

DETERMINANTS OF PROFITABILITY OF COMMERCIAL BANK OF NEPAL

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CERTIFICATE OF AUTHORSHIP

I hereby declare that this final draft of dissertation entitled “DETERMINANTS OF PROFITABILITY OF COMMERCIAL BANK OF NEPAL”. The work of this dissertation has not been submitted previously for the purpose of conferral of any degrees nor it have been proposed and presented as part of requirements for any other academic purposes. The assistance and cooperation that I have received during this research work has been acknowledged. In addition, I declare that all information sources and literature used are cited in the reference section of the dissertation.

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RECOMMENDATION

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ABBREVIATION

BRICS	Brazil, Russia, India, China, and South Africa
CAMELS Sensitivity	Capital adequacy, Asset quality, Management, Earnings, Liquidity, and Sensitivity
EU	European Union
GDP	Gross Domestic Product
GPI	Genuine Progress Indicator
G-SIBs	Global Systemically Important Financial Institutions
HHI	Herfindahl-Hirschman Index
IFS	IMF Financial Statistics
NABIL	Nabil Bank Limited
NIBL	Nepal Bank Investment
SCBL	Standard Chartered Bank
GBIME	Global IME Bank Limited
SRBL	Sunrise Bank Limited
FIG	Figure
NEPSE	Nepal Stock Exchange Limited
NIM	Net Interest Margin
NPL	Non-Performing Loans
OLS	Ordinary Least Squares regression

RCBs	Rural and Community Banks
RS	Rupee
ROA	Return On Assets
ROE	Return On Equity
SEBON	Securities Board of Nepal
SPSS	Statistical Package for the Social Sciences
UAE	United Arab Emirates
UK	United Kingdom

ABSTRACTS

This study examines the determinants of financial performance of commercial banks in Nepal. The main objective of the study is to analyze the determinants of profitability of commercial banks in Nepal by examining the structure and pattern of Profitability (ROA and ROE) in relation with GDP, inflation, deposits, total assets and bank size of sample Nepalese commercial banks.

The population considered in this research is all the commercial banks of Nepal. The samples are drawn on the basis of convenience sampling whereby five banks are selected for study considering a five-year analysis. The study is based on descriptive and causal research design. The data have been gathered from the secondary sources of different sample financial institutions. For the analysis of collected data, various statistical tests such as descriptive, correlation, regression test were conducted with the help of statistical software SPSS and excel. There are few limitations for this study is this study might not include all the variables, to study the factors that determine the profitability of the bank.

The major findings of this research document are: there exists positive relationship between ROA, ROE, GDP, inflation, deposits, total assets and bank size. The regression analysis of return on assets shows that beta coefficients are negative for bank size and deposits indicating that higher the bank size and deposits lower would be the stability and vice-versa. However, it is positive for total assets, GDP and inflation, indicating that higher total assets, GDP and inflation higher would be the stability and vice-versa. The regression analysis of return on equity shows that beta coefficients are negative for bank size, deposit and GDP indicating that higher the bank size, deposit and GDP lower would be the Profitability and vice-versa. However, it is positive for total assets and inflation indicating that higher the total assets and inflation, higher would be the profitability and vice-versa.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

According to Uhde & Heimeshoff (2009), profitability of any country is an important factor in going to the world through increased international business, where the strength of completion in the market has led to interesting governments to think the conclusion of international trade agreements. These agreements will increase economic activity, but this activity depends on how the stability of the financial system of the country facilitates the process of contracting in commercial contracts. Economies that have a profitable banking sector are better able to withstand negative shocks and contribute to the stability of the financial system (Athanasoglou et al., 2005).

The stability of banking sector is a key for the development of an economy. The primary function of bank is mobilizing deposits from surplus units to deficit units in the form of loan and advances to various sectors such as agricultural, industry, personal and governments (Tiwari et al., 2013). Profitability is a system that can be characterized as stability in the absence of excessive volatility and stress or crises. In other words, it can be defined as a condition in which the financial system-comprising financial intermediaries, markets and market infrastructure are capable of withstanding shocks and the unraveling of financial imbalances. It therefore mitigates the likelihood of disruptions in the financial intermediation process which are severe enough to significantly impair the allocation of savings to profitable investment opportunities (Boyd & de Nicolo, 2005). Gan (2004) defined the stability of prices on all commercial and financial activities contribute to Profitability in the country in all process and is working to rise employment and sustainable development in the country, where the countries are working to adjust and balance job supply and demand for cash in the market and the most important tool of monetary policy is to determine the credit limits to deposits to maintain depositors' money and the same time to be a flexible policy to stimulate the economy.

Kato and Hagendorff (2010) stated the Profitability comes through relative stability of the indicators of monetary and fiscal policy, so this issue reflects the growth in the country

economy, but to go to the world punctuated by the risks of the country must work to be avoided or mitigated with the need to understand the mechanism of the economic cycle and the nature of the economy if it is open or closed economy or where it significantly contributes to Profitability and access to global markets.

A strong financial system plays a critical role in enabling growth and reducing vulnerability to crises among commercial banks. This mitigates the likelihood of disruptions in the financial intermediation process that are severe enough to significantly impair the allocation of savings to profitable investment opportunities (Stein, 2011). Profitability is an essential requirement not only for monetary stability, but also for healthy development of the economy. Profitability refers to a condition in which the financial system which comprises financial institutions, financial markets and market infrastructures is capable of facilitating real economic activities smoothly and unraveling financial imbalances arising from shocks (Alfi, 2014). Financial instability entails heavy costs for an economy since the volatility of price variables in the financial markets increases economic risks and financial institutions or corporations may even go bankrupt (Vlahović, 2014).

Claessens (2009) stated banking system is also important since any instability in the system has the potential to lead to a financial instability and economic crisis. Hence, a well-functioning banking system is regarded as a cornerstone of a market economy. Policy makers try to ensure that banking system is stable besides ensuring that it is competitive and efficient. According to Allen and Wood (2006), proper understanding is required on (potential) fiscal costs of bank bailouts, and (potential) losses to savers and other creditors of banks associated with the failure of financial institutions. Bean (2004) argued that the impact of financial instability could spread to the real sector of the economy as well.

Brunnermeier et al. (2009) stated that banking stability is the absence of banking crises, achieved through the stability of all banks in the banking or sector. Banking stability is the stability of banks linked to each other directly through the interbank deposits market and participants in syndicated loans, or indirectly through lending to common sectors and proprietary trades (Segoviano&Goodhart, 2009). According to Mishkin (2001),

Profitability is operationalized by looking at sudden changes in interest rates, sudden decreases in investments and asset prices, bank holidays, deposit freezes and/or foregone GDP growth associated with financial instability.

Altaee et al. (2013) examined the stability of the banking system that underpins through an effective bank monitoring mechanism since the sector is resilient to a range of single and combined shocks. Kohler (2013) found that the bank with a more traditional retail-oriented business model such as saving banks, cooperative banks and other retail-oriented bank become more stable if they increase their share of non-interest income. The result of the study imply that banks are significantly less risky if they have a more balanced income structure and neither depend heavily on interest income or non-interest income. Although non-interest income is considered as an important source of diversification, DeYounga and Roland (2001) pointed out that non-interest income increases the volatility of profits for the banks.

Inflation has made investors more sensitive to interest rates, and financial institution began to diversify their income sources to fees and commission-based incomes to maintain the financial position (Edwards & Mishinkin, 1995). For the most part, the literature argues that reduced expenses improve the efficiency and hence raise the profitability of a financial institution, implying a negative relationship between an operating expenses ratio and profitability (Bourke, 1989). Bank size is generally used to capture potential economies or diseconomies of scale in the banking sector. This variable controls for cost differences and product and risk diversification according to the size of the credit institution. The first factor could lead to a positive relationship between size and bank profitability, if there are significant economies of scale while the second to a negative one, if increased diversification leads to lower credit risk and thus lower returns (Goddard *et al.*, 2004). Other researchers, however, conclude that few cost savings can be achieved by increasing the size of a banking firm, especially as markets develop (Berger *et al.*, 1987).

Eichengreen and Gibson (2015) suggested that the effect of a growing bank's size on profitability may be positive up to a certain limit. Beyond this point the effect of size could

be negative due to bureaucratic and other reasons. Hence, the size-profitability relationship may be expected to be non-linear. A widely used proxy for the effect of the macroeconomic environment on bank profitability is inflation. Miller and Noulas (1997) suggested that decline in loan loss provisions are in many instances the primary catalyst for increases in profit margins.

Furthermore, Thakor (2017) suggested that the level of loan loss provisions is an indication of a bank's asset quality and signals changes in the future performance. Haron and Azmi (2004) statistically proved direct relationship of inflation rate and indirect relationship of real interest rate on ROA of 5 major Islamic banks over a period of 1984-2002. Vong and Chan (2009) take balanced panel data of five large banks of Macao. Linear model shows strong influence of inflation on ROA, GDP and interest rate show no effect.

Scott and Arias (2018) studied performance of five largest banks in United States and proved that GDP did not directly affect the profit level of U.S banking sector. Hoffmann (2011) used GMM and pooled OLS estimation approach to study US banks. The final result of both regression models indicates no considerable relationship. Sufian (2011) analyzed 11-29 Korean commercial banks during year 1992-2003. Linear regression results reveal negative impact of GDP on ROA, but positive impact of inflation. An empirical study by Damena (2011), on the profitability determinants of Ethiopian commercial banks uses 10 years balance sheet data of 7 leading banks confirms positive affect of GDP, inflation and interest rate. Likewise, Davydenko (2019) used fixed effects estimation technique and proved that both GDP and Inflation have a positive relationship with ROA of Ukrainian banks.

Klein (2020), non-performing loans will affect profitability of banks which is their main profit source and ultimately Profitability of economy. Imad (2011) investigated the bank-specific determinants of Jordanian Islamic banks' profitability. The study used profit margin and return on assets (ROA) to express the profitability of banks and the result suggest that factors such as bank size, non-interest earning, and efficiency of management expenses did not have a significant impact on return on assets (ROA) and profit margin of

Jordanian Islamic banks. Sufian (2010) studied the impact of bank specific factors and Macroeconomic indicators on the Accounting measures of profitability (ROA and ROE) for the banks in Thailand during 1999 to 2005, which was the period of post financial crisis in Asia. After regression analysis it was concluded that size and capitalization had positive impact on profitability. Ariffin and Tafri (2014) studied the impact of financial risks on Islamic banks' profitability and the result concluded that inflation rates and bank size have insignificant positive impact on the profits of Islamic banks. Moreover, the negative relationship between GDP growth rates and profitability don't seem to have significant impact.

Moreover, Rajbahaket al. (2020) revealed that positive influence of firm's age and firm's size on return on assets but negative influence of firm's age and firm's size on return on equity. Dahalet al. (2015) found gross domestic product growth rate and inflation have positive impact on the return on assets but negative impact on return on equity. Liquidity and firm's size are negatively related with return on assets whereas gross domestic product growth rate and inflation rate are positively related with return on assets (Maharjan *et al.*, 2015).

Bariyaet al. (2020) revealed positive impact of return on assets on financial leverage, asset quality and liquidity ratio which indicates that increase in financial leverage, assets quality and liquidity ratio leads to increase in profitability. Bam et al. (2015) found that among the various explanatory variables debt to total assets has significant and positive impact on profitability of Nepalese commercial banks. Pradhan and Shrestha (2015) revealed that liquidity has negative impact on the financial performance of firm. However, size has positive impact on financial performance of firm. Karki (2015) found that liquidity ratio is positively related with return on equity. Liquidity, gross domestic product and inflation rate are positively related with return on assets and return on equity (Ralet al., 2015).

Poudel (2020) concluded that credit risk has a negative relationship with bank profitability and performance. The study further revealed that non-performing ratio has negative effect on bank profitability whereas cost per loan assets has positive effect on bank profitability.

In addition to credit risk indicators, bank size has positive effect on bank profitability. Bhattarai (2014) found that there is negative effect of non-performing assets on bank performance and the positive effect of cost per loan assets on bank performance. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans and the health and profitability of bank borrowers (Baral, 2005).

In the context of Nepal, Manandhar et al. (2021) found that inflation and gross domestic product were positively related to bank profitability in terms of return on assets and return on equity. Neupane (2013) found positive relationship between capital adequacy and profitability. Lower asset quality or non-performing loans reaching substantial amount may lead to bank bankruptcies and economic slowdown (Adhikary, 2006)

The above discussion shows that the studies dealing with determinants of Profitability of Nepalese commercial banks have greater significance. Though there are various findings as discussed above in the context of different countries, no many findings using more recent data exist in the context of Nepal. Hence, this study attempts to analyze the determinants of profitability of Nepalese commercial banks.

1.2 Statement of Problem

Banks are the financial intermediaries that channelize the funds between fund suppliers and the fund demanders. For fund suppliers, depositors, they pay interest and for fund demanders, they charge interest. Banks nowadays not only involve in credit creation and generate interest income but also do involve in other fee generating activities like: bank guarantee, remittance, foreign exchanges, insurance agencies and so on. Lending to different industries and engaging in multiple business activities, banks can acquire better-quality information about clients and achieve more efficient capital allocation (Diamond, 1984).

Athanasoglou et al. (2006) examined the profitability behavior of bank-specific, industry related and macroeconomic determinants, the result revealed that concentration is

positively correlated with bank profitability. With respect to the macroeconomic variables, inflation has a strong effect on profitability, while bank profits are not significantly affected by real GDP per capita fluctuations, probably owing to the small sample period. Flamini et al. (2009) found that apart from credit risk, higher returns on assets are associated with larger bank size, activity diversification, and private ownership. Bank returns are affected by macroeconomic variables. Non-performing loans have non-linear negative effect on banks' lending behavior (Dash & Kabra, 2010). Economic activity, which is measured by the growth rate or cyclical component of GSP, is believed to influence bank profitability positively (Trujillo, 2013). De Jonghe (2010) found a negative relationship between income diversification and bank stability.

Baele et al. (2007) investigated whether income diversification could lead to a better performance/risk profile in European banks over the period of 1989 – 2004 and found a positive relationship between income diversification and the market's anticipation on future bank profits. Elsas et al. (2010) investigated effects of income diversification on both bank performance and market value by using a panel data of nine countries over 1996 to 2008 and concluded that income diversification could improve bank profitability and market value. Sanya and Wolfe (2011) analyzed income diversification of banks in emerging countries which revealed that income diversification had a positive effect on risk-adjusted performance of emerging market banks.

Dietrich and Wanzenried (2011) found a negative correlation between profitability and bank size and the core reason of negative relationship is that large banks faced considerable losses due to several irrecoverable loans. According to Saeed (2014) regression and correlation analyses performed on the data concluded that bank size has positive impact on ROA and ROE while GDP and inflation rate have negative impact. Liu and Wilson (2010) studied the determinants of profitability of banks with different ownership structures in Japan and found that GDP growth (real) increased competition among banks and might result in decrease in profits. Bennaceur and Goaid (2008) examined the impact of bank specific variables and macroeconomic indicators and financial structure's effect on

banking sector's profitability in Tunisia and found that there was no impact of macroeconomic indicators on bank's profitability in Tunisia.

Iwanicz-Drozdowska and Witkowski (2016) observed a positive impact for GDP, size of the bank and inflation on ROE of G-SIBs in Central, Eastern and South-Eastern Europe. Banks operating in competitive environment are more stable as they diversify their portfolios that results into enhanced performance and risk adjusted returns for the banks (Amidu & Wolfe, 2013). Chiorazzo et al. (2008) revealed that income diversification increases risk-adjusted returns of Italian banks and this relationship is stronger at larger banks. Muneeret al. (2016) found the positive impact of income diversification on performance of commercial banks whereas income diversification is not significantly affecting the performance of Islamic banks in Pakistan. Ibrahimov (2016) showed that bank size and bank capital both had a positive influence on the return on assets. Nuriyeva (2014) found a positive impact of bank size on its profitability for transition economies including Azerbaijan.

Alshubiri (2017) showed that bank size, income diversity and GDP have negative relationship with Profitability whereas inflation has positive relationship with Profitability. Ongore and Kusa (2013) used CAMEL model and found that bank profitability in Kenya is significantly related to asset quality. Almunani (2014) found that the ROA and ROE have a negative relationship with total assets and operating expenses during the period of 2007-2011. However, there is a positive relationship between operating income with ROA and ROE. Saif-Alyousfiet al. (2017) found that bank size has a negative and significant effect on ROA, ROE, and NIM whereas operational efficiency measured by total operating expenses to total income, has a positive association with ROA, ROE, and NIM.

Pilloff and Rhoades (2019) stated the positive relationship of the size with bank's profitability. The bank-size also affected by the operating efficiency. Molyneux and Seth (1998) found the positive relationship between bank size and profitability. Sufian (2019) found the positive relationship of banks size and examine the bank size depends the economies of scale because the larger banks were more profitable than smaller banks.

Whereas the empirical evidence also discusses the negative relationship of bank size with profitability (Kosmidou, 2008). Olson and Zoubi (2011) compared accounting profitability measures with the economic determinants in the ten countries of Middle East and Mena during the period of 2000 to 2008 and concluded that bank size had positive impact on the bank's profitability.

Kunt and Detragiache (2019) stated that the weak macroeconomic environment became a reason of low economic growth and high inflation which show the economic immovability and diseconomies of scale. The economic growth and consumer price inflation are positively related to profitability (Alexiou and Sofoklis, 2009). Alperand Anbar (2011) examined the bank specific and macroeconomic determinants of the bank's profitability in Turkey and showed that asset size and non-interest income has a positive and significant effect on bank profitability. Shaheret al. (2011) evaluated the major factors that affect the commercial banks' performance in the Middle East region and revealed that the first factor (banks' characteristics) is considered the most important factor to banks' performance.

Bank expenses are also a very important determinant of profitability, closely related to the notion of efficient management. There has been an extensive literature based on the idea that an expenses-related variable should be included in a profit function. Athanasoglouet al. (2008) found that the effect of bank size on profitability is not important while operating expenses are negatively and strongly linked to it and macroeconomic control variables, such as inflation and cyclical output, clearly affect the performance of the banking sector. Ramlawll (2009) stated the positive relationship of operating efficiency and negative relationship of credit risk.

In the Nepalese context, the financial performance of different ownership structured commercial banks in Nepal based on their financial characteristics. Rajbahaket *al.* (2016) further found that there is no relationship between foreign ownership and z-index, Profitability, indicating that foreign ownership does not have any impact of z-index. However, there is positive relationship between HHI loan and z-index indicating that higher the HHI loan, higher would be the Profitability. Parajuli (2016) examined the

factors affecting the profitability of domestic and foreign commercial banks of Nepal. The study revealed that bank size is positively correlated with foreign banks return assets, return on equity and net interest margin whereas there is no significant relationship with domestic commercial banks profitability.

This study investigates the determinants of profitability of Nepalese commercial banks by using individual bank data from 2015/16 to 2019/20. This study contributes to the literature by examining strictly regulated Nepalese commercial banking sector, a new dataset. This relationship has not been well examined for Nepalese commercial banks. By looking at the link between independent variables and profitability of Nepalese commercial banks, this study aims to fill this gap in the literature. Though there are above mentioned empirical evidences in the context of other countries and in Nepal, there is no enough evidence about the determinants of profitability using the most recent data. Therefore, this study deals with the following issues: The study deals with following issues:

- a) What are the prevailing financial performance of sample listed companies?
- b) What is the relationship between GDP, inflation, deposits, total assets and bank size on Profitability of Nepalese commercial banks?
- c) What is the impacts of GDP, inflation, deposits, total assets and bank size on Profitability of Nepalese commercial banks?

1.3 Objective of the Study

The major objective of the study is to examine the determinants of profitability of Nepalese commercial banks.

Besides, following are the specific objectives of the study:

- a) To examine the structure and pattern of Profitability in relation with GDP, inflation, deposits, total assets and bank size of sample Nepalese commercial banks.
- b) To analysis the relationship between of GDP, inflation, deposits, total assets and bank size on Profitability of Nepalese commercial banks.
- c) To evaluate the impacts of GDP, inflation, deposits, total assets and bank size on Profitability of Nepalese commercial banks.

1.4 Significance of the Study

Banks can increase shareholders' value by shifting their focus from traditional income sources to non-interest income sources. Banks need an appropriate combination of interest and non-interest income to reduce risk in banking operations (Gurbuzet al., 2013). Meslieret *al.* (2014) analyzed the impact of bank income diversification on the performance of banks in emerging economies. The results showed that, contrary to studies on Western economies, opting for non interest-activities activities increases profits of banks and risk-adjusted returns. Delpachitra and Lester (2013) investigated the effect of non-interest income and revenue diversification on performance of Australian banks and found that non-interest income and revenue diversification negatively affect the profitability.

Banks are the most important financial intermediaries in the most economics that provide a bundle of different services. Banks are the financial intermediaries that pool scattered money through its various deposit schemes and invest it in various sectors of the economy. As financial intermediaries, banks play a crucial role in the operation of most economies. Commercial banks are key providers of funds and their stability is of paramount importance to the financial system. As such, an understanding of determinants of their performance and the drivers of banks performance for that matter is essential and crucial to the stability of the economy.

In the Nepalese financial system, commercial banks are the most mobilize of the financial resources. They have all persistent roles in the growth of a developing country like Nepal. The role of banks in accelerating the economic development of a country like Nepal has been ever more recognized. They are specially called upon to use their resources to attain social up liftment and fast economic development. The study attempts to examine the condition of stability and their determinants in Nepalese commercial banks. Many parties would benefit from the results of this study. Thus, the study findings are important to the commercial banks management team, banking regulators, investors and different stakeholders.

Administration interested in identifying indicators of success and failure to take the necessary actions to improve the performance of the company and choose the right

decisions. Government interested in knowing which companies operate successfully or failed to take the necessary measures to avoid crises of the bankruptcy in these companies. Investors interested in such studies in order to protect their investment and directing it to the best investment. Customers interested in knowing the ability of commercial banks to pay their obligations based on the indicators of success of the companies.

The study 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 commercial banks stability in Nepal. This study is expected to help those bankers who will get information to improve the stability of the Nepalese commercial banks.

The study provides valuable insights for the academic research, bank supervision, regulation, and management decisions by providing a tool to monitor and assess banking stability. It also fills the gap in the existing literature regarding the stability of commercial banks. Moreover, it used as a reference for those who want to do their thesis on the banking area. Finally, the profits are of great interest to the several outsiders. They are customers, financial agencies, stock brokers, interested person and scholars. It is believed that except those, other banks will be benefited with this study.

1.5 Limitations of the Study

Nepalese economy is developing and banking sector is also in infancy stage. The economic and financial institutions related policies, acts and laws are in the process of development and reformation during the process. All these do have significant stake in the banking sectors revenue generation process either through traditional banking activities or modern banking practices. Determinants of Profitability of commercial banks is a one of the debatable topics to research on which is tried by this study in Nepalese context. Every study has limitations due to different factors of institutions, study period, reliability of statistical data, tools, techniques and variances. Following are the major limitations of this study:

- The study is only focused on ‘A’ class commercial banks. However, this study has not considered development banks, finance companies, insurance companies and other non-financial companies.
- This study is based only in the secondary data analysis. The data collection conducting primary survey has not been taken into consideration. Hence, the result of the study is not broad and flexible. It is limited to the data available in the annual reports of the sample banks and financial reports published by Nepal Rastra Bank.
- There are all together 27 commercial banks operating in the country, but the study does not cover all the commercial banks. Only 5 commercial banks are considered for the study purpose.
- The findings of this study could not be generalized to manufacturing and trading enterprises because the study is only based on the banking sector.
- No attempts are made to examine the reliability of the available secondary data since they are officially released by the related banks and Nepal Rastra Bank. Thus, the consistency of finding and conclusions are dependent upon the secondary data and information.
- This study has taken only few independent variables. Other variables like competition, financial literacy, customer relationship etc. can also be taken for the study.

1.6 Research Gap

The various researches have been conducted on determinants of profitability of commercial banks, following are the

- Only five banks are taken as sample from total twenty-seven banks
- The data cannot be generalized due to differences in individual and changing data due to various external and internal factors
- All the collected data are secondary
- Other macro-economic factors such as interest rate, financial leverage were not measured
- Other determinants of profitability such as capital, shareholder’s equity, loan, branches etc were not analyzed.

1.7 Organization of the Study

This study has been organized into five chapters. The titles of these chapters are as follows. The first chapter deals with the introduction that includes the statement of the problems, objectives of the study and significance of the study. Second chapter is the review of literature deals with conceptual framework of the factors affecting net profit. In this part research history of net income will present in brief. Review of major studies will be also presented. The third chapter provides research methods, data collection techniques, the reason of the site selection and data analysis tools. The fourth chapter contains the interpretation and analysis of the data and finally chapter five includes the summary, conclusion and recommendation of the study.

CHAPTER TWO

REVIEW OF LITERATURE

This section discusses some empirical and theoretical literature on the determinants of Profitability of Nepalese commercial banks and presents the conceptual framework of the study. It is divided into four sections. First section consists of theoretical framework which gives an in-depth review of related studies in the context of both developed and emerging countries. Second section presents review of related studies in the context of Nepal. Third section presents a theoretical framework of the study. Finally, the fourth section presents concluding remarks on the conceptual and empirical review. This chapter gives the clear understanding about the related literature that has been carried out previously in the context of both the developed and underdeveloped countries. The theoretical framework shows the dependent and independent variables with their relations. The entire study relies on the theoretical framework. Finally, this chapter includes the concluding remarks indicating the research gap after review of the literature.

2.1 Conceptual Review

Staikouras and Wood (2004) reviewed the literature on bank performance studies and classified the bank profitability determinants. The second part of the paper quantified how internal determinants (“within effects” changes) and external factors (“dynamic reallocation” effects) contribute to the performance of the EU banking industry as a whole in 1994-1998. The study used OLS and fixed effects models, and the results provide a new perspective for understanding the impact of changes in competition on the performance of the EU banking industry. The estimation results suggested that the profitability of European banks is influenced not only by factors related to their management decisions but also to changes in the external macroeconomic environment. The results are in contrast to studies that have examined the structure-performance relationship for European banking and find a positive effect of the concentration and/or market share variables on bank profitability. Finally, the GDP growth is significant and negative in the case of commercial and savings banks, and the GPI growth is significant and positive for co-operative banks.

Kosmidouetal. (2005) investigated the impact of bank-specific characteristics, macroeconomic conditions and financial market structure on UK owned commercial banks' profits, during the period 1995-2002. The result showed that the capital strength of these banks has a positive and dominant influence on their profitability, the other significant factors being efficiency in expenses management and bank size. These bank-specific determinants are robust to the inclusion of additional macroeconomic and financial market measures of bank performance, which add little to the explanatory power but nevertheless appear to have positively influenced profitability. The impact of asset quality is not clear-cut, being positive and significant on NIM (suggesting that higher risks result in higher margins) but negative and insignificant on ROA.

Sufian and Habibullah (2009) used an unbalanced bank level panel data and analyzed the performance of 37 Bangladeshi commercial banks between 1997 and 2004. The macroeconomic variables were retrieved from IMF Financial Statistics (IFS) database. The total number of commercial banks operating in Bangladesh varied from 21 banks in 1997 and 1998, 30 banks in 1999, 33 banks in 2000, 35 banks in 2001, 2002, and 2003, and 34 banks in 2004. The empirical findings of this study suggested that bank specific characteristics, in particular loans intensity, credit risk, and cost have positive and significant impacts on bank performance, while non-interest income exhibits negative relationship with bank profitability. During the period under study the results suggested that the impact of size is not uniform across the various measures employed. The empirical findings suggested that size has negative impact on return on average equity, while the opposite is true for return on average assets and net interest margin. As for the impact of macroeconomic indicators, the variables have no significant impact on bank profitability, except for inflation, which has negative relationship with Bangladeshi banks profitability.

Naceur and Omran (2011) examined the influence of bank regulation, concentration, and financial and institutional development on commercial bank margins and profitability across a broad selection of Middle East and North Africa (MENA) countries. The empirical results suggested that bank-specific characteristics, in particular bank capitalization and credit risk, have a positive and significant impact on banks' net interest margin, cost

efficiency, and profitability. Also, the result found that macroeconomic and financial development indicators have no significant impact on net interest margins, except for inflation. Regulatory and institutional variables seem to have an impact on bank performance.

Dawood (2014) evaluated the factors that impact on the profitability of the commercial banks in Pakistan. There are internal and external factors that affect the profitability of commercial banks of any country. Internal factors or management factors include the management policies, capital ratios, Risk management etc and external factors include inflation, government policies etc. The study used 23 commercial banks operating in Pakistan for the period of 2009 to 2012. This study used the ordinary least square (OLS) method to look into the impact of cost efficiency, liquidity, capital adequacy, deposits and size of the bank on the profitability (ROA) of the commercial banks. The study used the Descriptive statistics that include mean, median, minimum, maximum and standard deviation. Other method includes correlation analysis, regression analysis and natural logarithm of total assets technique. The empirical findings of study is that cost efficiency, liquidity and capital adequacy are those variables in the check of management that decide the profitability of commercial banks operating in Pakistan. Other variables like deposits and size of the bank did not demonstrate any impact on profitability.

Raharjo et al. (2014) studied on the commercial banks in Indonesia to analyze the effect of internal and external factors on net interest margin of the banks. The study applied fixed effects on a panel data regression model to a panel of Indonesian commercial banks that covers the period 2008 – 2012 by using a sample of 30 commercial banks. This study used secondary data from published financial statements quarterly and annual reports of commercial banks as well as using other data from Bank Indonesia, such as the Indonesian Banking Statistics, Indonesian Profitability Review and inflation rate. The internal factors of the study were asset growth, return on asset, operating cost to operating income, capital adequacy ratio, statutory reserves, loan to deposit, market share of loan and nonperforming loans while inflation rate of the economy and guaranteed interest rate were the main

external influential factors. The correlation results showed that asset growth, ROA, loan to deposit had positive impact but operating cost to operating income, capital adequacy ratio, reserve and non-performing loans had negative impact on NIM.

Kedia (2016) analyzed the determinants of profitability of Indian Public Sector Banks which reveals four independent variables that affect the net profit: non-performing assets, credit deposit ratio, net interest income and operating expenses. The study used the multiple regression models for its analysis and found out that, only two of these independent variables i.e. Credit-deposit ratio and net interest income affect the net profitability of Indian public sector banks in a major way. The time period of the study was from 2006 to 2013 i.e. 8 years, the data were collected from the public sector banks. Multiple regression models were used for analysis and findings. The findings concluded that net profits of public sector banks have significantly correlation with net interest income, non-performing assets, credit-deposit ratio and operating expenses. Credit deposit ratio has the largest effect on net profits and operating expenses having the least impact on net profits.

2.2 Empirical Review

Olweny and Shipho (2011) determined and evaluated the effects of bank-specific factors; Capital adequacy, Asset quality, liquidity, operational cost efficiency and income diversification on the profitability of commercial banks in Kenya. The second objective was to determine and evaluate the effects of market structure factors; foreign ownership and market concentration, on the profitability of commercial banks in Kenya. This study adopted an explanatory approach by using panel data research design to fulfill the above objectives. Annual financial statements of 38 Kenyan commercial banks from 2002 to 2008 were obtained from the commercial banks and Banking Survey 2009. The data was analyzed using multiple linear regressions method. The analysis showed that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact. Based on the findings the study recommended policies that would encourage revenue diversification reduce operational costs, minimize

credit risk and encourage banks to minimize their liquidity holdings. Further research on factors influencing the liquidity of commercial banks in the country could add value to the profitability of banks and academic literature. Asset quality showed a negative effect in profitability. This means local banks need to improve their processes of screening credit customers and monitoring of credit risk especially the small and medium sector as the descriptive analysis showed that small and medium banks have a poor loan book compared to large banks. This is an important indicator because local banks have had serious problems with non-performing in the past which led to the collapse of many banks.

Ramadan et al. (2011) investigated the nature of the relationship between the profitability of banks and the characteristics of internal and external factors. 100 observations of 10 banks over the period 2001-2010 were comprised. Two measures of bank's profitability have been utilized: the rate of return on assets (ROA) and the rate of return on equity (ROE). A balanced panel data set of Jordanian banks was used. Results showed that the Jordanian bank's characteristics explain a significant part of the variation in bank profitability. High Jordanian bank profitability tends to be associated with well-capitalized banks, high lending activities, low credit risk, and the efficiency of cost management. Results also showed that the estimated effect of size did not support the significant scale economies for Jordanian banks. Finally, the estimation results indicated that individual effects on the profitability are present; this is concluded due to the fact that some of the differential slope coefficients are statistically significant. The results showed that inflation has a positive insignificant impact on return on assets and return on equity. This may suggest that due to the inability of banks to accurately predict the levels of inflation, the banks lose the opportunity to benefit from an inflationary environment to increase profits, and that banks have not benefited from economic growth and additional business opportunities to increase profitability.

Anbar and Alper (2013) analyzed the bank-specific and macroeconomic determinants of the bank's profitability in Turkey over the time period from 2002 to 2010. The bank profitability is measured by return on assets (ROA) and return on equity (ROE) as a function of bank-specific and macroeconomic determinants. Using a balanced panel data set, the results showed that asset size and non-interest income have a positive and

significant effect on bank profitability. However, size of credit portfolio and loans under follow-up have a negative and significant impact on bank profitability. With regard to macroeconomic variables, only the real interest rate affects the performance of banks positively. These results suggested that banks can improve their profitability through increasing bank size and non-interest income, decreasing credit/asset ratio. In addition, higher real interest rate can lead to higher bank profitability. The study concluded that bank size has a positive and significant effect on profitability. It suggested that larger banks achieve a higher ROA and ROE. Also, the positive and significant coefficients of bank size variable provide evidence for the economies of scale theory.

Kanwal and Nadeem (2013) investigated the impact of macroeconomic variables on profitability of public limited commercial banks in Pakistan for years 2001- 2011. Pooled Ordinary Least Square method is used to examine the effect of 3 major external factors; inflation rate, real gross domestic product (GDP) and real interest rate on profitability indicators; return on assets (ROA), return on equity (ROE) and equity multiplier (EM) ratios in 3 separate models.

Sastroswito and Suzuki (2014) analyzed the determinants of post crisis Indonesian banking system profitability, covering the period 2001-2008. Panel data are employed in the empirical estimation, and a fixed cross-sectional effect is estimated so as to capture unobserved idiosyncratic effects of different banks. The effect of bank-specific, industry-specific and macroeconomic determinants is examined. The estimation results showed that expenses management, capitalization, and loan intensity significantly affect bank performance. Hence, the evidence of the structure conduct-performance hypothesis, indicated by a positive and significant effect of industrial concentration on profitability. Furthermore, the evidence of the impact of macroeconomic environment cannot be confirmed due to insignificant result. The estimation results indicated that, with the exception of bank size, all bank-specific variables significantly affect profitability in the anticipated way. Expenses management has a negative and significant impact on profitability, while capitalization and loan intensity have a positive and significant impact

on profitability. In addition, the impact of bank size on profitability is not confirmed due to the insignificant result.

Zeitun (2014) investigated some influential factors (foreign ownership, banks-specific variables, and macroeconomic factors) on Islamic and conventional banks in Gulf Cooperation Council countries, during the period 2002- 2009, using a cross-sectional time-series (panel data). Two samples were used in this study. The first sample contains 38 conventional banks. The second sample contains 13 Islamic banks. The results showed that bank's equity is important in explaining and increasing conventional banks profitability only. The cost-to-income had a negative and significant impact on Islamic and conventional banks performance. Additionally, the estimated effect of size provides evidence of economies of scale in Islamic banking using the ROE, while it is not significant for conventional banks. Foreign ownership, however, does not improve Islamic and conventional banks performance. Furthermore, bank's age and banking development have no effect on bank performance. Finally, GDP is positively correlated to bank's profitability, while inflation is negatively correlated to bank's profitability.

Alkhatib and Harasheh(2015)investigated the financial performance of five Palestinian commercial banks listed on Palestine securities exchange. In this paper, Financial performance has been measured by using three indicators; Internal-based performance measured by Return on Assets, Market-based performance measured by Tobin's Q model (Price/Book value of Equity) and Economic-based performance measured by Economic Value add. The study employed the correlation and multiple regression analysis of annual time series data from 2005-2010 to capture the impact of bank size, credit risk, operational efficiency and asset management on financial performance measured by the three indicators, and to create a good-fit regression model to predict the future financial performance of these banks. The study rejected the hypothesis claiming that "there exist statistically insignificant impact of bank size, credit risk, operational efficiency and asset management on financial performance of Palestinian commercial banks". The study concluded that there is a strong positive correlation with the bank size.

Akinlo, and Asaolu (2016) examined the profit profile of firms in Nigeria and analyzed the impact of leverage on profitability for the period 1999-2007. The study analyzed secondary

data on 66 purposively selected non-financial firms, obtained from the firm's Annual reports and Accounts and the Nigerian Stock Exchange Fact book over the study period. The data were analyzed using chi-square, pooled ordinary Least Squares (OLS), fixed and random effects frameworks. The results show that aggregate profit level for the firms decreased by 0.02 percent yearly over the study period. However, when disaggregated into sectors, a few firms actually experienced an increased profit level. The results showed that firm size has a significant positive effect on profitability, while leverage has negative effect. The paper suggests that expansion, increased sales and low debt ratios enhance firm profitability. Firms will be able to enjoy large profit levels if they can increase in size and sales with a large reduction in debt ratio. This paper does not distinguish between short-term and long-term debt ratios and does not distinguished between small and large firms.

Khanal (2016) determined the factors affecting the performance of the selected commercial banks in Nepal. The study was based on the secondary data that have been collected from Banking and Financial Statistics and Bank Supervision Report published by Nepal Rastra Bank and Annual Reports of the selected 15 commercial banks from fiscal year 2009 to fiscal year 2015 leading to a total of 105 observations. The study concluded that capital adequacy, liquidity management, gross domestic product, inflation, size and assets quality have positive impact on net interest margin. Also, size and asset quality have positive impact on return on assets whereas capital adequacy has negative impact on return on assets.

Roman and Danuletiu (2016) investigated the factors that have an influence upon the profitability of Romanian commercial banks, between 2003 and 2011. The bank specific data that were used in study were obtained from the unconsolidated financial and annual reports of the banks from sample and from the Bureau Van Dijk Bank scope database. The data regarding the macroeconomic variables were obtained from the annual bulletins of the National Bank of Romania and the data regarding the industry-specific variables were obtained from the World Bank. The results of study showed that Romanian banks' profitability is influenced by both bank-specific factors and changes in the external environment. In the case of bank-specific factors, the results of study reflected that bank

profitability is significantly influenced by asset quality, management quality and banking liquidity. Among external factors, it turns out that banking concentration and economic growth rate have an important impact on bank profitability. The GDP variable is an important determinant of the profitability, in both equations, indicates a positive rapport with the banking profitability.

Almazari (2017) investigated the internal factors affecting profitability of banks. The main objective was to compare the profitability of the Saudi and Jordanian banks by using the internal factors for estimations. The necessary data was collected from secondary sources. A sample of twenty-three Saudi and Jordanian banks was considered with 161 observations for the period 2005-2011. Financial ratios were calculated and statistical tools including Pearson's correlation, descriptive analysis of variance and regression analysis were utilized in testing the hypotheses and to measure the differences and similarities between the sample banks according to their different characteristics. The relationship between profitability and bank size is negative in both models. This result gives support to the recent papers that mention the diseconomies of scale that exist from a level of size upwards. Growing banks may face diminishing marginal returns so average profits would decline with size. Information advantage and the enforcement power gain from size are insignificant for large banks.

Pokharel (2017) examined explanatory power of firm specific and macroeconomic variables on the performance of insurance companies in the context of Nepalese insurance companies. The study is based on the secondary data of 16 insurance companies for the period of 2007/08 to 2016/17 with a total of 128 observations. The main source of data includes statistics report of Insurance Board of Nepal, annual reports of selected Nepalese insurance companies and data bank of World Bank. The pooled cross-sectional data analysis has been undertaken in the study. The research design adopted in this study is descriptive and casual comparative research design. The study revealed that age, size, liquidity, leverage, tangibility and gross domestic product have positive impact on performance of Nepalese insurance companies whereas inflation has negative impact on performance of Nepalese insurance companies.

Abata(2017) examined and evaluated banks asset quality and performance in Nigeria using secondary data obtained from the annual reports and accounts of the six largest banks listed on the Nigeria Stock Exchange based on market capitalization with a sample interval of fifteen-year period from 1999 to 2013.The study aimed at ensuring Profitability as the industry experienced severe loan problems and unexpected losses in the past with different loan severity due to divergent banks' financial strategies. The study adopted the use of ratios as a measure of bank performance and asset quality since it is a verifiable means for gauging the firms' level of activities while the data were analyzed using the Pearson correlation and regression tool of the SPSS 17.0 The findings revealed that asset quality had a statistically relationship and influence on bank performance. The study showed that there is a significant relationship between bank performance (in terms of profitability) and asset quality (in terms of loan performance). Loans and advances, loan loss provisions and nonperforming loans are major variables in determining asset quality of a bank. These risk items are important in determining the profitability of banks in Nigeria.

Boadi et al. (2018) analyzed bank specific, macroeconomic and some risk determinants of bank profitability of rural and community banks in Ghana. Fixed effect panel regression analysis is applied on 114 RCBs annual financial reports during the period 2005-2013. The results generally suggested that capital adequacy, asset quality, liquidity management, investment, gross domestic product growth rate, inflation, funding risk and bank resilience risk are significant determinants of RCBs profitability though with varying degrees. Whereas management efficiency, and bank size cannot be considered as positive contributors to RCBs profitability. The study also indicated that continuous profitability performance of RCBs can curtail shortfall in funding risk and enhance RCBs stability. This implies that as RCBs loans and advances increases; their profitability equally increases due to an increase in interest income and those non-performing loans decreases.

Abugamea (2018) examined the impact of bank-specific and major macroeconomic factors on the profitability of banking sector of Palestine by using the aggregate bank balance sheet data over the time period 1995-2015. The study employed the Ordinary Least Square method to investigate the effect of bank's asset size, capital, loans, deposits, economic

growth and inflation on key bank profitability indicators, i.e., return on assets (ROA), return on equity (ROE) and net interest margin (NIM), separately. The main findings showed that size has positive impact on ROE. Capital is positively related to ROA. Loans are positively correlated with both ROA and ROE. Deposits are negatively related to both ROA and ROE. Also, it is found that neither internal nor external factors have significant impact on NIM, despite the fact that overall internal and external factors have a significant effect as denoted by F-statistics value. Moreover, banking sector has not benefited significantly from both the inflationary environment and economic growth. There is insignificant negative impact of inflation on ROA and ROE.

Marahatta et al. (2018) examined determinants of bank's performance in Nepalese commercial banks. The return on assets, return on equity and net interest margin were selected as dependent variables while bank specific variables like capital adequacy, asset quality, liquidity management, bank size and macroeconomic variables like GDP growth rate and inflation were chosen as independent variables. The data were collected from various published sources like company profiles, economic surveys, annual reports of SEBON, and annual reports of NEPSE, supervision reports of NRB and annual reports of commercial banks. The study is based on the secondary data which were gathered from 15 banks in Nepal. The pooled crosses-sectional data analysis has been undertaken in this study. The data were collected for the period of 2008-2014. The multiple regression models were estimated to test the effect of bank specific variables and macroeconomic variables on bank's performance. The study showed that higher the quality of assets, bank size, and GDP growth of a nation and liquidity of a bank higher would be the return on assets. However, beta coefficient is statistically significant for asset quality only at 1 percent level of significance which signifies that assets quality is strong determinant of ROA. When GDP growth rate, inflation of a country and bank size increases, return on equity increase. ROE also decrease when capital adequacy, asset quality and liquidity increases. It has been observed that bank size is strong determinant of ROE. Thus, asset quality and bank size are the most important factors in determining the performance of commercial banks.

Khanal (2018) analyzed the factors affecting the profitability and stock return of Nepalese commercial banks with respect to bank specific and macroeconomic variables and to make recommendations for management decision making and policy objectives. The study is based on secondary data of 14 commercial banks with 182 observations for the period of 2002/03 to 2016/17. The main source of data includes various issues of banking and financial Statistics, quarterly economic bulletin, bank supervision report published by Nepal Rastra Bank and annual reports of selected commercial banks. The pooled cross-sectional data analysis has been undertaken in the study. The study concluded that dividend per share, capital adequacy ratio, gross domestic product, inflation and firm size have significant and positive impact on return on assets whereas non-performing loans has negative but significant impact on return on assets. The study found that nonperforming loan has negative and significant impact on return on equity. But firm size, gross domestic product and inflation have positive impact on return on equity. Likewise, firm size, capital adequacy ratio, dividend per share and gross domestic product have positive impact on stock return whereas inflation and non-performing loan have negative impact on stock return.

Rahman et al. (2018) examined the impact of bank size on bank regulatory capital ratios and risk-taking behavior using a panel dataset of 30 Bangladeshi commercial banks over the period 2008-2012. The relationship between bank regulatory capital ratios and bank risk taking is also examined. For empirical analysis, generalized methods of moment's panel method were used to explore the relationships among bank size, regulatory capital ratios and risk-taking behavior. The empirical results also showed that bank size has a significant negative relationship with bank capital, while significant positive relationship with bank risk taking. These results imply that larger banks hold lower amount of capital and take higher levels of risk. These findings suggested that special attention should be paid to large banks to increase their capital ratios and to decrease their risk-taking. To make banks safe, larger banks should have loss absorbing capacity beyond the minimum standards. This can be done by requiring larger banks to hold a buffer capital in addition to minimum capital requirements.

Sharma and Anand (2018) examined the impact of income diversification on bank performance in BRICS countries as a structural response to concentration risk. To understand the role of firm-specific characteristics on effectiveness of diversification, the study examined this relationship across asset sizes. An unbalanced panel data set of 169 BRICS banks is sampled over the period 2001–2015. Fixed effect models and system generalized method of moments techniques are used to test the relationship between diversification and bank performance using alternate measures. Results indicated a positive relationship between diversification and performance measured in terms of bank risk and returns for medium and large size banks. However, for small banks this relationship is negative suggesting a diversification discount.

Çınar et al. (2018) empirically analyzed the effects of product (loan), sector and income diversification strategies on the performances and risks of Turkish commercial banks over the period 2005-2016, in which 2008-2009 treated as a crisis period. Profitability is measured by Return on Assets ratio and natural logarithm of Non-Performing loans is used as a proxy of risk. The study evaluated the different dimensions of diversification and using the Entropy methodology to distinguish the total diversification into related and unrelated components. Diversification is captured in three broadly defined dimensions: incomes, products and sectors. Then, associate all dimensions of diversification with bank profitability and risk measures, across banks and in years, via panel data analyses. In this way, the paper aimed to provide recent evidence for Turkish banking sector's diversification strategies and their outcomes. The findings indicated that, to be especially dominant on the within groups, income and product (loan) diversification increase return on assets while decreasing loan losses; sectorial diversification decreases profits, but increases risk. The main hypothesis of the paper was the banks that have a higher degree of loan and/or income diversification are the ones that have higher performance, i.e. they are more profitable and less risky because they benefitted from some of the measures (or types/components) of diversification.

Trofimov et al. (2018) examined the relationship between non-performing loans (NPLs) and commercial banks' performance in Malaysia. It considered the effect of NPLs, cost

efficiency and bank size on commercial banks' profitability by using panel data regression (Pooled OLS model), covering the period of 2010-2015. Eight Malaysian commercial banks (all listed on Malaysian stock exchange, Bursa Malaysia) have been chosen for this study. The data for returns on equity, which is adopted as a measure of bank's profitability, has been obtained from the Thomson Reuters Data stream. The data for NPL, cost efficiency measure, and bank size measure have been collected from the annual reports of respective banks. The findings of the study showed that NPLs and cost efficiency have a significant negative relationship with commercial banks' performance in Malaysia. On the other hand, bank size is found to have a significant positive relation with commercial banks' performances in Malaysia. Several policy and strategic implications are outlined: the continuing need to manage credit risk, reduction of non-core lending activities, improvement of systems transparency, cost control, and more lenient competition and anti-trust policies.

Imbierowicz and Rauch (2018) investigated the relationship between the two major sources of bank default risk: liquidity risk and credit risk. The study used a sample of virtually all US commercial banks during the period 1998–2010 to analyze the relationship between these two risk sources on the bank institutional-level and how this relationship influences banks' probabilities of default (PD). The study used the data for a panel of 64 advanced and emerging market economies, this special feature investigates empirically the link between macro prudential policies and economic performance as measured by output volatility and growth over a five-year period. The study analyzed the coefficient of GDP growth has a negative effect on banking stability. This indicated that higher the GDP growth lower would be the banking stability. This helps reduce the risk of banking failure.

Bhattarai (2019) examined the effect of non-performing loan on the profitability of Nepalese commercial banks using pooled data of fourteen commercial banks with 77 observations during the period of 2010 to 2015. The estimated regression results revealed that non-performing loan ratio has negative effect on overall bank profitability (ROA) whereas; non-performing loan ratio has positive effect on shareholders' return (ROE). Moreover, the results showed that bank size has significant positive effect on bank

profitability (ROA, ROE). However, cost per loan has significant positive association only with overall bank profitability (ROA). Unlikely, gross domestic product growth rate has significant positive effect only on shareholders' return (ROE). Thus, this study concluded that profitability of Nepalese commercial banks is influenced by nonperforming loan ratio and other covariates like: bank size, cost per loan assets and gross domestic product growth rate.

Kapaya and Raphael (2019) analyzed the effects of bank-specific, industry-specific and macroeconomic determinants on banks profitability. It used a maximum of 350 firm-years, from 52 banks from 1998 to 2010 in Tanzania. Size was found to be positive in the static model except for NIM, and negative in dynamic model. When the size variable was squared to take care of non-linearity of the variable, it indicates negative and significant relationships to ROA. It is argued that firm size has a positive impact on profitability if larger firms benefit from economies of scope; exploit scale economies or access capital at lower costs than smaller firms. Few cost savings can be achieved by increasing the size of a banking firm, especially as markets develop. The effect of a growing bank's size on profitability may be positive up to a certain limit. Beyond this point the effect of size could be negative due to bureaucratic and other reasons. Hence, the size-profitability relationship may be expected to be non-linear.

Mehta and Bhavani (2020) determined important bank-specific, macroeconomic, and industry-specific variables that have affected UAE banks' profitability by analyzing balanced panel data for 2006 to 2013. Both Islamic and non-Islamic, domestic commercial banks were considered for the purposes of this study. This study puts into relief the determinants of the profitability of the domestic commercial banking sector of the UAE. The sample comprises 19 UAE domestic banks. The study examined internal variables (company-level indicators), which include size, liquidity, and capital adequacy, as well as external variables, which include macroeconomic and industry-specific variables. Panel data regression analysis was used for the analysis. Based on the empirical analysis, the cost efficiency, nontraditional revenue sources, and high asset quality are the most significant bank-specific variables and bank managers can use them to make future policy decisions.

The asset quality had significant negative impacts on all measures of profitability. This study adds to the body of knowledge by empirically highlighting the most recent and extensive panel data for the entire domestic banking sector of the UAE, undoubtedly one of the most important banking sectors in the Middle East.

Lamichhane (2020) analyzed the factors that affect corporate governance and influence on financial performance of Nepalese firms for the period of fiscal year 2009/10 to 2017/18 using descriptive and causal comparative research design. The profit margin and return on assets are dependent variables used to measure financial performance and corporate governance and firm related variables such as corporate governance index, age of firms, size of assets, debt ratio, market to book ratio and ownership concentration are considered as explanatory variables. The result of this paper revealed that profit margin and return on assets of firms are positively related with age, market to book ratio and overall corporate governance index which implies that higher age, market to book ratio and corporate governance increase financial performance of Nepalese firms. Further, the regression result of the study showed that size of assets and debt ratio have negative effect and ownership concentration has no relationship with firms' financial performance. Finally, result of this paper concluded that corporate governance, market to book value ratio, age, size of assets and debt ratio have strong explaining power of financial performance of Nepalese firms. The result of this paper has found size of assets and debt ratio has negative effect but ownership concentration has no relationship with financial performance. Finally, result of this study concluded that corporate governance, market to book value ratio, age, size of assets and debt ratio have strong explaining power of financial performance of Nepalese firms.

2.3 Conceptual Framework

The study has covered five commercial banks and latest five year's data have been analyzed with due consideration of GDP, inflation, deposits, total assets, bank size and loan. In order to assess the determinant of net profit of commercial banks, available information from concerned banks were reviewed and analyzed. Trend of net income has been forecasted

along with the Regression and correlation, assuming net profit as dependent variable and other of variable like GDP, inflation, deposits, total assets and bank size as independent variable. Accordingly, the schematic diagram has been developed as follows:

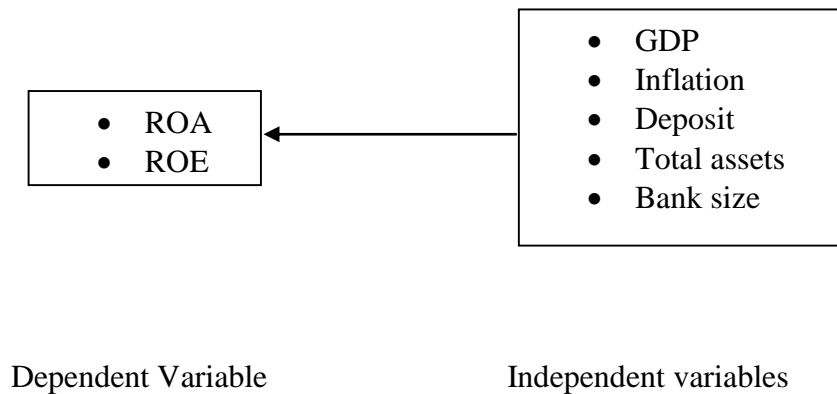


Figure 2.1 Graphical models to analyze effect of independent variables on ROE and ROA

2.4 Variable Definitions

a) Profitability

Profitability is a state in which the financial system is resistant to economic shocks and is fit to smoothly fulfill its basic functions: the intermediation of financial funds, management of risks and the arrangement of payments. Profitability is measured by the is widely used in banking literature as an indicator of banking stability (Berger et al., 2009) presents several advantages, but in the same time disadvantages. According to Čihák (2007), the main advantage of this measure is represented by the easily computation for a financial institution or corporation. On the other side, the main disadvantage of this method is represented by the fact that it does not catch the correlation between financial institutions (contagion relation).

b) Bank size

Bank size is usually used to examine the economies or diseconomies of scale in the banking sector. According to Boyd and Runkle et al. (1993), firm size is expected to promote economies of scale and reduce the cost of gathering and processing information. Performance is likely to increase in size, because larger firms will have better risk diversification, more economic scale advantage and overall better cost efficiency. It has been argued that the effect of a growing size on bank profitability is significantly positive to a large extent (Smirlock, 1985). Kwan and Eisenbeis (1997) suggest that the difference in profitability among large and small banks is due to production technologies and outputs, which vary across them due to size. Clarke et al. (1984) suggested that larger banks which assets are determined by their assets are performs better than smaller banks, and are more profitable due to their size superior efficiency. Bank size has positive relationship between ROA.

c) Gross domestic product

GDP is the monetary value of all finished goods and services produced within a country's borders in a specified time period. Tanna et al. (2008) found a significant and positive relationship between bank profitability and GDP. Hassan and Bashir (2003) found a strong and positive relationship between GDP and profitability. Khrawish (2011) on Jordanian banking sector does not support the results of previous studies. According to the researcher, ROA and GDP have negative correlation with each other. Similarly, the study conducted by Sastroswito and Suzuki (2012) on the Indonesian banking industry also points out an insignificant correlation between the profitability of banks and annual growth rate. Ali et al. (2011) found that asset management and GDP growth have a positive effect on profitability of Pakistan banking sector. The result showed a significant relationship of economic growth with ROA but the result was the opposite with ROE. Aburime (2008) revealed that profitability of Nigerian banks concluded that both real interest rate and inflation have a considerable link with ROA and positively affect bank profitability.

d) Inflation

Inflation rate is defined as an annual rate of increase of the average price level. Inflation has been measured by change in the consumer price index (CPI). Oritoni (1981) defined it as the creation of money that eventually raises prices of goods and lowers the purchasing power of currency in question. Emekekwe (2008) opined that inflation is not completely dreadful; hence a certain level of inflation is desirable in order to ensure sustainable economic growth. Chioma et al. (2014) revealed that there is positive but not significant relationship between inflation, banks' performance and the investment decision of commercial banks operating in Nigeria. Pasiouras and Kosmidou (2007) demonstrates positive and statistically significant inflation rate and bank profitability. The empirical analysis reveals that inflation has negative effect on banks' profitability, measured as ROA. Likewise, Azam and Siddiqui (2012) concluded that inflation is significant and negatively related to the profitability of domestic banks, but it is positively related in the case of foreign commercial banks.

e) Assets

ALvi and Ikram (2015) a study was conducted in the Pakistan context where rate of economy is at developing phase. It was assumed that the change in return of equity is a cause of Net income and entire assets of a firm. 11 years of data was taken from 50 small medium enterprises that was the reason of gathering 550 observations as a sample size and were put into analysis purpose to justify the hypotheses. Regression was put as a statistical tool with analysis of variance in order to test the research model that was a reason to confirm the impact of total assets and net income on return on equity. Tran and Neelakantan (2006) worked on the determinants which influenced capital structure of small medium enterprises of Vietnam. The variables worked on were business risk, profitability, growth; networking, size of the firms and tangibility these companies. Small medium enterprises of Vietnam were taken as sample and it was gathered in a panel form, regression analysis and correlation were used as econometrical tool. In the result it was found that SME mostly used short term debt for financing the operations. A positive relation was found among the between capital structure and business risk, growth, size, relation with banks and networking where as a negative relation was found tangibility. Loan is the major asset of

commercial banks from which they generate income. The quality of loan portfolio determines the profitability of banks. The loan portfolio quality has a direct bearing on bank profitability. The highest risk facing a bank is the losses derived from delinquent loans (Dang, 2011). Thus, nonperforming loan ratios are the best proxies for asset quality. Kodithuwakku (2015) found negative impact of non-performing loans on the profitability. Alshatti (2015) found the positive effect of non-performing to gross loans ratio on the financial performance of banks. Ozurumba (2016) tested the correlation between NPL and profitability, negative relationship is determined between non-performing loans decreasing the asset quality and bank profitability. Bhattarai (2016) found positive relationship between ROE and NPL. Yuqi (2006) in terms of risk poor asset quality is the major cause for banks poor profitability. Abebaw and Depaack (2011) stated that the amount of nonperforming assets has a direct implication in the profitability of the bank, that is if the proportion of the non-performing assets in relation to total loans increase the profitability will be decreased and vice versa.

f) Deposit

Deposits are the principal and the cheapest source of funds for banks. Therefore, the more deposits a bank collects, higher will be the availability of funds for generating loans and for other profitable uses such as investments, higher will be the bank profitability. Thus, a positive relationship between deposits and profitability is expected. Islam and Nishiyama (2016) document that liquidity, as measured by total loans to total deposit ratio, has a positive impact on profitability in case of net interest margin, but this relationship is insignificant. Hashem(2018) in his study of Egyptian banks for the period from 2004 to 2014 reported that higher loan loss provisions represent higher credit risk and hence lowers asset quality of banks which badly affects bank profitability. High capital reserve requirement leads to higher profitability for banks because of lower costs of financial risk for banks. Lower financial risks attract higher deposits and boost the banking busines, thereby leading to higher rate of profit.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter deals with the various tools and techniques applied in the study. It also deals with different approaches of collecting data used to obtain certain data for this research. It consists of research design, population and sampled source of data, data processing procedure and tools and techniques of data analysis. Analysis is conducted by using appropriate financial and statistical tools and the findings are presented in a systematic way. This chapter therefore explains the methodology employed in this study. This chapter has been divided into five sections. Section one provides a description of research plan and design used in this study. Second section describes the population and sample along with the selection of enterprise for the purpose of study. Section three describes nature and sources of data and data collection procedure. Section four, explains the method of analysis including the empirical methods and variables and their measurement criteria finally section five presents the limitation of the study

3.1 Research Design

Research design is plan for collection and analysis of data. It represents a series of guideposts enable the researcher to progress in the right direction in order to achieve the goal. The purpose of design is to provide answer to research questions and control variance. Some financial and statically tools will be used to examine the facts and descriptive techniques to evaluate the data. This research is based on secondary data. It is simply an analytical and descriptive and comparative research. It covers ten years data from 2015/16 to 2019/20. The collected data is analyzed with financial as well as statistical tools and interpreted. This study establishes the cause and effect relationship between different related variables and profitability of Nepalese commercial banks. Similarly, this design has been adopted to ascertain and understand the directions, magnitudes and forms of observed relationship between the variables of the profitability of the study. More specifically, the study analyzes the relationship between bank size, total assets, deposits, inflation and GDP

and the profitability of the Nepalese commercial banks during the time period of 2015/16 to 2019/20.

3.2 Nature and Sources of Data

The study is based on the secondary data which are gathered for 5 commercial banks in Nepal for the period of 5 years from 2015/16 to 2019/20. The variables used in this study are dependent variable (Net profit) and independent variables (bank size, Total assets, deposits, inflation and gross domestic product). The main sources of data are banking and financial statistics published by Nepal Rastra Bank, annual reports of different sample banks, supervision report of Nepal Rastra Bank and websites of respective commercial banks. In addition to these, different published articles, reports, books, and magazines are also analyzed.

3.3 Data collection procedure

Related web sites of all listed banks were used for data collection. . Data obtained from the various sources cannot directly be used in their original form. They need to further verified and simplified for the purpose of analysis. Data, information, figures and facts so obtained need to be checked, rechecked, edited and tabulated for computation. According to the nature of data, they have been inserted in meaningful Tables, which have been shown in appendices. Homogeneous data have been sorted in one Table and similarly various Tables have been prepared in understandable manner, odd data are excluded from the Table. Data have been analyzed and interpreted using financial and statical tools. The detail calculations that cannot be shown in the body part of the report are presented in appendices at the end of the report.

3.4 Population and Sample

In order to examine the determinants of profitability of Nepalese commercial banks, this study contains a sample of 5 commercial banks of Nepal for the time period of 2015/16 to 2019/20, out of total of 27 commercial banks. The recommendation and suggestions,

which are derived from the study, by taking the below commercial banks as samples, will be equally useful for the other commercial banks in Nepal.

3.5 Method of analysis

Specific financial and statistical tools are used in this research. The analysis of data is done according to pattern of data available. The calculated results are tabulated under different heading for ease of reading, and then they are compared with each other to interpret results. The financial tools used are the ratios related to earning per share, dividend per share, return on equity, return on asset and P/E ratio. The statistical tools that are used are arithmetic mean, standard deviation, coefficient of correlation, coefficient of determination, regression equation, and trend analysis.

3.6 Statistical Tools Used

Statistical tools are the mathematical technique used to analysis and interpret of performance. It is used to describe the relationship between variables and interpret the result. Statistic is also used to test the hypothesis that is set to know the information of population.

A brief explanation of statistical tools used in this study is as follows:

a) Mean (X)

The arithmetic mean or average is the sum of total values to the number of observations in the sample. It represents the entire data which lies almost between the two extremes. For this reason an average is frequently referred to as a measure of central tendency. In this study it is used in data related to dividend of sample banks over Seven years. It is calculated as:

$$\text{Mean} = \frac{\text{Sum of Total Values}}{\text{No. of values}}$$

b) Standard deviation (S.D.)

The measurement of the scatterings of the mass of figures in a series about an average is known as dispersion. S.D. is an absolute measurement of dispersion in which the drawbacks present in other measures of dispersion are removed. The high amount of dispersion reflects high standard deviation. The small standard deviation means the high degree of homogeneity of the observations. It is calculated for selected dependent and independent variable specified. It is the positive square root of mean squared deviation from the arithmetic mean and is denoted by

$$SD = \sqrt{\frac{\sum(x - \bar{x})^2}{n - 1}}$$

c) Coefficient of variation (CV)

CV reflects the relation between standard deviation and mean. The relative measure of dispersion based on the standard deviation is known as coefficient of standard deviation. The coefficient of dispersion based on standard deviation multiplied by 100 is known as C.V.

It is used for comparing variability of two distributions. If the \bar{X} be the arithmetic mean and s the standard deviation of the distribution, then the C.V. is defined as,

$$C.V. = (SD/Mean) \times 100\%.$$

Less the C.V. more will be the uniformity; consistency and more the C.V. less will be the uniformity and consistency.

d) Coefficient of correlation (r)

Correlation analysis is the statistical tools that we can use to describe the degree to which one variable is linearly related to another. The correlation analysis is technique used to measure closeness of the relationship between the variables. It helps us in determining degree of relationship between two or more variables. It describes not only the magnitude of correlation but also its direction. The coefficient of correlation is number which indicates to what extent two variables are related with each other and to what extent variations in one leads to variation to the other. The value of coefficient of correlation always lies

between -1 to +1. A value of -1 indicates a perfect negative relationship between the variables and a value of +1 indicates a perfect positive relationship. A value of zero indicates that there is no relationship between the variables. Thus in this study the degree of relationship between dividend per share and other relevant financial indicators such as Market price per share, Earning per share, Dividend payout ratio etc is measured by the correlation coefficient.

e) Coefficient of determination (R^2)

The coefficient of determination is the primary way we can measure extent or strength of association that exists between two variables. It is the measure of degree of linear association between variables one of which happen to be independent and other being dependent variable. It measures the percentage total variation in dependent variable explained by independent variables. The coefficient of determination value can be ranging from zero to one. If regression line is perfect estimator, R^2 is zero when there is no correlation. In this study coefficient of determination is calculated to know the degree of correlation of dividend per share with earning per share, net profit, market price per share and net worth. It is calculated by the following formula.

$R^2 = (R)^2$ Where, R^2 = Coefficient of Determination.

R = Correlation Coefficient.

f) Simple Regression Analysis

In this study simple regression analysis has been used to study the influence of independent variables on dependent variables. It helps in studying the effect and the magnitude of the effect of single. Regression analysis helps to know the relative movement in the variables. Regression analysis of the following variables have been calculated and interpreted in the present study.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

This chapter includes the brief profiles of the different kinds of data and ratios of the selected eighteen banks that have been collected and compiled for the purpose of the study. Then, data are tabulated, analyzed and interpreted and are compared among the banks under study. This chapter delivers the systematic and orderly results of the study in the form of presentation, interpretations and analysis of the secondary data with various issues associated with the determinants of profitability of Nepalese commercial banks.

The purpose of this chapter is to analyze and interpret 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 remark about the result derived from the secondary data.

4.1 Structure and Pattern Analysis

This section attempts to analyze the structure and pattern of return on equity and their determinants for the period of 2015/16 to 2019/20. It includes average values and standard deviation. The structure and pattern of dependent variable i.e. bank stability measured as return on equity and the independent variables are bank size, asset quality, deposits, gross domestic product and inflation are shown below.

Table 4.1: Structure and Patterns of Return on Assets

Banks	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
NABIL	2.43	2.69	2.61	2.11	1.58	2.28	0.45
NIBL	2.15	2.06	2.13	1.79	1.19	1.86	0.40
SCBL	1.98	1.84	2.61	2.61	1.71	2.15	0.43
GBIME	1.58	1.75	1.63	1.82	1.06	1.57	0.30
SRBL	1.97	1.7	1.91	1.92	1.29	1.76	0.28
Mean	2.02	2.04	2.05	1.93	1.42		
S.D.	0.31	0.40	0.36	0.13	0.37		

Source: Annual reports of respective banks.

The table 4.1 shows that return on assets across the years has fluctuated widely over the period of time. The average ROA is 2.02% in 2015/16 and it is 1.42% in 2019/20. The ROA varies widely within the individual banks also. It has decreased from 2.43 in 2015/16 to 2.28% in 2019/20 for NABIL, from 2.15% in 2015/16 to 1.86% in 2019/20 for NIBL, constant 1.99% for SCBL, from 1.97% in 2014/15 to 1.76% in 2019/20 for SRBL, from 1.58% in 2015/16 to 1.57% in 2019/20 for GBIME.

Table 4.2: Structure and Patterns of Return

Banks	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
NABIL	25.61	22.41	20.94	17.76	13.61	20.07	4.58
NIBL	19.55	16.65	14.71	13.00	8.90	14.56	3.99
SCBL	17.18	11.98	18.66	19.49	15.15	16.49	3.01
GBIME	16.00	19.33	16.19	18.47	12.84	16.06	3.62
SRBL	14.49	11.43	12.78	13.90	10.15	18.73	4.24
Mean	18.57	16.36	16.66	16.52	12.13		
S.D.	4.35	4.72	3.22	2.89	2.56		

Source: Annual reports of respective banks.

The table 4.2 shows that return on equity across the years has fluctuated widely over the period of time. The average return on equity is 20.87% in 2015/16 and it is 12.70% in 2019/20. The return on equity varies widely within the individual banks also. It decreased from 25.61% in 2015/16 to 13.61% in 2019/20 for NABIL, from 19.55% in 2015/16 to 15.15% in 2019/20 for NIBL, from 17.18% in 2015/16 to 16.49% in 2019/20 for SCBL, from 16.00% in 2015/16 to 12.84% in 2019/20 for GBIME, from 14.49% in 2015/16 to 10.15% in 2019/20 for SRBL.

Table 4.3: Structure and Pattern of Bank Size

(Rupees in Million)

Banks	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
NABIL	6186	8041	8043	9012	10097	8275.80	1443.55
NIBL	8706	10626	10646	12870	14249	11419.40	2162.24
SCBL	2812	4005	8011	8011	8011	6170.00	2555.94
GBIME	7150	8888	8888	10311	18976	10842.60	4682.71
SRBL	5301	8081	8153	8153	8968	7731.20	1406.57
Mean	6031	7928.2	8748.2	9671.4	12060.2		
S.D.	2198.11	2430.38	1119.85	2008.57	4539.58		

Source: Annual reports of respective banks.

The table 4.3 shows that bank size across the years has fluctuated widely over the period of time. The average bank size is Rs.6031 million in 2015/16 and it is Rs.12060.2 million in 2019/20. The bank size varies widely within the individual banks also. It increased from Rs.6186 million in 2015/16 to Rs.8275.80 million in 2019/20 for NABIL, from Rs.8706 million in 2015/16 to Rs.14249 million in 2019/20 for NIBL, from Rs.2812 million in 2015/16 to Rs.8011 million in 2019/20 for SCBL, from 7150 million in 2015/16 to 18976 million in 2019/20 for GBIME, from 5301 million in 2015/16 to 8968 million in 2019/20 for SRBL.

Table 4.4: Structure and Pattern of Total Asset

(In million)

Banks	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
NABIL	131350	144020	169080	201140	237680	176654.00	43297.03
NIBL	129780	150810	171890	185840	203020	168268.00	28791.07
SCBL	65185.73	78356.01	84031.05	93264.18	93264.8	80209.24	11749.87
GBIME	88683	117894	125847	151654	273877	151591.00	71954.03
SRBL	58739	71456	82.783	94.61	116.299	26097.74	35884.54
Mean	94747.55	113507.2	110186.2	126398.6	178673.3		
S.D.	34548.18	36539.99	71288.07	81865.71	122502.9		

Source: Annual reports of respective banks.

The table 4.4 shows that total asset across the years has fluctuated widely over the period of time. The average total asset is Rs 94747.55 million in 2015/16 and it is Rs 1786733 million in 2019/20. The total asset varies widely within the individual banks also. Asset quality decreased from Rs 58739 million in 2015/16 to Rs 116.299 million in 2019/20 for SRBL. On the other hand, total asset increased from Rs 131350 million in 2015/16 to Rs 237680 in 2019/20 for NABIL, from Rs 129780 million in 2015/16 to Rs 203020 million in 2019/20 for NIBL, from Rs 65185.73 million in 2015/16 to Rs 93264.8 million in 2019/20 for SCBL, Rs 88683 million in 2015/16 to Rs 273877 million in 2019/20 for GBIME.

Table 4.5: Structure and Pattern of Deposits

(In million)							
Banks	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
NABIL	112170	121940	135980	164980	193030	145620	033147.75
NIBL	108880	125910	140330	152180	168820	139224	23146.41
SCBL	55727.18	59694.61	67061.05	75731.53	95020.84	70647	15615.31
GBIME	74683	101910	106510	124499	226643	126849	58568.94
SRBL	51650	61013	69.481	78.481	94.718	22581.1	309087.05
Mean	80622.04	94093.52	89990.11	103493.8	136721.7		
S.D.	28671.38	32118.6	58166.88	67189.26	90405.56		

Source: Annual reports of respective banks.

The table 4.5 shows that deposits across the years have fluctuated widely over the period of time. The average deposits is Rs. 80622.04 million in 2015/16 and Rs. 136721.7 million in 2019/20. The deposits vary widely within the individual banks also. It increased Rs.112170 million in 2015/16 to Rs. 193030 million in 2019/20 for Nabil, from Rs.108880 million in 2015/16 to Rs. 168820 million in 2019/20 for NIBL, from Rs. 55727.18 million in 2015/16 to Rs. 95020.84 million in 2019/20for SCBL.From Rs.74683 million in 2015/16 to Rs. 226643 million in 2019/20for GBIME. On the other hand, deposit decreased from Rs. 51650 million in 2015/16 to Rs. 22581.1 million in 2019/20 for SRBL

Table 4.6: Inflation

	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
Inflation	8.79	3.63	4.06	5.57	5.05	5.42	2.04

Source: Economic survey 2020/21

The table 4.6 shows the inflation rates across the years has fluctuated widely over the period of time. The average inflation within the five years is 5.42%. Among the five years, 2015/16 has the highest inflation rate, 3.63% being the lowest among all in 2016/2017.

Table 4.7: GDP

	2015/16	2016/17	2017/18	2018/19	2019/20	Mean	S.D.
GDP	1700450	1846510	1982650	2109260	206460	1569066	776819.4

Source: World Bank

The table 4.7 shows the nominal GDP across the years has fluctuated widely over the period of time. The average GDP within the five years is Rs. 1569066 million. Among the five years, 2017/18 has the highest GDP with Rs.1982650 million and Rs. 206460 million being the lowest among all in 2019/2020.

Table 4.8 Correlation

	ROE	ROA	Bank Size	GDP	Inflation	Deposit	Total Assets
ROE	1						
ROA	.554	1					
Bank size	.543	.454	1				
GDP	.490	.107	.312	1			
Inflation	.817	.570	.122	.015	1		
Deposit	.217	.269	.630	.759	.363	1	
Total assets	.203	.271	.640	.739	.374	.765**	1

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

The table 4.8 shows Pearson correlation matrix among the depended and all independent variables. Here the independent variables ROA and ROE which are the measure parameter in this particular study, is positively correlated with all the independent variables which implies that they move in the same direction. In other words, when one increases another one also increases and vice versa.

Most of the correlations are low the highest correlation among all is between inflation and ROE. Other high highest correlation has been observed to be between GDP and deposit and other following GDP and total assets. It implies that they move in the same direction. In other word, when one increases another one also increases and vice versa. The lowest correlation of .015 has been observed between GDP and inflation although it is significant. The result shows that there is a low degree of correlation (correlation less than 0.8) between the variables. Moreover, there is positive relationship among all the variables are positively correlated which implies that they move in the same direction. In other words, when one increases another one also increases and vice versa.

Table 4.9 Regression results on ROE

	Bank			Total			F	Sig
M	(Constant)	Size	GDP	Inflation	Deposit	Assets	R ²	
1	22.014 (4.987)	.543 (1.121)					.295	1.257 .044
2	19.359 (7.918)		.490 (.974)				.240	.949 .002
3	12.398 (6.025)			.817 (2.452)			.667	2.015 .091
4	18.091 (6.922)				.217 (.384)		.371	12.148 .026
5	18.009 (7.040)					6.862 (.203)	.041	8.129 .033
6	22.607 (4.484)	.756 (.756)	.355 (.756)				.409	13.693 .041
7	13.623 (16.876)			1.031 (7.816)	.590 (4.475)		.570	22.098 .030
8	17.278 (294.763)	.330 (1.359)	.384 (1.955)	.775 (15.852)			.86	13.726 .006
9	13.963 (9.112)			1.006 (5.155)	2.468 (1.414)	1.888 (.315)	.73	11.795 .018
10	14.221 (9.225)	.453 (1.892)	.324 (2.124)	1.356 (3.214)	1.873 (2.117)	2.335 (.879)	.753	9.823 .001

Model 1

$$ROE = \beta_0 + \beta_1 \mathbf{Banksize} + \varepsilon$$

This is the model formed with the combination of ROE and bank size indicates that the model explains 29 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive

coefficient of bank size indicates that there is positive relationship between bank size and ROE whereas P value 0.044 indicates that the model is significant. Positive sign of coefficient shows that bank size and ROE move in the same direction.

Model 2

$$\mathbf{ROE = \beta_0 + \beta_1GDP + \varepsilon}$$

The model 2 is formed with the combination of ROE and GDP indicates that the model explains 24 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of GDP indicates that there is positive relationship between GDP and ROE whereas P value 0.002 indicates that the model is significant. Positive sign of coefficient shows that GDP and ROA move in the same direction.

Model 3

$$\mathbf{ROE = \beta_0 + \beta_1Inflation + \varepsilon}$$

The model 3 is formed with the combination of ROE and inflation indicates that the model explains 66 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of inflation indicates that there is negative relationship between inflation and ROE whereas P value 0.91 indicates that the model is insignificant.

Model 4

$$\mathbf{ROE = \beta_0 + \beta_1Deposit + \varepsilon}$$

The model 4 is formed with the combination of ROA and deposit indicates that the model explains 37 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of deposit indicates that there is positive relationship between deposit and ROE whereas P value 0.026 indicates that the model is significant. Positive sign of coefficient shows that deposit and ROE move in the same direction.

Model 5

$$\text{ROE} = \beta_0 + \beta_1 \text{total assets} + \varepsilon$$

The model 5 is formed with the combination of ROE and total assets indicate that the model explains 41 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the negative coefficient of GDP indicates that there is negative relationship between total assets and ROE whereas P value 0.33 indicates that the model is insignificant. Negative sign of coefficient shows that total assets and ROE move in the inverse direction.

Model 6

$$\text{ROE} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \varepsilon$$

The model 6 is formed with the combination of ROE, bank size and GDP indicates that the model explains 40 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.41 indicates that the model is insignificant. Negative sign of coefficient shows that total assets and ROE move in the inverse direction.

Model 7

$$\text{ROE} = \beta_0 + \beta_1 \text{inflation} + \beta_2 \text{deposit} + \varepsilon$$

The model 7 is formed with the combination of ROE, inflation and deposit indicates that the model explains 57 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.030 indicates that the model is significant

Model 8

$$\text{ROE} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \beta_3 \text{inflation} + \varepsilon$$

The model 8 is formed with the combination of ROE, bank size, GDP and inflation indicates that the model explains 86 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.006 indicates that the model is significant.

Model 9

$$\text{ROA} = \beta_0 + \beta_1 \text{inflation} + \beta_2 \text{deposit} + \beta_3 \text{total assets} + \varepsilon$$

The model 9 is formed with the combination of inflation, deposit and total assets indicates that the model explains 73 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.018 indicates that the model is significant.

Model 10

$$\text{ROA} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \beta_3 \text{inflation} + \beta_4 \text{deposit} + \beta_5 \text{total assets} + \varepsilon$$

The model 10 is formed with the combination of ROA, bank size, GDP, inflation, deposit and total assets indicates that the model explains 75 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.001 indicates that the model is significant.

Table 4.10 Regression results on ROA

	Bank			Total	F	Sig
M (Constant)	Size	GDP	Inflation	Deposit assets	R ²	
1	2.612 (4.677)	2.612 (1.262)			.027	1.592 .006
2	1.823 (.5.022)	.172 (.303)			.030	2.092 .002
3	1.592 (3.765)		.431 (.828)		.186	2.685 .046
4	1.831 (.5.280)			.168 (.296)	.028	3.087 .007
5	1.836 (.5.422)			.164 (.287)	.027	6.082 .043
6	2.526 (4.092)	.712 (1.335)	.394 (.740)		.487	6.950 .051
7	1.588 (2.885)		.426 (.623)	.623 (.020)	.186	11.229 .014
8	2.207 (2.320)	.665 (1.002)	.381 (.579)	.352 (.559)	.609	9.519 .041
9	1.293 (1.277)	.453 (1.087)	.327 (.672)	.593 (.605)	12.444 (.415)	12.497 (.415) .020

Model 1

$$ROA = \beta_0 + \beta_1 Banksize + \epsilon$$

This is the model formed with the combination of ROA and bank size indicates that the model explains 27 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of bank size indicates that there is positive relationship between bank size and

ROA whereas P value 0.006 indicates that the model is significant. Positive sign of coefficient shows that bank size and ROA move in the same direction.

Model 2

$$\mathbf{ROA = \beta_0 + \beta_1GDP + \varepsilon}$$

The model 2 is formed with the combination of ROA and GDP indicates that the model explains 30 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of GDP indicates that there is positive relationship between GDP and ROA whereas P value 0.002 indicates that the model is significant. Positive sign of coefficient shows that GDP and ROA move in the same direction.

Model 3

$$\mathbf{ROA = \beta_0 + \beta_1Infaltion + \varepsilon}$$

The model 3 is formed with the combination of ROA and inflation indicates that the model explains 18.6 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of inflation indicates that there is negative relationship between inflation and ROA whereas P value 0.46 indicates that the model is insignificant.

Model 4

$$\mathbf{ROA = \beta_0 + \beta_1Deposit + \varepsilon}$$

The model 4 is formed with the combination of ROA and deposit indicates that the model explains 28 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the positive coefficient of deposit indicates that there is positive relationship between deposit and ROA whereas P value 0.007 indicates that the model is significant. Positive sign of coefficient shows that deposit and ROA move in the same direction.

Model 5

$$\text{ROA} = \beta_0 + \beta_1 \text{total assets} + \varepsilon$$

The model 5 is formed with the combination of ROA and total assets indicate that the model explains 27 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. Similarly, the negative coefficient of GDP indicates that there is negative relationship between total assets and ROA whereas P value 0.43 indicates that the model is insignificant. Negative sign of coefficient shows that total assets and ROA move in the inverse direction.

Model 6

$$\text{ROA} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \varepsilon$$

The model 6 is formed with the combination of ROA, bank size and GDP indicates that the model explains 48.7 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.51 indicates that the model is insignificant. Negative sign of coefficient shows that total assets and ROA move in the inverse direction.

Model 7

$$\text{ROA} = \beta_0 + \beta_1 \text{inflation} + \beta_2 \text{deposit} + \varepsilon$$

The model 7 is formed with the combination of ROA, inflation and deposit indicates that the model explains 18.6 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.013 indicates that the model is significant

Model 8

$$\text{ROA} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \beta_3 \text{inflation} + \varepsilon$$

The model 8 is formed with the combination of ROA, bank size, GDP and inflation indicates that the model explains 60.9 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.041 indicates that the model is significant.

Model 9

$$\text{ROA} = \beta_0 + \beta_1 \text{bank size} + \beta_2 \text{GDP} + \beta_3 \text{inflation} + \beta_4 \text{deposit} + \beta_5 \text{total assets} + \varepsilon$$

The model 9 is formed with the combination of ROA, bank size, GDP, inflation, deposit and total assets indicates that the model explains 81.2 percent of variability of data in dependent variable is due to independent variable and rest is affected by various factors in the economy. The P value 0.020 indicates that the model is significant.

4.2 Major Finding

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

- The analysis of structure and pattern of average return on assets for Nepalese commercial banks indicated that return on assets is highest for NABIL (2.28) and lowest for GBIME (1.57). It has been found that the average return on assets of commercial banks computed across the year is in decreasing trend.
- The average return on equity for Nepalese commercial banks revealed that return on equity is highest for NABIL (20.07) and lowest for NIBL (14.56). It has been found that the average return on equity of commercial banks computed across the year is in both increasing and decreasing trend.
- The average bank size is highest for NIBL (Rs.11419.40 million) and lowest for SRBL (Rs.7731.20 million). It has been found that the average bank size has been increased in the majority of selected commercial banks in recent years.
- The average total asset is highest for NABIL (Rs.176654 million) and lowest for RBLI (Rs.126097.74 million). It has been found that the average total assets have been increased in the majority of selected commercial banks in recent years.
- The average deposit is highest for NABIL (Rs.145620 million) and lowest for SRBL (Rs.22581.1 million). It has been found that the average income diversity has been increased in the majority of selected commercial banks in recent years.
- The descriptive statistics shows that the average return on asset and average return on equity are 2.86 percent and 2.67 percent respectively for the selected Nepalese commercial banks.

- The analysis indicates that the average GDP and inflation rate over that past five years are Rs. 1569066 and 5.42 respectively.
- There is positive relationship among all the variables are positively correlated which implies that they move in the same direction. In other word, when one increases another one also increases and vice versa.
- ROE is highly correlated with the independent variables in comparison to ROA
- The regression analysis of return on assets shows that beta coefficients are positive for bank size, deposits, total assets, GDP and inflation indicating that higher the bank size, deposits, total assets, GDP and inflation higher would be the return on assets. Bank size, GDP, inflation, deposit and total assets explain only 75 percent of variability of return on assets is due to independent variable and rest is affected by various other factors in the economy.
- The regression analysis of return on equity shows that beta coefficients are positive for bank size, deposit, GDP, total assets and inflation indicating that higher the bank size, deposit, GDP, total assets and inflation higher would be the Profitability. Bank size, GDP, inflation, deposit and total assets explain only 81.2 percent of variability of return on equity is due to independent variable and rest is affected by various other factors in the economy.

4.3 Discussion

Study of analyzing the determinants of commercial bank profitability in Nepal shows that external factors shape the size of bank profitability as measured by return on assets and return on equity to some extent. Among external factors, industry specific i.e. concentration and banking sector development have high degree of impact on return on assets whereas macroeconomic variables i.e. GDP growth, inflation rate and exchange rate have quite a degree but significant impact on profitability of Nepalese commercial banks as measured by return on assets and return on equity.

The results reveal that all the independent variables have a significant positive impact on profitability (ROA and ROE). Inflation has the highest impact and GDP has the lowest

impact on ROE. Whereas, GDP has the highest impact and inflation has the lowest impact on ROA.

Iwanicz-Drozdowska and Witkowski (2016) observed a positive impact for GDP, size of the bank and inflation on ROE of G-SIBs in Central, Eastern and South-Eastern Europe. Almumani (2014) found that the ROA and ROE have a negative relationship with total assets and operating expenses during the period of 2007-2011. However, there is a positive relationship between operating income with ROA and ROE. Saif-Alyousfiet al. (2017) found that bank size has a negative and significant effect on ROA, ROE.

Khanal (2016) determined the factors affecting the performance of the selected commercial banks in Nepal. The study concluded that capital adequacy, liquidity management, gross domestic product, inflation, size and assets quality have positive impact on net interest margin. Also, size and asset quality have positive impact on return on assets whereas capital adequacy has negative impact on return on assets

Bhattarai (2019) examined the effect of non-performing loan on the profitability of Nepalese commercial banks. The results showed that bank size has significant positive effect on bank profitability (ROA, ROE)). Unlikely, gross domestic product growth rate has significant positive effect only on shareholders' return (ROE).

Marahatta et al. (2018) examined determinants of bank's performance in Nepalese commercial banks. The study showed that higher the quality of assets, bank size, and GDP growth of a nation and liquidity of a bank higher would be the return on assets. However, beta coefficient is statistically significant for asset quality only at 1 percent level of significance which signifies that assets quality is strong determinant of ROA. When GDP growth rate, inflation of a country and bank size increases, return on equity increase. ROE also decrease when capital adequacy, asset quality and liquidity increases. It has been observed that bank size is strong determinant of ROE.

However, the empirical studies found the mixed results on these issues. In view of theoretical perspective and empirical evidences both negative and positive relationship is expected between independent variables and banks performances. This study results reveal that there is a significant positive relationship between ROE, ROA, bank size, GDP, inflation, deposit and total assets. It indicates that profitability is fairly affected by all the independent variables.

CHAPTER FIVE

SUMMARY AND CONCLUSION

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

5.1 Summary

The purpose of this study is to find out the impact of variables on profitability of commercial banks. For the research, five commercial banks were randomly selected. The independent variables selected to analyze are GDP, inflation, deposits, total assets and bank size of five years. The impacts of independent variables in the profitability are analyzed through regression. The study is based on secondary data of 5 commercial banks with observations for the period of 2015/16 to 2016/20. The main source of data includes annual reports of the selected commercial banks. This study has employed descriptive research design and causal comparative research design as it deals with the return on assets and return on equity and its determinants of Nepalese commercial banks. The relationship between dependent and independent variables are analyzed using simple regression analysis. Return on assets and return on equity are considered as dependent variables. Bank size, total asset, deposits, gross domestic product and inflation are considered as independent variables. Through this research, it is clear that the selected independent variables have impact on the profitability of banks. The data provided from the sample are significant and well matched since all the selected samples are commercial bank. Hence, the study is able to meet its objectives in finding the impact of profitability on commercial bank.

5.2 Conclusion

All the independent variables affect the stability of Nepalese commercial banks. Similarly, all the variables are positively correlated with each other. The study also concludes that there is positive impact of all the independent variables on return on assets and return on equity which indicates that higher the GDP, inflation, total assets, bank size and deposits higher would be the return on assets and return on equity. The major conclusion of the study is that inflation is the major determinant of profitability (ROE) of Nepalese commercial banks and gross domestic product is the major determinants of profitability (ROA) of Nepalese commercial banks.

5.3 Recommendations

On the basis of overall study and results, it can be recommending interesting facts.

- The study has examined the determinants of Profitability of Nepalese commercial banks. There remains enough ground of scope in terms of data, models and methodology for studies in days to come.
- The study remains enough ground for further studies, which are listed below:
- This type of study can be conducted by considering larger sample size for longer time period which could lead to much more valid prediction regarding the determinants of profitability of Nepalese commercial banks.
- This study is based on only commercial banks. Thus, the future study may incorporate other financial sectors such as development banks, insurance companies, finance companies and micro-finance companies which are listed in NEPSE can be sampled to draw wider view about determinants of Profitability.
- This study is based only on secondary data. Thus, the further study can make much more comprehensive by using primary source such as survey, questionnaire, special group discussion etc.
- There are other different models to analyze the collected data but only linear regression model was used. Further, the study can be done by using some advanced statistical tools such as non-linear statistical tools and bidirectional causality tools.

Recommendation for further researcher

- Likewise, if the future researcher's study about determinants of Profitability in Nepalese commercial banks, this study will guide and benefit to investors, policy makers, companies, regulators and other relevant parties.
- This research is fully based on secondary data, in spite of this primary data and field visit each bank also be done for better result.

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