DETERMINANTS OF PROFITABILITY OF NEPALESE COMMERCIAL BANKS

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Certification of Authorship

I hereby corroborate that I have researched and submitted the final draft of dissertation entitled "**Determinants of Profitability of Nepalese Commercial Banks**". 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 purposes.

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

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Report of Research Committee

Mr. Success Maharjan has defended research proposal entitled "**Determinants of Profitability of Nepalese Commercial Banks"** successfully. The research committee has registered the dissertation for further progress. It is recommended to carry out the work as per suggestions and guidance of supervisor Associate Prof. Dr. Achyut Gyawali and submit the thesis for evaluation and viva voce examination.

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CHAPTER I

INTRODUCTION

1.1 Background of the study

During the last two decades, the banking sector all around the world has experienced some profound changes, as innovations in technology and the inevitable forces driving globalization which creates both opportunities for growth and challenges for banking industry to remain profitable in this increasingly competitive environment. These major transformations in competitive environment result in significant impacts on its performance. Bank performance has substantive repercussions (effects) on investment, firm growth, industrial expansion and economic development. Profitability is necessary for a bank to maintain ongoing activity and for its shareholders to obtain fair returns. Thereby, both external and internal factors have been affecting the profitability of banks over time. Therefore, the determinants of bank performance have attracted the interest of academic research as well as of bank management (Ongore & Kusa, 2013).

The soundness of financial system, especially the banking system, is a key part of the infrastructure for strong macroeconomic and monetary policy performance at the national level. The determinants of profitability are well observed and explored but the definition of profitability differs in many studies. In past, researchers have tried to find out the determinants of profitability for banking sector, some researchers considered only the banking characteristics, whereas others included the financial structure and macroeconomic factors as well. In all these studies the contribution had been made in determining the factors that evaluate the profitability of the finance companies (Sthapit & Maharjan, 2012).

Profitability is closely related to profit– but with one key difference. While profit is an absolute amount, profitability is a relative one. It is the metric used to determine the scope of a company's profit in relation to the size of the business. Profitability is a measurement of efficiency – and ultimately its success or failure. A further definition of profitability is a business's ability to produce a return on an investment based on its resources in comparison with an alternative investment. Although a company can

realize a profit, this does not necessarily mean that the company is profitable (Jana & Lace, 2018).

To determine the worth of an investment in a company, investors cannot rely on a profit calculation alone. Instead, an analysis of a company's profitability is necessary to understand if the company is efficiently utilizing its resources and its capital. If a company is deemed to have a profit but is unprofitable, there are tools for increasing profitability and overall company growth. Failing projects can quickly bog down a company, which directly leads to sunk costs. Companies can explore a profitability index to determine whether a project is worth pursuing to reduce the occurrence of project failures. This metric provides company management with insight into the costs versus the benefits of a project, and it is calculated by dividing the present value of future cash flows by a project's initial investment (Jana & Lace, 2018).

In the context of Nepal, commercial bank has been referred as "department store of finance" a term that is coined by commercial banks since they provide a wide variety of financial services and also put them in a stronger competitive position due to which many research and empirical studies have been carried out related to commercial banks. According to the Nepal company act 2063 B.S, commercial banks are those banks which deal in money exchange accepting deposit advance loan and commercial transactions except specific banking related to cooperative agriculture industry and others (Khanal, 2022).

In this study the factors considered for analysis include profitability determinants (ROA, ROE and NIM) as dependent variables and operating expenses, leverage, liquidity, and market capitalization have been taken as independent variables.

1.2 Statement of the problems

Banking sector in Nepal is one of the most growing and profit generating organization. At the end of each fiscal year if we went through the yearly financial report of banks they are earning huge amount of profit. These all profit can be identified through different factors.

Among the various studies on performance of banking institutions conducted suggest that bank profitability determinants vary across countries and regions of the world.

There was time that the banking sector were mushrooming with high rate of growth in the number of rural banks and co-operative societies in a short span of time which has brewed making the competition to get stiffer till today. Thus, banks are seeking to slight the cost of their relatively high capital ratios by requiring higher net interest margin. Interest margin is one of the indicators that can be used in assessing the profitability of banks. Other indicators of banks are return on assets and return on equity.

Banks having higher operating expenses have higher net interest margin and profitability levels. Net interest margin is the major variable in the financial system and higher interest margins can discourage people from depositing money because too low returns on deposit can result in decreasing financing in borrowers thus affecting the overall economy. Similarly changes in the level of gross domestic product and rate of inflation also cause increase in interest rates. Bank's profitability has positive relationship with liquidity (Jana & Lace, 2018).

In context of Nepal, the health of the banking sector is very important because the financial market is not highly developed and sound financial performance of commercial bank is significant for development of a country and due to which the study showed that the debt to equity ratio should neither be highly leveraged to create too much financial obligation that lie beyond capacity to meet nor should it be much low levered to infuse operational strategy to bypass responsibility without performance. Nepalese banking sector is facing a problems such as spread in liquidity, and large number of consortium loan. In order to cope with this problem Nepal Rastra Bank (NRB) has directed the banking institutions to go in the process of mergers and acquisitions to promote financial stability and mobilize the resources needed for long term development by improving performance.

Though there are above mentioned empirical evidences in the context of other countries and in Nepal, no such evidences using more recent data exist in the context of Nepal. This study therefore deals with the following issues in the context of Nepalese banks: This study deals with the following issues in the context of Nepalese banks:

i What is the performance (ROA, ROE and NIM) of selected commercial banks in Nepal?
ii What is the position of commercial banks of Nepal in terms of operating expenses, leverage, liquidity, market capitalization?
iii Is there any relationship between independent variables (operating expenses, leverage, liquidity and market capitalization) and profitability of commercial banks of Nepal?
iv Is there any effects of independent variables (operating expenses, leverage, liquidity and market capitalization) on profitability of commercial banks of Nepal?

1.3 Objective of the study

The main objective of the study is to examine the determinants of profitability in Nepalese commercial banks. However, the specific objectives are as follows:

i To analyze the financial performance of commercial in terms of ROA, ROE and NIM
ii To identify the status of leverage, operating expenses, liquidity and market capitalization of commercial banks in Nepal
iii To examine the relationship between profitability and its determinants such as operating expenses, leverage, liquidity and market capitalization.
iv To assess the impact of independent variables (operating expenses, leverage, liquidity and market capitalization) on profitability of commercial banks of Nepal

1.4 Rationale 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 of temporary idle money of the public for advancing to others for expenditures. In other words, bank is an institution that deals in money and its substitutes and also provides other financial services. Bank accepts deposit and makes loans and derives a profit from the difference in the interest rates paid and charged, respectively. Contemporary competitive business environment demands efficient use

of resources, which underscores the importance of working capital management. Banking service contributes to economy growth by producing the financial means to facilitate production in other industries.

It is important to evaluate the effective utilization of funds to keep the optimal level of leverage as well as profitability of the banks. The problem lies in how to choose or select the optimal point or level at which banks can maintain their assets in order to achieve these two objectives together, because each level of liquidity has a different effect on the levels of profitability, and the problem arises when the commercial banks try to maximize their profit at the expense of neglecting the liquidity, which may cause a technical and financial hardship with the consequent withdraw of deposits.

The study would be beneficial as it provides insight for bank owners and policy makers, on factors that determine bank performance and efficient utilization of resources, for sustainable competitiveness. Thus this study contributes to understand more of the factors that have an impact on private commercial banks performance in Nepal. This study is expected to help those bankers who will get information to improve the performance of the Nepalese private commercial banks. Many study of bank performance has provided road map for managers and the shareholders to evaluate their bank performance in term of profitability with respect to the internal and external determinants. Profitable banks can also diversify their business effectively and also hedge against adverse effects. Therefore, understanding and regularly updating knowledge regarding factors affecting banking profitability is very important for long term existence along with excellent bank management and stability of firm as financial intermediary and important contributor to the economic development of the country.

1.5 Limitations of the study

Following are the limitations of the study:

i This study ignores other sectors of Nepalese firms such as Development banks, finance companies and insurance companies beside commercial banks.

ii The data has been used for the years covering from 2010 to 2021.

iii Only 6 commercial banks have been taken as sample out of 27 commercial banks.

iv The independent variables used in this study are operating expense, leverage, liquidity, market capitalization and dependent variable is profitability.

1.6 Chapter plan

The report is organized into five different parts. The first chapter that is chapter one contains introduction of the study including general back ground, statement of the problems, purposes of the study, research hypothesis of the study, significance of the study, and organization of the study. The chapter two consists of conceptual review, review of literatures related to studies in global context as well as the review of studies in Nepalese context. Besides, this chapter ends up with concluding remarks associated with the findings and major ideas of the studies. The chapter three covers the research design, nature and sources of data, selection of enterprises, models used for data analysis and conclusion along with the limitations of the study. The chapter four focuses on the result of data and is further divided into two sections, namely, analysis of secondary data and concluding remarks associated with the major findings of the study. The chapter five provides a conclusion of the study. This chapter also includes a separate section for implication and scope for future research based on major findings of the study.

References and appendix have also been incorporated at the end of the study.

CHAPTER II

REVIEW OF LITERATURE

Several studies have examined the linkage between Leverage, Liquidity, Operating Expenses, market capitalization and Profitability of the banks and this study have referred to various foreign studies on this topic, to enhance the theoretical background, and the model used, in addition to previous studies results. This section includes listing of foreign studies with a brief description of each. The review of literature has been organized as under:

2.1 Theoretical review

Profit is the financial benefit realized from the business activity when the revenues generated exceeds the costs and expenses incurred in the operation of such activities. Simply, the total cost deducted from total revenue yields profit (Venkatraman & Prescott, 1990). . The following points highlight the top seven theories of profit. The theories are: 1) Rent Theory of Profit, 2) Wage Theory of Profit, 3) Risk Theory of Profit, 4) The Dynamic Theory of Profit, 5) Schumpeter's Innovation Theory, 6) Uncertainty Bearing Theory of Profit and 7) Marginal Productivity Theory of Profit.

1. Rent Theory of Profit

This theory was first propounded by the American Economist Walker. It is based on the ideas of Senior and J.S. Mill. According to Mill, "the extra gains which any producer obtains through superior talents for business or superior business arrangements are very much of a kind similar to rent. Walker says that "Profits are of the same genus as rent". His theory of profits states that profit is the rent of superior entrepreneur over marginal of less efficient entrepreneur (Rao & Lakew, 2012).

According to these economists, there was a good deal of similarity between rent and profit. Rent was the reward for the use of land while a profit was the reward for the ability of the entrepreneur. Just as land differs from one another in fertility, entrepreneurs differ from one another in ability. Rent of superior land is determined by the difference in productivity of the marginal and super marginal land; similarly

the profits of the marginal and super marginal entrepreneurs (Tafri, Hamid, Meera, & Omar, 2009).

In short it is the intra-marginal lands that earn a surplus over marginal lands. So also intra marginal entrepreneurs earn a surplus over marginal entrepreneur. Just as there is the marginal land, there is the marginal entrepreneur. The marginal land yields no rent; so also marginal entrepreneur is a no profit entrepreneur.

The marginal entrepreneur sells his produce at cost price and gets no profit. He secures only the wages of management not profit. Thus profit does not enter into cost of production. Like rent, profit also does not enter into price. Profit is thus a surplus.

2. Wage Theory of Profit

This theory was propounded by Taussig, the American economist. According to this theory, profit is also a type of wage which is given to the entrepreneur for the services rendered by him. In the words of Taussig, profit is the wage of the entrepreneur which accrues to him on account of his ability (Rao, & Lakew, 2012).

Just as a labourer receives wages for his services, the entrepreneur works hard gets profit for the part played by him in the production. The only difference is that while labourer renders physical services, entrepreneur puts in mental work. Thus an entrepreneur is not different from a doctor, lawyer, teacher, etc., who do mental work. Profit is thus a form of wage.

3. Risk Theory of Profit

This theory is associated with American economist Hawley. According to him profit is the reward for risk-taking in business. Risk-taking is supposed to be the most important function of an entrepreneur. Every production that is undertaken in anticipation of demand involves risk. According to Drucker there are four kinds of risk. They are replacement, obsolescence, risk proper and uncertainty.

The first two are calculated and therefore they are insured. But the other two are unknown and unforeseen risks. It is for bearing such risk profit is paid to entrepreneur. No entrepreneur will be willing to undertake risks if he gets only the normal return.

Therefore the reward for risk-taking must be higher than the actual value of the risk. If the entrepreneur does not receive the reward, he will not be prepared to undertake the risk. Thus higher the risk greater is the possibility of profit.

According to Hawley the entrepreneur can avoid certain risks for a fixed payment to the insurance company. But he cannot get rid of all risks by means of insurance. If he does so he is not an entrepreneur and would earn only wages of management and not profit (Pallavi & Saluja, 2017).

4. The Dynamic Theory of Profit

Clark (1990) propounded the dynamic theory of profit. To him profit is the difference between the price and the cost of production of the commodity. Profit is the result of progressive change in an organized society.

The progressive change is possible only in a dynamic state. According to Clark the whole economic society is divided into organized and unorganized society. The organized society is further divided into static and dynamic state. Only in dynamic state profit arises (Olagunju, Adeyanju & Olabode, 2011).

In a static state, the five generic changes such as the size of the population, technical knowledge, the amount of capital, method of production of the firms and the size of the industry and the wants of the people do not take place; everything is stagnant and there is no change at all. The element of time is non-existent and there is no uncertainty. The same economic features are repeated year after year.

Therefore there is not risk of any kind to the entrepreneur. The price of the good will be equal to the cost of production. Hence profit does not arise at all. The entrepreneur would get wages for his labour and interest on his capital. If the price of the commodity is higher than the cost of production, competition would reduce the price again to the level of the cost of production so that profit is eliminated.

The presence of perfect competition makes the price equal to the cost of production which eliminates the super normal profit. Thus Knight observes, “Since costs and selling prices are always equal, there can be no profit beyond wages for the routine work of supervision”.

It is well known that the society has always been dynamic. Several changes are taking place in a dynamic society (Olagunju, Adeyanju & Olabode, 2011).

5. Schumpeter's Innovation Theory

This theory was propounded by Schumpeter. This theory is more or less similar to that of Clark's theory. Instead of five changes mentioned by Clark, Schumpeter explains the change caused by innovations in the production process. According to this theory profit is the reward for innovations. He uses the term innovation in a sense wider than that of the changes mentioned by Clark.

Innovation refers to all those changes, in the production process with an objective of reducing the cost of commodity so as to create gap between the existing price of the commodity and its new cost. Innovation may take any shape like introduction of a new technique or a new plant, a change in the internal structure or organizational set up of the firm or change in the quality of raw material, a new form of energy, better method of salesmanship.

Schumpeter makes a distinction between invention and innovation. Innovation is brought about mainly for reducing the cost of production and it is cost reducing agent. Profit is the reward for this strategic role. Innovations are not possible by all entrepreneurs. Only exceptional entrepreneurs can innovate. They are capable of tapping new resources, technical knowledge and reduce the cost of production. Thus the main motive for introducing innovation is the desire to earn profit. Profit is therefore the cause of innovation (Maudos & Guevara, 2004).

Profits are of temporary nature. The pioneer who innovates earns abnormal profit for a short period. Soon other entrepreneurs, "swarm in clusters", compete for profit in the same manner. The pioneer will make another innovation. In a dynamic world innovation in one field may induce other innovations in related fields.

The emergence of motor car industry may in turn stimulate new investments in the construction of highways, rubber, tyresm and petroleum products. Profits are thus causes and effects of innovation. The interest of profit leads entrepreneur to innovate and innovation leads to profit. Thus profit has a tendency to appear, disappear and reappear.

Profits are caused by innovation and disappear by imitation. Innovational profit is thus, never permanent, in the opinion of Schumpeter. Therefore it is different from other incomes, such as rent, wages and interest. These are regular and permanent incomes arising under all circumstances. Profit on the other hand is a temporary surplus resulting from innovation (Maudos & Guevara, 2004).

Prof. Schumpeter also explained his views on the functions of the entrepreneur. The entrepreneur organizes the business and combines the various factors of production. But this is not his real function and this will not yield him profit. The real function of the entrepreneur is to introduce innovations in business. It is innovations which yield him profit.

6. Uncertainty Bearing Theory of Profit

This theory was propounded by an American economist Prof. Frank H. Knight. This theory, starts on the foundation of Hawley's risk bearing theory. Knight agrees with Hawley that profit is a reward for risk-taking. There are two types of risks viz. foreseeable risk and unforeseeable risk. According to Knight unforeseeable risk is called uncertainty beaming.

Knight regards profit as the reward for bearing non-insurable risks and uncertainties. He distinguishes between insurable and non-insurable risks. Certain risks are measurable; the probability of their occurrence can be statistically calculated. The risks of fire, theft, flood and death by accident are insurable. These risks are borne by the insurance company (Dietrich & Wanzenried, 2011).

The premium paid for insurance is included in the cost of production. According to Knight these foreseen risks are not genuine economic risks eligible for any remuneration of profit. In other words insurable risk does not give rise to profit. According to Knight profit is due to non-insurable risk or unforeseeable risk. Some of the non- insurable risks which arise in modern business are as follows:

(a) Competitive risk

Some new firms enter into the market unexpectedly. The existing firms may have to face serious competition from them. This will inevitably lower down the profit of the firms (Dietrich & Wanzenried, 2011).

(b) Technical risk

This risk arises from the possibility of machinery becoming obsolete due to the discovery of new processes. The existing firm may not be in a position to adopt these changes into its organization, and hence suffer losses.

(c) Risk of government intervention

The government, in course of time, interferes into the affairs of the industry such as price control, tax policy, import and export restrictions, etc., which might reduce the profits of the firm.

(d) Cyclical risk

This risk emerges from business cycles. Due to business recession or depression, consumer's purchasing power is reduced; consequently demand for the product of the firm also falls.

(e) Risk of demand

This is generated by a shift or change of demand in the market.

Knight calls these risks as 'uncertainties' and 'it is uncertainties in this sense which explains profit in the proper use of the term'. These risks cannot be foreseen and measured, they become non- insurable and the uncertainties have to be borne by the entrepreneur. According to this theory there is a direct relationship between profit and uncertainty bearing.

Greater the uncertainty bearing, the higher the level of profit. Uncertainty beaming has become so important in business enterprise in modern days, it has come to be considered as a separate factor of production. Like other factors it has a supply price and entrepreneurs undertake uncertainty bearing in the expectation of earning certain level of profit. Profit is thus the reward for assuming uncertainty.

In the modern days production has to take place In advance of consumption. The producers have to face their rival producers and the future is uncertain and unknown. These are uncertainties. Some entrepreneurs are able to see it more clearly than others and therefore able to earn profit (Dietrich & Wanzenried, 2011).

7. Marginal Productivity Theory of Profit

The general theory of distribution is also applied to the factor, entrepreneur. According to Prof. Chapman, profits are equal to the marginal worth of the entrepreneur and are determined by the marginal productivity of the entrepreneur. When the marginal productivity is high, profits will be high (Rehman, 2013).

Just as marginal revenue productivity of any factor represents the demand curve of a factor the marginal revenue productivity curve of entrepreneur is the demand curve of an entrepreneur. As more and more firms enter into the industry, the marginal revenue productivity (MRP) of entrepreneurship decreases. The slope of the MRP curve will be negative. The supply curve of entrepreneur will be perfectly elastic under perfect competition.

2.1.1 Determinants of profitability

The soundness of financial system, especially the banking system, is a key part of the infrastructure for strong macroeconomic and monetary policy performance at the national level. The determinants of profitability are well observed and explored but the definition of profitability differs in many studies. In past, researchers have tried to find out the determinants of profitability for banking sector, some researchers considered only the banking characteristics, whereas others included the financial structure and macroeconomic factors as well. Liquidity ratio is positively related to return on assets and also suggested that there is an increase in profitability if lesser collection of funds is used in liquid investment. The determinants of profitability are as follows:

Net Interest Margin (NIM)

Net interest margin is a measure of the spread on interest rate and cost of financial intermediate calculated as net income over total earning assets (Berger, 1995).

Return on Assets and Return on Equity (ROA and ROE)

Return on assets and equity means the ratio that establishes the relationship between net profit and total assets & equity. This ratio measures the profitability of all financial resources invested in the firm’s assets and equity (Berger, 1995).

Leverage

Financial leverage is a measure of how much firms use equity and debt to finance its assets. It can be defined as the ratio of total debt to total assets expressed in percentage and can be interpreted as the proportion of a company's assets that are financed by debt (Fosu, 2013).

Liquidity

Liquidity is one of the most important factors that determine the level of bank performance and it is the ability to fulfill its obligation mainly of depositors (Alshatti, 2015).

Operating Expenses

The cost to income ratio is defined as the operating costs such as the administrative cost, staff salaries and property costs excluding losses due to bad and non-performing loans over total generated revenues (Fosu, 2013).

Market Capitalization

Market capitalization is the value the stock market places for the entire company or simply market estimate of a company's value based on perceives future prospects, economic or monetary condition (Fosu, 2013).

2.2 Empirical review

2.2.1 Review of International Studies

Rosly and Bakar (2003) analyzed the profitability of scheduled commercial Banks and to study trends of profitability of scheduled commercial banks. The study used both primary and secondary data. 100 samples have been used. Descriptive and analytical research designs were used. The study had conducted model experiments using statistical information on credit histories of clients of Malaysian commercial banks engaged in consumer lending. The study found that there is creation of a model of borrowers' internal credit ratings and the development of the methods of improving credit risk management in commercial banks. When lending to individuals (retail clients) the most significant factors affecting the value of the credit risk of a bank are the average income of the borrower, the loan amount, and the loan term. The study concluded that there is negative relation between operating expense and retur on assets, as the Islamic banking scheme utilized the overheads of mainstrean banks.

Maudos and Guevara (2004) the banks' credit risk management policy and to examine different obstacles or problems resulting from credit risks. The study was based on a descriptive research approach. The study had used survey-based primary data. The study is quantitative and descriptive in nature, as it elaborates the association between obstacles faced in credit risk management of banks. The study found that operating expense is positively related to net interest margin. The study concluded that causal relationship is explained by the fact that when facing higher operating expense, banks would try to pass this increasing expense on their customers in the form of higher loan interest rates and lower deposit interest rates.

Dietrich and Wanzenried (2009) analyzed the profitability of commercial banks, return on assets (ROA) and return on equity (ROE) indicators of the Swiss commercial banks. The study uded secondary data. The sample size included 1919 observations from 423 banks and besides the bank specific characteristics, they included a set of industrypecific variables into their regression analysis. The study found that profitability has had a positive effect on operational efficiency, portfolio composition and management, while it has had a negative effect on the capital and credit risks, as measured according to ROA, while according to ROE, positive influence is exerted on composition of the capital portfolio and negative on operational efficiency and credit risk. and the study concluded that leverage has a positive relationship with profitability in Switzerland and significant at 5 percent level of significance.

Rasiah (2010) analyzed the profitability of scheduled commercial Banks and trends of profitability of scheduled commercial banks. The study based on secondary and analytical in nature. The time period of the study is from 2000/01 to 2009/10. External factors include industry-specific (banking industry structure) and macroeconomic factors, such as competitive conditions (bank concentration and competition), entry/exit barriers, financial regulations, institutional development, inflation, growth rate of GDP, GDP per capita income, and interest rates. The study found that the majority of studies use profitability as a measure of performance (ROA or return on equity (ROE)), other literature has used NIM, which specially captures the cost of financial intermediation in the banking system. The study found that leverages have positive effect on firms efficiency over the entire sample and observed a significant

positive relation between leverage and firm's performance. The study concluded that capital structure, equity ownership and firm performance with sample of both low and high growth firms.

Olagunju, Adeyanju, and Olabode (2011) analyzed the determinants of high interest rate spreads in Argentina, Bolivia, Chile, Colombia, Mexico, Peru and Uruguay during the mid-1990s. The study used secondary data from desktop research and primary data from interviews, qualitative research. The secondary information included the credit policies, lending process, methods or system that the case bank is using in credit risk management. The study found that in Latin America, interest rates are important because they reflect the cost of banking services and the risk of lending to the region. The results showed that high operating expenses, inadequate provision for loans losses, non-performing loans and capital inadequacy raised interest spreads. They also showed that bad loans reduced bank earnings in the absence of adequate loan loss reserves, highlighting the flaws in financial regulatory practices were an important cause of high interest rates. The study concluded that determinants of interest rates varied across countries due to differences in banking systems, in Argentina higher capitalization decreased spreads by reducing default risk and lending costs. The study concluded that there is significant positive relationship between liquidity and profitability which means that profitability in commercial banks is significantly influenced by liquidity and vice versa.

Arif (2012) analyzed the determinants of the financial performance of banks and the factor that plays significant role for explaining the financial performance of banks. The study was based on descriptive, correlation and causal comparative research design. The fact and behavior of the variables under the study had been analyzed using descriptive analysis. The study found that there is significant positive impact of liquidity risk factors on th banks profitability, where an increase in deposits lead to increasing in the banks profitability in terms of reducing dependence on the central bank in meeting the customers obligations. The study concluded that profitability is negatively affected by the allocation of non performing loans and liquidity gap.

Rehman (2013) studied the relationship between financial leverage and financial performance in the listed sugar companies of Pakistan. The study used secondary data from desktop research and primary data from interviews, qualitative research. The

secondary information included the credit policies, lending process, methods or system that the case bank is using in credit risk management. The study found a positive relation of leverage with return on assets. The study found a positive and significant effect of leverage on firm performance where panel data consist of 257 firms in South Africa with the period 1998 to 2009. The study on the influence of fundamental factors on the liquidity risk in the banking industry between Islamic banks and conventional banks in Pakistan found that return on assets has a positive and insignificant effect on liquidity which means that increase in return on assets leads to increase in liquidity. The study concluded that market capitalization is positively related to bank profitability in developing country markets while negatively significant in developed country markets and this is mainly because of markets in developed economies nurture a competitive environment that exerts downward pressure on bank profit rates and net interest margin.

Ongore (2013) analyzed the profitability and trends of profitability of scheduled commercial banks. The study was based on secondary data and analytical in nature. The time period of the study is from 2001-02 to 2012-13. The study used linear multiple regression model and generalised least square on panel data of commercial banks in Kenya to estimate the parameters. The study found that measurement of profitability in banking is necessary to improve the financial soundness of banks. The present paper attempts to measure profitability trends of Scheduled commercial banks. In this paper profitability is analyzed under parameters of productivity that is net profit as percentage of working funds, operating profit as percentage of working fund, net profit as percentage of total deposit, netprofit as percentage of total income. The study concluded that liquidity had a siginificant negative relation with return on assets.

Sapto, Noer, Achsani, Hakim and Muhamad (2015) examined the influence of market structure on Indonesian commercial banking performance by using concentration ratio and to examine individual market share through deposits market channel and credits market channel. The study used secondary data. Descriptive and analytical research designs were used. There were 101 banks chosen from 120 banks in a period of 2001-2012 as sampling of research by using purposive sampling. This research used data panel that combines data cross section and data time series,

therefore panel data regression is used in this research. The study found that the condition of Indonesian banking during 2001-2012 showed a good achievement. The market dynamic is marked by the reduction of the number of banks which operated in Indonesia, from 145 banks in 2001 to 120 banks in 2012. However, the number of bank offices is increasing from 6.765 bank offices (in 2001) to 16.625 bank offices (in 2012). The total assets, deposits, and credits of Indonesian banking shows the significant improvement. Even though Indonesian banking still can't distribute credits optimally (credits is still lower than deposits), but LDR tended to rise from 40% (2001) to 84% (2012). The study concluded that concentration ratio of deposits market has a significant and positive influence on ROA, meanwhile concentration ratio of credits market, individual market share of deposits, and individual market share of credits market have no significant effects on ROA.

Pallavi and Saluja (2017) analyzed the profitability and trends in productivity of SBI and its associates. The study used secondary based and analytical in nature. The time period of the study is from 2010-11 to 2014-15. The various sources of data were used. Statistical tables relating to banks in India, Trend and Progress of Banking in India published by RBI Statistical tools such as mean, standard deviation, coefficient of variation, correlation coefficient and growth rate both simple growth rate and compound growth rate were used to provide analytical results of the data.. The study found that measurement of profitability in banking is necessary to improve the financial soundness of banks. Profitability is an important criterion to evaluate the overall efficiency of the bank. The objective of profitability ratio is to evaluate the performance of banks on the basis of the degree of relationship existing between the profits and fund on one hand and between the profit and total income of banks on the other. Increase in the ratio implies increase in the profitability of banks. Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings compared to its expenses and other relevant costsincurred during a specific period of time. For most of these ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well. The study concluded that that net profit to working fund is better than of operating profit to working fund as far as net profit as percentage of total income is better than of net profit to total deposits.

Jana and Lace (2018) determined the impact of the external and internal factors of bank performance on the profitability indicators of the Latvian commercial banks in the period from 2006 to 2011. The study used the survey of scientific literature and analyzed profitability indicators of commercial banks using descriptive methods, as well as SPSS data analysis methods, data correlation and regression analysis. The study found that GDP has a positive impact on profitability as measured by ROA and ROE. The methodology used in the present research can be applied to determine not only profitability indicators of some commercial bank in particular, but also to compare performance indicators of several banks. One of the most important conditions for economic development is an effective Latvian banking system. In the recent years the country created and developed a modern two-tier banking system. Competitive credit and financial infrastructure is gradually emerging, and commercial banks are its basic elements. Some of them have received high international ranking. The study concluded that profitability has had a positive effect on operational efficiency, portfolio composition and management, while it has had a negative effect on the capital and credit risks, as measured according to ROA, while according to ROE, positive influence is exerted on composition of the capital portfolio and negative – on operational efficiency and credit risk.

2.2.2 Review of Nepalese Studies

Baral (2005) examined the liquidity and profitability position of the commercial banks of Nepal and to know the volume of contribution made by banks in lending. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. It examines the financial health of joint venture banks using the data set published by joint venture banks in their annual reports, and NRB in its supervision annual reports in the camel framework. The health check up conducted on the basis of publicly available financial data concluded that the health of joint venture banks is better than that of other commercial banks. In addition, the perusal of indicators of different components of camel indicates that the financial health of joint venture banks is not so strong to manage the possible large scale shocks to their balance sheet and their health is fair.

Jha and Huix (2012) conducted a study on comparison of financial performance of commercial banks in the context of Nepal for the period 2005-2010. The study

analyzed financial performance of different ownership structured commercial banks in Nepal based on their financial characteristics and identify the determinants of performance exposed by the financial ratios, which were based on camel model. The results found that public sector banks are significantly less efficient than their counterpart are; however domestic private banks are equally efficient to foreign owned banks. The study concluded that return on assets were significantly influenced by capital adequacy ratio, interest expenses to total loan and net interest margin, while capital adequacy ratio had considerable effect on return on equity.

Jha & Hauix (2012) studied the comparison of financial performance of commercial banks in Nepal with the sample of eighteen commercial banks from the period 2005-2010 and the data have been collected through secondary source. The econometric model was used to estimate the performance of sample banks and the result showed that public sector banks were significantly less efficient than their counter parties. The ability to support the present and future operations of the bank depends on the quality of its earnings and profitability profile and Nepal Rastra Bank used return on total assets as an indicator of profitability of a commercial bank along with the use of absolute measures such as interest income, net interest income, non-interest income, net non-interest income and net profit to evaluate the profitability of a commercial Bank

Thagunna and Poudel (2013) analyzed the performance model for measuring relative efficiency and potential improvement capabitilies of Nepali banks. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. For measuring the efficiency and performance, this paper has used a relatively new frontier approach known as Data Envelopment Analysis (DEA). This paper uses two basic models to fulfill its objectives and also reveals that efficiency level is relatively stable and has increased overall. Additionally, it also breaks down the ovrall efficiency of banks into technical and scale efficiency. The study found significant positive relationship between Liquidity and return on asets indicating higher liquidity leading to higher return on assets. The study conculded that ROA is positively relate with market capitalization.

Shrestha (2019) identified the determinants of the financial performance of Nepalese commercial banks. This paper also aimed to identify the factor that plays significant

role for explaining the financial performance of Nepalese commercial banks. This study is based on descriptive, correlation and causal comparative research design. The fact and behavior of the variables under the study has been analyzed using descriptive analysis. Similarly, the direction and magnitude of the relationship of the financial performance of the Nepalese commercial banks and factors affecting it is observed using correlation research design. Finally, the causal comparative research design is used to evaluate the explanatory power of bank specific factors for explaining financial performance of Nepalese commercial banks. This study has used financial performance of Nepalese commercial banks measured by return on assets (ROA) as dependent variable. Breusch and Pagan Lagrangian multiplier test showed that Pooled Regression model is not appropriate and Hausman test concluded that Fixed Effect model is appropriate rather than Random Effect model. Using the Fixed Effect model; this study concludes that bank specific factors have significant impact on financial performance of Nepalese commercial banks. Finally, this study concluded that ME, AQ and OE have significant positive impact, and CR has negative impact on the financial performance of Nepalese commercial banks.

Neupane (2020) studied on profitability determinants of Nepalese commercial banks. This study employed descriptive statistics to describe the profitability of Nepalese banks and its determinants. Further, the degree of correlation among different indicators of profitability and its determinants has been assessed by calculating correlation coefficient. Finally, this study had adopted a panel data regression model (Fixed Effect Model and Random Effect Model) to investigate the determinants and their impact on profitability of Nepalese commercial banks. The analysis found that the bank pofitability measured by ROA of Nepalese commercial banks is significantly affected by concentration ratio, banking sector development, GDP growth, inflation and exchange rate significantly in opposite direction rather it is not significantly affected by the internal factors like bank size, capital base, deposit, loan, off-balance sheet activities and number of branches. Another indicator of bank profitability; NIM is significantly affected only by capital adequacy, absolute number of branches and inflation rate. This study concluded that the profitability of Nepalese commercial banks measured by return on assets is significantly influenced by the external factors. Among external factors, industry specific factors have high degree of impact on return on assets whereas macroeconomic variables have quite a weak degree but significant

impact on profitability of Nepalese commercial banks as measured by return on assets. The study concluded that the profitability measured by net interest margin (NIM) is significantly influenced only by capital adequacy, absolute number of branches and annual inflation rate.

2.2.3 Review of domestic studies

Shrestha (2012) studied the relationship between liquidity of selected Nepalese commercial banks and their impact on financial performance. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of 28 commercial banks. Purposive sampling method was used. The study investigated that the banking sector in Nepal is facing with the danger of liquidity crisis, inflated interest rate, declining deposits and danger of real estate collapse. Since the second half of fiscal year 2009/10, the problem of liquidity started which has affected the inter banking lending rate. In spite of higher interest rate provided by commercial bank n the deposits, it still fails to attract the deposits, it still fails to attract the depositors. The researcher studied on the determinants of banks liquidity and their impact on financial performance of Nepalese banks. The study concluded that liquidity premium paid by borrowers had positive impact on financial performance. The study recommended that since, the average liquidity ratio of NIBL and SBL is comparatively lower than that of other three banks under this study, and quick ratios for sample banks are below standard as well NABIL has especially lower quick ratio. So, NABIL is strongly suggested to increase its liquidity position in term of quick ratio.

Khadka (2018) studied the relationship between deposits, investment, loans and advances and net profit. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of 28 commercial banks. Purposive sampling method was used. The study found that while comparing the performance of NBL with NABIL, SCBNL and NIBL; NBL is comparatively less successful in on balance sheet as well as off-balance sheet operations than that of other commercial banks. It predicted that in the coming days if it could not mobilize and utilize its resources as efficiently as other CBs to maximize the returns, it would lag behind in the competitive market of banking. The study concluded that profitability positions of NBL are comparatively

worse than that of other commercial banks. It concluded that NBL may not maintain the confidence of shareholders, depositors and its all customers if it cannot increase its volume even in future. The study recommended that the investment ratio for sample banks had low and coefficient of variance for sample banks were fluctuating more. So investment ratio for these banks should be increased because higher the investment ratio higher would be profitability. They should maintain the consistent investment ratio.

Pandey (2019) studied the impact of change in NRB directives on the performance of the commercial banks and to find out whether the directives were implemented or not. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. The study found that the directives of not properly addressed brave potential to wreck the financial system of the country as they are the only tool of the NRB to supervise and monitor the financial institutions. The directives in themselves are not that important unless properly implemented. The implementation part depends upon the commercial banks. In case commercial banks are making such huge profit with full compliance of NRB directives, then the commercial banks would deserve votes of praise because they would then be instrumental in the economic development of the country. All the changes in NRB directives made impacts on the bank and the result are the followings: Increase in operational procedures of the bank, which increases the operational cost of the bank. A short term decreases in profitability, which result to lesser dividends to shareholders and lesser bonus to the employees. Reduction in the loan exposure of the bank, which decreases the interest income but increase the protection of the depositor's money. The study concluded that increase protection to the money of the depositors through increased capital adequacy ratios and more stringent loan related documents. Increase demand for shareholder's contribution in the banks by foregoing dividends for loan loss provisions and various other reserves to increase the core capital. The study recommended that there is a positive relationship between market capitalization and return on assets. Hence, the banks willing to increase return on assets, should increase its market capitalization. The study revealed a negative relationship between liquidity and return on assets. Hence, the banks willing to increase return on assets, should decrease liquidity in the banks.

Karki (2020) examined the liquidity and profitability position of the commercial banks of Nepal. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. The study found that though the liquid asset maintained by SCBNL was highest, the liquidity position of NABIL was strongest in terms of current ratio and CRR. Furthermore, NABIL was most successful in optimizing the assets mobilization due to its highest ROA. The study concluded that except in HBL, there existed a positive relationship between cash and bank balance with the net profit. The study recommended that the C.V of liquidity ratio of NABIL, HBL and SCBNL are very high. So these banks should be maintained consistent in liquidity position in term of liquidity ratio and quick ratio. And EPS for NABIL, HBL, and SCBNL is low. So, this study is suggested to enhance their EPS. HBL has more consistent in maintaining the EPS. NABIL has more fluctuated too over six year as compared to other bank.

Panta (2021) analyzed liquidity position and cash management practices of SBL and NIBL and to find out the correlation between loan and advances and total deposit. The study used secondary data. Descriptive research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of 28 commercial banks. Purposive sampling method was used. The research found that the total deposit of SBL and NIBL is in increasing trend over the period. Both of them have high positive correlation between total deposit and loan and advances. The trend line of loan and advances for both banks is upward slopping which refers to the increase in the disbursement of loan and advances. The study concluded that lack of adequate liquidity is one of the first signs that the bank is in trouble, thus ensuring adequate liquidity is a never ending problem of bank management that will have significant impact on bank's profitability. The study recommended that all the sample bank under study are suggested to concentrate more on their performance, maintaining the liquidity, business growth rate, asset quality and governance practices. Apart from these, market reputation, diversified service, corporate social responsibility should also be taken into account. It not only be beneficial for the bank but will also play a vital criteria of tool in regarding a reward as one of the best bank of the nation.

Khanal (2022) analyzed the comparative study on liquidity management of Everest Bank Ltd and Himalayan Bank Ltd. The study used secondary data. Descriptive

research design was used. The study used statistical and financial tools. Two commercial banks were taken as sample out of total commercial banks. Convenience sampling method was used. The study found that EBL is more efficient in utilizing the outsider's funds in extending credit for profit generating sectors while HBL is more successful in utilizing its total deposits by investing in marketable securities. It seems HBL is successful in earning high profit on loan and advances but the return has not been consistent. Since both banks have small mean returns on its loans and advances, neither seems to perform better in order to receive reasonable returns from these loans. The study concluded that the overall aspect of liquidity position of EBL is comparatively better than HBL as it is sound in meeting short term obligations. The study recommended that capital ratio for EBL is comparatively lower than HBL bank and coefficients are consistent for sample banks which should be maintained consistent upcoming year and EBL should increase the capital ratio for increasing the profitability.

2.3 Research gap

During the review of previous studies, it was found that most of the researchers (Jha and Hauix 2012, Thagunna and Poudel 2013), Khadka 2018, Shrestha 2019, Pandey 2019, Neupane 2020, Karki 2020, Panta 2021 and Khanal 2022) have been conducted on the liquidity, loan and advances and profitability of commercial banks in developing countries. During the review of the previous thesis, it was found that no research has been conducted by taking these sample banks on Nepalese perspective. Present study is based on the data taken from six commercial banks. Different factors have affected the banking performance and its profitability. Time and again studies have been conducted to measure the determinants affecting the bank performance and its profitability as bank plays a critical role in a country's economic development as vehicle of financial intermediation. They are key players in the provision of capital and hence in stimulating economic development. If we analyze in context of Nepal also banking sector is one of the most important sector contributing a lot to development of country and one of the high profit generating sector. There are different determinants that play very crucial roles in determining the factors that influence profitability determinants.

Recent studies show that there is a group of variables including internal characteristics of banks that are correlated with banking sector performance in different regions of the world. Many studies have been conducted in both develop and developing countries regarding this subject which includes the internal and external variables.

In context of Nepal the studies relating to this topic is limited. This study has only taken selected commercial banks established in different eras, and variables taken are also limited which may create a big gap in research. This research have covered and analyzed the data of 12 years only which may bring invalid conclusion. There are other internal and external variables also which can be considered while assessing the profitability determinants of commercial banks. The unavailability of further data has led to a somewhat provisional analysis. So this study will be fruitful to those interested parties, scholars, teachers, civil society, businessmen and government for academically as well as policy perspectives.

CHAPTER III

RESEARCH METHODOLOGY

This research methodology chapter includes design, nature of data, gathering procedure, population and data procession procedure before analysis and interpretation of the data, it is necessary that research methodology be described first. In absence of research methodology, it is likely that conclusions drawn may be misunderstood.

3.1 Research design

This study employed descriptive and causal comparative research designs to deal with the fundamental issues of the study. This study employs descriptive research design to deal with the fact-finding and searching adequate information associated bank specific variables on firm performance of Nepalese commercial banks. In addition, causal comparative research design is used to analyze the cause and effect relationship of bank specific variables on firm performance. Under causal comparative research design correlation analysis is used to understand the directions, magnitudes and forms of observed relationship.

3.2 Population and sample

Though there were 27 commercial banks in Nepal till March 2022, all of them did not provided scope for the study. In order to represent the banking sector the basis of sample selection is that banks established in different eras like first public bank of government, commercial bank established in 1980's, banks established in collaboration with Indian banks, bank established between mid-1990's and banks established in 2000's have been selected for the study. Six commercial banks have been taken. Therefore, out of 27 commercial banks, 6 are taken as sample for the study for the period of 2010-2021 making total of 72 observations. Table 3.1 presents the list of sample banks selected for the study along with study period and number of observations. For the purpose of data collection non-probability sampling method has been used. The convenience sampling method has been used.

Table 3.1

Banks selected for the study along with study period and number of observations

S. N	Name of the company	Established Year	Study period	Observation
1.	Nepal Bank Limited	1937	2010-2021	12
2.	Nabil Bank Limited	1984	2010-2021	12
3.	Nepal Investment Bank Limited	1986	2010-2021	12
4.	Standard Charter Bank Limited	1987	2010-2021	12
5.	Himalayan Bank Limited	1993	2010-2021	12
6.	Everest Bank Limited	1994	2010-2021	12
	Total			72

3.3 Nature and sources of data

Data is collected by using secondary sources and the secondary data are of annual nature. Cross sectional data are used in this study where 6 commercial banks out of 27 in Nepal were included over the period of 2010-2021 covering the period of 12 years. The variables used in the study are categorized into bank specific variables (liquidity management, leverage and operating expense).The data of bank specific variables are collected from official website of concern commercial banks. This research is completely based on secondary data so this research does not require any of survey for collection of primary data. Data are collected from different sources as per need and requirement. Research is based on 12 years period from 2010 to 2021.

3.4 Data analysis methods

The main purpose of data analysis in this study is to explore the predictive power of bank specific variables (liquidity management, leverage, operating expense, market capitalization) in explaining the profitability of Nepalese commercial banks. Besides, the study attempts to identify and analyze causal relationship between bank specific variables with profitability determined by return on assets, return on equity and net interest margin. Therefore, this section deals with statistical and econometric models used for the purpose of analysis of secondary data.

Descriptive, co-relation and regression methods of analysis are used in this study. The descriptive statistics such as mean, standard deviations, minimum and maximum values of the variables are used to describe the characteristics of sample firms during the period 2010-2021. Correlation analysis is used to identify direction and magnitude between two set of variables. Along with this, regression analysis is used to find out the impact of independent variable over dependent variable solely and combined with other variables. Variance Inflation Factor (VIF) for multicollinearity and DW test for autocorrelation were performed in this study.

3.4.1 Model Specification

The econometric models used in this study tries to explain the relationship between the independent variables which are categorized into bank specific variables such as liquidity management, leverage, operating expense, market capitalization and the dependent variables as return on assets, return on equity and net interest margin. This study used least square regression model to test which of the hypotheses are consistent with data.

Model 1:

In this model, the dependent variable is return on assets indicated by percentage of net income to total assets. The impact of liquidity, leverage, operating expenses, inflation, gross domestic product, market capitalization on return on assets is tested. The model is presented as follows (Jana & Lace, 2018).

$$\mathbf{ROA_{it}=\beta_0+\beta_1 OPEX_{it}+\beta_2 LEV_{it}+\beta_3 LIQ_{it}+\beta_4 MCAPGDP_{it}+\acute{\varepsilon}_{it}}$$

Where, ROA= Return On Assets, β_0 = constant term, βi = coefficient of independent variables, $OPEX_{it}$ = Operating expense of firm at a time period t, LEV_{it} = Leverage of firm at a time period t, LIQ_{it}= Liquidity of firm at a time period t, $MCAPGDP_{it}$= Market capitalization of firm at a time period t, $\acute{\varepsilon}_{it}$= Error term

Model 2:

In this model, the dependent variable is return on equity indicated by percentage of net income to equity. The impact of liquidity, leverage, operating expenses, inflation, gross domestic product, market capitalization on return on equity is tested. The model is presented as follows (Jana & Lace, 2018).

$$ROE_{it}=\beta_0+\beta_1 OPEX_{it}+\beta_2 LEV_{it}+\beta_3 LIQ_{it}+\beta_4 MCAPGDP_{it}+\varepsilon_{it}$$

Where, ROE= Return On Equity, β_0 = constant term , βi = coefficient of independent variables, $OPEX_{it}$ = Operating expense of firm at a time period t, LEV_{it} = Leverage of firm at a time period t, LIQ_{it}= Liquidity of firm at a time period t, $MCAPGDP_{it}$= Market capitalization of firm at a time period t, ε_{it}= Error term (Jana & Lace, 2018).

Model 3

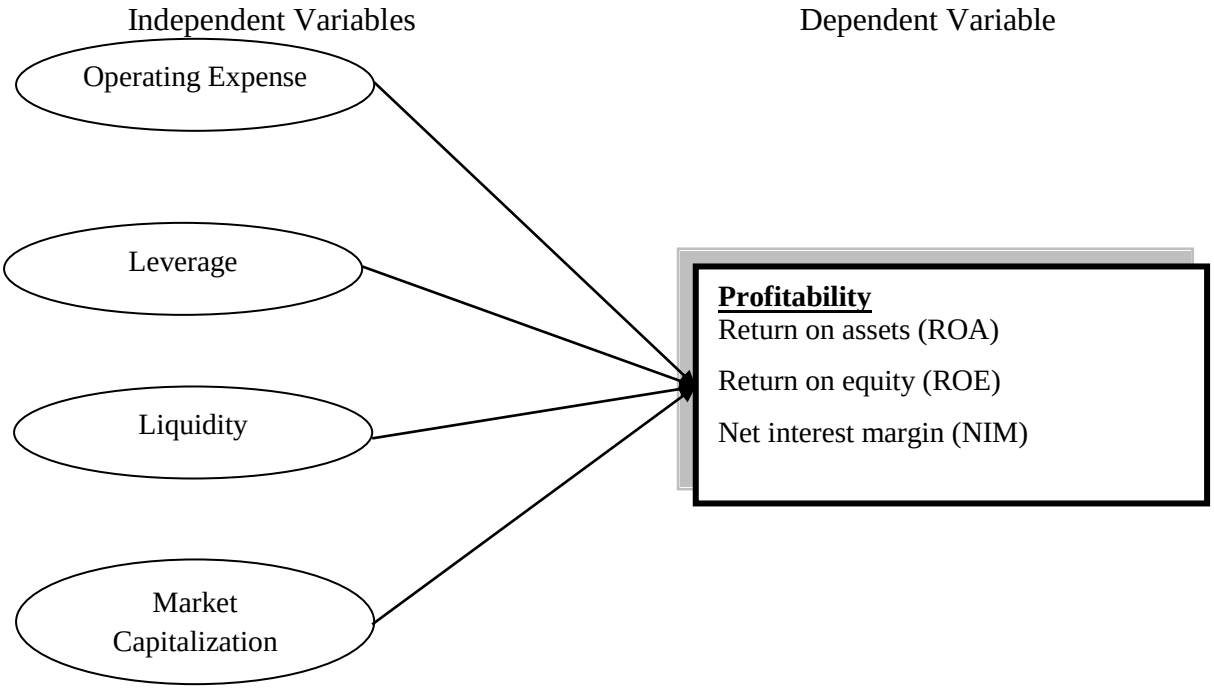
In this model, the dependent variable is return on assets indicated by percentage net interest income to earning assets of net income to total assets. The impact of liquidity, leverage, operating expenses, inflation, gross domestic product, market capitalization on net interest margin is tested. The model is as follows (Jana & Lace, 2018)

$$NIM_{it}= \alpha_0+ \alpha_1 OPEX_{it}+ \alpha_2 LEV_{it}+ \alpha_3 LIQ_{it}+ \alpha_4 MCAPGDP_{it}+\varepsilon_{it}$$

Where, NIM_{it}= net interest margin, α_0 = constant term, αi = coefficient of independent variables, $OPEX_{it}$ = Operating expense of firm at a time period t, LEV_{it} = Leverage of firm at a time period t,, LIQ_{it}= Liquidity of firm at a time period t, $MCAPGDP_{it}$= Market capitalization of firm at a time period t, ε_{it}= Error term

3.5 Conceptual framework and definition of variables

The main objective of the study is to analyze the relationship between bank specific variables (liquidity management, leverage, operating expense, market capitalization) on firm performance of commercial banks in Nepal. The conceptual framework in this study consists of two dependent variables (return on assets, return on equity and net interest margin) along with the other independent variables (liquidity management, leverage, operating expense, market capitalization) which are to be tested through the statistical tools. Based on the literature, conceptual framework has been framed as in figure 3.1. This figure shows the theoretical framework of the study. Liquidity management, leverage, operating expense, market capitalization denotes independent variables. Dependent variables are return on assets, return on equity and net interest margin. All these independent variables are expected to influence the dependent variables



Source: Aburime, 2007

Figure 3.1

Conceptual framework

Net Interest Margin (NIM)

Net interest margin is a measure of the spread on interest rate and cost of financial intermediate calculated as net income over total earning assets (Berger, 1995).

Return on Assets and Return on Equity (ROA and ROE)

Return on assets and equity means the ratio that establishes the relationship between net profit and total assets & equity. This ratio measures the profitability of all financial resources invested in the firm's assets and equity (Berger, 1995).

Leverage

Financial leverage is a measure of how much firms use equity and debt to finance its assets. It can be defined as the ratio of total debt to total assets expressed in percentage and can be interpreted as the proportion of a company's assets that are financed by debt (Fosu, 2013).

Liquidity

Liquidity management is of crucial importance in financial management decision. The optimal of liquidity management could be achieved by companies that manage the trade-off between profitability and liquidity management. The liquidity in the commercial bank represents the ability to fund its obligations by the contractor at the time of maturity, which includes lending and investment commitments, withdrawals, deposits, and accrued liabilities. Liquidity means how quickly bank can get your hands on your cash. Liquidity refers to the conversion of assets into cash. Commercial bank has to maintain satisfactory level of liquid assets that are easy to sale at market price. If the commercial bank holds liquid assets balance in form of currency bank balance, marketable securities and other similar assets cash or cash equivalent. But these could be invested for short term period to earn interest than to keep the idle cash balance. In order to determine the optional investment in liquid assets, a commercial bank must assess the benefits and cost of holding these various balances. Since that higher the liquidity for the bank, lower will be the profitability because bank holds more assets as idle cash would create problem in gaining the profit. Similarly, lower the liquidity can also create problem for bank to repay demanding fund. Maintaining the proper liquidity is very difficult task for every commercial bank. Bank should maintain the proper liquidity in vaults according to NRB directions and policy of proper considering the profit side.

Liquidity is one of the most important factors that determine the level of bank performance and it is the ability to fulfill its obligation mainly of depositors (Alshatti, 2015).

Operating Expenses

The cost to income ratio is defined as the operating costs such as the administrative cost, staff salaries and property costs excluding losses due to bad and non-performing loans over total generated revenues (Fosu, 2013).

Market Capitalization

Market capitalization is the value the stock market places for the entire company or simply market estimate of a company’s value based on perceives future prospects, economic or monetary condition (Fosu, 2013).

3.6 Operational definitions of variables

In this section description of both dependent and independent variables are mentioned. Whole research is based on these variables.

Net Interest Margin (NIM)

Net interest margin is a measure of the spread on interest rate and cost of financial intermediate calculated as net income over total earning assets.

$$NIM = Net\ Interest\ Income / Total\ Earnings\ Assets$$

Return on Assets (ROA)

Return on assets means the ratio that establishes the relationship between net profit and total assets. This ratio measures the profitability of all financial resources invested in the firm's assets. ROA is a measure of profitability and calculated as net income over total assets

$$\text{Return on Assets (ROA)} = \frac{\text{Net Income}}{\text{Total Assets}}$$

Return on Equity (ROE)

Return on equity means the ratio that establishes the relationship between net profit and equity. This ratio measures the profitability of all financial resources invested in the firm's equity. ROE is a measure of profitability and calculated as net income over equity

$$\text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Equity}}$$

Operating Expenses

The cost to income ratio is defined as the operating costs such as the administrative cost, staff salaries and property costs excluding losses due to bad and non-performing loans over total generated revenues. Operating expenses is a measure of cost efficiency/inefficiency and calculated as total non-interest expenses over total assets

$$Operating\ Expenses = Total\ Non\ Interest\ Expenses / Total\ Assets$$

Leverage

Financial leverage is a measure of how much firms use equity and debt to finance its assets. It can be defined as the ratio of total debt to total assets expressed in percentage and can be interpreted as the proportion of a company's assets that are financed by debt. Leverage is a measure of risk and calculated as total liabilities over total assets.

$$Leverage = Total\ Liablities/Total\ Assets$$

Liquidity

Liquidity is one of the most important factors that determine the level of bank performance and it is the ability to fulfill its obligation mainly of depositors. Liquidity is a measure of liquidity and calculated as gross loans over total assets.

Liquidity=Total Loans/Total Deposit

Market Capitalization

Market capitalization is the value the stock market places for the entire company or simply market estimate of a company's value based on perceives future prospects, economic or monetary condition. Market capitalization used as proxy to measure stock market/financial sector development and is calculated as selling price of share multiply by total number of shares.

Market Capitalization=Selling price of share x Total Number of shares

CHAPTER IV

RESULTS AND DISCUSSION

This chapter provides systematic, presentation, interpretation and analysis of secondary data to deal with various issues with impact on determination of bank performance in the context of commercial banks in Nepal. The purpose of this chapter is to analyze and interprets the data collected during the study. Various statistical tools described in chapter three have been used for this purpose. This chapter is divided into five sections. The first section deals with structure and pattern analysis of data, second section deals with descriptive statistics, third section deals with the correlation analysis, fourth section deals with step wise regression analysis and the final section wraps up this chapter with concluding remarks about the result derived for the secondary data.

4.1 Structure and pattern of banks

This section deals with the structure of the factors affecting bank performance to its determinants adopted by the listed commercial banks of Nepal. The structure has been shown year wise along with average value and standard deviation. The structure of dependent variables i.e. return on assets, return on equity and net interest margin and the independent variables where bank specific variables are liquidity management, leverage, operating expense variables and market capitalization are shown below. The trends in the dependent and independent variables used in the study for Nepalese commercial banks for the period 2010 to 2021 are presented in tables.

4.1.1 Structure and pattern of net interest margin

Net interest margin (NIM) is a measure of the difference between the interest income earned by a bank or other financial institution and the interest it pays out to its lenders (for example, depositors), relative to the amount of their assets that earn interest. The net interest margin has been computed for the selected commercial banks from the year 2010 to 2021. The computed values are presented in the table 4.1. The mean value measures the average net interest margin (in percent) of individual sample

enterprises for particular year and standard deviation measures the variability in net interest margin.

Table 4.1

Net interest margin of selected Nepalese commercial banks for the period 2010 to 2021 (in percentage)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	3.828	3.861	3.706	4.055	3.500	3.793	3.79	0.18
2011	3.686	3.413	4.153	3.036	3.120	4.329	3.62	0.53
2012	4.136	3.974	4.489	3.272	3.989	4.092	3.99	0.40
2013	4.085	3.310	4.048	3.389	3.222	3.664	3.62	0.38
2014	5.070	3.828	4.092	3.666	2.680	3.413	3.79	0.79
2015	3.089	3.422	3.576	3.476	2.812	3.223	3.27	0.28
2016	3.638	3.566	3.823	4.307	3.317	3.532	3.70	0.34
2017	3.828	3.861	3.706	4.055	3.500	3.793	3.79	0.18
2018	3.686	3.413	4.153	3.036	3.120	4.329	3.62	0.53
2019	4.136	3.974	4.489	3.272	3.989	4.092	3.99	0.40
2020	4.085	3.310	4.048	3.389	3.222	3.664	3.62	0.38
2021	5.070	3.828	4.092	3.666	2.680	3.413	3.79	0.79
Mean	4.03	3.65	4.03	3.55	3.26	3.78	3.72	0.30
Standard Deviation	0.57	0.26	0.29	0.41	0.44	0.37	0.39	0.11

Sources: Annual reports of sample banks 2010-2021

Table 4.1 represents the average values and standard deviation of net interest margin across the sampled commercial banks of Nepal. The structure and pattern of net interest margin for selected Nepalese commercial banks reveal that the average net interest margin is highest for EBL and NABIL (4.03 percent), followed by SCBNL (3.78 percent) and lowest is for NIBL (3.26 percent).

The average net interest margin is highest in the year 2012 and 2019 which is 3.99 percent and lowest in the year 2015 which is 3.27 percent along with highest standard deviation in the year 2014 and 2021 which is 0.79 percent and lowest standard deviation in the year 0.18 percent in the year 2010 and 2017.

The net interest margin has a lot of deviation from 2010 to 2021 which is the study period. The average net interest margin is 3.79 percent in the year 2010, 3.99 percent and 3.70 percentage the year 2012 and 2016, 3.99 percent in 2019, 3.62 percent in the year 2020 and 3.79 percent in the year 2021. The average net interest margin has been fluctuating from the year 2010 to 2021.

4.1.2 Structure and pattern of return on assets

Return on assets indicates the amount of money earned per rupees of assets. Therefore, a higher return on assets value indicates that a business is more profitable and efficient. The structure and pattern of return on assets for selected Nepalese commercial banks revealed that the average return on assets is highest for SCBNL (2.29 percent), followed by NABIL (2.09 percent) and lowest is for NBL (0.77 percent).The standard deviation is highest for SCBNL which is 0.36 and lowest for EBL and NABIL Bank Ltd which is 0.26.

Table 4.2

Return on Assets of selected Nepalese commercial banks for the period 2010 to 2021 (in percentage)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	1.98	1.91	2.07	0.68	2.10	2.47	1.87	0.61
2011	1.92	1.19	2.40	0.66	1.88	2.73	1.80	0.76
2012	2.10	1.91	2.10	1.02	1.90	2.59	1.94	0.51
2013	2.11	1.76	2.12	1.24	1.58	2.51	1.89	0.45
2014	2.39	1.54	2.32	0.58	2.62	1.97	1.90	0.75
2015	2.25	1.30	2.54	0.20	2.25	2.46	1.80	0.99
2016	1.85	1.34	2.00	0.85	1.88	1.99	1.65	0.46
2017	1.59	1.94	1.59	0.68	1.96	1.98	1.62	0.50
2018	1.83	2.03	1.96	0.66	2.57	1.84	1.82	0.63
2019	1.97	2.19	2.19	1.02	2.13	2.61	2.02	0.53
2020	1.94	1.67	1.98	1.24	1.79	2.61	1.87	0.45
2021	1.42	1.32	1.78	0.58	1.75	1.71	1.43	0.46
Mean	1.95	1.68	2.09	0.77	2.03	2.29	1.80	0.54
Standard Deviation	0.26	0.33	0.26	0.34	0.32	0.36	0.31	0.04

Sources: Annual reports of sample banks 2010-2021

The average return on assets is highest in the year 2019 which is 2.02 percent and lowest in the year 2021 which is 1.43 percent. Furthermore, standard deviation is high for 2015 which is 0.99 percent and lowest for 2020 which is 0.45 percent. Table 4.2 shows that the return on assets has increased from 2.10 percent in 2012 to 2.39 percent in 2014 for EBL, from 2.10 percent in 2012 to 2.54 percent in 2015 for NABIL. Similarly, the return on assets has increased from 1.94 percent in 2017 to 2.19 percent in 2019 for HBL, from 1.84 percent in 2018 to 2.61 percent in 2020 for SCBNL. The return on assets also shows a various ups and downs over the study period 2010 to 2021. The average return on assets is 1.87 percent in the year 2010, 1.94 percent in 2012, 1.65 percent in 2016 and 1.82 percent in 2018, 2.02 percent in 2019, 1.87 percent in the year 2020, 1.43 percent in the year 2021 respectively. Hence, the return on assets has been decreasing from 2019 to 2021 in recent years.

4.1.3 Structure and pattern of return on equity

Return on equity (ROE) is the measure of a company's net income divided by its shareholders' equity. ROE is a gauge of a corporation's profitability and how efficiently it generates those profits. The structure and pattern of return on equity for selected Nepalese commercial banks revealed that the average return on equity is highest for NABIL (25.20 percent), followed by SCBNL (23.44 percent) and lowest is for NBL (1.06 percent). The standard deviation is highest for NIBL which is 6.90 and lowest for NBL which is 0.58. The average return on equity is highest in the year 2014 which is 22.94 percent and lowest in the year 2019 which is 14.48 percent. Furthermore, standard deviation is high for 2014 which is 12.34 percent and lowest for 2018 which is 7.01 percent. Table 4.3 shows that the return on equity has decreased from 29.04 percent in 2015 to 15.28 percent in 2018 for EBL, from 32.22 percent in 2011 to 14.31 percent in 2018 for SCBNL.

Similarly, the return on equity has increased from 29.32 percent in 2013 to 33.18 percent in 2015 for NABIL, from 15.80 percent in 2014 to 24.53 percent in 2016 for HBL. The return on assets also shows a various ups and downs over the study period 2010 to 2021.

Table 4.3

Return on Equity of selected Nepalese commercial banks for the period 2010 to 2021 (in percentage)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	15.80	17.62	21.50	0.00	18.0	31.10	17.34	10.10
2011	17.06	18.83	22.10	0.856	19.5	32.22	18.43	10.16
2012	25.58	16.24	33.42	0.688	25.7	30.43	22.01	11.96
2013	27.15	16.85	29.32	0.666	20.1	28.36	20.41	10.87
2014	31.52	15.80	31.19	1.026	31.7	26.38	22.94	12.34
2015	29.04	17.06	33.18	1.247	27.6	26.27	22.40	11.65
2016	23.25	24.53	30.37	0.583	24.8	21.69	20.87	10.36
2017	17.79	21.22	22.02	1.08	15.66	17.18	15.83	7.62
2018	15.28	21.58	19.50	1.606	16.65	14.31	14.82	7.01
2019	16.08	14.17	22.16	1.126	14.71	18.66	14.48	7.18
2020	17.41	18.34	19.33	2.247	32.85	19.49	18.28	9.72
2021	13.53	18.20	18.28	1.583	33.58	15.15	16.72	10.30
Mean	20.79	18.37	25.20	1.06	23.40	23.44	18.71	8.97
Standard Deviation	6.16	2.86	5.79	0.58	6.90	6.45	4.79	2.51

Sources: Annual reports of sample banks 2010-2021

The average return on equity is 17.34 percent in the year 2010, 22.01 percent in 2012, 22.94 percent in 2014 and 15.83 percent in 2017, 14.48 percent in 2019, 18.28 percent in the year 2020, 16.72 percent in the year 2021 respectively. Hence, the return on assets has been decreasing from 2020 to 2021 in recent years.

4.1.4 Structure and pattern of operating expense

An operating expense is an expense a business incurs through its normal business operations. Often abbreviated as OPEX, operating expenses include rent, equipment, inventory costs, marketing, payroll, insurance, step costs, and funds allocated for research and development.

The table 4.4 shows the pattern of operating expense of commercial banks from 2010 to 2021. The operating expense has been calculated as operating expense by total assets. The mean value measures the average operating expense of individual sample commercial banks for particular year and standard deviation measures the variability in operating expense.

Table 4.4

Operating expense (OPEX) of selected Nepalese commercial banks from the period 2010 to 2021 (in percentage)

Bank	**EBL**	**HBL**	**NABIL**	**NBL**	**NIBL**	**SCBNL**	**Mean**	**Standard Deviation**
2010	.8169	.1188	.6459	.6033	.7134	.6724	0.60	0.24
2011	.8255	.1542	.5838	.6567	.6718	.8129	0.62	0.25
2012	.7641	.1350	.6169	.6442	.6605	.8134	0.61	0.24
2013	.7617	.1281	.5331	.7369	.5868	.6717	0.57	0.23
2014	.5550	.1243	.4910	.6570	.5152	.6140	0.49	0.19
2015	.7684	.9799	.5866	.5439	.7418	.6629	0.71	0.16
2016	.8382	.1150	.6087	.5741	.8693	.7111	0.62	0.27
2017	.8169	.1188	.6459	.6033	.7134	.6724	0.60	0.24
2018	.8255	.1542	.5838	.6567	.6718	.8129	0.62	0.25
2019	.7641	.1350	.6169	.6442	.6605	.8134	0.61	0.24
2020	.7617	.1281	.5331	.7369	.5868	.6717	0.57	0.23
2021	.5550	.1243	.4910	.6570	.5152	.6140	0.49	0.19
Mean	0.75	0.20	0.58	0.64	0.66	0.71	0.59	0.20
Standard Deviation	0.10	0.25	0.05	0.06	0.10	0.08	0.11	0.07

Sources: Annual reports of sample banks 2010-2021

Table 4.4 shows that the operating expense has changed during the time period for the Nepalese commercial banks. The average operating expenses is highest for EBL (0.75 percent), followed by SCBNL (0.71 percent) and lowest is for HBL (0.20 percent).

Standard deviation is highest for HBL (0.25 percent), moderate for SCBNL (0.08 percent) and lowest for NABIL (0.05 percent).

Similarly if we examine year wise average operating expenses is high in the year 2015 (0.71 percent) and low in the year 2014 and 2021 (0.49 percent). Standard deviation is high in the year 2016 (0.27 percent) and low in the year 2015 (0.16 percent). Operating expense rate shows various fluctuations over the study period.

4.1.5 Structure and pattern of leverage

Leverage is a trading mechanism investors can use to increase their exposure to the market by allowing them to pay less than the full amount of the investment. Consequently using leverage in a stock transaction, allows a trader to take on a greater position in a stock without having to pay the full purchase price. The mean is highest for the year 2010 and 2017 which is 95.69 percent and lowest for the year 2015 which is 93.40 percent and furthermore standard deviation is highest for the year 2015 which is 10.02 percent and lowest for the year 2013 and 2020 which is 1.79 percent.

Table 4.5

Leverage of selected Nepalese commercial banks from the period 2010 to 2021 (in percentage)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	94.117	93.024	93.741	108.272	92.422	92.545	95.69	6.20
2011	94.500	89.802	93.617	105.050	95.131	91.441	94.92	5.34
2012	93.752	89.264	93.017	101.249	92.576	91.193	93.51	4.11
2013	93.255	92.971	92.864	96.843	94.294	91.606	93.64	1.79
2014	94.553	90.377	93.879	96.958	92.860	92.321	93.49	2.23
2015	94.562	90.241	94.697	109.081	77.827	94.018	93.40	10.02
2016	94.760	93.031	94.270	109.685	85.375	92.648	94.96	7.98
2017	94.117	93.024	93.741	108.272	92.422	92.545	95.69	6.20
2018	94.500	89.802	93.617	105.050	95.131	91.441	94.92	5.34
2019	93.752	89.264	93.017	101.249	92.576	91.193	93.51	4.11
2020	93.255	92.971	92.864	96.843	94.294	91.606	93.64	1.79
2021	94.553	90.377	93.879	96.958	92.860	92.321	93.49	2.23
Mean	94.14	91.18	93.60	102.96	91.48	92.07	94.24	4.43
Standard Deviation	0.52	1.65	0.57	5.23	4.99	0.82	2.30	2.22

Sources: Annual reports of sample banks 2010-2021

The structure and pattern of leverage for selected Nepalese commercial banks which revealed that the average leverage is highest for NBL (102.96 percent) followed by EBL (94.14 percent) and lowest for HBL (91.18 percent). The standard deviation is highest for NBL which is 5.23 percent and lowest for EBL which is 0.52 percent. Table 4.5 shows that the leverage has changed during the time period for the Nepalese commercial banks. The leverage has decreased from 93.741 percent in 2010 to 92.864 percent in 2013 for NABIL, from 92.545 percent in 2010 to 91.193 percent in 2012 for SCBNL, from 93.024 percent in 2017 to 89.264 percent in 2019 for HBL, from 108.272 percent in 2010 to 96.843 percent in 2013 for NBL, from 94.294 percent in 2013 to 77.827 percent in 2015 for NIBL, from 94.500 percent in 2011 to 93.255 percent in 2013 for EBL. There are various variations in the average of leverage over the study period from 2010 to 2021. The trend shows that leverage has fluctuating trend from 2010 to 2021.

4.1.6 Structure and pattern of liquidity of Nepalese commercial banks

A stock's liquidity generally refers to how rapidly shares of a stock can be bought or sold without substantially impacting the stock price. Stocks with low liquidity may be difficult to sell and may cause you to take a bigger loss if you cannot sell the shares when you want to. The more liquid a stock is, the tighter spread it will tend to have. That's because market makers will be able to rapidly buy and sell and there is less risk that they'll be left with an unwanted position in the stock.

Table 4.6 shows the pattern of liquidity of commercial banks from 2010 to 2021. The liquidity has been calculated as total loans to total deposits. The mean value measures the average liquidity of individual sample commercial banks for particular year and standard deviation measures the variability in liquidity.

The structure and pattern of liquidity for selected Nepalese commercial banks as shown in table 4.6. Which reveals that the average liquidity is highest for SCBNL bank (22.52 percent), followed by EBL (18.19 percent) and lowest is for HBL (9.58 percent).The standard deviation is highest for SCBNL which is 8.71 percent and lowest for HBL which is 1.68 percent.

Table 4.6

Liquidity of selected Nepalese commercial banks from the period 2010 to 2021 (in percentage)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	13.056	7.719	7.969	20.180	13.512	16.045	13.08	4.78
2011	18.307	11.855	7.126	19.640	17.210	19.762	15.65	5.09
2012	16.821	9.049	9.600	18.640	17.333	20.020	15.24	4.72
2013	18.435	7.611	11.442	7.980	18.456	31.299	15.87	8.96
2014	25.110	11.010	13.070	4.810	12.890	35.520	17.07	11.19
2015	16.222	10.783	8.544	17.310	14.493	16.288	13.94	3.51
2016	18.593	9.660	8.265	19.900	12.692	8.667	12.96	5.13
2017	13.056	7.719	7.969	20.180	13.512	16.045	13.08	4.78
2018	18.307	11.855	7.126	19.640	17.210	19.762	15.65	5.09
2019	16.821	9.049	9.600	18.640	17.333	20.020	15.24	4.72
2020	18.435	7.611	11.442	7.980	18.456	31.299	15.87	8.96
2021	25.110	11.010	13.070	4.810	12.890	35.520	17.07	11.19
Mean	18.19	9.58	9.60	14.98	15.50	22.52	15.06	5.01
Standard Deviation	3.77	1.68	2.16	6.46	2.34	8.71	4.19	2.81

Sources: Annual reports of sample banks 2010-2021

The mean is highest in the year 2014 and 2021 which is 17.07 percent and lowest in the year 2016 which is 12.96 percent. The standard deviation is highest in the year 2014 and 2021 which is 11.19 percent and lowest in the year 2015 which is 3.51 percent.

There are fluctuations in the average liquidity over the study period from 2010 to 2021. Here, liquidity has increasing from 2018 to 2020.

4.1.7 Structure and pattern of market capitalization of Nepalese commercial banks

Market capitalization refers to how much a company is worth as determined by the stock market. It is defined as the total market value of all outstanding shares. To

calculate a company's market cap, multiply the number of outstanding shares by the current market value of one share.

The table 4.7 shows the pattern of market capitalization of commercial banks from 2010 to 2021. The market capitalisation has been calculated as current stock price per share multiplied by total number of shares outstanding.The mean value measures the average market capitalization of individual sample commercial banks for particular year and standard deviation measures the variability in market capitalization. The structure and pattern of market capitalization for selected Nepalese commercial banks are shown in table 4.7 which reveals that the average market capitalization is highest for NABIL (47530.24 million) followed by SCBNL (40576.13 million), EBL (28491.28 million). The standard deviation is highest NABIL which is 20746.14 million and lowest for HBL bank which is 6311.96 million. The average market capitalization is highest in the year 2013 and 2020 which is 45289.55 million and lowest in the year 2010 and 2017 which is 15383.73 million. Similarly standard deviation is highest in the year 2013 and 2020 which is 20967.21 million and lowest in the year 2011 and 2018 which is 9578.19 million.

Table 4.7

Structure and pattern of market capitalization in selected Nepalese commercial banks from the period 2010 to 2021 (inmillion)

Bank	EBL	HBL	NABIL	NBL	NIBL	SCBNL	Mean	Standard Deviation
2010	13998.8	11500.0	25413.1	0.0	12406.9	28983.6	15383.73	10469.64
2011	14375.2	15672.0	27503.8	3031.5	15395.9	28967.5	17490.98	9575.49
2012	28019.1	19320.0	44227.9	17058.3	29541.1	33741.0	28651.23	9911.59
2013	50546.8	27270.2	77246.5	19718.3	39808.3	57147.2	45289.55	20967.21
2014	45312.9	27094.9	69862.1	30385.5	33589.2	43682.5	41654.52	15602.48
2015	20592.5	21405.1	47309.6	0.0	33410.5	56013.2	29788.48	20248.68
2016	16797.2	13056.0	34546.5	0.0	16984.2	45856.8	21206.78	16364.65
2017	13998.8	11500.0	25413.1	0.0	12406.9	28983.6	15383.73	10469.64
2018	14375.2	15672.0	27503.8	3031.5	15395.9	28967.5	17490.98	9575.49
2019	28019.1	19320.0	44227.9	17058.3	29541.1	33741.0	28651.23	9911.59
2020	50546.8	27270.2	77246.5	19718.3	39808.3	57147.2	45289.55	20967.21
2021	45312.9	27094.9	69862.1	30385.5	33589.2	43682.5	41654.52	15602.48
Mean	28491.28	19681.28	47530.24	11698.93	25989.79	40576.13	28994.61	13212.59
Standard Deviation	15246.48	6311.96	20746.14	11992.99	10669.61	11546.04	12752.20	4857.36

Sources: Annual reports of sample banks 2010-2021

Average market capitalization is 28651.23 in 2012, 45289.55 in 2013, 17490.98 in 2018, 28651.23 in 2019, 45289.55 in 2020 and 41654.52 in 2021. The trend shows that market capitalization has increased from 2016 to 2020 in recent years.

4.2 Descriptive statistics

The descriptive statistics used in this study consists of mean, standard deviation, minimum and maximum values associated with variables under consideration. Table 4.8 summarizes the descriptive statistics of variables used in this study during the period 2010 through 2021 associated with 6 samples of commercial banks of Nepal

The table 4.8 provides descriptive statistics for dependent and independent variables. Where, return on assets (ROA in percent), return on equity (ROE in percent) and (net interest margin NIM in percent) are dependent variables and operating expense (OPEX in percent), Leverage (LEV in percent), liquidity (LIQ in percent), market capitalization (Rupees in Million) are independent variables, and N is the number of observations.

Table 4.8
Descriptive statistics

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Net Interest Margin	72	2.680	5.070	3.72	0.11
Return on Assets	72	0.00	2.54	1.80	0.04
Return on Equity	72	0.00	33.58	18.71	2.51
Operating expenses	72	0.1150	0.9799	0.59	0.07
Leverage	72	77.827	109.685	94.24	2.22
Liquidity Management	72	4.810	35.520	15.06	2.81
Market Capitalization	72	0.00	77246.5	28994.61	4857.36

Source: SPSS output

Table 4.8 shows the descriptive statistics for the variables used in this study. As per the table, the net interest margin ranges from 2.680 percent to 5.070 percent leading to the average net interest margin of 3.72. The return on assets is noticed to be of minimum value of 0.00 percent and maximum value of 2.54 percent with average return on assets of 1.80.

4.3 Correlations analysis of dependent and independent variables

Having indicated the descriptive statistics, the Pearson correlation coefficients have been computed. The correlation coefficient shows the extent and direction of the linear relationship between dependent variables (net interest margin and return on assets) and independent variables (operating expense, liquidity, leverage, and market capitalization) of the sample commercial banks. The correlation coefficients are based on the data of 72 observations for the sample period of 2010-2021.The Pearson's coefficients of bank performance indicators have been computed and the results are presented in table 4.9. This table presents the bivariate Pearson correlation coefficients between banks profitability and working capital variables. The correlation coefficients are based on the data from 6 sample banks with 72 observations for the period 2010 through 2021. The independent variables are operating expense (OPEX), Leverage (LEV), liquidity (LIQ), market capitalization (MC), and the dependent variables are return on assets (ROA), return on equity (ROE) and net interest margin (NIM).

Table 4.9

Computation of correlation coefficients for dependent and independent variables

	NIM	ROA	ROE	OPEX	LEV	LIQ	MC
NIM	1						
ROA	.495**	1					
ROE	.472**	0.0	1				
OPEX	.224	.400**	.395**	1			
LEV	.324**	.347**	.378**	.407**	1		
LIQ	-.091	-.148	- .088	.222	.203	1	
MC	.309**	.592**	.297	.209	.268*	.099	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The table 4.9 shows that there is a positive relationship between operating expense and net interest margin. This indicates that higher the operating expense, higher would be the net interest margin. Similarly, there is also a positive relationship between market capitalization and net interest margin. This indicates that higher the market capitalization, higher would be the net interest margin. Likewise, liquidity management has a negative and leverage has a positive relationship with net interest margin. This indicates that higher the liquidity management, lower would be the net interest margin and higher the leverage, higher would be the net interest margin.

The study observed that there is a positive relationship between operating expense and return on assets and return on equity. It indicates that higher the operating expense, higher would be the return on assets and return on equity. The result shows that market capitalization is positively related to return on assets and return on equity. It indicates that higher the market capitalization, higher would be the return on assets and return on equity. Similarly, leverage is positively related and liquidity management is negatively related to return on assets and return on equity. This indicated that higher the leverage, higher would be the return on assets and return on equity and higher the liquidity management, lower would be the return on assets and return on equity.

4.4 Regression analysis of NIM, ROA and ROE

In order to test the statistical significance and robustness of the results, this study relies on secondary data analysis based on the regression model specified in the chapter three. It basically deals with regression results from various specifications of the model to examine the estimated relationship of bank specific variables and macroeconomic variables with banks profitability.

4.4.1 Regression analysis of NIM

Table 4.10 shows regression analysis results of variables of net interest margin. The model is $NIM_{it}= \beta_0+ \beta_1 LIQ_{it}+ \beta_2 LEV_{it}+ \beta_3 OPEX_{it}+ \beta_4 MCAPGDP_{it}+\varepsilon_{it}$. Dependent variable is NIM= net interest margin and independent variables are OPEX= operating expense, LEV=leverage LIQ=liquidity, MCAP= market capitalization. The reported results also include the value of F-statistics (F) and coefficient of determination (R^2)**.**

Table 4.10

Regression analysis of NIM (Model 1) with independent variables

Model	Coefficient	Std Error	t-statistics	Sig (p-value)	VIF
(Constant)	1.317	0.104	2.130	.023	
Operating Expenses	.244	.015	2.555	.013	1.044
Leverage	1.386	.046	2.147	.035	1.172
Liquidity	.033	.016	2.015	.048	1.160
Market capitalization	0.0000039	.000	2.538	.020	1.172
R square		0.26			
Adjusted r		0.196			
F value		4.089		0.001	
Std error of estimation		1.035			
Durbin Watson		1.12			

Source: SPSS output

Table 4.10 presents the result of Net Interest Margin as dependent variable and six bank specific and macroeconomic explanatory variables for the sample of six commercial banks in Nepal. Beta indicates that each variables level of influences on the dependent variable R square indicates the explanatory power of the model and in this study adjusted R square value which takes into account the; loss of degree of freedom associated with adding extra variable were inferred to see the explanatory power of the models. The explanatory power of this model is 26.0 percent. F test value test the null hypothesis that all of the slope parameters are jointly zero. F-Statistics attached to the test statistic show that null hypothesis should be rejected at 1% level of significance. F-statistic takes value of 4.089 and sig. value is 0.001 indicate that regression fits the data. By using the results obtained from the regression analysis the regression model is given below:

NIM=1.317+0.244OPEX+1.386LEV+0.033LIQ+0.0000039MCAP+1.035

The constant for NIM of sample commercial bank is 1.317. The regression coefficient based on NIM are OPEX, LEV, LIQ and MCAP are 0.244, 1.386, 0.033 and 0.0000039 respectively which indicates 1-unit increment in OPEX leads to 0.244 increments in NIM. Similarly, 1-unit increment in LEV leads to 1.386 increment in NIM. Likewise, 1-unit increment in LIQ leads to 0.033 increase in NIM. Finally, 1-

unit increment in MCAP leads to 0.0000039 increase in NIM of sample commercial banks. From the above finding, independent variables have significance result since its p- value is less than the level of significance i.e. p<0.05. Independent variable MCAP also have statistically significant results since their p-value is lesser than 0.05.

Multicollinearity is a state of moderate or very high inter-associations among the independent variables. To check for multicollinearity, Variance Inflation Factor (VIF) has been used from the output table of coefficients produced by SPSS. If VIF is less than 5. There is no multicollinearity. The Durbin Watson is 1.12 which is less than 2.5, it means that there is no autocorrelation in the independent variables and it can be concluded that the independent variables don't depend on each other.

4.4.2 Regression analysis of ROA

Table 4.11 shows regression analysis results of variables of return on assets. The model is $ROA_{it}= \beta_0+ \beta_1 OPEX_{it}+ \beta_2 LEV_{it}+ \beta_3 LIQ_{it}+ \beta_4 MCAPGDP_{it}+\varepsilon_{it}$. Dependent variable is ROA=return on assets and independent variables are OPEX= operating expense, LEV=leverage LIQ=liquidity, MCAP= market capitalization. The reported results also include the value of F-statistics (F) and coefficient of determination (R^2).

Table 4.11
Regression analysis of ROA (Model 2) with independent variables

Model	Coefficient	Std Error	t-statistics	Sig(p-value)	VIF
(Constant)	1.487	.048	2.294	.025	
Operating Expenses	.118	.016	2.116	.038	1.044
Leverage	-.299	.0379	2.788	.043	1.172
Liquidity	-.008	.010	2.849	.039	1.160
Market capitalization	0.00002	.000	4.697	.000	1.172
R square		0.307			
Adjusted r		0.248			
F value		5.172		.000	
Std error of estimation		0.608			
Durbin Watson		1.142			

Source: SPSS output

Table 4.11 presents the result of Return on Assets as dependent variable and six bank specific and macroeconomic explanatory variables for the sample of eleven commercial banks in Nepal. Beta indicates that each variables level of influences on

the dependent variable R square indicates the explanatory power of the model and in this study adjusted R square value which takes into account the ;loss of degree of freedom associated with adding extra variable were inferred to see the explanatory power of the models. The explanatory power of this model is 30.7 percent. F test value test the null hypothesis that all of the slope parameters are jointly zero. F-statistics attached to the test statistic show that null hypothesis should be rejected at 1% level of significance. F-statistic takes value of 5.172 and sig. value is 0.00 indicate that regression fits the data. By using the results obtained from the regression analysis the regression model is given below:

ROA= 1.487+0 .118OPEX-0.299LEV-0.008LIQ+ 0.00002MCAP+0.608

The constant for ROA of sample commercial bank is 1.487. The regression coefficient based on ROA are OPEX, LEV, LIQ and MCAP are 0.118, -0.299, -0.008 and 0.00002 respectively which indicates 1-unit increment in OPEX leads to 0.118 increments in ROA. Similarly, 1-unit increment in LEV leads to -0.299 decrement in ROA. Likewise, 1-unit increment in LIQ leads to -0.008 decrease in ROA. Finally, 1-unit increment in MCAP leads to 0.00002 increase in ROA of sample commercial banks. From the above finding, independent variables have significance result for operating expenses and market capitalization since its p- value is less than the level of significance i.e. $p<0.05$. Independent variable LEV and LIQ also have statistically significant results since their p-value is lesser than 0.05.

Multicollinearity is a state of moderate or very high inter-associations among the independent variables. To check for multicollinearity, Variance Inflation Factor (VIF) has been used from the output table of coefficients produced by SPSS. If VIF is less than 5. There is no multicollinearity. The Durbin Watson is 1.142 which is less than 2.5, it means that there is no autocorrelation in the independent variables and it can be concluded that the independent variables don't depend on each other.

4.4.3 Regression analysis of ROE

Table 4.12 shows regression analysis results of variables of return on equity. The model is $ROE_{it}= \beta_0+ \beta_1 OPEX_{it}+ \beta_2 LEV_{it}+ \beta_3 LIQ_{it}+ \beta_4 MCAPGDP_{it}+\acute{\varepsilon}_{it}$. Dependent variable is ROE=return on equity and independent variables are OPEX= operating

expense, LEV=leverage LIQ=liquidity, MCAP= market capitalization. The reported results also include the value of F-statistics (F) and coefficient of determination (R^2).

Table 4.12

Regression analysis of ROE (Model 3) with independent variables

Model	Coefficient	Std Error	t-statistics	Sig(p-value)	VIF
(Constant)	1.365	.029	2.284	.027	
Operating Expenses	.109	.049	2.08	.027	1.025
Leverage	-.188	.034	2.697	.039	1.157
Liquidity	-.006	.009	2.802	.034	1.122
Market capitalization	0.00003	.0001	3.405	.0001	1.109
R square		0.295			
Adjusted r		0.208			
F value		4.095		.0001	
Std error of estimation		0.510			
Durbin Watson		1.128			

Source: SPSS output

Table 4.12 presents the result of Return on equity as dependent variable and six bank specific and macroeconomic explanatory variables for the sample of six commercial banks in Nepal. Beta indicates that each variables level of influences on the dependent variable R square indicates the explanatory power of the model and in this study adjusted R square value which takes into account the ;loss of degree of freedom associated with adding extra variable were inferred to see the explanatory power of the models. The explanatory power of this model is 29.5 percent. F test value test the null hypothesis that all of the slope parameters are jointly zero. F- Statistics attached to the test statistic show that null hypothesis should be rejected at 1% level of significance. F-statistic takes value of 4.095 and sig. value is 0.001 indicate that regression fits the data. By using the results obtained from the regression analysis the regression model is given below:

ROE= 1.3657+0 .109OPEX-0.188LEV-0.006LIQ+ 0.00003MCAP+0.510

The constant for ROE of sample commercial bank is 1.3657. The regression coefficient based on ROE are OPEX, LEV, LIQ and MCAP are 0.109, -0.188, -0.006 and 0.00003 respectively which indicates 1-unit increment in OPEX leads to 0.109 increments in ROE. Similarly, 1-unit increment in LEV leads to -0.188 decrement in ROE. Likewise, 1-unit increment in LIQ leads to -0.006 decrease in ROE. Finally, 1-

unit increment in MCAP leads to 0.00003 increase in ROE of sample commercial banks. From the above finding, independent variables have significance result for operating expenses and market capitalization since its p- value is less than the level of significance i.e. $p<0.05$. Independent variable LEV and LIQ also have statistically significant results since their p-value is lesser than 0.05.

Multicollinearity is a state of moderate or very high inter-associations among the independent variables. To check for multicollinearity, Variance Inflation Factor (VIF) has been used from the output table of coefficients produced by SPSS. If VIF is less than 5. There is no multicollinearity. The Durbin Watson is 1.128 which is less than 2.5, it means that there is no autocorrelation in the independent variables and it can be concluded that the independent variables don't depend on each other.

Summary of Hypothesis Testing

Table 4.13
Summary of hypothesis testing

Factors	Significant Level	t- Value	P- Value	Remarks
H_1: There is significant relationship between operating expense and return on assets	0.05	2.116	.038	Rejected
H_2:There is significant relationship between leverage and return on assets	0.05	2.788	.043	Rejected
H_3: There is significant relationship between liquidity and return on assets	0.05	2.849	.039	Rejected
H_4: There is significant relationship between market capitalization and return on assets	0.05	4.697	.000	Rejected
H_5: There is significant relationship between operating expense and return on equity	0.05	2.08	.027	Rejected
H_6:There is significant relationship between leverage and return on equity	0.05	2.697	.039	Rejected
H_7: There is significant relationship between liquidity and return on equity	0.05	2.802	.034	Rejected

H_8: There is significant relationship between market capitalization and return on equity	0.05	3.405	.0001	Rejected
H_9: There is significant relationship between operating expense and net interest margin	0.05	2.555	.013	Rejected
H_{10}: There is significant relationship between leverage and net interest margin	0.05	2.147	.035	Rejected
H_{11}: There is significant relationship between liquidity and net interest margin	0.05	2.015	.048	Rejected
H_{12}: There is significant relationship between market capitalization and net interest margin	0.05	2.538	.020	Rejected

4.5 Findings

Structure and pattern of different bank specific variables, descriptive statistics, correlation analysis some diagnostic tests for linear regression model assumption is presented. The major findings are:

i The structure and pattern of net interest margin for selected Nepalese commercial banks reveal that the average net interest margin is highest for EBL and Nabil (4.03 percent), followed by SCBNL (3.78 percent) and lowest is for NIBL (3.26 percent).

ii The average net interest margin is highest in the year 2012 and 2019 which is 3.99 percent and lowest in the year 2015 which is 3.27 percent along with highest standard deviation in the year 2014 and 2021 which is 0.79 percent and lowest standard deviation in the year 0.18 percent in the year 2010 and 2017.

iii The net interest margin has a lot of deviation from 2010 to 2021 which is the study period. The average net interest margin is 3.79 percent in the year 2010, 3.99 percent and 3.70 percentage the year 2012 and 2016, 3.99 percent in 2019, 3.62 percent in the year 2020 and 3.79 percent in the year 2021. The average net interest margin has been fluctuating from the year 2010 to 2021.

iv The structure and pattern of return on assets for selected Nepalese commercial banks revealed that the average return on assets is highest for SCBNL (2.29

percent), followed by NABIL (2.09 percent) and lowest is for NBL (0.77 percent).The standard deviation is highest for SCBNL which is 0.36 and lowest for EBL and NABIL Bank Ltd which is 0.26. The average return on assets is highest in the year 2019 which is 2.02 percent and lowest in the year 2021 which is 1.43 percent. Furthermore, standard deviation is high for 2015 which is 0.99 percent and lowest for 2020 which is 0.45 percent. The study found that the return on assets has increased from 2.10 percent in 2012 to 2.39 percent in 2014 for EBL, from 2.10 percent in 2012 to 2.54 percent in 2015 for NABIL.

v Similarly, the return on assets has increased from 1.94 percent in 2017 to 2.19 percent in 2019 for HBL, from 1.84 percent in 2018 to 2.61 percent in 2020 for SCBNL. The return on assets also shows a various ups and downs over the study period 2010 to 2021. The average return on assets is 1.87 percent in the year 2010, 1.94 percent in 2012, 1.65 percent in 2016 and 1.82 percent in 2018, 2.02 percent in 2019, 1.87 percent in the year 2020, 1.43 percent in the year 2021 respectively. Hence, the return on assets has been decreasing from 2019 to 2021 in recent years.

vi The structure and pattern of return on equity for selected Nepalese commercial banks revealed that the average return on assets is highest for NABIL (25.20 percent), followed by SCBNL (23.44 percent) and lowest is for NBL (1.06 percent). The standard deviation is highest for NIBL which is 6.90 and lowest for NBL which is 0.58. The average return on assets is highest in the year 2014 which is 22.94 percent and lowest in the year 2019 which is 14.48 percent. Furthermore, standard deviation is high for 2014 which is 12.34 percent and lowest for 2018 which is 7.01 percent. The study found that the return on assets has decreased from 29.04 percent in 2014 to 15.28 percent in 2018 for EBL, from 32.22 percent in 2011 to 14.31 percent in 2018 for SCBNL.

vii Similarly, the return on equity has increased from 29.32 percent in 2013 to 33.18 percent in 2015 for NABIL, from 15.80 percent in 2014 to 24.53 percent in 2016 for HBL. The return on assets also shows a various ups and downs over the study period 2010 to 2021. The average return on assets is 17.34 percent in the year 2010, 22.01 percent in 2012, 22.94 percent in 2014 and 15.83 percent in 2017, 14.48 percent in 2019, 18.28 percent in the year 2020,

16.72 percent in the year 2021 respectively. Hence, the return on assets has been decreasing from 2020 to 2021 in recent years.

viii The average operating expenses is highest for EBL (0.75 percent), followed by SCBNL (0.71 percent) and lowest is for HBL (0.20 percent).

ix Standard deviation is highest for HBL (0.25 percent), moderate for SCBNL (0.08 percent) and lowest for NABIL (0.05 percent).

x Similarly if we examine year wise average operating expenses is high in the year 2015 (0.71 percent) and low in the year 2014 and 2021 (0.49 percent). Standard deviation is high in the year 2016 (0.27 percent) and low in the year 2015 (0.16 percent). Operating expense rate shows various fluctuations over the study period.

xi The structure and pattern of leverage for selected Nepalese commercial banks which revealed that the average leverage is highest for NBL (102.96 percent) followed by EBL (94.14 percent) and lowest for HBL (91.18 percent). The standard deviation is highest for NBL which is 5.23 percent and lowest for EBL which is 0.52 percent.

xii The mean is highest for the year 2010 and 2017 which is 95.69 percent and lowest for the year 2015 which is 93.40 percent and furthermore standard deviation is highest for the year 2015 which is 10.02 percent and lowest for the year 2013 and 2020 which is 1.79 percent. The study found that the leverage has changed during the time period for the Nepalese commercial banks. The leverage has decreased from 93.741 percent in 2010 to 92.864 percent in 2013 for NABIL, from 92.545 percent in 2010 to 91.193 percent in 2012 for SCBNL, from 93.024 percent in 2017 to 89.264 percent in 2019 for HBL, from 108.272 percent in 2010 to 96.839 percent in 2013 for NBL, from 94.294 percent in 2013 to 77.827 percent in 2015 for NIBL, from 94.500 percent in 2011 to 93.255 percent in 2013 for EBL.

xiii There are various variations in the average of leverage over the study period from 2010 to 2021. The trend shows that leverage has fluctuating trend from 2010 to 2021.

xiv The structure and pattern of liquidity for selected Nepalese commercial banks revealed that the average liquidity is highest for SCBNL bank (22.52 percent), followed by EBL (18.19 percent) and lowest is for HBL (9.58 percent).The standard deviation is highest for SCBNL which is 8.71 percent and lowest for

HBL which is 1.68 percent. The mean is highest in the year 2014 and 2021 which is 17.07 percent and lowest in the year 2016 which is 12.96 percent. The standard deviation is highest in the year 2014 and 2021 which is 11.19 percent and lowest in the year 2015 which is 3.51 percent.

xv The structure and pattern of market capitalization for selected Nepalese commercial banks revealed that the average market capitalization is highest for NABIL (47530.24 million) followed by SCBL (40576.13 million), EBL (28491.28 million).

xvi The standard deviation is highest NABIL which is 20746.14 million and lowest for HBL bank which is 6311.96 million. The average market capitalization is highest in the year 2013 and 2020 which is 45289.55 million and lowest in the year 2010 and 2017 which is 15383.73 million. Similarly standard deviation is highest in the year 2013 and 2020 which is 20967.21 million and lowest in the year 2011 and 2018 which is 9578.19 million.

xvii Average market capitalization is 28651.23 in 2012, 45289.55 in 2013, 17490.98 in 2018, 28651.23 in 2019, 45289.55 in 2020 and 28994.61 in 2021. The trend shows that market capitalization has increased from 2016 to 2020 in recent years.

xviii As per the study, the net interest margin ranges from 2.680 percent to 5.070 percent leading to the average net interest margin of 3.72. The return on assets is noticed to be of minimum value of 0.20 percent and maximum value of 2.54 percent with average return on assets of 1.80.

xix The correlation coefficients are based on the data of 72 observations for the sample period of 2010-2021.

xx The study found that the constant for ROE of sample commercial bank is 1.3657. The regression coefficient based on ROE are OPEX, LEV, LIQ and MCAP are 0.109, -0.188, -0.006 and 0.00003 respectively which indicates 1-unit increment in OPEX leads to 0.109 increments in ROE. Similarly, 1-unit increment in LEV leads to -0.188 decrement in ROE. Likewise, 1-unit increment in LIQ leads to -0.006 decrease in ROE. Finally, 1-unit increment in MCAP leads to 0.00003 increase in ROE of sample commercial banks. From the above finding, independent variables have significance result for operating expenses and market capitalization since its p- value is less than the level of

significance i.e. p<0.05. Independent variable LEV and LIQ also have statistically significant results since their p-value is lesser than 0.05.

xxi The constant for ROA of sample commercial bank is 1.487. The regression coefficient based on ROA are OPEX, LEV, LIQ and MCAP are 0.118, -0.299, -0.008 and 0.00002 respectively which indicates 1-unit increment in OPEX leads to 0.118 increments in ROA. Similarly, 1-unit increment in LEV leads to -0.299 decrement in ROA. Likewise, 1-unit increment in LIQ leads to -0.008 decrease in ROA. Finally, 1-unit increment in MCAP leads to 0.00002 increase in ROA of sample commercial banks. From the above finding, independent variables have significance result for operating expenses and market capitalization since its p- value is less than the level of significance i.e. p<0.05. Independent variable LEV and LIQ also have statistically significant results since their p-value is lesser than 0.05.

xxii The study observed that there is a positive relationship between operating expense and return on assets and return on equity. It indicates that higher the operating expense, higher would be the return on assets and return on equity. The result shows that market capitalization is positively related to return on assets and return on equity. It indicates that higher the market capitalization, higher would be the return on assets and return on equity. Similarly, leverage is positively related and liquidity management is negatively related to return on assets and return on equity. This indicated that higher the leverage, higher would be the return on assets and return on equity and higher the liquidity management, lower would be the return on assets and return on equity.

xxiii While examining the NIM on correlation matrix, correlation coefficient between NIM and OPEX is 0.224, between NIM and LEV is 0.324, between NIM and MC is 0.309 and between NIM and LIQ is -0.091 indicate there is positive correlation between NIM and OPEX, LEV, MC whereas negative correlation with LIQ.

xxiv While examining the ROE on correlation matrix, correlation coefficient between ROE and OPEX is 0.395, between ROE and LEV is 0.378, between ROE and MC is 0.297 and between ROE and LIQ is -0.088 indicate there is

positive correlation between ROE and OPEX, LEV, MC whereas negative correlation with LIQ.

xxv Likewise, while examining the ROA on correlation matrix, correlation coefficient are 0.400, 0.347, 0.592 and -0.148 respectively for OPEX, LEV, MC and LIQ indicates that there is negative correlation with LIQ.

4.6 Discussions

The financial system of Nepal is dominated by the commercial banks. A strong financial system promotes investment by financing productive business opportunities, mobilizing savings, efficiency allocating resources and makes easy the trade of goods and services. The major objective of the study is to examine the impact of independent variables on the performance of the commercial banks in Nepal. The return on assets (ROA), return on equity (ROE) and net interest margin (NIM) are the dependent variables which have been used to measure the profitability situation of the banks taken under study. The variables like market capitalisation, liquidity management, leverage and operating expense have been used as independent variables in this study. The result indicated that there is a positive relationship between operating expense and net interest margin. This indicates that higher the operating expense, higher would be the net interest margin, which is similar to (Jana and Lace, 2018).

There is also a positive relationship between leverage and net interest margin. This indicates that higher the leverage, higher would be the net interest margin. Similarly there is also a negative relation between liquidity and net interest margin. Likewise, market capitalization has a positive relationship with net interest margin. The result shows that there is positive relationship between ROA and ROE with net interest margin, which is similar to (Jana and Lace, 2018).

The study observed that there is a positive relationship between operating expense and return on assets. It indicates that higher the operating expense, higher would be the return on assets. The result shows that market capitalizations positively related to return on assets. It indicates that higher the market capitalization, higher would be the return on assets. Similarly, leverage and liquidity management is negatively related to return on assets. This indicated that higher the leverage lower would be the return on

assets and higher the liquidity management, lower would be the return on assets, which is dissimilar to (Pallavi and Saluja, 2017).

The structure and pattern of net interest margin for selected Nepalese commercial banks reveal that the average net interest margin is highest for EBL and Nabil, followed by SCBNL and lowest is for NIBL, which is similar to (Shrestha, 2012).

The average net interest margin is highest in the initial year and lowest in the middle year along with highest standard deviation in the initial year and last year of study period and lowest standard deviation in the year middle year. The net interest margin has a lot of deviation. The average net interest margin has been fluctuating over the study period. The structure and pattern of return on assets for selected Nepalese commercial banks revealed that the average return on assets is highest for SCBNL, followed by NABIL and lowest is for NBL. The standard deviation is highest for SCBNL and lowest for EBL and NABIL Bank Ltd, which is similar to (Neupane, 2020).

The average return on assets is highest in the middle year and lowest in the end of the study period. Furthermore, standard deviation is higher for the middle year and lowest at the end of the study period, which is similar to (Neupane, 2020).

The return on assets also showed a various ups and downs over the study period. Hence, the return on assets has been decreasing at the end of the study period. There were variations in the average of leverage over the study period. The trend shows that leverage has fluctuating trend over the study period, which is dissimilar to (Shrestha, 2019).

The structure and pattern of market capitalization for selected Nepalese commercial banks revealed that the average market capitalization is highest for NABIL followed by SCBNL, and EBL, which is dissimilar to (Shrestha, 2019).

The study observed that there is a positive relationship between operating expense and return on assets and return on equity. It indicated that higher the operating expense, higher would be the return on assets and return on equity. The result showed that market capitalization is positively related to return on assets and return on equity. It indicated that higher the market capitalization, higher would be the return on assets

and return on equity. Similarly, leverage is positively related and liquidity management is negatively related to return on assets and return on equity. This indicated that higher the leverage, higher would be the return on assets and return on equity and higher the liquidity management, lower would be the return on assets and return on equity, which is dissimilar to (Panta, 2021).

The study found that there is a positive relationship between operating expense and net interest margin. This indicated that higher the operating expense, higher would be the net interest margin. Similarly, there is also a positive relationship between market capitalization and net interest margin. This indicated that higher the market capitalization, higher would be the net interest margin. Likewise, liquidity management has a negative and leverage has a positive relationship with net interest margin. This indicated that higher the liquidity management, lower would be the net interest margin and higher the leverage, higher would be the net interest margin, which is dissimilar to (Shrestha, 2019).

CHAPTER V

SUMMARY AND CONCLUSION

This chapter presents the brief summary of the study and highlights the major finding of the study. In addition, major conclusions derived from the study, some implications and recommendations regarding factors affecting performance of commercial banks in Nepal. Finally the chapter ends with future scope of this study.

5.1 Summary

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 of temporary idle money of the public for advancing to others for expenditures. In other words, bank is an institution that deals in money and its substitutes and also provides other financial services. Bank accepts deposit and makes loans and derives a profit from the difference in the interest rates paid and charged, respectively. Contemporary competitive business environment demands efficient use of resources, which underscores the importance of working capital management. Banking service contributes to economy growth by producing the financial means to facilitate production in other industries.

The main objective of the study is to examine the determinants of profitability in Nepalese commercial banks. However, the specific objectives are as follows: to analyze the financial performance of commercial in terms of ROA, ROE and NIM, to identify the status of leverage, operating expenses, liquidity and market capitalization of commercial banks in Nepal and to examine the relationship between profitability and its determinants such as operating expenses, leverage, liquidity and market capitalization.

This study used descriptive and causal comparative research designs to deal with the fundamental issues of the study. This study employs descriptive research design to deal with the fact-finding and searching adequate information associated bank specific variables on firm performance of Nepalese commercial banks. In addition, causal

comparative research design is used to analyze the cause and effect relationship of bank specific variables on firm performance.

Though there were 27 commercial banks in Nepal till June 2022, all of them did not provided scope for the study. Here, banks established in different eras like first public bank of government, commercial bank established in 1980's, banks established in collaboration with Indian banks, bank established between mid-1990's and banks established in 2000's have been selected for the study. 6 commercial banks have been taken. Therefore, out of 27 commercial banks, 6 are taken as sample for the study for the period of 2010-2021 making total of 72 observations. For the purpose of data collection is non-probability sampling method is used. The convenience sampling method has been used. Data is collected by using secondary sources and the secondary data are of annual nature.

It is important to evaluate the effective utilization of funds to keep the optimal level of leverage as well as profitability of the banks. The problem lies in how to choose or select the optimal point or level at which banks can maintain their assets in order to achieve these two objectives together, because each level of liquidity has a different effect on the levels of profitability, and the problem arises when the commercial banks try to maximize their profit at the expense of neglecting the liquidity, which may cause a technical and financial hardship with the consequent withdraw of deposits.

The study would be significant as it provides insight for bank owners and policy makers, on factors that determine bank performance and efficient utilization of resources, for sustainable competitiveness. Thus this study contributes to understand more of the factors that have an impact on private commercial banks performance in Nepal. This study is expected to help those bankers who will get information to improve the performance of the Nepalese private commercial banks. Many study of bank performance has provided road map for managers and the shareholders to evaluate their bank performance in term of profitability with respect to the internal and external determinants. Profitable banks can also diversify their business effectively and also hedge against adverse effects. Therefore, understanding and regularly updating knowledge regarding factors affecting banking profitability is very important for long term existence along with excellent bank management and stability

of firm as financial intermediary and important contributor to the economic development of the country.

This study ignores other sectors of Nepalese firms such as Development banks, finance companies and insurance companies beside commercial banks. The data has been used for the years covering from 2010 to 2021. Only 6 commercial banks have been taken as sample. The independent variables used in this study are operating expense, leverage, liquidity, market capitalization and dependent variable is profitability.

There are numerous studies of banking sector performance in developed and developing countries. Different factors have affected the banking performance and its profitability. Time and again studies have been conducted to measure the determinants affecting the bank performance and its profitability as bank plays a critical role in a country's economic development as vehicle of financial intermediation. They are key players in the provision of capital and hence in stimulating economic development. If we analyze in context of Nepal also banking sector is one of the most important sector contributing a lot to development of country and one of the high profit generating sector. There are different determinants that play very crucial roles in determining the factors that influence profitability determinants.

Recent studies show that there is a group of variables including internal characteristics of banks that are correlated with banking sector performance in different regions of the world. Many studies have been conducted in both develop and developing countries regarding this subject which includes the internal and external variables.

In context of Nepal the studies relating to this topic is limited. This study has only taken selected commercial banks established in different eras, and variables taken are also limited which may create a big gap in research. This research have covered and analyzed the data of seven years only which may bring invalid conclusion. There are other internal and external variables also which can be considered while assessing the profitability determinants of commercial banks. The unavailability of further data has led to a somewhat provisional analysis. So this study will be fruitful to those interested parties, scholars, teachers, civil society, businessmen and government for academically as well as policy perspectives.

The study observed that there is a positive relationship between operating expense and return on assets and return on equity. It indicates that higher the operating expense, higher would be the return on assets and return on equity. It indicates that higher the market capitalization, higher would be the return on assets and return on equity. Similarly, liquidity management is negatively related to return on assets and return on equity and positive with leverage. This indicated that higher the leverage, higher would be the return on assets and return on equity and higher the liquidity management, lower would be the return on assets and return on equity.

5.2 Conclusions

The major conclusion of the study is that performance of Nepalese commercial banks is highly influenced by liquidity. This indicated that higher the liquidity, higher the more capable the commercial bank on paying its obligations and has more investment opportunities. The study shows that there is a positive relationship between operating expense and net interest margin. This indicates that higher the operating expense, higher would be the net interest margin. Similarly, there is also a positive relationship between market capitalization and net interest margin. This indicates that higher the market capitalization, higher would be the net interest margin. Likewise, liquidity management has a negative and leverage has positive relationship with net interest margin. This indicates that higher the liquidity management, lower would be the net interest margin. This indicates that higher the leverage, higher would be the net interest margin.

The status of leverage, operating expenses, liquidity and market capitalization of commercial banks concluded that there is a positive relationship between operating expense and return on assets. It indicated that higher the operating expense, higher would be the return on assets. The result shows that market capitalization, leverage and operating expenses is positively related to return on assets. It indicated that higher the market capitalization, higher would be the return on assets. Similarly, higher the leverage, higher would be the return on assets and higher the operating expenses, higher would be the return on assets. Similarly, liquidity management is negatively related to return on assets. This indicated that higher the leverage lower would be the return on assets and higher the liquidity management, lower would be the return on assets.

Regarding the relationship between profitability and its determinants, the study concluded that in past, researchers have tried to find out the determinants of profitability for banking sector, some researchers considered only the banking characteristics, whereas others included the financial structure and macroeconomic factors as well. Liquidity ratio is positively related to return on assets and also suggested that there is an increase in profitability if lesser collection of funds is used in liquid investment. The determinants of profitability are NIM, ROA, ROE, leverage, liquidity, operating expenses, and market capitalization.

Regarding the impact of independent variables (operating expenses, leverage, liquidity and market capitalization) on profitability of commercial banks the ROE on correlation matrix, correlation coefficient between ROE and OPEX between ROE and LEV, between ROE and MC have positive impact on ROE. Liquidity has negative impact. It is concluded that there is positive impact on ROE by OPEX, LEV, MC whereas negative impact on ROE with LIQ.

5.3 Implications

Based on the findings, the following two implications have been made:

5.3.1 Practical Implication to banks

i The study reveals that there is positive relation between operating expenses and net interest margin. Hence, the banks willing to increase net interest margin, should increase operating expense.

ii Similarly, the study observed negative relationship between liquidity and net interest margin. Hence banks willing to increase net interest margin, should decrease the liquidity.

iii The result revealed a positive relationship between market capitalization and net interest margin. Hence the banks planning on increasing net interest margin, should increase market capitalization as well.

iv The relationship between operating expense and return on assets is positive. The increase in operating expense means opening of new branches and hire additional staff to manage the new branch. With increase in branches the

banks is able to tap newer markets. With access to newer market the bank is able to lend new loans hence increasing its income.

v There is a positive relationship between market capitalization and return on assets. Hence, the banks willing to increase return on assets, should increase its market capitalization.

vi The study revealed a positive relationship between leverage and return on assets. Hence, the banks willing to increase return on assets, should increase leverage in the banks.

vii The study found that there is negative between liquidity and return on assets. Hence, the banks willing to increase liquidity will lead to decrease in return on assets.

viii The study found that correlation coefficient between ROE and OPEX, between ROE and LEV, between ROE and MC are positive and between ROE and LIQ is negative indicated there is positive correlation between ROE and OPEX, LEV, MC whereas negative correlation with LIQ. Hence, the banks willing to increase OPEX, LEV and MC will lead to increase in ROE and decrease in return on equity with liquidity.

5.3.2 Theoretical Implications for future researchers

This study can be regarded as the preliminary steps in investigating the profitability analysis for Nepalese commercial banks. The study remains enough ground for future researchers which are listed below:

i. This study has taken only secondary data as sample. Academicians are suggested to take primary data as a sample for more convenient result.

ii. The future studies can be carried out by selecting other financial institutions like development banks and finance companies to grab wider view of factors affecting profitability.

iii. This study provides some gaps for the future research by considering some secondary source of data for other variable, such as the extent of deposits, interest earnings or performance on an objective test. The research is mainly

concerned with the profitability determinants. So, it is important to understand the factor that produce the profitability. Other factors like primary data collection can be considered for the future research that are responsible for profit earnings.

iv. In future research, detailed assessment of the content, design and delivery of each entrepreneurial education can be beyond the scope of the current study. There can be the initial difference among the sample commercial banks. So, future research can be made by controlling the initial difference. Future research using more than 6 commercial banks and more observation would be necessary to fully evaluate the effectiveness of banks using different profitability determinants.
v. This study has focused on factors market capitalisation, liquidity management, leverage and operating expense and its effect on profitability i.e. ROA, ROE and NIM. However, the study has not focus on the association between employee satisfaction and retention of employees. Additional study will explore the relationship between these two constructs.

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