB, 2020).

Non-Performing Loan Ratio (NPLR)

NRB has directed all the commercial banks to create loan loss provision against the doubtful and bad debts. This ratio helps in minimizing the non-performing loans and helps to control the credit. Non-performance loan ratio is a performance indicator of bank efficiency. The lower the ratio, the more efficient the bank. Similarly, higher ratio is a symbol of the inefficient management of the bank. Nonperforming loan ratio up to 5% is acceptable as per the international banking practices. In present study, Janata Bank Limited (0.06) has lowest non- performing loan ratio followed by Century Bank Limited (0.1), Civil Bank Limited (0.2) and Commerz and Trust Bank Limited (0.4). Nepal Bagaladesh Bank Limited (11.75) has highest ratio followed by Lumbini Bank Limited (5.13). Rests of the other banks have been maintaining the non-performance loan ratio within 5% (Kattel, 2014).

CHAPTER-V

SUMMARY AND CONCLUSION

5.1 Summary

The study is all about liquidity and its effect on profitability of Commercial banks in Nepal. The major objective of the research is to examine the impact of liquidity on profitability of commercial banks in Nepal. In addition, to examine the effect and relationship of capital adequacy ratio, credit deposit ratio, non-performing loan ratio, core capital ratio, supplementary capital ratio, and liquidity ratio with profitability. Out of total twenty-seven commercial banks, three Commercial banks have been selected as sample. The sample banks are taken under purposive sampling according to their operating history and its data related to profitability are comparatively studied. The data have been employed from fiscal year 2010/11 to 2019/20 (10 years). The total number of observations is ten having thirty years' annual financial data. As per research design, descriptive and correlational research designs have been used. The statistical tools consist of mean, standard deviation and coefficient of variations as well as the inferential statistic consists of mainly Bivariate Pearson's' correlation and linear regression analysis for examining the effect and relationship among variables such as cash reserve ratio (liquidity), return on equity (profitability), credit deposit ratio, non-performing loan ratio, supplementary capital and core capital ratio. The fixed effect model approach has been incorporated to examine the effect of liquidity on profitability of Nepalese commercial banks.

The major findings and conclusion of this study can be elaborated, as the regression coefficient of cash reserve ratio in the regression coefficient analysis is 0.032 which indicates that if cash reserve ratio is increased by one unit, the average influence on return on equity (profitability) will increase 0.032 percentage. The corresponding p-value is 0.853 which is greater than 0.05; hence, there is statistically positive but insignificant relationship between cash reserve ratio and return on equity. In addition, there is positive correlation between equity on equity and capital adequacy ratio with great strength. Positive correlation between return on equity and capital adequacy ratio

implies that when capital adequacy ratio increases, the return on equity also increases, as they lead one another in the same direction. Similarly, there is positive correlation between return on equity and non-performing loan ratio. Positive correlation between return on equity and non-performing loan ratio implies that when non-performing loan ratio increases, the return on equity also increases, as they lead one another in the same direction. Similarly, it is found that there is positive correlation between credit deposit ratio and return on equity with great strength which implies meaning that they lead one another in the same direction. When credit deposit ratio increases the return on equity increases and vice-versa. Moreover, cash reserve ratio has negative correlation with return on equity ratio and core capital ratio which indicates that they lead each other in the inverse direction. When core capital ratio increases the return on equity decrease and vice-versa.

5.2 Conclusion

In the light of this evidence, it is crystal clear that the liquidity has low degree of effect on profitability of commercial banks. There is statistically positive and insignificant relationship between cash reserve ratio and return on equity. However, the all commercial banks have sufficiently retained liquidity level to tackle future liquidity risk and solvency. The shareholders are getting return regular however this in not consistency over getting return. Similarly, there is statistically positive and significant relationship between capital adequacy ratio and return on equity. The effect of capital adequacy ratio on profitability is considerable. Similarly, there is statistically positive but insignificant relationship between non-performing loan ratio and return on equity. The effect of non-performing loan ratio on profitability is considerable but not so strong enough. Moreover, there is statistically positive and significant relationship between credit deposit ratio and return on equity. In addition, credit deposit ratio also has considerable but not so strong enough. Likewise, there is statistically negative and insignificant relationship between supplementary capital ratio and return on equity and has negative effect on profitability likely to core capital ratio.

5.3 Implications

There are many implications for future researchers, managers, shareholders, regulators and so on. The study can help managers in banks to make accurate financial decisions that will satisfy the stakeholder's interest with regards to liquidity and profitability needs of the investors. In addition, the findings of the research revealed that changes in level of liquidity does affects profitable situation, so it enables managers to revise and adopt relevant strategies regarding profitability with concerning the level of liquidity are present in profitable banks. This will help them to formulate rules and regulation that help to minimize failure risk in the banking sector.

Similarly, it will be also helpful for other financial intuitions to formulate plans and policies based on the findings of this research. The study had covered only the liquidity part and it was conducted using limited ratios. Therefore, the researchers in future, who will conduct research in the same field, can use various other ratios and more advanced statistical and accounting tools, techniques in order to get better results. The secondary analysis was done by using descriptive statistics, correlation and regression analysis. Therefore, the researcher in future may consider other analysis such as test of normality test and so on for more accurate results and conclusions. The interested researchers can also do in the same area of this research extensively using a wider data and area of coverage. The study has analyzed the impact of liquidity on profitability. Such information could protect commercial banks against failure, enhance their performances, and disclose what will happen to one factor as a results of a change in others. If bank hold very high or low level of liquidity, it adversely affects profitability of banks. Therefore, bank should try to maintain adequate level of capital.

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