Impact of Financial Distress on Profitability of Nepalese Commercial Banks

A Thesis

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Certificate of authorship

I hereby declare that this study entitled **"Impact of financial distress on profitability of Nepalese commercial banks"** is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree of a university or other institution of higher learning, except where due acknowledgement is made in the acknowledgements.

…….

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December, 2019

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RECOMMENDATION LETTER

It is certified that thesis entitled **Impact of financial distress on the profitability of the Nepalses commercial bank** submitted by **Sarswati Bhandari** is an original piece of research work carried out by the candidate under my supervision. Literary presentation is satisfactory and the thesis is in a form suitable for publication. Work evidences the capacity of the candidate for critical examination and independent judgment. Candidate has put in at least 60 days after registering the proposal. The thesis is forwarded for examination.

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APPROVAL SHEET

We, the undersigned, have examined the thesis entitled "**Impact of the financial distress on the profitability of the Nepalese commercial bank**" presented by Sarswati Bhandari, a candidate for the degree of **Master of Business Studies** (MBS Semester) and conducted the Viva voce examination of the candidate. We hereby certify that the thesis is worthy of acceptance.

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List of Abbreviations

ADBL	Agriculture Development Bank Limited
CTZN	Citizens International Bank Limited
CIVIL	Civil Bank Limited
CCD	Credit to Cash Plus Deposit Ratio
CAR	Capital Adequacy Ratio
EBL	Everest Bank Limited
EPS	Earning Per Share
HBL	Himalayan Bank Limited
KBL	Kumari Bank Limited
LBL	Laxmi Bank Limited
LEV	Leverage
LQ	Liquidity Ratio
MBL	Machhapuahare Bank Limited
MEGA	Mega Bank Limited
NIBL	Nepal Investment Bank Limited
NCC	Nepal Credit and Commerce Bank Limited
NMB	NMB Bank Limited
NPL	Non-Performing Loan
PBI	Prime Commercial Bank
ROE	Return on Assets
SBI	Nepal SBI Bank Limited
SCB	Standard Chartered Bank
SBL	Siddhartha Bank Limited
SUNRISE	Sunrise Bank Limited
SANIMA	Sanima Bank Limited

Abstract

The study examines the impact of financial distress on the financial performance of Nepalese commercial banks. Return on assets and earnings per share are the dependent variables. The independent variables are non-performing loan, leverage, liquidity ratio, capital adequacy ratio and credit to cash plus deposits (CCD). This study is based on secondary data of 20 commercial banks with 100 observations for the period of 2013/14 to 2017/18. The data are collected from the annual reports of the selected commercial banks. The regression models are estimated to test the significance and impact of financial distress on the financial performance of Nepalese commercial banks.

The result shows that leverage, liquidity ratio and CCD ratio are positively correlated to return on assets which indicates that increase in leverage ratio leads to increase in return on assets. Similarly, it indicates that higher the capital adequacy ratio, higher would be the return on assets. Likewise, increase in CCD ratio leads to increase in return on assets. The result also shows that there is a negative relationship between earnings per share and non-performing loan which reveals that higher the non-performing loan, lower would be the earnings per share. Likewise, there is a positive relationship between leverage and earnings per share which indicates that increase in leverage ratio leads to increase in earnings per share. Likewise, there is positive relation between CCD ratio and earnings per share which shows that increase in CCD ratio leads to increase in earnings per share. The regression results show that the beta coefficients for non-performing loans are negative with earnings per share. The study also shows that the beta coefficients for leverage, liquidity ratio and CCD ratio are positive with return on assets and earnings per share of Nepalese commercial banks.

Key words: *Financial distress, financial performance, leverage, and liquidity.*

Chapter I

Introduction

1.1 General background

Bank is a resource mobilizing institution, which accepts deposit from various sources, and invest such accumulated resource in different sector like trade, commerce, industry etc. The commercial bank has its own role and contribution and it is an agent of economic development. Since banks are required to meet the liquidity needs of their clients and depositors, they thus are expected at any moment to deliver on those obligations (Alshatti, 2015).

Banks act as intermediaries in the economy by accepting financial deposits from individuals, businesses, financial institutions, and sovereigns with surplus savings. Banks then advance these deposits in the form of credit loans to individuals, financial institutions, investors and governments that need the capital for various investment and spending purposes. Investment activities by banks are hardly deprived of problems and risks, since banks seek to maximize expected profits on their investments, which require optimal exploitation of resources available to banks. Banks are the financial mediator of depositor and borrower. Banking sector plays a vital role for the country's economic development. The developed financial system of the world characteristically falls into three part of bank: the central bank, commercial bank and other financial institution. They are also known as financial intermediaries (Sayer, 1976).

Financial distress is one of the most significant threats for many firms globally despite their size and nature. The term financial distress is used in a negative connotation to describe the financial situation of a company confronted with a temporary lack of liquidity and with the difficulties that ensue in fulfilling financial obligations on schedule and to the full extent (Ghazali *et al.*, 2015.

Financial distress is a burning problem in almost all the markets in the world. The term financial distress or failure of companies has accelerated in the world especially in the United States of America (Boyer, 2000).Moreover, Keasey *et al*. (2014) defined financial distress as the probability of voluntary exit which increases with higher levels of debt and lower levels of cash resulting in inability to make payments for

various financial costs for small and medium size enterprises in United Kingdom. When a company is about to the signaling of financial distress, there is a problem for the employees of such company as well as for the shareholders, lenders and the other stakeholders. It badly affects the job security of managers, employees, stakeholders' equity position and claims of lenders since their claims are not guaranteed (Bum *et al*., 2008).

In addition, Sinha *et al*. (2012) described financial distress as a situation where creditors' agreements are broken with difficulty and that financial distress is directly related to the firm's leverage decision. Likewise, Adeyemi (2012) argued that financial distress is a situation in which an institution is having operational, managerial and financial difficulties. On the other hand, financial distress factors are costs that affect the performance of an organization leading to change in investment decision (Tshitangano, 2010).Furthermore, John (2014) found that financial sector faces several challenges while being financial distressed. It is obvious that detecting of such situation is very important for long term survival of the firms.

Bergman *et al*. (2012) revealed that financial distress factors play a major role in determining the financing distress position of any institution. Banks play an important role in the economic development of every nation since they have control over a large part of the supply of money in circulation, foster liquidity and proper functioning of the financial system (Karim *et al*., 2013; Nasieku *et al*., 2014). According to Garlappiet (2011), when a company experiences financial distress, operating conditions may deteriorate, heavy financial burdens become common place, wages are renegotiated downwards if the situation continues, and bankruptcy may become a reality.On the other hand, Wang (2014) revealed that companies can recover and experience resurgence if appropriate management steps are taken and financial distress factors are used effectively.

The uncertainty is the most crucial factor that would be a key disruption for everything. The corporate failure is enormous, especially for the stakeholders of public held companies. Prior to a corporate failure, the firm's financial status is frequently in distress (Madhushani and Kawshala, 2018). Financial distress is one of the most significant threats for many firms globally despite their size and nature. The term financial distress is used in a negative connotation to describe the financial situation of a company

confronted with a temporary lack of liquidity and with the difficulties that ensue in fulfilling financial obligations on schedule and to the full extent (Ghazali *et al.*, 2015). According to Waweru and Kalani (2008), banks are financially distressed when they are technically insolvent and or illiquid. Insolvency is the inability of a business to have enough assets to cover its liabilities. A situation where a firm's operating cash flows are not sufficient to satisfy current obligations and the firm is forced to take corrective action.

In recent decades, a large number of countries have experienced financial distress of varying degrees of severity, and some have suffered repeated bouts of distress (Hardy, 1998). Hardy and Pazarbaşioğlu (1999) believed that the best warning signs of financial crises are proxies for the vulnerability of the banking and corporate sector. According to Kroszner (2002), non-performing loans are closely associated with banking crises. Sultana (2002) also linked the Japanese financial crisis to nonperforming loans. Japanese banks still suffer under the weight of thousands of billions of yen of bad loans resulting from the collapse in asset prices a decade ago in the country's financial system. Non-performing loans can be treated as undesirable outputs or costs to a loaning bank, which decrease the bank's performance. The risk of non-performing loans mainly arises as the external economic environment becomes worse off such as economic depressions (Sinkey and Greenawalt, 1991). Controlling non-performing loans is very important for both the performance of an individual bank and the economy's financial environment. Due to the nature of their business, commercial banks expose themselves to the risks of default from borrowers. Prudent credit risk assessment and creation of adequate provisions for bad and doubtful debts can cushion the banks risk. However, when the level of non- performing loans (NPLs) is very high, the provisions are not adequate protection (McNulty *et al.*, 2001).

Corporate financial distress has been considered as a serious economic and social issue (Cheng *et al*., 2007). It usually come up with economic losses to the shareholders, employees, stockholders, and customers, along with a considerable economic and social cost to nation. (Jaikengkit, 2004). In finance, an accurate and precise prediction of financial distress of firms has become a significant issue. Risk is defined as anything that can create hindrances in the way of achievement of certain objectives. It can be because of either internal factors or external factors, depending

upon the type of risk that exists within a particular situation. Risk implies future uncertainty about deviation from expected earnings or expected outcome. It measures the uncertainty that an investor is willing to take to realize a gain from an investment (Kumar, 2015).

Denis and Denis (1995) found that increased levels of financial distress negatively affect profitability (pre-operating income or net income) of firms. In addition, Pranowo *et al.* (2010) indicated that financial distress actually has a negative effect on profitability, efficiency and liquidity of manufacturing firms listed in Indonesian stock exchange. Furthermore, financial distress may stimulate profitability problem on firms through cash flow deterioration and deterioration of revenue or operating income perpetually. Financial distress is expected to affect operating income causes short term insolvency effect, reduces the firm's ability by constraining working capital and increasing indebtedness. Furthermore, the increase in profitability resulting from increase in Gross profit to total sales ratio increases the firm's solvency, thus increasing debt service coverage. In addition to these effects, low Gross profit to total sales ratio also provide a firm with low probability of financial distress, which is indicates firms in the track of financial distress (Baza, 2015).

Steven and Gray (2015) noted that profitability is a strong indicator that influences perception of stakeholders towards satisfaction and value. Similarly, Fauzi(2013) defined performance as the matching of business environment, strategy, internal structure and control system. Similarly, Kang and Kinyua (2016) argued that profitability is a measure of company's policies and operations in monetary terms. Likewise, Busch *et al*. (2015) argued that the profitability in banking industry has been of interest to academic research and to stakeholders in banking industry. This is due to the fact that profitability has a critical implication for economic growth in any country and it's generally considered to be the reflection of financial and economic conditions of a country other than its intermediation role in an economy (Gatuhi *et al*., 2015).

According to Yalcin *et al*. (2012), profitability is important not only to the stakeholders of a firm but also to firms within the same industry due to competitiveness in the world economy. There are several measures of profitability which can be classified into three categories such as marketing based measures,

accounting based measures and survey based measures (Busch *et al*., 2015).The market based measures of profitability reflect the degree of shareholder's satisfaction which include the stock performance in security exchange, market returns, and market value to book value (Homburg *et al*., 2012).

Financial distress has been viewed in various ways. One point of view is that it is technical insolvency; others consider it to be real insolvency where the liabilities of a firm exceed assets. Sometimes it is specified in the strictly legal sense of bankruptcy or liquidation while at other times a firm is taken to be in financial distress when it begins to incur cash losses leading to the erosion of funds. A firm is regarded as a financially distressed firm when it is not likely to continue its operations or pay dividends to its shareholders or pay wages and salaries to its employees. A general view of financial distress is that it results from a mismatch between the currently available liquid assets of a firm and its current obligations (John *et al*., 1993).

Financial distress does not necessarily result in the collapse and dissolution of a firm. In an economic sense it could mean that a firm is losing money – its revenues do not cover its costs. It could also mean that its earnings rate is less than its cost of capital (Weston &Copeland 1998). A related definition would be that the present value of cash flows of the firm is less than its obligations. In still another case, it means the firm's actual cash flows are below its expected cash flows – its projections have not been met. Thus, financial distress may be viewed in varying ways.

Hilscher *et al*. (2011) described financially distressed firms as loosing market values because of poor performance and consequently becoming inefficient producers resulting in high leverage and cash flow problems. It is evident that a majority of banks have undergone profitability fluctuations, liquidated or gone under statutory management however, others are yet to go through financial distress. According to WB (2016), a sustained growth requires high levels of investment and this is an area where Nepal aims to achieve more high-growth economies as a result of high investments. Share prices are positively related to profitability, financial distress and investment switching behavior (Hilscher *et al*., 2011).

Titman and Wessels (1988) asserted that larger firms are more diversified and are therefore less susceptible to bankruptcy than smaller firms. Likewise, RajanandZingales (1995) argued that there is a positive relationship between firm size

and leverage. Molyneux and Thornton (1992) found that capital ratio has positive impact on bank performance. The loss in liquidity and downward price pressures are more severe for the defaults that occurred during the 2008-2009 financial crises than defaults in other periods (Han, 2013).

Beaver (1966) developed the Business Financial Predictive (BFP) model that could be used to predict the success or failure of a business which consisted of the following ratios: cash flow to total debt, net income to total assets, total debt to total assets, working capital to total assets, current assets to current liabilities and no credit interval. Altman (1968) used the Z score which was computed using the ratios of working capital to total assets, retained earnings to total assets, market values of owners' equity to book value of total liabilities, and sales to total assets.

In the context of Nepal, Sthapit (2012) found that average liquidity ratios and profitability have significant relationship. Pradhan *et al*. (2002) showed productivity, profitability, liquidity is deteriorated by financial distress. According to Sharma (2016), the liquidity of Nepalese commercial banks is highly affected by the non-performing loans and capital adequacy ratio, credit to deposit ratio, bank size and total deposits to total assets ratio. Sedhain (2012) concluded that capital adequacy has helped in developing suitable prudential norms to save the banks and financial institutions from financial crisis and signals of failure.

The above discussion shows that the studies related to the impact of financial distress on profitability of Nepalese commercial banks. Though there are various findings as discussed above in the context of different countries, no more studies have been conducted on the financial distress on banking sectors in the context of Nepal. Hence, this study focuses on financial distress and its impact on profitability of Nepalese commercial banks.

1.2 Statement of the problem

Banking sector is the backbone of development of any economy. Financial distress is not a strange concept in the banking industry. In the 1980s, some commercial banks were significantly affected by financial distress. In the recent past; between the years 2015-2016, Chase bank, Dubai bank and Imperial Bank went under receivership due to financial distress. These statistics thus show the necessity of digging deeper into

this subject of financial distress in Commercial banks. The banking sector is among the sectors expected to facilitate the realization of vision 2030, by ensuring that there is provision of efficient financial services and investment opportunities that will create a vibrant and global competitive financial service. Global competitive financial services on banking sector will be achieved only if financial distress will be well managed by banks (Bariviera *et al*., 2014).

Kamau (2011) and Mwega (2011) noted that banking sector is the engine that drives economic growth through efficient allocation of resources to productive units in any economy resulting in global competiveness. Nasieku (2014) revealed that banks provide an efficient system and main source of liquidity in the finance systems. In spite of this, more than ten financial institutions have either collapsed or liquidated or have been placed under receivership. This indicates that on average, one financial institution collapsed every year over the eleven-year period making it a worrying trend.

Tan (2012) revealed that financial distress results in the decline in the profit margins of companies. Irungu (2013) established that increase in non-performing loans which contribute to increase in financial risks in amongst banks does not impair the earning capability of firms. However, Irungu (2013) also noted that the rising risks were a concern as it could stimulate financial collapsed. Other researchers established that financial distress does not significantly affect. Hassan and Al-Mazrooei (2007) and Zaabi (2011) found that financial distress does not affect performance in studies conducted on Islamic banks in the United Arab Emirates (UAE).

Profit efficiency of large commercial banks is by accounting for non-performing loans. Although non-performing loans are negatively related to banks' profit efficiency, it is not statistically significant (Fan &Shaffer, 2004).Unidirectional causality from total bank credit and stock market turnover to economic growth and from economic growth to bank credit to industry. This leads to the idea that financial availability, in the form of bank credit and equity, does indeed lead to productivity (Jotwani, 2016).Osuji and Odita (2012) showed that loan to total assets has negative impact on profitability of Nigerian banks. It indicates that higher the loan to total assets lower would be the profitability. However, Malekian and Pouraghajan (2012),

Lummer and McConnell (1989) and Slovin *et al*. (1992) found that loan to total assets has a positive influence on firm performance.

Goddard *et al*. (2004) revealed that a high capital adequacy ratio signifies a bank that is operating over-cautiously and ignoring potentially profitable trading opportunities which implies a negative relationship between equity to asset ratio and bank performance. Sufian and Chong (2008) revealed that the entire bank-specific determinants such as capital adequacy ratio, management efficiency, and liquidity management have a statistically significant impact on bank profitability Banks with higher equity to asset ratio will normally have lower needs of external funding and therefore higher profitability (Pasiouras and Kosmidou, 2007).Similarly, Sergio (1996) found that an increase in the riskiness of loan assets is rooted in a bank's lending policy adducing to relatively unselective and inadequate assessment of sectorial prospects. Likewise, Iloska (2014) found that loan loss provision has negative relationship with ROA. Alshatti (2015) found no effect of the capital adequacy ratio on the profitability of banks.

Wanyonyi and Olweny (2013) indicated that there is a positive correlation between ROA and ROE as profitability measures of insurance firms and corporate governance factors. Likewise, Nazir (2010) indicated that profitability of banks could be measured using capital adequacy, asset quality, management capability and earning analysis as the CAMEL parameters. Further, CAMEL parameter ratios are key in making decisions on profitability of banks since higher ratios that are beyond the minimum requirements indicate that the trend of bank's profitability is good.

Marte *et al.* (2012) revealed that ROA and ROE are profitability measures that show significant relationship with corporate social responsibility. The study of profitability of banks is enhanced by studying the environmental variables that are likely to influence performance. These environmental variables are financial distress factors that will have an influence on profitability. The ultimate goal of bank is to make profits and further argued that ROA, ROE, and net interest margin are major performance measures of profitability in banks (Ongore and Kusa, 2013).

According to Gebreslassie (2015), financially distressed insurance companies contribute to the contagion effect in the economy and negatively affect economic stability of other sectors in a country. The required level of profitability is one of the

difficult tasks for companies in a given country to maintain improved global investment during an era of financial distress (Hina, 2015).

Zimmerman (1996) concluded that management decisions, especially regarding loan portfolio concentration, were an important contributing factor in bank performance. The bank's asset is another bank specific variable that affects the profitability of a bank. The bank asset includes among others current asset, credit portfolio, fixed asset, and other investments (Athanasoglou *et al*., 2005). Roman and Danuletiu (2013) concluded that capital adequacy has a positive, direct relationship with profitability.

In the context of Nepal, Sedhain (2012) concluded that capital adequacy has helped in developing suitable prudential norms to save the banks and financial institutions from financial crisis and signals of failure. Bariya *et al*. (2016) found liquidity on profitability is mixed and insignificant. It indicates that conclusion about the impact of liquidity remains questionable and further research is needed. Joint venture has high level of liquidity. Baral (2005) studied that the high level of liquidity was affecting their financial health adversely by deteriorating their profitability.

Financial distresses tend to be difficult to justify with banking performance because the degree of impact differs from bank to bank. Despite of this, issues of financial distress it has significant impact on every banking organization on its profitability in many ways. Thus, following question are proposed to be address in the course of this study:

i. What is the structure and pattern of leverage, liquidity, nonperforming loan, capital adequacy and credit plus deposit of Nepalese commercial banks?

ii. What is the relationship of the leverage, liquidity, nonperforming loan, capital adequacy and credit to cash deposit with the return on assets of Nepalese commercial banks?

iii. Do there is the impact of leverage, liquidity, nonperforming loan, capital adequacy and credit to cash plus deposit on earning per share of the Nepalese commercial banks?

iv. What is the most significant factor affecting the profitability of the Nepalese commercial bank?

1.3 Purpose of the study

The major objective of this study is to analyze the impact of financial distress variables on profitability in Nepalese commercial banks whereas the specific objectives of this study are as follows:

i. To assess the factors affecting the profitability of Nepalese commercial banks.
ii. To analyze the structure and pattern of leverage, liquidity, nonperforming loan capital adequacy and credit to cash plus deposit of Nepalese commercial banks.
iii. To determine the relationship of leverage ratio, liquidity, nonperforming loan, capital adequacy and credit to cash plus deposit with return on assets of Nepalese commercial banks.
iv. To examine the impact of leverage, liquidity, nonperforming loan, capital adequacy and credit to cash plus deposit on earnings per share of Nepalese commercial banks.

1.4 Significance of the study

Madhusani and Kawshala (2018) found out the impact of the financial distress on the profitability by using 05 years data from the year 2012 to 2016 with the sample of all the 31 listed nonbank financial institutions in Sri Lanka. The sample was limited to the 29 of listed nonbanking financial institutions. The study used two profitability indicators such as return on asset (ROA), return on equity (ROE) as dependent variables. Whereas, Altman's Z score and Leverage ratio have used as independent variable's indicators. The study focused on the secondary data and those will be obtaining basically from published annual reports in Colombo Stock exchange. The findings suggested that the financial distressed situation has a significant impact on the profitability of the listed non-bank financial institution in Srilanka.

Opler *et al. (*1994) investigated the determinants of financial distress of manufacturing firms in Ethiopia for the period from 1999 to 2005. Due to data heterogeneity, non-continuity and because the Hausman test favors it over the Random Effect technique, the panel data General Least Square (GLS) regression method were used. The result proved that liquidity, profitability, and efficiency have

positive and significant influence on debt service coverage. On contrary, leverage has negative and significant influence on Debt Service coverage. To save infant manufacturing firms, policy makers have the opportunity to influence the financing policy of the firms in the promotion of equity financing by controlling leverage. The appropriate firm executives should consider improving efficiency of firm's performance through retrenchment of assets and replacing, liquidity through improving cash collection, profitability through replacement of departments, products or lines of the business. Financial distress have a negative impact on DSC and leading firms to bankruptcy and liquidation and can cause economic, social and political impact on manufacturing firms and contribute to the CEO resignation, employee's layoff or loss of jobs, dividend reduction, plant closing and related consequential health and moral distress. Keywords: Financial Distress, Debt Service Coverage, Ethiopia.

Pradhan (2014) examined factors affecting profitability of Nepalese commercial banks. The study considered both bank specific and macro-economic factors. The study was based on pooled cross-sectional analysis of secondary data of 22 banks with 154 observations for the period of 2005/06 to 2011/12. The study found positive relationship between market share and bank performance in Nepal.

In the context of Nepal only few efforts have been made to examine the issues related to the financial distress variables. Specifically, the study is primarily designed to fill the gap of similar studies in Nepalese context, in the context of Nepal only few efforts have been made to examine the issues related to the financial distress variables. Specifically, the study is primarily designed to fill the gap of similar studies in Nepalese context.

1.5 Operational definitions

This section deals with the operational definition of the variables that have been used in this study. The aim of this study is to examine the impact of financial distress variables on the profitability in commercial banks of Nepal. It also deals with several determinants of financial distress variables in commercial banks in Nepal. The empirical studies made around the world demonstrate various outcomes on the relationship between financial distress and bank profitability.

Thus, based on reviewed related literatures, following alternative hypothesis are developed to estimate the sign relationship on impact of financial distress on profitability in commercial banks of Nepal along with the operational definitions.

Dependent Variables

Earnings per share (EPS)

Earnings per share are an important financial measure, which indicates the profitability of a company. It is calculated by dividing the company's net income with its total number of outstanding shares. It is a tool that market participants use frequently to gauge the profitability of a company before buying its shares. EPS is the portion of a company's profit that is allocated to every individual share of the stock. It is a term that is of much importance to investors and people who trade in the stock market. The higher the earnings per share of a company, the better is its profitability. While calculating the EPS, it is advisable to use the weighted ratio, as the number of shares outstanding can change over time. Earnings per share can be calculated in two ways:

i. Earnings per share: Net Income after Tax/Total Number of Outstanding Shares
ii. Weighted earnings per share: (Net Income after Tax - Total Dividends)/Total Number of Outstanding Shares.

A more diluted version of the ratio also includes convertible shares as well as warrants under outstanding shares. It is considered to be a more expanded version of the basic earnings per share ratio.

For an investor who is primarily interested in a steady source of income, the EPS ratio can tell him/her the room a company has for increasing its existing dividend. Although, EPS is very important and crucial tool for investors, it should not be looked at in isolation. EPS of a company should always be considered in relation to other companies in order to make a more informed and prudent investment decision.

The increasing earnings per share serve as indicator of a company's profitability. The less amount of financial distress generally leads to higher earnings per share. According to Malhotra and Tandon (2013), earnings per share have a positive relationship with bank profitability, which means higher the earning per share, higher

would be the bank profitability. Ohlson (1995) considered earnings per share as an important variable for profitability. Peterson (1990) argued that earnings news seasonality induces stock return seasonality. Trabelsi (2013) observed that all three performance measures (earning, cash flow and FIFO) have explanatory power for returns individually and that earnings perform better than cash flows in explaining security price variation.

Return on assets (ROA)

The numerator is the profit considered after deducting the costs, depreciation, and tax etc. One important thing to keep in mind while arriving at this figure is to consider the profits which are generated using such assets. Incomes generated from activities in which there is no contribution of these fixed assets should be excluded for this purpose. The denominator comprises of fixed as well as current assets. A more accurate version of ROA is when average total assets are considered i.e., the average of the opening assets at the start of the accounting period and closing assets at the end of the accounting period.

Profitability measures how well a firm is generating value for the owners. It can be measured through various financial measures such as profit after tax, return on assets (ROA), return on equity (ROE), earnings per share and any market value ration that is generally accepted (Pandey, 2010). It refers to a relation between net profit and assets. The rise in the ratio refers to an effectiveness of profitability of any company (Robinson *et al*., 2015). In general, the study highlights that return on assets is affected by financial distress variables, which influence the profitability position of bank organization.

Independent Variables

Leverage

Leverage is any technique involving the use of debt rather than fresh equity in the purchase of an asset. Kihumba (2013) revealed that total debt was found to have a significant effect on net profit and ROCE. While long-term debt and total debt were found have an insignificant effect on profitability. Edson (2015) indicated that the effect of financial leverage on ROAA and ROAE was negative and statistically insignificant at the 5% confidence level.

Rajan and Zingales (2001) found that there is a negative relationship between firm size and leverage. Similarly, Pushner (1995) revealed that corporate deteriorates when company increases the level of debt in the firm. Likewise, increase in leverage of the firm leads to decrease in the profitability (Titman and Wessels, 1988). Based on it, the study develops the following hypothesis:

H_1: There is a negative relationship between leverage and the profitability of bank.

Capital adequacy ratio

Capital adequacy ratio (CAR) is also known as capital to risk (weighted) assets ratio (CRAR). It is the ratio of bank's capital to its risk. Dang (2011) highlighted that the adequacy of capital is assessed on the basis of capital adequacy ratio. Furthermore, Molyneux and Thornton (1992) found that capital ratio has positive impact on bank performance. Isanzu (2017) developed capital adequacy was found to have a positive and significant effect on ROA; a one-unit increase in capital adequacy resulted in a 0.06 unit increase in the ROA.

OlalekenandAdyinka(2013) argued that there is a positive and significant relationship between capital adequacy and profitability of banks. On the other hand, Hoffmann (2011) claimed that increase in capital leads to increase in bank's profitability. Based on it, this study develops the following hypothesis:

H_2: There is a positive relationship between capital adequacy ratio (CAR) and profitability of bank.

Non-performing Loan

A non-performing loan is a loan that is in default or close to being in default. A non-performing loan is a sum of borrowed money upon which the debtor has not made the scheduled payments. Non-Performing loans (NPL) are the loans that are outstanding in its principal and for long period of time contrary to the terms and conditions under the loan contract. Moreover, Mileris(2012) observed non-performing loan having negative influence on the stock price of private commercial bank in India. Manyuanda (2014) found that a one unit increase in the level of non-performing loans resulted in a 22.9% decline in the level of performance; this decline was found to be statistically significant at the 5% confidence level. Similarly, the study established that a one unit

increase in the level of leverage resulted in a 23.3% decline in performance; this decline was found to be statistically significant at the 5% level.

Isanzu (2017) established that nonperforming loans have a negative and significant effect on the banks ROA; a one-unit increase in nonperforming loans was established to result in a 0.10 unit decrease in ROA. Furthermore, there exists a negative relationship between non-performing loans and market price per share of the banks (Muturi and Njeru, 2016). According to Pandey (2010), there exists strong negative relationship between non-performing loan and bank performance. Based on it, the study develops the following hypothesis:

H_3: There is a negative relationship between non-performing loan (NPL) and profitability of bank.

Liquidity

Liquidity describes the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price. Accounting liquidity measures the ease with which an individual or company can meet their financial obligations with the liquid assets available to them. Financial distress is not only increasingly complementary and mutually supportive to liquidity, but also increasingly inseparable as the process of financial strain (Gestel *et al*. 2006).Financial distress may stimulate liquidity problem on domestic firms through failure as a result of chronic losses which cause a disproportionate increase in liabilities accompanied by shrinkage in the asset value.

Financial distress is expected to affect by liquidity as causes short term insolvency effect, especially through non-meeting of current obligation or making difficulty in paying off financial obligation to creditors, hence impact bank profitability. This effect creates increase fixed costs,

Moreover, Han (2013) noted that the loss in liquidity and downward price pressures are more severe for the defaults during the financial crises. The result showed that there is a significant positive impact of liquid ratio on return on assets (Saleem and Rehman, 2011). Similarly, Ibe (2013) showed that optimal level of liquidity helps in maximizing the profit. Likewise, there is a significant positive correlation between

current ratio and profitability (Ehiedu, 2014). Based on it, the study develops the following hypothesis:

H_4: There is a positive relationship between liquidity and profitability of bank.

Credit to cash plus deposit ratio

The CCD ratio is calculated by dividing loans disbursed in local currency by the sum of local currency deposit and core capital-also known as tier one capital, which includes equity capital and portion of net income retained by institutions. In banking, cash concentration and disbursement provides corporate customers with a banking-driven cash management technique that enables them to retain their cash for as long as possible. Through the use of CCD, corporations can improve their operational cash flow and reduce the amounts they hold in their operating checking accounts. According to the IMF (2010), an examination of the frequency distribution of the annual CD ratios over 2000–2008 in comparable countries - Bangladesh, Bhutan, India, Pakistan, and Sri Lanka – shows that the CD ratio tends to cluster around 60% –70%. Nepal's CCD ratio of 80% as of 2017 is high by regional standards.

According to Lloyd-Williams *et al*. (1994), loan to deposit ratio is positively related to the return on assets. Similarly, Altunbaş and Marques (2008) revealed that there is a significant positive relationship of loan to customer's deposit ratio with firm profitability. Based on it, the study develops the following hypothesis:

H_5: There exists positive relationship between CCD Ratio and profitability of bank.

1.6 Organization of the study

Organization of the study is the examination of how individuals construct structures, processes, and practices and how these, in turn, shape whole research Project. It comprises different areas that deal with the different aspects of the research report. The study is organized in five chapters.

Chapter I: Introduction

The overall background of the study is the statement of the problem, basic and specific objectives, and organization of the study are presented in chapter one.

Chapter II: Literature Review

The conceptual framework and review of some major studies in the field of financial distress and other bank specific and macro variables is summarized in chapter two. The review of literature section has been listed in the tabular form with major date, author name and variables with relationship with other variables. The research gap is shown in the final sector of chapter two.

Chapter III: Research methodology

Subsequently, research methodology of the study is presented in third chapter which describes the research design, nature and sources of data, selection of the sample enterprises distribution of the listed enterprises,

Chapter IV: Results and Discussion

General background, analysis of secondary data estimation of descriptive statistics, correlation matrix, regression analysis, comparison with earlier studies major findings has been shown in chapter four.

Chapter V: summary and conclusion

Finally, in chapter five focuses on the summary and the conclusions of the study along with the implication for the Nepalese commercial banks.

1.7 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. Bank earnings and cash flow among banks, and its impact on the stock return of the Nepalese commercial banks is one of the most important topics to research in the Nepalese context. As every study has a limitation due to different factors of institutions, study period, reliability of statistical data, tools, techniques and variances, despite of the continuous efforts made for arriving at meaningful conclusions from the study, the following major limitations have been outlined.

i. There are all together 28 commercial banks operating in the Nepal. Only 20 commercial banks were considered for the study purpose.
ii. The study has considered only the secondary data. The data collection conducting primary survey has not been taken into consideration. Hence, the result of the study is not broad and flexible. It is limited to the data available in the annual reports of the sample banks and financial reports published by Nepal Rastra Bank.
iii. The study has included only commercial banks and has excluded other institutions such as development banks, finance companies, insurance companies, and microfinance.
iv. The study period includes 5 years' data from the year 2013/2014 to 2017/18, which may be small size for better results.
v. This study assumes a level of homogeneity across banks, which may not be true, since banks in the study are of different sides. The profitability of banks may differ according to the size of the banks.
vi. This study has assumed the linear relationship between the dependent variables and independent variables. Thus, this study has not considered the 'non-linearity' biases. Hence, the scope of this study is limited.
vii. All the portion of the analysis is based on the secondary data and available information. Therefore, the consistency of finding and conclusion are dependent upon the reliability of secondary data and information.
viii. This study does not consider all the factors that explain profitability, such as ROE, net profit margin, stock price etc.

Chapter II

Literature Review

This section discusses some empirical and theoretical literature on the analyzing the impact of financial distress on profitability of commercial bank and presents the theoretical framework of the study. It is divided into three sections. First section consists of theoretical framework which gives an in-depth review of related studies in the context of Nepal, developed and emerging countries. Second section presents a conceptual framework of the study. Finally, the third section presents research gap on the conceptual and empirical review.

Operators of financial institutions confirmed that bad loans and advances contributed most of the distress (central Bank of Nigeria, 1990. In their assessment of the factor responsible for the distress, the operations ranked bad loans and advances first, with a contribution of the 19.5 %.

In 1990, the CBN issued the circular on the capital which relate bank's capital requirement to risk-weighted assets directing the banks to maintain a minimum of 7.25 percent of risk-weighted assets as capital; to hold at least 50% of the components of capital reserves; and to maintain the ratio of capital to total risk-weighted assets as a minimum of 8 percent from January, 1992.

Many researches are performed in the past to study about the financial distress and its association with the financial performance. All of these studies are done by using different models but they are still helpful for our study. Earlier researches involve prediction of bankruptcy by using the single variable. Beaver (1966) showed that bankruptcy could be effectively predicted by using single variable. Bathoray (1984) also studied and evidenced the effective prediction of bankruptcy by using a single variable. Altman (1968) done multivariate analysis and used many important considerations instead of using one variable in predicting bankruptcy or banks failure. Altman used a multivariate framework in which he used five different kinds of ratios to effectively predict the bankruptcy .The review of literature in this study has been organized as follows.

2.1 Review of literature

The review of literature in this study has been organized as follows: -

1. Review of literature on leverage effect
2. Review of literature on liquidity ratio effect
3. Review of literature on capital adequacy effect
4. Review of literature on non-performing loan effect
5. Review of literature on credit to cash plus deposit ratio effect
6. Review of Nepalese studies

2.1.1 Review of literature on leverage

The literature on the relationship between leverage and profitability of Nepalese commercial bank is presented in Table 2.1.

Table: 2.1: Review of literature on leverage

Study	**Major findings**
Kihumba (2013)	Established that the capital structure had influence on profitability, although not exclusively and the total debt was found to have a significant effect on net profit and ROCE, while long-term debt and total debt were found have an insignificant effect on profitability.
Edson (2015)	The results of the Anova analysis indicated that the effect of financial leverage on ROAA and ROAE was negative and statistically insignificant at the 5% confidence level.
Wieland *et al.*(2015)	Highly leveraged companies tend to invest less in employee-orientated activities which in turn lead to higher levels of leverage thus increasing the company's risk
Saleh (2015)	Argued that changes in leverage also have a significant effect on firm's performance; financial firms should use their debt financing more efficiently in order to maximize their returns and performance.
Nyamboga *et al.(*2014)	Higher leverage ratio means a higher proportion of debt compared to equity in long-term financing. While higher leverage would boost return on investment in favorable

	business conditions, higher leverage would, on the other hand, adversely affect return on investment during unfavorable business conditions.
Fan *et al.(*2012)	Debt to assets Ratio is determined by dividing total liabilities by total assets, the higher the ratio the more the financial distress in the firm.
Tan (2012)	A highly profitable firm with high leverage may remain viable as a going concern, irrespective of bankruptcy, while an unprofitable firm may be liquidated even if it has no debt in its capital structure
Opler *et al.*(1994)	Revealed that financial distress can improve Corporate performance and advocate changes in corporate firm using debt.
Heikal *et al.*(2014)	Found that the company's ability to meet all its obligations, which is indicated by what proportion of equity capital is used to pay the debt.
Madhusani and Kawshala (2018)	Stated that the leverage has a negative relationship with ROA and has a positive relationship with ROE.

Kihumba (2013) studied the effect of capital structure on the profitability of listed cement manufacturing companies in Kenya. The study used data from financial statements of the three cement factories listed on the Nairobi Securities Exchange for the period 2006 to 2011. Profitability was measured by the net profit margin, return on capital employed (ROCE) and return on equity (ROE). The capital structure was given as the ratio between debt and equity and the ratio of debt to total funds. The study used longitudinal research design and Pearson correlation coefficient and estimated a regression equation. The total debt was found to have a significant effect on net profit and ROCE. While long-term debt and total debt were found have an insignificant effect on profitability.

Edson (2015) studied the effect of financial leverage on commercial banks profitability in Tanzania during the period 2007-2013. The study sampled commercial banks that were listed on the Dares Salaam Stock Exchange (DSE). The study sample consisted of only four commercial banks namely Commercial Rural Development

Bank (CRDB), National Microfinance NMB), and Dares Salaam Community Bank (DCB). Profitability was measured using return on ROAA and ROAE. Leverage was measured using the Debt Ratio. The study established that the commercial banks had large amounts of leverage averaging 89.9%, 87.7% and 80.2% for CRDB, NMB and DCB plc respectively. Furthermore, the profitability measured in terms of ROA for CRDB, NMB and DCB. The results of the Anova analysis indicated that the effect of financial leverage is negative.

Wieland *et al*. (2015) studied an empirical investigation into the relationship between employee orientation and both profitability and leverage. The selected sample were German publicly listed and unlisted companies identified as a "Top Employer" by the Top Employers Institute for the period 2008-2010. The relationship between employee orientation and both profitability and leverage was then examined for this sample set for the period 2007 and 2011, with the rating "Top Employer Germany" used as a proxy measure of employee orientation. Study revealed that no statistically significant relationship between the level of employee orientation and company leverage was found which is in disagreement with stakeholder capital structure theories which propose that there is a negative relationship, where highly leveraged companies tend to invest less in employee-orientated activities which in turn lead to higher levels of leverage.

Saleh (2015) investigated the impact of financial crisis on GCC firms. The study used a panel data to examine the effect of financial leverage on firm's performance using the dynamic Generalized Method of Moments (GMM) estimator. Study argued that the firm's performance has a dynamic relationship that cannot be measured in cross-sectional data. The results showed that companies' leverage is a significant determinant of firm's performance in GCC countries. The authors also found that financial crisis had a negative and significant impact on firms' performance in GCC countries.

Nyamboga *et al.* (2014)determined the effect of financial leverage as a financial distress factor on profitability of commercial banks in Kenya. Secondary data were usedin census commercial banks from 2005 to 2015 and were extracted from financial statements of 38 commercial banks out of the possible 44 commercial banks. in operation as at 31st December, 2015 in accordance to CBK as a regulatory body. The

results showed perfect positive correlation between debt equity ratio with return on equity and return on assets as well return on equity. The study was limited to the commercial banks in Kenya, the findings were only interpreted to commercial banks in Kenya and they will not be generalized for all financial institutions.

Fan *et al. (*2012) examined the influence of institutional environment on capital structure and debt maturity choices by examining a cross-section of firms in 39 developed and developing countries. The study indicated that firms in countries that are viewed as more corrupt tend to use less equity and more debt, especially short-term debt, while firms operating within legal systems that provide better protection for financial claimants tend to have capital structures with more equity, and relatively more long-term debt. In addition, the existence of an explicit bankruptcy code and/or deposit insurance is associated with higher leverage and more long-term debt. Also, study found that firms tend to use more debt in countries where there is a greater tax gain from leverage, while firms in countries with larger government bond markets have lower leverage, suggesting that government bonds tend to crowd out corporate debt.

Tan (2012) examined financial distress and firm performance evidence from the Asian financial crisis. Using a sample of 277 firms from eight East Asian economies, the relationship between financial distress and firm performance during the Asian Financial Crisis of 1997-1998 was tested. The crisis provided an exogenous shock, which reduced the endogeneity issues between firm performance and leverage. The results from the study established that firms with low financial leverage tend to perform better than firms with high financial leverage. Additionally, the study established that the Asian Financial Crisis of 1997-1998 magnified the negative relationship between financial distress and firm performance. High leverage firms were found to experience worse performance during a crisis. The study was mainly based on the Asian financial crisis and findings could not be generalized for the Kenyan banking industry.

Opler *et al. (*1994) investigated the determinants of financial distress of manufacturing firms in Ethiopia for the period from 1999 to 2005. Due to data heterogeneity, non-continuity and because the Hausman test favors it over the Random Effect technique, the panel data General Least Square (GLS) regression

method were used. The result proved that liquidity, profitability, and efficiency have positive and significant influence on debt service coverage. On contrary, leverage has negative and significant influence on Debt Service coverage. To save infant manufacturing firms, policy makers have the opportunity to influence the financing policy of the firms in the promotion of equity financing by controlling leverage. The appropriate firm executives should consider improving efficiency of firm's performance through retrenchment of assets and replacing, liquidity through improving cash collection, profitability through replacement of departments, products or lines of the business. Financial distress have a negative impact on DSC and leading firms to bankruptcy and liquidation and can cause economic, social and political impact on manufacturing firms and contribute to the CEO resignation, employee's layoff or loss of jobs, dividend reduction, plant closing and related consequential health and moral distress. Keywords: Financial Distress, Debt Service Coverage, Ethiopia.

Heikal*et al.* (2014) analyzed the effect of Return on Asset, Return on Equity, Net Profit Margin, Debt to Equity Ratio and Current Ratio toward growth income either simultaneously or partially on automotive companies that were listed in Indonesia stock exchange. Independent variables used in this research were Return on Asset, Return on Equity, Net Profit Margin, and debt to Equity Ratio and Current Ratio and dependent variable in this research was growth income. The data used in this research was secondary data as 55 samples with purposive sampling. The method used to analyze the relation between independent variable and dependent variable was multiple linear regression and classical assumption test. The study identified that simultaneously independent variables Return on Asset, Return on Equity, Net Profit Margin, Debt to Equity Ratio and Current Ratio with F test, effected together to growth income significantly 0.000.

Madhusani and Kawshala (2018) found out the impact of the financial distress on the profitability by using 05 years data from the year 2012 to 2016 with the sample of all the 31 listed nonbank financial institutions in Sri Lanka. The sample was limited to the 29 of listed nonbanking financial institutions. The study used two profitability indicators such as return on asset (ROA), return on equity (ROE) as dependent variables. Whereas, Altman's Z score and Leverage ratio have used as independent variable's indicators. The study focused on the secondary data and those will be

obtaining basically from published annual reports in Colombo Stock exchange. The findings suggested that the financial distressed situation has a significant impact on the profitability of the listed non-bank financial institution in Srilanka.

2.1.2 Review of literature on liquidity ratio

The literature on the relationship between liquidity ratio and profitability of Nepalese commercial bank is presented in Table 2.1.

Ibe. (2013) conducted a study to evaluate the impact of liquidity management on the profitability of commercial banks. The study covered the period 1995-2010. The study sample was composed of three commercial banks namely United Bank of Africa (UBA), Diamond Bank PLC, and Afri bank. In the study, liquidity was measured using the variables cash and short-term funds, bank balances, and Treasury bill and certificates. Profit after tax was used as the measure of profitability. The study used regression analysis to estimate the relationship between the dependent and the independent variables. That study established that cash and short term funds had a negative effect on the profitability of the three banks. The effect of bank balances and treasury bills was found to have an insignificant effect on performance.

Kariuki (2013) estimated the Z equation developed by Altman (1968) to determine the effect of financial distress on the performance of commercial banks in Kenya. Profitability was given by the Return on Assets (ROA). The study sampled twenty-two banks, eleven of which were listed on the Nairobi Securities Exchange (NSE) and the others were non-listed. The study covered the period 2008-2012. The equation estimated was given as Z=6.56T1+ 3.26T2+ 6.72T3+ 1.05T4. Where T1 denoted the ratio of (current assets – current liabilities)/Total assets, T2 denoted the ratio of Retained earnings to Total assets, T3 denoted the ratio of Earnings before interest and tax to Total assets, and T4 denoted the ratio of Book value of Equity to Total liabilities. The study established that most of the banks under study had financial distress, with the non-listed banks suffering more from financial distress compared to the listed banks. The study established that financial distress has a significant and negative effect on the profitability of banks selected for the study. The study measured financial distress using Altman's Z score. However, the non-performing

Table: 2.2: Review of literature on liquidity ratio

Study	**Major findings**
Ibe (2013)	Examined that cash and short term funds had a negative effect on the profitability of the three banks.
Kariuki (2013)	Found that the non-performing loans, leverage, and liquidity are important indicators of financial distress, especially for commercial banks.
Gestel *et al*. (2006)	Financial distress is not only increasingly complementary and mutually supportive to liquidity, but also increasingly inseparable as the process of financial strain.
Basel Committee (2009)	Stated that sustainability of commercial banks is dependent upon the liquidity position; in return it measures the banks inner role towards the maintenance of cash flow.
Fielding and Short land (2005)	Found that the savings quota and level of liquidity are found to have a positive and significant effect on profitability of the bank.
Abuzar (2004)	Found significant negative relation between the firm's performance and its liquidity level, as measured by current ratio.
Vovoda (2011)	Liquidity has an impact on the performance of commercial banks in Ethiopia. Liquidity and bank performance has inverse relation.
Eljelly (2004)	There is a negative relationship between the firm's profitability and its liquidity level, as measured by current ratio. This relationship is more evident in firms with high current ratios.
Bourke (1989)	The study found liquidity ratio measure by liquid assets to total assets is positively related to return on assets (ROA).
Demirguc-Kunt and Levine (1996)	In developing countries foreign banks show higher profitability and higher interest margins than domestic banks.

Loans, leverage, and liquidity are important indicators of financial distress, especially for commercial banks.

Gestel *et al*. (2006) analyzed corporate credit granting process which is a key commercial activity of financial institutions nowadays. The study used Least Squares Support Vector Machine (LS-SVM) classifiers, also known as kernel Fisher discriminate analysis, were applied within the Bayesian evidence framework in order to automatically infer and analyze the creditworthiness of potential corporate clients. The inferred posterior class probabilities of bankruptcy were then used to analyze the sensitivity of the classifier output with respect to the given inputs and to assist in the credit assignment decision making process. The suggested nonlinear kernel based classifiers yield better performances than linear discriminate analysis and logistic regression when applied to a real-life data set concerning commercial credit granting to mid-cap Belgian and Dutch firms.

Vovoda (2011) studied liquidity problems of some banks during global financial crisis re-emphasized, liquidity is very important for functioning of financial markets and the banking sector. The study identified determinants of liquidity of Czech commercial banks. The data cover the period from 2001 to 2009. The results of panel data regression analysis showed that there is a positive link between bank liquidity and capital adequacy, share of non-performing loans and interest rates on loans and on interbank transaction. The study found negative influence of inflation rate, business cycle and financial crisis on liquidity. The study found that the relation between size of banks and their liquidity is ambiguous. The study also revealed that liquidity has impact on the performance of commercial banks and there was an inverse relation between deposit/net loan and ROE. And the coefficient of liquid asset to total asset was positive and directly related with ROE. The study also found out that capital adequacy of all banks were above threshold, means there was sufficient capital that can cover the risk-weighted assets. The study used different ratios when analyzing liquidity effect on banks performance and these ratios were liquid asset/net profit, liquid asset/total assets, net loans/ net deposits, and interest income/net deposit and interest income/interest expenses.

Eljelly (2004) studied the relationship between profitability and liquidity, as measured by current ratio and cash gap (cash conversion cycle). The study used sample of joint stock companies in Saudi Arabia reveals a negative relationship between the firm’s profitability and its liquidity level, as measured by current ratio. The relationship was more evident in firms with high current ratios and longer cash conversion cycles. At

the industry level, the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The study found there is a significant effect of size variable on profitability at the industry level. Finally, the results are stable over the period under study.

Basel committee (2009) studied the cash and cash equivalent; investment in securities and placement with other banks. The study was conducted using 5 year data from 2004 to 2008. The study used regression model for analyzing the results. The study found that the sustainability of commercial banks is dependent upon the liquidity position and in return it measures the banks inner role towards the maintenance of cash flow .Moreover, study found that liquidity was very important for both predictable and unpredictable losses. The study helped to reduce losses and enhance the chances of banks profitability that's why liquidity is a very essential measure.

Bourke (1989) analyzed the performance of banks in twelve countries or territories in Europe, North America and Australia. The data were collected from commercial banks using 8 year data for 1980 to 1987. The data collected were analyzed using both descriptive and regression analysis statistics. The study examined the internal and external determination of profitability. The study used multiple regression model represented by ordinary least square (OLS) as a technique to examine the impact of liquidity ratio on the profitability of selected banks. The study found positive relationship between liquidity ratio andprofitability.

Demirguc-Kunt and Levine (1996) studied the profitability and interest margin in foreign banks. The data were collected for the period of 1990 to 19994 using 5 year Observation. The sample size for the study was 15 commercial banks. The data were collected from financial statements and annual reports of the selected banks. The study found that foreign banks have higher profitability and higher interest margins than domestic banks. On the other hand, this is reverse in industrial countries, where performance of domestic banks higher than their counterparts. The study explained this as the fact that foreign bank's technological edge is stronger in developing countries relatively to industrial countries. The technological edge prevented informational disadvantage while locally raising or lending funds.

Abuzar(2004) studied liquidity and profitability in joint stock companies in Saudi Arabia. The study used sample 14 joint stock companies in Saudi Arabia for the

period of 1999 to 2003. The method used was correlation and regression analysis. The study examined the relationship between profitability and liquidity as measured by current ratio and cash gap (cash conversion cycle). The study found significant negative relation between the firm's profitability and its liquidity level, as measured by current ratio. The study showed relationship is more evident in forms with high current ratios and longer cash conversion cycles. At the industry level, however, the study found that the cash conversion cycle or the cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The size variable is also found to have significant effect on profitability at the industry level.

Fielding & Short land (2005) studied monetary policy, interest rate in commercial banks in Europe. The study used primary data for the analysis of results. The study found that the tightening monetary policy reduces bank liquidity, level of unemployment, which is connected with demand for loans, size of the bank measured by total number of bank customers and bank profitability affect liquidity ratio significantly and negatively, Whereas, savings quota and level of liquidity are found to have a positive and significant effect on liquidity position of the bank under consideration.

2.1.3 Review of literature on capital adequacy ratio

The literature on the relationship between capital adequacy and profitability of Nepalese commercial bank is presented in Table 2.2.

Dang (2011) examined the potential interactions of corporate financing and investment decisions in the presence of incentive problems. The study used data from panel of UK firms between 1996 and 2003. The study found that high growth firms control underinvestment incentives by reducing leverage but not by shortening debt maturity. The study found a positive relation between leverage and debt maturity as predicted by the liquidity risk hypothesis. Leverage has a negative effect on firm investment levels, which is consistent with the overinvestment hypothesis regarding the disciplining role of leverage for firms with limited growth opportunities .The study developed a system- based approach to investigate the effects of growth opportunities on leverage and debt maturity as well as the effects of these financing decisions on firm investment.

Table: 2.3: Review of literature on capital adequacy ratio

Study	**Major Findings**
Dang (2011)	Highlighted that the adequacy of capital is assessed on the basis of capital adequacy ratio.
Isanzu (2017)	Developed capital adequacy was found to have a positive and significant effect on ROA; a one-unit increase in capital adequacy resulted in a 0.06 unit increase in the ROA.
Olaleken (2013)	Argued that there is a positive and significant relationship between capital adequacy and profitability of banks.
Goddard *et al*.(2004)	The study revealed that capital adequacy ratio has negative relationship bank's profitability.
Al-Tamimi & Obeidat (2013)	There is a statistically significant positive correlation between the degree of capital adequacy in commercial banks and the factors of liquidity risk, and the return on assets.
Olalekan and Adeyinka (2013)	Capital adequacy is used to measure financial strength and stability of a company.
Ikpefan (2013)	Found out that capital adequacy of banks have a negative impact on ROA of Nigeria commercial banks.
King'ori *et al*. (2017)	The study found a positive and statistically significant relationship between operational efficiency, capital adequacy, firm size and profitability of microfinance banks in Kenya.
Lipunga (2014)	Concluded that capital adequacy ratio has negative and significant impact on profitability.
Ejoh & Iwara (2014)	Revealed that there is positive and significant relationship between capital adequacy ratio and bank's performance.
Iftikhar (2016)	Concluded capital adequacy ratio has positive and significant impact on return on assets as financial performance.
Hussain *et al.* (2016)	Suggested that capital adequacy ratio is positively related with the on bank's performance as earning per share.
Udom & Eze (2018)	Revealed that capital adequacy ratio has positive impact on the financial performance.

Isanzu (2017) established the effect of credit risk on the profitability of Chinese Banks. The study targeted the five largest banks in China and covered the period 2008-2014. The study developed a multi-linear balanced panel regression model for the purposes of Credit risk was measured using nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges. The dependent variable profitability was measured using ROA. The study established that nonperforming loans have a negative and significant effect on the banks ROA; a one-unit increase in nonperforming loans was established to result in a 0.10 unit decrease in ROA. Capital adequacy was found to have a positive and significant effect on ROA; a one-unit increase in capital adequacy resulted in a 0.06 unit increase in the ROA. The beta coefficient for impaired loans reserve ratio was 0.006 and statistically significant at the 5% confidence level. The loan impairment charges were found to have a positive and statistically significant effect on the ROA.

Olalekan and Adeyinka (2013) argued that capital will be used to absorb an unanticipated abnormal loss in cases where such losses cannot be absorbed by earnings in financial institutions. The study presented primary data collected by questionnaires involving a sample of 518 distributed to staff of banks with a response rate of 76%. Also published financial statement of banks were used from 2006 - 2010. The study sets out to examine the effect of capital adequacy on profitability of deposit- taking banks in Nigeria. The study assessed the effect of capital adequacy of both foreign and domestic banks in Nigeria and their profitability. The findings for the primary data analysis revealed a non-significant relationship but the secondary data analysis showed a positive and significant relationship between capital adequacy and profitability of bank. For deposit- taking banks in Nigeria, capital adequacy plays a key role in the determination of profitability. Study discovered that capitalization and profitability are indicators of bank risk management efficiency and cushion against losses not covered by current earnings.

Goddard (2004) studied the profitability of European banks during the 1990s using cross-sectional, pooled cross-sectional time-series and dynamic panel models. The study used the models for the determinants of profitability were used as incorporate size, diversification, risk and ownership type, as well as dynamic effects. Despite intensifying competition there is significant persistence of abnormal profit from year

to year. The study found the evidence for any consistent or systematic size–profitability relationship is relatively weak. The study also found the relationship between the importance of off-balance-sheet business in a bank's portfolio and profitability is positive for the UK, but either neutral or negative elsewhere. The relationship between the capital–assets ratio and profitability is positive.

Al-Tamimi & Obeida (2013) identified the most important variables which affect the capital adequacy of commercial banks of Jordan in Amman Stock Exchange for the period from 2000 –2008. The study showed that there is a statistically significant positive correlation between the degree of capital adequacy in commercial banks and the factors of liquidity risk, and the return on assets. However, the study also showed that here is an inverse relationship not statistically significant between the degree of capital adequacy in commercial banks and factors of the capital risk, credit risk, and the rate of force- revenue.

Ikpefan. (2013) investigated the impact of bank capital adequacy ratios, management and performance in the Nigerian commercial bank (1986 - 2006). The study determined to what extent bank capital adequacy ratios impact on bank performance and also to investigate the extent to which operation expenses has impacted on the return on capital. The study captured their performance indicators and employed cross sectional and time series of bank data obtained from Central Bank of Nigeria (CBN) and Annual Report and Financial statements of the sampled banks. The formulated models were estimated using ordinary least square regression method. The overall capital adequacy ratios of the study shows that Shareholders Fund/Total Assets (SHF/TA) which measures capital adequacy of banks (risk of default) have negative impact on ROA. The efficiency of management measured by operating expenses indices is negatively related to return on capital. The study stated that adequate shareholders fund can serve as a veritable stimulant in strengthening the performance of Nigerian commercial banks and also heighten the confidence of customers especially in this era of global economic meltdown that has taken its toll in the Nigerian financial system.

King'ori *et al*. (2017) stated that Microfinance provides strength to boost the economic activities of low-income earners and thus contributes to eradication of poverty. The study adopted a descriptive research design and used secondary data

from 7 Microfinance banks for a period of 5 years from 2011 to 2015. The data collected was analyzed using correlation and regression analysis. However, microfinance institutions face stringent competition from commercial banks; the growth of microloan activities of commercial banks may confront microfinance institutions with increased competition for borrowers. In Kenya, the micro finance sector has extremely high competition indicated by the shifting market share and profitability. The study sought to examine the determinants of profitability of Microfinance banks in Kenya. The study found a positive and statistically significant relationship between operational efficiency, capital adequacy, firm size and profitability of microfinance banks in Kenya. However, the study found an insignificant negative relationship between liquidity risk, credit risk and profitability of microfinance banks in Kenya. The study concluded that there is direct relationship between operational efficiency, capital adequacy, firm size and profitability of microfinance banks in Kenya.

Lipunga (2014) concluded that capital adequacy ratio have negative and significant impact on profitability. The study examined to evaluate the determinants of profitability of listed commercial banks in developing countries specifically focusing on Malawi during the period 2009-2012 using internal-based and external-based profitability measurements. The study employed correlation and multivariate regression analysis.

Ejoh & Iwara (2014) investigated the impact of capital adequacy on deposit money bank's profitability in Nigeria, taking a case study of five selected banks. The empirical analysis covered the period from 1981 to 2011. The data for the study were obtained from secondary sources including the annual reports and financial statements of the selected banks and Central Bank of Nigeria (CBN) statistical bulletin. The study adopted the Engle and Granger two steps procedure in co-integration. The study revealed that capital adequacy plays an important role in explaining banks returns on assets (ROA) which is a measure of inbank's profitability. The positive and significant relationship between capital adequacy and bank's profitability suggestthat banks with more equity capital are perceived to have more safety and such advantage can be translated into higher profitability.

(Hussain et. al. 2016) found that capital adequacy ratio have negative and siginifcant effect on Tobin' Q and earning per share as probitbality. The study intends to analyze the various risks which affect the banking operations in Pakistan and to assess the effect of risk management on the performance of both large banking institutions and small banking institutions. Panel data from 2005-2014 was taken from the published annual reports of commercial banks. Descriptive statistics, correlation analysis and random effect OLS regression was used to analyze the data and the study revealed the capital adequacy ratio is positively related with the on bank's performance as earning per share.

Iftikhar (2016) concluded that capital adequacy ratio have positive and significant impact on earnings per share as financial performance. The study was conducted to test the relationship between credit risk management and financial performance of commercial banks of Pakistan that are listed in KSE. A statistical model had designed to measure this relationship, the study exposed that the impact on financial performance of the commercial banks of Pakistan as calculated by earning per share and return on assets, where the indicator of assets quality management were non-performing loan and capital adequacy ratio.

Udom & Eze (2018) examined the effect of capital adequacy requirements on the performance of commercial banks in Nigeria. The study used secondary time series data sourced from the NDIC and CBN Annual and Bank Supervision Reports. The data analysis technique employed include the Ordinary Least Squares (OLS) regression method. The overall capital adequacy variables of the study shows that ASF, CRWA, TQC togetherhave significant effect on the dependent variable, return on asset, which measures bank performance. The results further show that capital adequacy impact positively on the financial performance of commercial banks in Nigeria.

2.1.4 Review of literature on non-performing loan

The literature on the relationship between non-performing loan and profitability of Nepalese commercial bank is presented in Table 2.4.

Table: 2.4: Review of literature on non-performing loan

Study	Major findings
Manyuanda (2014)	That study established that there is a relationship between non-performing loans and profitability of Saving and credit-cooperative.
Isanzu (2017)	Established that nonperforming loans have a negative and significant effect on the banks ROA;
Nazir (2010)	Asserted that high non-performing loans affect the profitability of the bank and low ratios indicate that the bank is in good health.
(Olweny and Mamba (2011)	Noted that small and medium banks that had the highest ratio of non-performing loans to gross loans are associated with low profitability.
Adeyemi (2012)	Identified capital inadequacy, lack of transparency, and huge non-performing loans as a major cause of failure in Nigerian banks.
Manyuanda(2014)	Found that a one unit increase in the level of non-performing loans resulted in a 22.9% decline in the level of performance
Muturi and Njeru (2016)	There exists a negative relationship between non-performing loans and market price per share of the banks
Akter *et al*. (2017)	Found the major factors of influencing banks profitability and it has statistically significant negative impact on net profit margin (NPM) of listed banks for the study periods.
Kaaya & Pastory (2013)	Concluded that the non-performing loan have negative and significant impact on bank performance.
Adeusi *et al.* (2014)	Concluded that non-performing loan have positive and significant impact on return on assets as banks performance.
Abiola & Olausi (2014)	Revealed that non-performing loan have significant impact on the profitability of commercial banks' in Nigeria.
Kurawa & Garba (2014)	Revealed that the non-performing loan have negative effect on profitability of Nigerian banks.
Nsobilla (2016)	Examined that non-performing loan have negative influence on financial performance whereas total revenue and loan recovered has positive effect on financial performance.

Vinh (2017)	Revealed that NPA has negative effects of bank profitability and lending behavior.
Gizaw *et al.* (2015)	Found that that non-performing asset ratio has negative and significant impact on return on assets as well as earning per share.
Kingu *et al.* (2015)	Revealed that non-performing loan have negative and significant impact on profitability.
Nyarko-Baasi (2018)	Revealed that non-performing loan have negatively affect on profitability of banks
Chimkono *et al.* (2016)	Concluded that non-performing loan is negatively related with the financial performance.

Aktar *et al*.(2017) studied the Banking sector of Bangladesh is trapped in a gridlock of non-performing loans (NPLs) so much so that NPL accounts for 11.60 percent of the total volume of classified loans. The study explained that frequent scam series in banking industry is surely a red light and unfortunately the commercial banks are highly surrounded by it. The goal of the study was to analyze the impact of non-performing loan (NPL) on profitability where in this study considered net interest margin (NIM). This paper attempts to find out the time series scenario of non-performing loans (NPLs), its growth, provisions and relation with banks profitability by using some ratios and a linear regression model of econometric technique. The empirical results represented that non-performing loan (NPL) as percentage of total loans on listed banks in Dhaka Stock Exchange (DSE) is very high and they holds more than 50 % of total non-performing loans (NPLs) of the listed 30 banks in Dhaka Stock Exchange (DSE) for year 2008 to 2013. Moreover, it is one of the major factors of influencing banks profitability and it has statistically significant negative impact on net profit margin (NPM) of listed banks for the study periods.

Manyuanda (2014) studied the effect of non-performing loans on the profitability of Savings and Credit Co-operatives (SACCOs) in Nairobi County. The study used sample of all the Sacco's operating in Nairobi country. The independent variables of the study included firm size, leverage, and non-performing loans. The dependent variable performance was measured using Return on Assets. The study used ROA as a measure of profitability as it clearly indicates how well the organization is using its

assets. The study established that a one unit increase in the level of non-performing loans resulted in a 22.9% decline in the level of performance; this decline was found to be statistically significant at the 5% confidence level. Similarly, the study established that a one unit increase in the level of leverage resulted in a 23.3% decline in performance; this decline was found to be statistically significant at the 5% level. The study established that there is a relationship between non-performing loans and profitability of Saccos. The study aimed to establish the relationship between non-performing loans and profitability of tier three commercial banks.

Isanzu (2017) developed a multi-linear balanced panel regression model for the purposes of establishing the effect of credit risk on the profitability of Chinese Banks. The study targeted the five largest banks in China and covered the period 2008-2014. The study used measured credit risk using nonperforming loans, capital adequacy ratio, impaired loan reserve, and loan impairment charges. The dependent variable profitability was measured using ROA. The study established that nonperforming loans have a negative and significant effect on the banks ROA; a one-unit increase in nonperforming loans was established to result in a 0.10 unit decrease in ROA. Capital adequacy was found to have a positive and significant effect on ROA; a one-unit increase in capital adequacy resulted in a 0.06 unit increase in the ROA. The beta coefficient for impaired loans reserve ratio was 0.006 and statistically significant at the 5% confidence level. The loan impairment charges were found to have a positive and statistically significant effect on the ROA.

Adeyemi (2012) examined bank failure in Nigeria as a consequence of capital inadequacy, lack of transparency and non-performing loans. The aim of the study was to establish the main factors responsible for bank failure in Nigeria, to assess the extent to which these identified factors are accountable for this failure and to ascertain other factors that may be responsible for it. The study identified capital inadequacy, lack of transparency, and huge non-performing loans as a major cause of failure in Nigerian banks. The study claimed that financial institutions are expected to maintain adequate capital in order to meet their financial obligations, operate profitably and contribute as a result a sound financial system.

Nazir. (2010) evaluated the operating efficiency of 28 Pakistani commercial banks. The study used a five-year period, i.e., for 2003-2007, through the traditional method

and Data Envelopment Analysis (DEA) approach. The study revealed that privatization is considered one of the most sophisticated techniques to improve the financial position of the banking sector and has been empirically tested by many researchers through different methods; and still, many studies are under way to assess its implications on the economy. The study showed a significant positive effect of privatization on the financial institutions' profitability. The results of the traditional approach suggest that privatization cannot help banks in improving their operating income. The study added further robustness to the findings of the DEA approach of measuring efficiency, which show that public banks are better able to cover their interest and non-interest expenses from their corresponding revenues.

Olweny and Mamba(2011) 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 study used data from annual financial statements of 38 Kenyan commercial banks from 2002 to 2008 were obtained from the CBK and Banking Survey 2009. The data were analyzed using multiple linear regressions method. The study adopted an explanatory approach by using panel data research design to fulfill the above objectives. The study 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 recommends policies that would encourage revenue diversification, reduce operational costs, minimize credit risk and encourage banks to minimize their liquidity holdings.

Manyuanda (2014) stated that profitability has received significant attention from scholars in the various areas of business and economics. The study made use of secondary data for the period of 2010 to 2014. The data were obtained from nonperforming loans, profitability of the SACCOs and provision for bad debts which was obtained from the annual financial statements of the SACCOs operating FOSAs within Nairobi County. Journals, books and other resource materials on nonperforming loans and profitability were also used as well as review of related studies which was done to compare relevant information as regards the same. The study made use of regression analysis to establish the effect of nonperforming loans on the profitability of SACCOs in Nairobi County. The study showed that high

performance reflects management effectiveness and efficiency in making use of company's resources and this in turn contributes to the country's economy at large. The study stated some of the factors affecting profitability include; nonperforming loans, size of the organization, leverage and management efficiency. The study found that there is a strong relationship between return on assets and independent variables (firm size, leverage & nonperforming loans ratio). From the determination coefficients, it can be denoted that there is a strong relationship between dependent and independent variables given a coefficient of determination value of 0.630.

Muturi and Njeru (2016) investigated the effect of non-performing loan ratio and other determinants on the profitability of commercial banks in the Malawian banking sector. The study covered a seven-year period from 2008 to 2014. Secondary data was used. The study used correlation research technique and regression analysis was carried out. The population of the data comprised the commercial banks licensed by the Reserve Bank of Malawi. Census study was conducted. The study found that non-performing loan ratio, cost efficiency ratios and average lending interest rate had a significant effect on the performance of banks in Malawi. Cash reserve ratio variable was positively related to bank performance but was not significant. The study recommends specific support from the monetary authorities and operations-enhancing innovation on the part of the banks themselves.

Kaaya & Pastory (2013) examined the association between the assets quality measured by non-performing assets ratio and bank performance measured by return on assets of 11 banks in Tanzania. The study used regression to analyze the data. The findings of the study revealed that the indicator of non-performing assets have negative correlation which bank performance. It indicates that higher the non-performing assets lower would be the bank performance.

Adeusi *et al*. (2014) investigated the association of non-performing assets practices and bank financial performance in Nigeria. Secondary data sourced was based on 4 year progressive annual reports and financial statements of 10 banks and a panel data estimation technique adopted. The result revealed an inverse relationship between financial performance of banks and doubt loans, and capital asset ratio was found to be positive and significant. Similarly it indicates that the higher the managed funds by

banks, higher would be the performance. The study concluded a significant relationship between banks performance and non-performing assets.

Kurawa & Garba (2014) examined the effect of assets quality determinants on the profitability of Nigerian banks with a view to discovering the extent to which default rate (DR), cost per loan asset (CLA), and capital adequacy ratio (CAR) influence return on asset (ROA) as a measure of banks' profitability. Data were generated from secondary sources, specifically, the annual reports and accounts of quoted banks from 2002 to 2011. Descriptive statistics, correlation, as well as random-effect generalized least square (GLS) regression techniques were utilized as tools of analysis in the study. The findings revealed that non-performing assets have a significant positive effect on the profitability of Nigerian banks.

Abiola & Olausi (2014) investigated the impact of non-performing assets on the performance of commercial banks in Nigeria. Financial reports of seven commercial banking firms were used to analyze for seven years (2005 – 2011). The panel regression model was employed for the estimation of the model. In the model, earning per share (EPS) and return on asset (ROA) were used as the performance indicators while non-performing loans (NPL) and capital adequacy ratio (CAR) as non-performing assets indicators. The findings revealed that non-performing assets has a significant impact on the profitability of commercial banks' in Nigeria.

Vinh (2017) analyzed the impact of non-performing assets on bank profitability and lending behavior. The study used data collected from 34 Vietnamese commercial banks over the period from 2005 to 2015. The study found some evidence that the non-performing assets have a statistically significant negative effect on Vietnamese commercial banks profitability and lending behavior. The estimation results also show that other bank specific and macroeconomic determinants affect bank profitability and lending behavior significantly in the anticipated way.

Nsobilla (2016) analyzed the effect of non-performing assets on the financial performance of selected rural banks in the western and Ashanti regions of Ghana. The study used Secondary data with reference period of 2004-2013 were collected from six selected rural Banks in both the Ashanti and Western Regions of Ghana between. The Ordinary Least Square Regression (OLS) was employed to estimate the effect of non-performing assets on financial performance. The dependent variable of the study

was return on assets and log total revenue and the independent variables were Log Cost-Income ratio, Log Loan Recovered Log Non-performing assets and Log Liquidity Risk. The results of the OLS revealed that nonperforming assets, cost-income ratio, loan recovered and total revenue were all statistically significant at 1% significance levels respectively. The liquidity risk was not statistically significant. The non-performing assets and cost-income ratio had a negative influence on financial performance whereas total revenue and loan recovered had a positive effect on financial performance. The study further found a negative relationship between bank performance and NPA.

Gizaw *et al.* (2015) investigated the impact of non-performing assets on profitability of commercial banks in Ethiopia. The study applied secondary data collected from 8 sample commercial banks for a 12 year period (2003-2004) were collected from annual reports of respective banks and National Bank of Ethiopia. The data were analyzed using a descriptive statics and panel data regression model and the result showed that assets quality measures: non-performing loan, loan loss provisions and capital adequacy have a significant impact on the profitability of commercial banks in Ethiopia.

Kingu *et al.* (2015) examined the the impact of non-performing assets on bank's profitability using information asymmetry theory and bad management hypothesis. This study adopted causality research design using panel data from 2007 to 2015 of 16 commercial banks in Tanzania. The study employed Descriptive statistics and multiple regression analysis estimation methods. Smilarly, Ordinary Least-Squares (OLS) regression technique was also used, and then Fixed Effects (FE) and Random Effects (RE) assumptions were considered. The study found that occurrence of non-performing loans is negatively associated with the level of profitability in commercial banks in Tanzania. Likewise, the study revealed that information asymmetry theory and bad management hypothesis.

Chimkono *et al.* (2016) inveatigated the effect of non-performing assets ratio and other determinants on the financial performance of commercial banks in the Malawian banking sector. The study covered a seven-year period from 2008 to 2014. Secondary data was used. The study used correlational research technique and regression analysis was carried out. The population of the data comprised the

commercial banks licensed by the Reserve Bank of Malawi. The study found that non-performing assets ratio, operating efficiency ratios and average lending interest rate had a significant effect on the performance of banks in Malawi. Similarly, the study concluded Cash reserve ratio is positively related to bank performance.

Nyarko-Baasi (2018) examined the effect of non-performing loans on profitability on four of the major banks listed on the Ghana Stock Exchange. Panel regression analysis was employed to establish the relationship between non-performing loans and profitability in order to account for heterogeneity among selected banks for a data span of 2006 to 2015. By the use of Eveiws, the analysis was conducted based on fixed effects model and Correlated Random fixed effects -Hausman test. Non-performing loan ratio (NPLR) and capital adequacy ratio (CAR) were the two key explanatory variables. The study revealed that NPL negatively affect profitability of banks but rate of CAR showed a significant positive relationship with profitability. bank size equally showed a positive relationship with profitability..

2.1.5 Review of literature on credit to cash plus deposit ratio

The literature on the relationship between credit to cash plus deposit ratio and profitability of Nepalese commercial bank is presented in Table 2.5.

Lloyd-Williams *et al*. (1994) studied on market structure and performance in Spanish banks. The study presented for tests of both hypotheses with respect to the Spanish banking industry using pooled and annual data for the period 1986–1988. The study used two competing hypotheses with regard to market structure and performance are the traditional structure-conduct-performance (SCP) paradigm and the efficiency hypothesis. The results generally supported the traditional SCP paradigm as an explanation for the market behavior of Spanish banks and this suggests that further concentration in the Spanish banking market, currently being encouraged by the government and the Bank of Spain, is likely to unambiguously decrease the level of competition in the system and cannot be justified on efficiency grounds.

Sharifi and Akhter (2016) assessed the performance of banking through credit deposit ratio in public sector banks in India. The study collected the data from 26 public sector banks in India for the period of 7 year from 2008 to 2015. The study used the secondary data which are collected from annual report of respective banks and sector

Table: 2.5: Review of literature on credit to cash plus deposit ratio

Study	Major findings
Lloyd-Williams *et al*. (1994)	Stated that loan to deposit ratio is positively related to the return on assets.
Altunbaş and Marqués (2008)	Revealed that there is a significant positive relationship of loan to customer's deposit ratio with firm profitability.
Sharifi and Akhter (2016)	Showed that credit to deposit ratio has positive relationship with return on assets, return on equity and net interest margin. However, only net interest margin is statistically significant.
Sharifi and Akhter (2016).	Credit to deposit ratio is statistically significant to profitability.
Thapa(2017)	Found negative and significant relationship between loan to deposit ratio and firm size.
Malhotra and Kaur (1992)	The study revealed that regulatory tools like reserve requirement, cash to deposit ratio and share of industrial sector to total credit are consistent with sign and has significant relationship with profitability.
Shingjergji (2013)	Found that credit to deposit ratio is negative and significant with bank performance.
Swamy (2012)	Observed that credit to deposit ratio is negative and significant with performance.
Al-Qudah and Jaradat (2013)	Found out that there is negative and significant relationship between ROE and total loans to total deposits which is the proxy variable of liquidity ratio.
Naceur (2003)	Mentioned that the credit to deposit has positive and significant impact on financial performance.
Kargi (2011)	Concluded that credit to deposit has significantly related profitability.
Syahru & Syarif (2006)	Found that the credit to deposits has positive and significant impact on profitability.

banks in India for the period of 7 year from 2008 to 2015. The study used the secondary data which are collected from annual report of respective banks and Reserve Bank of India. The data were analyzed using descriptive statistics and panel

data regression model. The study analyzed the impact of credit to deposit ratio on performance of banks. The study has taken credit to deposit ratio as an independent variable. Likewise, return on assets, returns on equity and net interest margin are taken as dependent variables. The results showed that credit to deposit ratio has positive relationship with banks performance. However, only credit to deposit ratio is statistically significant to profitability.

Altunbaş and Marqués (2008) examined the impact of European Union banks' strategic similarities on post-merger performance. The study used the former approach by comparing actual pre- and post- merger performance in a comprehensive sample of European Union banks from 1992 to 2001. The method allowed helped study to cover a wider sample of European Union banks by including also banks which are not listed on the stock market. Building on earlier US. The Study found that bank mergers have resulted in improved performance also found that for domestic deals, it can be quite costly to integrate institutions which are dissimilar in terms of their loan, earnings, cost, deposit and size strategies. For cross-border mergers, differences between merging partners in their loan and credit risk strategies are conducive to higher performance, whereas diversity in their capital and cost structure has a negative impact from a performance standpoint. The study also examined the impact of strategic similarities between bidders and targets on post-merger profitability. The analogy with the US banking sector seems to be a useful one, as US country an important process of banking consolidation and interstate expansion took place following a strong process of banking deregulation in the late 1980s and early 1990s.

Malhotra and Kaur (1992) investigated the impact of monetary policy on the performance of commercial banks in India. The data were collected from year 1960 to 1984. The study took step wise regression analysis to analyze the data. The monetary policy variables were considered as reserve requirements, CCD ratio, bank rate and share of industrial sector on total credit and share of priority sector on total credit. The net profit after tax is taken as proxy variable of performance. The results indicated that share of industrial sector in total bank credit, CCD ratio have positive and significant relationship with banks performance. In contrast, reserve requirement, bank rate and share of priority sector have negative and significant relation with performance. Study also indicated that only reserve requirement, CCD ratio and share

of industrial sector to total credit are consistent and have significant relationship with performance. Therefore, the major monetary policy variables that have significant impact on performance were reserve requirement; CD ratio and share of industrial sector to total credit

Shingjergji (2013) analyzed the relationship between the nonperforming loans ratio and several bank specific variables. The data were used from 2002-2001. The study used regression model for analysis of results. The study was based on the hypothesis that the NPLs ratio is influenced from the bank variables. The Albanian banking system is suffering from an ongoing growth of NPLs ratio and this very concerning taking into account that NPLs ratio is about 24% of the total loans. The relation between the NPLs ratio and the dependent variables were tested by a simple regression model like OLS estimation. The independent variables were the NPLs ratio while as independent variables are used: loans level, net interest margin, loan to asset ratio, capital adequacy ratio and return on equity.

Swamy (2012) revealed that the increasing role for financial intermediaries in economic development have attempted to highlight the importance of reduction of transaction costs for financial deepening and consequent economic growth. The study was based on the primary (survey) data has analyzed and established that microfinance models of lending offer considerably lower costs of borrowing than those in regular models of direct lending by banks. The study elucidated that higher transaction costs of borrowing for the poor in particular will retard the long-term growth of rural financial markets. The study showed that microfinance model of lending can provide cost-efficient model of financial intermediation for speedy financial development to further economic growth.

Al-Qudah and Jaradat (2013) determined the effect of macroeconomic variables (external variables) and bank characteristic (internal variables) on the profitability of Jordanian Islamic banks for the period (2000–2011).the study used panel data analysis fixed effects model and the generalized least square method to examine the study hypotheses. The empirical analysis showed that capital adequacy, bank size has a positive and significant impact on return on assets (ROA) and return on equity (ROE). While leverage measured by total deposit to total assets has a negative and significant impact on (ROA) and (ROE). The study showed that the liquidity has an insignificant

effect on (ROA) and negative significant impact on (ROE). The study found that macroeconomic factors represented by Amman stock exchange index, construction licensed square meters and money supply growth are good determinants for Islamic banks profitability.

Naceur (2003) investigated the impact of bank's characteristics, financial structure and macroeconomic indicators on bank's return on assets and profitability in the Tunisian banking industry for the 1980-2000 periods. The study has been conducted an all 8 locally owned commercial banks in Tunisian. The study specifically mentions that the credit to deposit has positive and significant impact on financial performance in banking sector.

Kargi (2011) evaluated the impact of credit to deposit on the profitability of Nigerian banks. Financial ratios as measures of bank performance and credit to deposit were collected from the annual reports and accounts of sampled banks from 2004-2008 and analyzed using descriptive, correlation and regression techniques. The findings revealed that credit to deposit has a significant impact on the profitability of Nigerian banks. It concluded that banks profitability is inversely influenced by the levels of loans and advances, nonperforming loans and deposits.

Syahru & Syarif (2006) analyzed study and analyzed the correlation between earning per share and other factors, specifically return on assets and credit to deposit ratio banks financial performance in Nigeria using a time series and cross sectional data from 1997 to 2004. The study concluded that these two variables has influenced positively significant to the earning per share variables. Loans and deposits is one of the prime factors for determining the profitability of the bank. Both loans and deposit are equally important in the banking operation like two sides of the same coin.

2.1.6 Review of Nepalese studies

The summary of Nepalese literature regarding the impact of financial distress on profitability of Nepalese commercial bank in Nepal is presented in Table no. 2.6.

Pradhan *et al*. (2002) studied on financial distress, financial ratios, and stakeholder losses in corporate restructuring. The sample size was taken over 90 percent of total

Table 2.6: Nepalese literature

Study	**Major Findings**
Pradhan *et al*. (2002)	Showed Productivity, profitability, liquidity are deteriorated by financial distress.
Neupane (2013)	There is positive relationship between capital adequacy ratio and efficiency.
Sharma (2016)	The liquidity of Nepalese commercial banks is highly affected by the non-performing loans and capital adequacy ratio, credit to deposit ratio, bank size and total deposits to total assets ratio.
Pradhan & Shrestha (2016)	Indicated that increase in liquidity ratio and quick ratio leads to decrease in the performance and profitability of the Nepalese commercial banks.
Bhandari (2016)	The result revealed significant relationship between capital adequacy ratios with banks profitability measured in terms of return on assets.
Bariya *et al*. (2016)	The result of liquidity on profitability is mixed and insignificant. It indicates that conclusion about the impact of liquidity remains questionable and further research is needed.
Sthapit & Maharjan (2012)	There is a significant impact of liquidity on profitability in Standard Chartered Bank Nepal Ltd., but not in NABIL Bank.
Parajuli (2016)	The relationship of capital adequacy is positive and significant with return on assets, return on equity and net interest margin.
Thapaliya (2016)	Revealed that capital adequacy ratio is positively correlated to return on assets and earning per share.
Bhandari (2017)	Showed that core capital ratio is negatively correlated to profitability.
Manandhar *et al.* (2014)	Found that capital adequacy ratio has negative impact on return on assets but positive impact on Tobin's Q.

Singh (2017)	Found that capital adequacy ratio, loan rate and liquidity have positive and significant impact on earnings per share.
Pandey (2017)	Revealed that the capital adequacy ratio is negatively correlated to earning per share and Tobin's Q of private sector banks.
Chaudhary *et al.* (2017)	Revealed that firm size has positive impact on bank performance.
Magar *et al*. (2015)	Showed that bank size and total debt are positively related to bank performance.
Bhusal *et al.* (2015)	Observed negative and significant relationship between non-performing loan and profitability.

Public enterprises from 1996/97 to 1998/99. The estimated equations indicated that financial distress in Nepalese enterprises is quite significant. The study was based on primary as well as secondary data. The secondary data were obtained mainly from the various government publications. The secondary data were collected mainly from the financial statements compiled by these institutions. Data were collected so as to compute the different financial ratios, such as net profit ratio, return on equity, operating expenses ratio, current ratio, quick ratio, fixed assets turnover, inventory turnover, labor productivity ratio and debt coverage ratio. The primary data consists of conducting interviews with selected executives of private and public sector undertakings including government officials mainly involved in planning and monitoring. The study analyzed how financial ratios deteriorated as the firm moved into financial distress. The study found that financially distressed enterprises have higher operating expense ratio, and lower profitability. Besides, their liquidity, turnover, labor productivity, and coverage ratios were also significantly lower.

Bhandari(2016) observed the study on the bank profitability and liquidity management in Nepalese commercial banks. The study was based on the secondary data from 23 commercial banks with 138 observations covering the period of 2009/10 to 2014/15. Using, descriptive, correlation and regression methods, this study revealed

positive and significant positive relationship between capital adequacy ratios with banks profitability measured in terms of return on assets.

Sthapit & Maharjan (2012) studied on impact of liquidity management on profitability using Nabil bank Ltd. and Standard Charterd Bank Ltd. The study period taken was for 2003/04 to 2010/11. The study has analyzed using various financial tools and techniques. The study found a significant impact of liquidity on profitability in Standard Chartered Bank Nepal Ltd., but not in NABIL bank, as they studied the issue in lending Nepali foreign joint venture banks. The study also discovered profitability position of the Standard Chartered Bank Nepal Ltd., as more consistent than that of NABIL bank (Sthapit & Maharjan, 2012).

Pradhan & Shrestha (2016) examined the impact of liquidity on the performance of Nepalese commercial banks. Liquidity ratio, capital ratio and quick ratio were used as the independent variables in this study. The dependent variables were return on equity (ROE) and return on assets (ROA), while one year lagged variables for independent variables were also used to determine the more specific result of the previous year's effect on the current years ROA. The secondary sources of data from annual reports of the banks and supervision report of Nepal Rastra Bank were used. The regression models were estimated to test the significance and effect of bank liquidity on performance of Nepalese commercial banks. The beta coefficients for investment ratio and capital adequacy were positively significant with bank performance, which indicate that increase in investment ratio and capital ratio leads to increase in the performance of the banks. However, the beta coefficients for liquidity ratio and quick ratio were negative with return on assets and return on equity which indicated that increase in liquidity ratio and quick ratio leads to decrease in the performance and profitability of the Nepalese commercial banks.

Neupane (2013) analyzed the effect of various indicators on the industry structure and profitability of the commercial banks in Nepal. The study used sample of twenty-two commercial banks in Nepal during the period of 2007/08 to 2011/12. The study used comparative analysis along with regression model for analyzing the data and information. The study revealed that profitable banks with lower leverage and higher capital adequacy ratio are found to be more efficient and bank loans seem to be more highly valued than alternative bank outputs i.e. investments and securities.

Pradhan (2014) examined factors affecting profitability of Nepalese commercial banks. The study considered both bank specific and macro-economic factors. The study was based on pooled cross-sectional analysis of secondary data of 22 banks with 154 observations for the period of 2005/06 to 2011/12. The study found positive relationship between market share and bank performance in Nepal.

Parajuli (2016) examined the factors influencing the profitability of domestic and foreign commercial banks of Nepal. The study was conducted using 18 domestic commercial banks and 6 foreign commercial banks in Nepal over the period of 2008/09 -2012/13. A multiple regression model has been applied to estimate the relationship between dependent variables with independent variables. The return on assets, return on equity and net interest margin were selected as the dependent variables. Capital adequacy, assets quality, liquidity and bank sizes were used as independent variables. The study found that the relationship of capital adequacy is positive and significant with return on assets, return on equity and net interest margin.

Sharma (2016) investigated on the determinants of Nepalese commercial banks. The study is based on 126 observations from 18 commercial banks in Nepal between 2008 and 2014. The result showed that liquid assets to total assets ratio is positively correlated to return on assets and credit to deposit ratio. Study indicated that higher the return on assets and credit to deposit ratio, higher would be the liquid assets to total assets ratio. However, the study also revealed that bank size, total deposit to total assets ratio and net interest margin is negatively correlated to liquid assets to total assets ratio. Study showed that increase in bank size, total deposit to total assets ratio and net interest margin, leads to decrease in liquid assets to total assets ratio.

Bariya *et al*. (2016) examined the relationship between liquidity and profitability of Nepalese commercial banks. The study was based on 100 observations from 14 commercial banks in Nepal between 2010 and 2014. The result showed that return on assets have negative and insignificant relationship to current ratio and size which implies that increase in return on assets leads to decrease in current ratio and size. However, return on assets is positively correlated to liquidity management and financial leverage, which shows that increase in return on assets leads to increase in liquidity management and financial leverage.

Manandhar *et al.* (2014) examined the impact of internal and external factor on bank's profitability. In this study pooled cross sectional data analysis have taken. The study was based on pooled cross-sectional data of 23 banks with 115 obserativonns for the period of 2007/08 to 2011/12 by using linear regression model. The bank specific data were mainly obtained from the Nepal Rastra bank bulletin and annual reports of selected commercial banks. The regression reults revealed that capital adequacy ratio has negative impact on return on assets but positive impact on Tobin's Q.

Thapaliya (2016) examined the impact of capital adequacy on performance of Nepalese commercial banks for the period of 2007/08 to 2013/14 of 18 commercial banks. The study adopted regression model to test the significance and importance of credit risk and capital adequacy on bank performance. The study used return on assets and earning per share as a dependent variables and non-performing loan, loan loss provision, loan and advances, liquidity and capital adequacy ratio as the independent variables. The study revealed that capital adequacy ratio is positively correlated to return on assets and earning per share.

Bhandari (2017) examined the relationship among capital adequacy, cost income ratio and performance of Nepalese commercial banks for the period of 2008 to 2014 of 18 commercial banks. The study adopted regression models to test the significance and impact of capital adequacy and cost income ratio on performance of the Nepalese commercial banks. The study used return on assets, return on equity and net interest margin as the dependent variables and core capital, liquidity ratio, total equity to total assets ratio, cost to income ratio, and debt equity ratio and bank size as the independent variables. The study revealed that cost to income ratio, core capital and debt to equity ratio are negatively correlated to profitability.

Singh (2017) examined the impact of interest rate on profitabiliy of Nepalese comercial banks. The return on assets and earning per sahre were selected as dependent variables while capital adequcaty ratio, liquidity, loan rate, deposit rate, bank rate, treasury bill rae and revesrve repo rate are the independent variables. The data were collected from the Banking and Financial Statiskics and Supervision Report published by Nepal Rastra Bank nd annual reports of selected banks. The regression models were estimated to test the significance and impact of interest rate on profitability of Nepalese commercial banks. The result revealed that capital adequacy,

loan rate and liquidity are positively significnat with earning per share. Similarly, deposit rate has positive and significnat impact on earning per share. Treasury bill rate and deposit rate are negatively related with return on equity.

Chaudhary *et al*. (2017) analyzed the impact of corporate governance on firm performance. The return on assets, return on equity and earning per share was selected as a financial performance variables whereas size of audit committee, size of firm, leverage as independent variables. Data were collected from the 22 listed firms for the year 2010/11 to 2014/15 with the 110 observations and regression and correlation model were tested to test the significant. The result showed that board size, number of board meeting, size of firm have positive impact on firm performance. However, leverage has negative impact on the firm performance.

Bhusal *et al*. (2015) investigated a relationship between leverage, board size, ownership structure, bank size and non-performing loan with the bank performance. This study used multiple regression analysis on 110 observations f 11 commercial banks of Nepal from 2004-2013. This study revealed positive relationship between bank size, leverage, and board size and ownership structure with return on assets. Where, non-performing loan has a negative and significant relationship with return on equity.

Pandey (2017) examined that impact of capital structure on financial performance of Nepalese commercial banks for the period of 2009/10 to 2014/15 of 23 Nepalese commercial banks. The study adopted regression models to test the significance and impact of capital structure on the financial performance of the Nepalese commercial banks. The study used earning per share and Tobin's Q as dependent variables and capital adequacy ratio, debt asset ratio, debt equity ratio, firm size, long term debt and inflation as independent variables. The study revealed that the capital adequacy ratio is negatively correlated to earning per share and Tobin's Q of private sector banks. However, capital adequacy ratio is negatively correlated to earning per share and Tobin's Q of joint venture banks and Nepalese public commercial banks.

Magar *et al*. (2015) examined the relationship between corporate governance and Nepalese commercial banks performance using 20 banks as sample size. The study was based on study period from 2067 to 2070 making total observation of 100. Return on assets and earning per share were used as performance measures and bank size,

leverage, total debt, number of directors in board and members in audit committee were used as independent variables. Using correlation and regression analysis to analyze the relationship between dependent and independent variables, the study revealed that the bank size and total debt is positively related to both performance measure and member in audit committee is negatively related. The study also showed that leverage has positive significant relationship with return on assets, whereas negative relationship with performance measure earning per share.

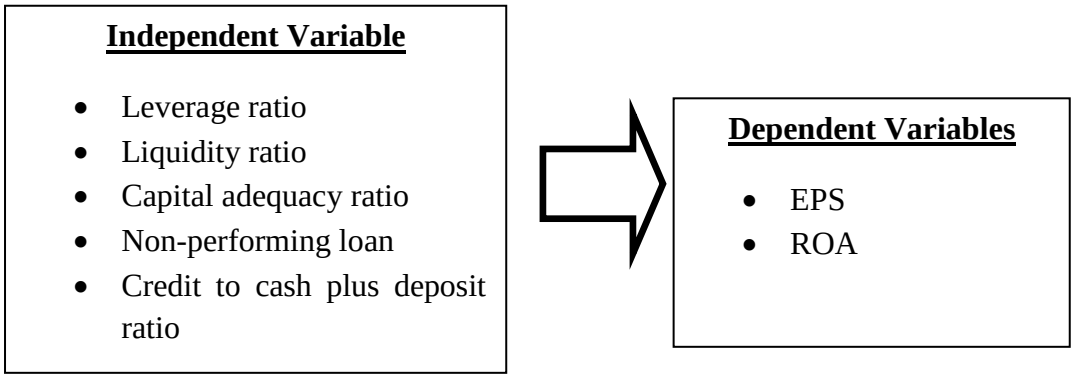
2.2 Conceptual framework

Conceptual framework of the study describes the systematic explanation of the relationship among the dependent and independent variables for the purpose of clarifying the relationship between profitability and financial distress variables (leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, non-performing loan) in Nepalese commercial bank in Nepal. It helps to define the focus and goal of the research problem. Based on the objective of the study and the literature review following conceptual framework is framed to summarize the main focus and scope in terms of variables included.

This section provides the conceptual framework of study and describes about variables that have been used in study. In this study, dependent variable is earnings per share and return on assets. Where leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, non-performing loan are the independent variables. Thus, the following conceptual model is framed to summarize the main focus and scope of this study.

Figure 2.1: Conceptual framework

(This figure shows the theoretical framework of the study. EPS and ROA dependent variables and the independent variables are leverage, liquidity ratio, capital adequacy ratio, credit to cash plus deposit ratio, non-performing loan).



The above figure shows that the leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, non-performing loan are used in this study to measure the impact of financial distress on profitability of Nepalese commercial bank in Nepal. Similarly, leverage, liquidity level, capital adequacy ratio, credit to cash plus deposit ratio, non-performing loan are taken as independent variables. Likewise, the earnings per share and return on assets are taken as dependent variables.

2.3 Research Gap

From the above literature, it can be concluded that there is no any similar findings of the studies. Most of the studies have used either time series or cross section data. These studies have attempted to analyse the effect of the financial distress on profitability of Nepalese commercial banks using panel data. However, such studies have applied the conventional regression analysis and examined whether the data fits into fixed effect or random effect model. Various literatures have been analyzed during this study. Those literatures show negative and positive relationship between dependent and independent variable.

Adeyemi (2012) argued that financial distress is a situation in which an institution is having operational, managerial and financial difficulties. On the other hand, financial distress factors are costs that affect the performance of an organization leading to change in investment decision (Tshitangano, 2010).

There are many national and international studies in the field of effect of the financial distress profitability of commercial banks. Those studies have attempted to find out the relationship between financial distress variables and profitability variables. The reviewed literatures show that there is no uniformity in the findings. Thus, the empirical result found in the other countries cannot be generalized in the context of Nepal. However, in the context of Nepal only few efforts have been made to examine the issues related to the financial distress variables. Specifically, the study is primarily designed to fill the gap of similar studies in Nepalese context. This study has attempted to carry out distinctly from other previous studies in terms of sample size, nature of the sample firms and the research methodology used. This study has covered 20 banks with 5 years' data. Thus, it is been believed that this study is different from earlier studies of Nepalese context. Though there are above mentioned empirical evidences in the context of other countries, no such evidences exist in the context of

Nepal. This study therefore attempts to analyze the relationship of financial distress and profitability variables of commercial banks. The purpose of this study is to fill this gap by analysing the effectof the financial distress variables (such as liquidity ratio, leverage ratio, non-performing loan, capital adequacy ratio, and credit to cash plus deposit ratio) and profitability variables (such as earnings per share return on assets) of commercial banks of Nepal during the period of 2013/14 to 2017/18. The importance of this study may be viewed from its contribution to fill gap between the previous studies with updated annual report data that exist in commercial bank annual report and also finding of this study can add value to the existing body of the literature.

In the context of Nepal, a very few or almost no studies related to financial distress factorsof Nepalese commercial banks. Pradhan *et al*. (2002) showed Productivity, profitability, liquidity are deteriorated by financial distress. Neupane (2013) revealed that profitable banks with lower leverage and higher capital adequacy ratio are found to be more efficient and bank loans seem to be more highly valued than alternative bank outputs i.e. investments and securities. Poudel (2012) examined various parameters pertinent to credit risk management as it affect banks' profitability. Such parameters covered in the study were; default rate, cost per loan assets and capital adequacy ratio. Financial report of 31 banks were used to analyze for eleven years (2001-2011) comparing the profitability ratio to default rate, cost of per loan assets and capital adequacy ratio which was presented in descriptive, correlation and regression was used to analyze the data. The study revealed that all these parameters have an inverse impact on banks' profitability; the default rate is the most predictor of bank profitability.

Though, a number of studies in various developing and developed countries have been carried out, findings of these studies may not be applied in Nepalese context. The study attempted to explore the various factors affecting the effect of the financial distress on profitability of Nepalese commercial banks.

Chapter III

Research methodology

This chapter explains the methodology employed in this study. This chapter has been divided into four 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. Finally Section four, explains the method of analysis including the empirical methods and variables and their measurement criteria.

3.1 Research plan and design

This study has employed descriptive research design and causal comparative research design to deal with issue raised in this study that influence the profitability of selected commercial bank in the context of Nepal. The descriptive research design helps in a fact finding, searching for adequate information about profitability of Nepalese commercial banks. Such designs involve the systematic collection and presentation of data to give clear picture of situation. To describe the nature of data of the commercial banks consisting of 100 observations during fiscal year 2013/14 through 2017/18 descriptive statistics is used with respect to variables like leverage, liquidity ratio, capital adequacy ratio, Non-performing loan and credit to cash plus deposit ratio.

This study also employs casual comparative research design to analyze the impact of financial distress on profitability of Nepalese commercial banks.

3.2 Population and samples

In order to observe the the impact of financial distress on profitability of Nepalese commercial banks, this study contains a sample of 20 commercial banks of Nepal selected on the basis of judgmental sampling technique for the time period of 2013/14 to 2017/18, leading to a total of 100 observations. Table 3.1presents the list of sample bank along with study period and number of observations. Thus, the study is based on the 100 observations

Table 3.1: List of sample banks selected for the study along with the study period and number of observations

S. N	Name of the banks	Study period	Observation
1	Nabil Bank Limited	2013/14 to 2017/18	5
2	Nepal Investment Bank Limited	2013/14 to 2017/18	5
3	Standard Chartered Bank NepalLimited	2013/14 to 2017/18	5
4	Mega Bank NepalLimited	2013/14 to 2017/18	5
5	Himalayan Bank Limited	2013/14 to 2017/18	5
6	Nepal SBI Bank Limited	2013/14 to 2017/18	5
7	NMB Bank Limited	2013/14 to 2017/18	5
8	Everest Bank Limited	2013/14 to 2017/18	5
9	Civil BankLimited	2013/14 to 2017/18	5
10	Nepal Credit &Commerce Bank Limited	2013/14 to 2017/18	5
11	Prime Commercial BankLimited	2013/14 to 2017/18	5
12	Machhapuchhre Bank Limited	2013/14 to 2017/18	5
13	Kumari Bank Limited	2013/14 to 2017/18	5
14	Laxmi Bank Limited	2013/14 to 2017/18	5
15	Siddharth Bank Limited	2013/14 to 2017/18	5
16	Agricultural Development Bank Limited	2013/14 to 2017/18	5
17	Citizens Bank International Limited	2013/14 to 2017/18	5
18	Sanima Bank Limited	2013/14 to 2017/18	5
19	Sunrise Bank Limited	2013/14 to 2017/18	5
20	Nepal Bangladesh Bank Limited	2013/14 to 2017/18	5
	Total Observations	100	

Thus, the study is based on the 100 observations

3.3 Nature and sources of data

The study based on the secondary data which are gathered for 20 commercial banks in Nepal and sample are selected on the basis of judgmental sampling technique for the period of 5 years from 2013/14 to 2017/18. The data for independent variables like leverage, liquidity ratio, capital adequacy ratio, credit to cash plus deposit ratio and non-performing loan data are taken from the respective websites and annual reports of the selected commercial banks.

3.4 Data collecting Procedure

The researcher used the secondary data. The required data are obtained from related bank's website, library and other publication

3.5 Method of data analysis

This section deals with statistical and econometric models used for the purpose of analysis of secondary data. Descriptive, co-relation and regression methods of analysis are used in the study. The descriptive statistics contains mean, standard deviation, minimum and maximum values of variables which used to explain the characteristics of sample firms. The correlation analysis is used to measure the direction and magnitude of relationship between dependent and independent variables. The regression analysis is used to find out the influence of independent variable over dependent variable solely and combined with other variables. It explains the different statistical tests of significance for validation of model like t-test, F-test, detection of and linear regression analysis. All models are tested for individual effects by running F-test using statistical package for social science (SPSS). Details analysis of models and statistical test of significance have been dealt in the following sections.

3.6 The model specification

The econometric models employed in this study tries to analyze the impact of financial distress on profitability of Nepalese commercial banks. The following regression model is used in this study to examine the empirical effect of financial distress variables on profitability of selected Nepalese commercial banks. Thus, the following model equation is designed to test the hypothesis.

More specifically, the given model has been segmented into following models:

Model 1

In this model, the dependent variable is earnings per share (EPS). Leverage, liquidity ratio, capital adequacy ratio, credit to cash plus deposit ratio and non-performing loan are independent variables which are tested on earnings per share.The model is presented as follows:

$$EPS_{it} = \alpha + \beta_1 LEV_{it} + \beta_2 LQit + \beta_3 NPL_{it} + \beta_4 CCD_{it} + \beta 5 CAR_{it} + e_{it} \ldots\ldots\ldots\ldots\ldots\ldots\ldots (I)$$

Model 1I

In this model, the dependent variable is return on assets (ROA). Leverage, liquidity ratio, capital adequacy ratio, credit to cash plus deposit ratio and non-performing loan are independent variables which are tested on earnings per share. The model is presented as follows:

$ROA_{it} = \alpha + \beta_1 LEV_{it} + \beta_2 LQit + \beta_3 NPL_{it} + \beta_4 CCD_{it} + \beta 5 CAR_{it} + e_{it}$.....(II)

Where,

The financial distress is used as dependent variable and is measured in terms of the following:

EPS = Earnings per share defined as the total profits to number of shares in Rupees

ROA = Return on assets defined as the total profits to total assets in percentage

Financial distress variables

LEV =Average percentage of debt

LQ= Average percentage of cash and marketable securities to total assets in percentage

NPL =Average percentage of total amount of non-performing loan to total outstanding loan

CAR= Average percentage of total capital to total risk weighted exposure

CCD = Average percentage of credit to cash plus total deposit

e_{it} = Error term, and

β_0 is the constant term and β_1, β_2, β_3, β_4 and β_5 are the coefficients of variables.

3.7 Analysis plan

This section gives the presentation on how the empirical data was used for research purpose to the study on the analyzing the impact of financial distress variables on profitability of Nepalese commercial banks. First, all the data were collected through bank's annual report and then it was managed. After gathering all the data, it was analyzed and presented in proper tables. The data are collected and processed using Statistical Package of social Science (SPSS) computer software and Microsoft software. After the analysis and interpretation of data, the result was presented.

The various tools such as frequencies, descriptive statistics for mean value were used to derive the result. The study also used descriptive statistics, correlation analysis, and regression analysis. It also deals with the link between financial distress variables and bank profitability. Further, the multiple regression analysis is done in order to analyze the relationship between banks' profitability and factors influencing it with the help of descriptive, correlation and ANOVA results of the study.

Chapter IV

Results

This chapter includes the brief profiles of the different kinds of data and ratios of the selected twenty 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 impact of financial distress on profitability of Nepalese commercial banks**.**

The basic steps in the analytical process consist of identifying issues, determining the availability of suitable data, deciding the method appropriate for answering the questions of interest, applying the methods and evaluating, summarizing and communicating the result. 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 regression analysis and the final section wraps up this chapter with findings about the result derived from the secondary data.

4.1 Structure and pattern of the impact of financial distress on profitability

This section is contributed to the analysis of structure and pattern of impact of financial distress.

Table 4.1 the structure and pattern of earnings per share for the period of 2013/14 to 2017/18 has been presented in Table 4.1.

The structure and pattern of average earnings per share for Nepalese commercial banks is highest for EBL (Rs. 88.55) followed by NABIL (Rs. 83.23), SCB (Rs. 72.60), ADBL (Rs. 45.09), NBL (Rs. 40.28).

The average of earnings per share computed across the years has fluctuated widely over a period of time. It is found that the average EPS in financial year 2013/14 is sRs.111.68 and has found to increase to Rs. 129. 25 in 2014/15 and found to be increasing to Rs. 131.18 in year 2017/18.

Table 4.1: The structure and pattern of earnings per share (in rupees amount) in Nepalese commercial banks for the period of 2013/14 to 2017/18

This table shows the pattern of earnings per share of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in earnings per share.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	45.09	59.03	35.19	78.83	52.79	54.19	16.4
SBI	22.93	32.75	34.83	34.84	34.29	31.93	5.1
SCB	72.6	65.7	65.47	57.38	45.96	61.42	10.2
NBL	40.28	38.75	36.94	33.48	39.43	37.78	2.7
EBL	88.55	91.88	86.04	78.04	65.97	82.10	10.4
HBL	39.94	34.19	33.1	33.37	43.03	36.73	4.5
NABIL	83.23	91.05	76.12	57.24	59.27	73.38	14.8
PBL	18.55	20.97	23.75	30.11	23.25	23.33	4.3
NIBL	27.6	46.2	40.7	30.9	29.3	34.94	8.1
LBL	21.55	24.78	26.07	19.42	27.15	23.79	3.2
SBL	20.21	29.8	38.63	37.77	41.53	33.59	8.7
KBL	17.18	15.67	17.18	18.17	18.69	17.38	1.2
MBL	22.57	14.06	11.49	16.15	19.57	16.77	4.4
SUNRISE	5.52	15.46	11.03	19.27	23.94	15.04	7.1
SANIMA	6.04	15.13	19.28	24.57	32.55	19.51	10.0
NCC	12.69	24.14	26.67	17.17	18.16	19.77	5.6
CTZN	10.7	19.66	23.7	30.94	35.25	24.05	9.6
NMB	2.61	2.61	18.02	20.5	25.05	13.76	10.5
MEGA	0	3.1	7.61	13.11	13.27	7.42	5.9
CIVIL	0.58	1.36	6.07	8.82	7.45	4.86	3.7
Mean	27.92	32.31	31.89	33.00	32.79		
SD	26.51	26.52	21.83	20.11	15.37		

Source: Annual report of different banks.

Table 4.1 indicates that the earnings per share vary widely with in different commercial banks. For the ADBL the earnings per share is found to be fluctuating it

went to the highest of Rs. 78.83 in the financial year 2016/17, and to the lowest of Rs. 35.19 in the fiscal year 2015/16 and been improving its earnings per share thereafter. For the SBI the earnings per share went to its highest of Rs. 34.84 in the financial year 2016/17 and to its lowest of Rs. 22.93 in year 2013/14. For the SCB the earnings per share were at its highest of Rs. 72.6 in the year 2013/14 and at its lowest at Rs. 45.95 in 2017/18. The pattern of highest EPS at the year 2013/14 and lowest in 2016/17 is found in NBL and followed by HBL. Similarly, the pattern of highest EPS is found at the year 2014/15 and lowest in 202017/18 in EBL, followed by NABIL, NIBL, and PBL.

Thus, the variation in earnings per share is indicated by S.D is lowest at KBL followed by NBL, LBL, CIVIL, PBL, HBL, SBI, MEGA, SUNRISE, NIBL, SBL, CTZN, SANIMA, SBI, NMB, NABIL and highest is of ADBL.

The average earnings per share is highest for ADBL for the financial year from 2016/17 to 2017/18, KBL for the financial year from 2015/16 to 2017/18.

When the earnings per share are compared over the period of time for the individual banks, it can be seen that the earnings per share has been fluctuating in the majority of banks.

Figure 4.1 shows the pattern of earnings per share of commercial Banks of Nepal.

Figure 4.1: Comparative pattern of earnings per share (in rupees amount) of Nepalese commercial banks for the period of 2013/14 to 2017/18

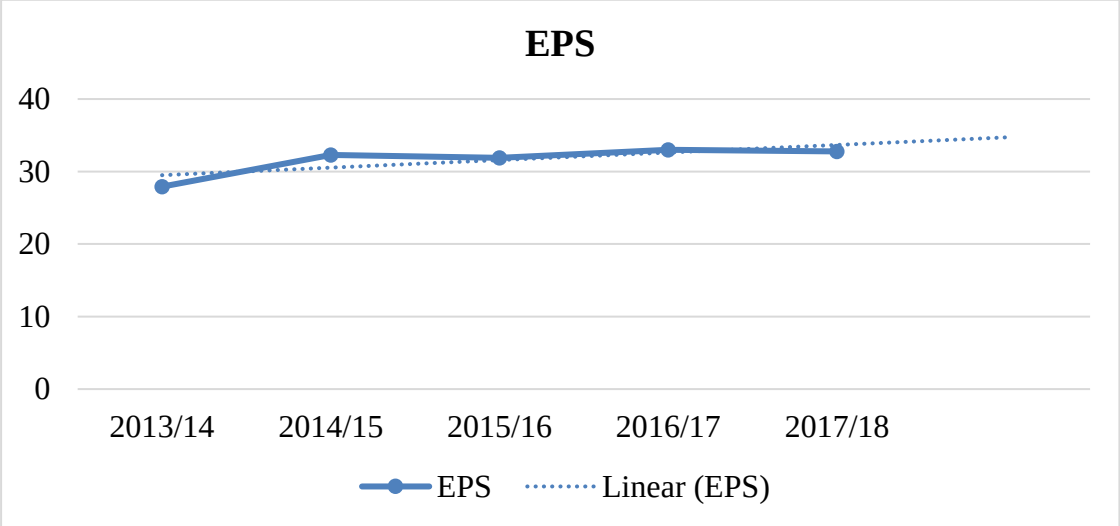


Figure 4.1 the comparative study reveal that the earnings per share of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Earnings per share show little up and downs over the study period for the different selected banks. First, earnings per share is increasing in increasing trend from 2013/14to 2014/15, and is constant from 2014/15 to 2016/17 and found to be in decreasing trend from 2016/17 to 2017/18.

Thus, the maximum value of earnings per share can be observed in the year 2016/17 and minimum can be observed in 2013/14.

Table 4.2: The structure and pattern of return on assets (in percentage) in Nepalese commercial banks for the period of 2013/14 to 2017/18

This table shows the pattern of return on assets of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in return on assets.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	3.55	2.32	2.47	1.4	1.88	2.32	0.80
SBI	0.83	1.19	1.51	1.80	2	1.47	0.47
SCB	2.8	2.67	2.51	2.01	1.98	2.39	0.38
NBL	4.01	3.57	2.4	2.06	2.57	2.92	0.83
EBL	1.95	2.24	2.2	1.59	1.53	1.90	0.33
HBL	2.03	1.54	1.3	1.34	1.94	1.63	0.34
NABIL	2.8	3.25	2.65	2.06	2.53	2.66	0.43
PBL	1.63	0.99	1.47	1.46	1.63	1.44	0.26
NIBL	1.58	2.62	2.25	1.88	1.94	2.05	0.40
LBL	1.57	1.6	1.56	1.48	1.38	1.52	0.09
SBL	1.12	1.43	1.74	1.51	1.6	1.48	0.23
KBL	1.11	1.03	1.1	1.06	1.01	1.06	0.04
MBL	0.16	0.49	1.12	1.26	1.6	0.93	0.59
SUNRISE	0.52	1.19	0.83	1.26	1.61	1.08	0.42
SANIMA	0.89	1.39	1.46	1.55	1.78	1.41	0.33
NCC	0.96	1.43	1.55	1.16	1.96	1.41	0.38
CTZN	1.22	1.79	1.71	1.95	2.24	1.78	0.37
NMB	0.28	1.43	1.36	1.21	1.45	1.15	0.49
MEGA	0	0.63	1.01	1.49	1.4	0.91	0.61
CIVIL	0.03	0.25	0.66	0.94	0.76	0.53	0.38
Mean	1.45	1.65	1.64	1.52	1.73		
SD	1.13	0.88	0.58	0.33	0.44		

Source: Banking and Financial Statistics of NRB

The average of return on assets computed across the years has fluctuated widely over a period of time. It is found that the average return on assets in financial year 2013/14

is 1.450% and has found to increase to 1.65% in 2014/15 and found to be increasing to 1.73% in year 2017/18.

Table no 4.1 shows that the return on assets varies widely with in different commercial banks. For the ADBL the return on assets is found to be fluctuating it went to the highest of 3.55% in the financial year 2013/14, and to the lower of 1.4% in the 2016/17. For the SBI the return on assets went to its highest of 2.0 % in the financial year 2017/18 and to its lowest of 0.83% in year 2013/14. For the SCB the return on assets is highest of 2.67% in the year 2014/15 and at its lowest at 1.98% in 2017/18.

Thus, the variation in return on assets is indicated by S.D is lowest at KBL followed by LBL, SBL, PBL, EBL, SANIMA, HBL, CTZN, CIVIL, NCC, SCB, NIBL, SUNRISE, NABIL, SBI, MBL, MEGA and highest is of NBL.

Figure 4.2 shows the pattern of return on assets of commercial banks of Nepal.

Figure 4.2: Comparative pattern of return on assets (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

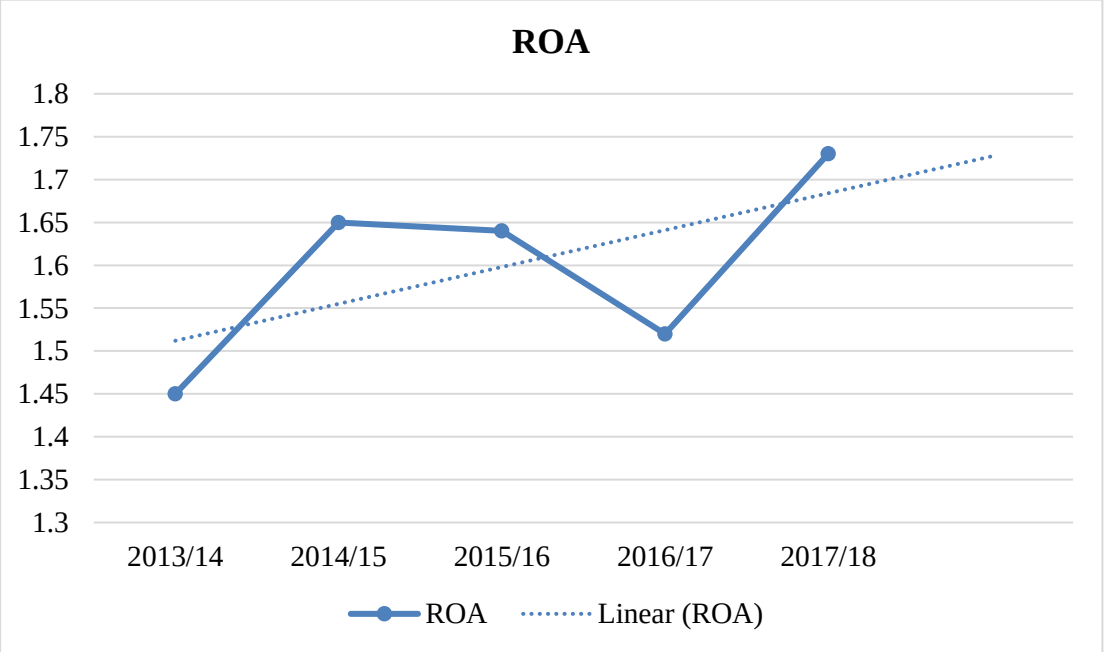


Figure 4.2 the comparative study reveal that the return on assets of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Return on assets show various up and downs over the study period for the different selected banks. First, return on assets is increasing in increasing trend from 2013/14to

2014/15, and is decreasing in from 2014/15 to 2016/17 and found to be in increasing trend from 2016/17 to 2017/18.

Thus, the maximum value of return on assets can be observed in the year 2017/18 and minimum can be observed in 2016/17.

Table 4.3: The structure and pattern of non-performing loan (in percentage) in Nepalese commercial banks for the period of 2013/2014 to 2017/18

This table shows the pattern of non-performing loan of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in non-performing loan.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	5.3	5.8	4.5	3.63	1.88	4.22	1.55
SBI	3.52	0.54	0.37	0.26	0.19	0.98	1.43
SCB	0.78	0.77	0.48	0.34	0.32	0.54	0.22
NBL	4.29	1.33	1.35	1.33	0.71	1.80	1.42
EBL	0.84	0.62	0.97	0.66	0.38	0.69	0.23
HBL	2.09	2.89	1.96	3.22	1.23	2.28	0.79
NABIL	2.33	2.13	2.23	2.45	2.38	2.30	0.13
PBL	0.76	2.23	2.43	1.83	1.23	1.70	0.70
NIBL	3.32	1.91	1.77	1.25	0.68	1.79	0.98
LBL	0.62	0.15	0.11	1.3	1.2	0.68	0.56
SBL	1.52	2.39	2.75	1.8	1.47	1.99	0.56
KBL	2.21	3.86	4.03	3.39	3.14	3.33	0.72
MBL	2.84	2.84	1.78	0.64	0.55	1.73	1.12
SUNRISE	3.52	3.74	4.94	2.9	1.22	3.26	1.36
SANIMA	0.79	1.52	2.39	2.75	1.8	1.85	0.76
NCC	3.81	3.48	3.82	2.75	2.19	3.21	0.72
CTZN	6.56	2.01	3.4	1.53	1.38	2.98	2.16
NMB	2.45	1.8	0.55	0.42	1.81	1.41	0.88
MEGA	0	0.13	0.55	0.42	1.81	0.58	0.72
CIVIL	0	0	0	0	0	0.00	0.00
Mean	2.37	2.00	2.01	1.64	1.27		
SD	1.78	1.48	1.51	1.16	0.81		

The average of non-performing loan computed across the years has fluctuated widely over a period of time. It is found that the average non-performing loan in financial year 2013/14 is 2.37% and has found to decrease to 2.007% in 2014/15 and found to be decreasing to 1.27% in year 2017/18.

Table no 4.1 shows that the non-performing loan varies widely with in different commercial banks. For the ADBL the non-performing loan is found to be fluctuating

it went to the highest of 5.80% in the financial year 2014/15, and to the lowest of 1.88% in the 2017/18. For the SBI the non-performing loan went to its highest of 3.52 % in the financial year 2013/14 and to its lowest of 0.19% in year 2017/18. For the SCB the non-performing loan is highest of 0.78% in the year 2013/14 and at its lowest at 0.32% in 2017/18.

Thus, the variation in non-performing loan is indicated by S.D is lowest at CIVIL followed by NABIL, SCB, EBL, PRIME, NCC, LAXMI, SIDDARTHA, KUMARI, MEGA, SANIMA, HBL, NMB, NIBL, MBL, SUNRISE, NBL, SBI, ADBL and highest is of CTZN.

Figure 4.3: Comparative pattern of non-performing loan (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

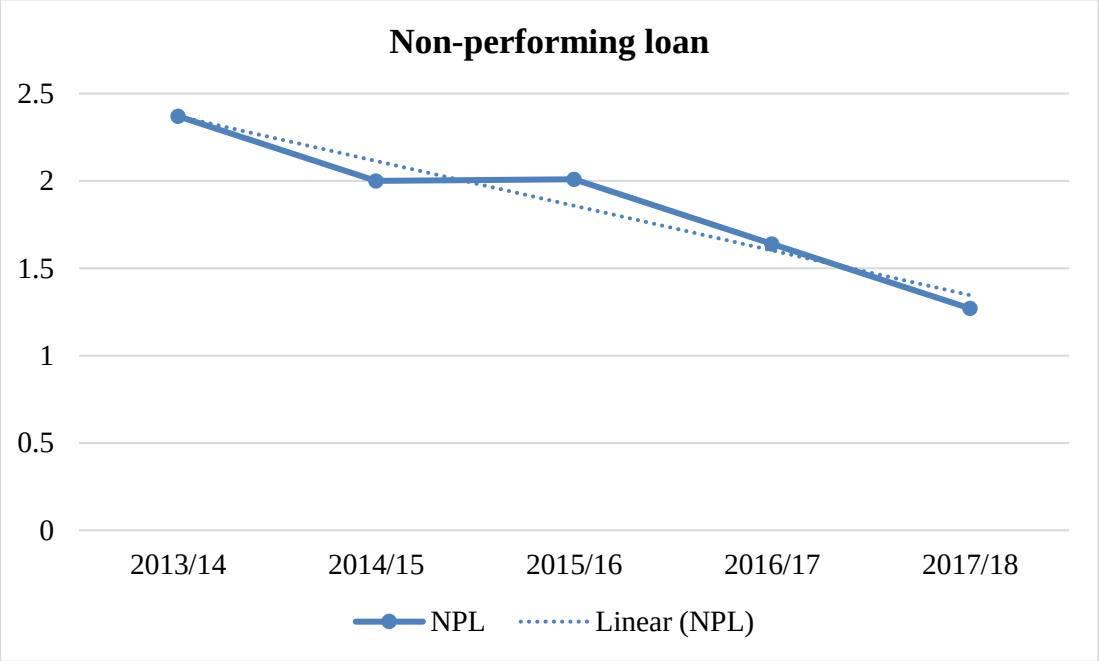


Figure 4.3 the comparative study reveal that the non-performing loan of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Non-performing loan shows decreasing over the study period for the different selected banks. First, nonperforming loan is decreasing from 2013/14 to 2014/15, and is constant till next year and decreasing thereafter in increasing trend.

Table 4.4 shows the structure and pattern of leverage in Nepalese commercial banks for the period of 2013/2014 to 2017/18.

Table 4.4: The structure and pattern of leverage ratio (in percentage) in Nepalese commercial banks for the period of 2013/2014 to 2017/18

This table shows the pattern of leverage ratio of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in leverage ratio.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	89%	88%	93%	93%	92%	0.91	0.02
SBI	92%	92%	85%	39%	70%	0.76	0.23
SCB	77%	85%	88%	88%	88%	0.85	0.05
NBL	90%	87%	93%	93%	93%	0.91	0.03
EBL	94%	91%	89%	98%	89%	0.92	0.04
HBL	89%	95%	95%	94%	93%	0.93	0.03
NABIL	93%	91%	89%	91%	93%	0.91	0.02
PBL	92%	92%	92%	91%	88%	0.91	0.01
NIBL	87%	91%	92%	92%	92%	0.91	0.02
LBL	92%	92%	86%	86%	87%	0.89	0.03
SBL	88%	90%	90%	89%	89%	0.89	0.01
KBL	92%	93%	91%	91%	90%	0.91	0.01
MBL	88%	79%	87%	86%	86%	0.85	0.03
SUNRISE	84%	79%	86%	89%	88%	0.85	0.04
SANIMA	89%	90%	91%	90%	55%	0.83	0.16
NCC	77%	88%	86%	89%	89%	0.86	0.05
CTZN	86%	87%	91%	90%	92%	0.89	0.03
NMB	93%	93%	92%	82%	80%	0.88	0.07
MEGA	77%	84%	86%	84%	85%	0.83	0.04
CIVIL	84%	90%	91%	93%	93%	0.90	0.04
Mean	0.87	0.88	0.89	0.87	0.86		
SD	0.07	0.07	0.34	0.36	0.39		

Table no. 4.4 shows that the average of leverage computed across the years has been fluctuating over the period of time the selected period of time. It is found that the average leverage in financial year 2013/14 is 87% and seems to be increasing to 88% in year 2014/15 and decreased to 86% in 2017/18. Table shows that the average leverage varies widely with in different commercial banks. The leverage for the ADBL is highest at year both in 2015 and 2016 and it is lowest in year 2014. Similarly, the leverage is highest for SBI (92%) in 2013 and it is lowest in 2016 (39%). SCB has highest leverage in year from 2015 to 2017 (88%) at constant ratio whereas it's lower leverage is found in 2013 (77%). The pattern of highest leverage is found at the year 2015/16 and lowest in 2017/18. The highest leverage is found in HIBL and followed by EBL, NBL, NIBL, ADBL, KBL, PBL, CTZN, LBL, SBL,

NMB, NCC, SUNRISE, MIBL, SCB, CIVIL, SANIMA and SBI. Similarly, the pattern of highest LEVERAGE is found at the year 2015/16 and lowest in 2017/2018.

Thus, the variation in leverage is indicated by S.D is lowest at KBL followed by NBL, LBL, CIVIL, PBL, HBL, SBI, MEGA, SUNRISE, NIBL, SBL, CTZN, SANIMA, SBI, NMB, NABIL and highest is of ADBL.

When the leverage are compared over the period of time for the individual banks, it can be seen that the leverage has been fluctuating in the majority of banks.

Figure 4.4: Comparative pattern of leverage (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

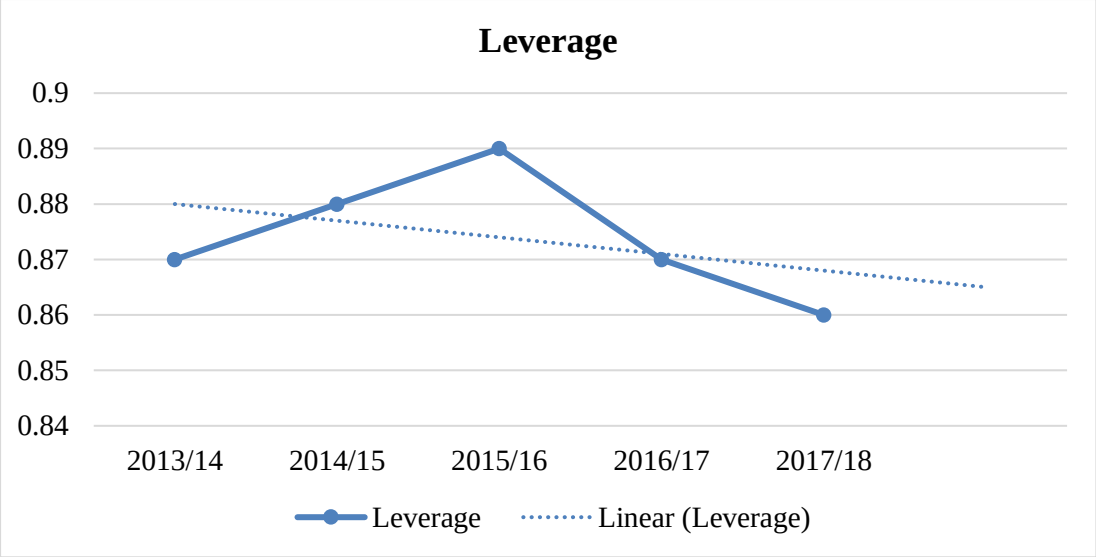


Figure 4.4 the comparative study reveal that the leverage of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Market price per share is increasing from 2013/14 to 2015/16 and been decreasing from the following year. It highest in year2015/16 and lowest in 2017/18.

Table 4.5: The structure and pattern of liquidity ratio (in percentage) in Nepalese commercial banks for the period of 2013/2014 to 2017/18

This table shows the pattern of liquidity of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in liquidity ratios.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	20.23	25.34	15.98	28.87	27.13	23.51	5.31
SBI	28.98	29.45	25.65	38	38.15	32.05	5.70
SCB	29.87	27.43	29	28.76	26.2	28.25	1.44
NBL	28.67	25.56	23.43	22.12	26.02	25.16	2.52
EBL	34.23	36.32	26.43	27	27.46	30.29	4.63
HBL	34.32	25.21	26.43	40.23	55.11	36.26	12.18
NABIL	45.21	23.54	22.65	20.11	21.88	26.68	10.44
PBL	18.45	18.98	19.76	26.34	23.4	21.39	3.38
NIBL	28.45	24.32	29.45	22.73	24.12	25.81	2.95
LBL	34.54	45.87	36.87	29.34	45.13	38.35	7.08
SBL	65.35	45.34	24.67	25.45	26.31	37.42	17.83
KBL	22.78	24.46	37.65	26.78	28.23	27.98	5.80
MBL	34.32	30.76	24.34	25.89	26.31	28.32	4.12
SUNRISE	23.78	22.89	24.89	27.79	28.23	25.52	2.39
SANIMA	15.98	20.56	18.89	19.34	20.35	19.02	1.84
NCC	17.34	18.68	19.45	21.78	22.75	20.00	2.23
CTZN	13.45	21.44	23.54	24.56	25.76	21.75	4.90
NMB	19.45	17.34	18.98	20.16	21.56	19.50	1.55
MEGA	19.45	24.45	23.54	20.14	21.53	21.82	2.14
CIVIL	20.32	26.56	19.34	23.65	24.81	22.94	3.04
Mean	27.75	26.72	24.54	25.95	28.022		
SD	11.98	7.79	5.59	5.51	8.59		

Table no 4.5 shows that the liquidity ratio has been increasing from 2015/16 with in different commercial banks. The average of liquidity ratio computed across the years has been increasing during the selected period of time. It is found that the average liquidity ratio in financial year 2013/14 is 27.75% and decreased to 26.72% in year 2014/15. The pattern of liquidity computed across the year shows that ADBL has highest level of liquidity (28.87%) in 2016/17 and it is lowest (20.23%) in 2013/14. The liquidity ratio is highest for SBI in 2017/18 (38.15%) and it is lowest in 2015/16 (25.65%). The pattern of liquidity shows that the LBL has highest level of liquidity followed by, SBL, HBL, SBI, HBL, MBL, KBL, SCB, CTZN, HBL, ADBL, EBL, MBL, CIVIL, MEGA, PBL,NMB, SANIMA.

Thus, the variation in liquidity ratio is indicated by S.D is lowest at SCB followed by NMB, SANIMA, SUNRISE, NIBL, PBL, NBL, NBL and is highest for HBL.

When the liquidity is compared over the period of time for the individual banks, it can be seen that the liquidity has been fluctuating in the majority of banks.

Figure 4.5: Comparative pattern of liquidity ratio (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

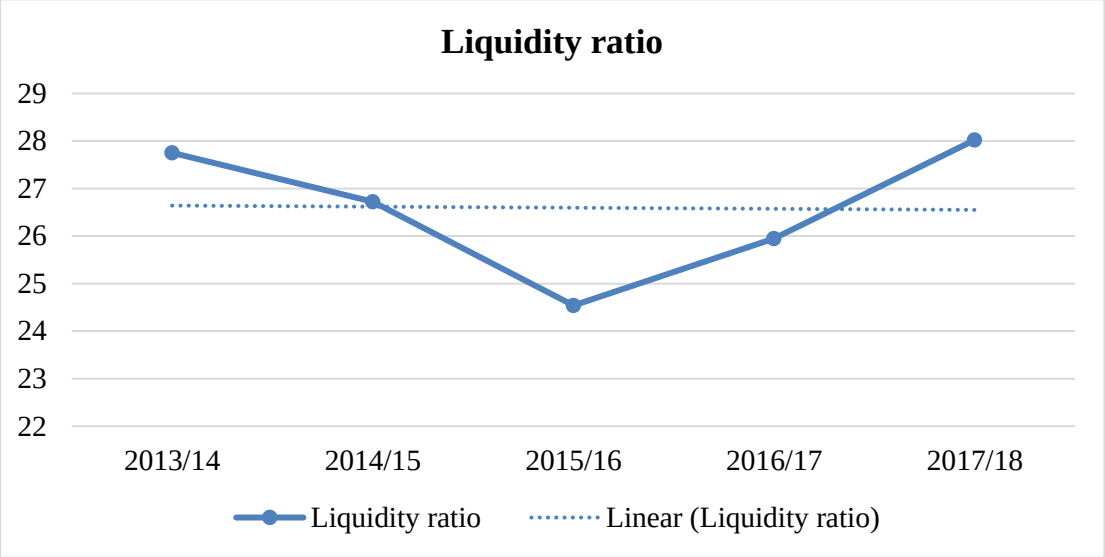


Figure 4.5 the comparative study reveal that the cash liquidity ratio of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. The liquidity ratio is decreasing from 2013/14 to 2015/16 and been increasing over the study period for the different selected banks.

The figure shows that the average level of liquidity is highest in 2017/18 and it is lowest in 2015/16. It is fluctuating over the years. It is decreasing from year 2013/14 to 2014/15 at slower pace and thereafter at higher pace. Similarly it is increasing from 2015/16 at constant rate.

Table 4.6: The structure and pattern of capital adequacy ratio (in percentage) in Nepalese commercial banks for the period of 2013/2014 to 2017/18

This table shows the pattern of capital adequacy ratio of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability capital adequacy ratio.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	12.1	11.23	13.4	15.52	16.41	13.73	2.20
SBI	9.35	10.11	10.23	11.1	11.42	10.44	0.83
SCB	11.92	12.32	14.44	15	15.58	13.85	1.64
NBL	8.9	9.99	10.86	11.95	12.61	10.86	1.49
EBL	11.87	11.98	12.45	12.84	13.07	12.44	0.52
HBL	15.98	16.78	19.46	21.4	22.96	19.32	2.97
NABIL	9.43	10.58	10.96	11.92	12.38	11.05	1.16
PBL	11.35	12.65	12.87	14.5	15	13.27	1.48
NIBL	12.67	12.85	13.54	14	14.28	13.47	0.70
LBL	9.43	9.87	11.24	13.98	15.68	12.04	2.70
SBL	9.89	10.23	12.65	14.67	15.45	12.58	2.52
KBL	6.87	7.85	9.45	10.34	11.24	9.15	1.79
MBL	10.45	11.45	12	12.89	13.56	12.07	1.22
SUNRISE	11.28	11.98	12.84	14.98	15.67	13.35	1.90
SANIMA	11.23	11.98	12	13.87	14.48	12.71	1.39
NCC	8.93	9.45	12.23	12.78	13.46	11.37	2.05
CTZN	9.34	9.67	10.67	11.98	12.42	10.82	1.36
NMB	8.56	9.56	10.67	11	11.43	10.24	1.17
MEGA	10.45	11.34	13.43	14.57	15.04	12.97	2.00
CIVIL	6.98	7.46	10.87	11.34	12.76	9.88	2.53
Mean	10.34	10.96	12.31	13.53	14.24		
SD	2.08	2.01	2.12	2.40	2.59		

The average of capital adequacy ratio computed across the years has been fluctuating during the selected period of time. It is found that the average capital adequacy ratio in financial year 2013/14 is 10.34% and 10.96% in 2014/15. The capital adequacy ratio is highest (16.41%) for ADBL in 2017/18 and it is lowest (11.23%) in 2014/15. For SBI it is highest (11.42%) in 2017/18 and lowest (9.35%) in 2013/14.The pattern of average capital adequacy ratio computed across the year shows that it is highest for HBL followed by SCB, ADBL, NIBL, SUNRISE, PBL, SANIMA, EBL, MEGA, SBL, LBL, NBL, SBI, CTZN, NCC, MBL, NABIL, NMB, CIVIL, and is lowest for KBL.

Thus, the variation in capital adequacy ratio is indicated by S.D is lowest at EBL, followed by NIBL, SBI, NMB, CTZN, MBL, MEGA, ADBL, CIVIL, SBL, LBL, HBL and is highest for HBL.

When the CAR are compared over the period of time for the individual banks, it can be seen that the leverage has been fluctuating in the majority of banks.

Figure 4.6 shows that the capital adequacy ratio varies across the years.

Figure 4.6: Comparative pattern of capital adequacy ratio (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

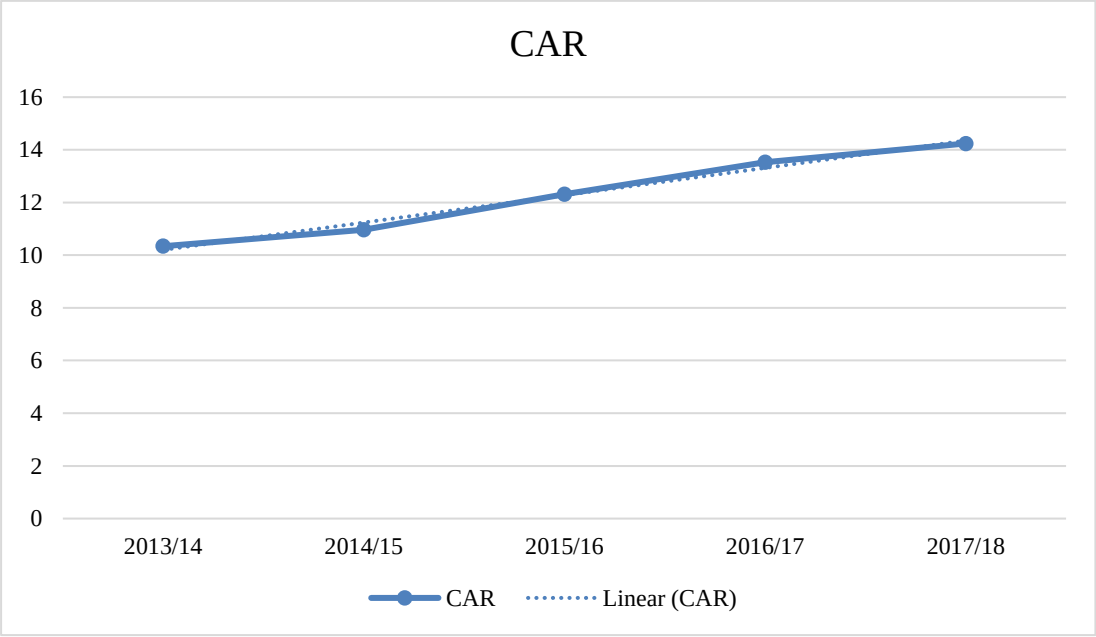


Figure 4.6 the comparative study reveal that the capital adequacy ratio of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Capital adequacy ratio is increasing from 2013/14 to 2015/16 at slower pace and thereafter at higher rate from the following year.

The capital adequacy ratio is highest in year 2017/18 and is lowest in 2013/14. The pattern of capital adequacy ratio is increasing at higher pace from beginning years and afterwards it in increasing in decreasing trends.

Table 4.7: The structure and pattern of credit to cash plus deposit ratio (in percentage) in Nepalese commercial banks for the period of 2013/2014 to 2017/18

This table shows the pattern of credit to cash plus deposit ratio (in percentage) of Nepalese Commercial Banks for the period of 2013/14 to 2017/18. The mean value is the average value of individual sample of commercial banks for particular year and standard deviation measures the variability in credit to cash plus deposit ratios.

Bank	2013	2014	2015	2016	2017	Mean	SD
ADBL	66.45	69.45	79.45	73.46	75	72.76	5.03
SBI	74.56	72.87	68.9	79.45	69.12	72.98	4.36
SCB	69	78.45	71.34	75.34	79.59	74.74	4.53
NBL	73.73	67.34	74.34	75.23	76.494	73.43	3.56
EBL	70.86	79.9	72.41	69.56	78.47	74.24	4.65
HBL	69.34	74	75.45	77.43	78.97	75.04	3.70
NABIL	75.46	73.25	77.87	79	79.3	76.98	2.57
PBL	69.92	70.12	74.78	73.23	77.03	73.02	3.05
NIBL	69.45	70.82	73.45	76.87	79.13	73.94	4.05
LBL	72.45	73.36	74.45	71.21	75.84	73.46	1.78
SBL	68.12	70.67	72.56	77.48	79.24	73.61	4.65
KBL	71.45	68.29	70.67	74.84	70.83	71.22	2.36
MBL	67.72	72.29	74.46	76.12	78.19	73.76	4.01
SUNRISE	71.16	73.83	74.56	77.21	79.57	75.27	3.23
SANIMA	71.87	75.12	76.31	77.56	76.82	75.54	2.23
NCC	72.39	73.84	75.36	78.23	77.93	75.55	2.54
CTZN	69.35	71.54	73.49	77.87	78.83	74.22	4.06
NMB	69.54	71.56	72.3	75.45	77.7	73.31	3.25
MEGA	71.29	72.83	75.67	76.64	77.41	74.77	2.61
CIVIL	71.25	73.36	74.29	75.81	77.5	74.44	2.38
Mean	70.76	72.64	74.10	75.89	77.14		
SD	2.28	3.00	2.40	2.51	2.77		

Table no 4.7 shows that the CCD varies widely across the years. The average of credit to cash plus deposit ratio computed across the years has been fluctuating during the selected period of time. It is found that the average CCD in financial year 2013/14 is 70.76 % and 72.64% in 2014/15. The ratio of credit to cash plus deposit ratio is highest (79.45%) in 2015/16 and is lowest (66.45%) in 2013/14 for ADBL. Similarly the credit to cash plus deposit ratio is highest (79.45%) and lowest (68.9%) in 2015/16 for SBI. The pattern of average credit to cash plus deposit ratio computed across the year seems to be highest for NIBL followed by NCC, SANIMA, MBL, LBL, NIBL, CIVIL, MEGA, HBL, EBL, SBI, ADBL and is lowest for KBL.

Thus, the variation in credit to cash plus deposit ratio is indicated by S.D is lowest at LBL, followed by SANIMA, NABIL, MEGA, NCC, KBL, SUNRISE, HBL, NBL, NMB, PBL, NIBL, SBI, SCB and is highest for ADBL.

When the credit to cash plus deposit ratio are compared over the period of time for the individual banks, it can be seen that the credit to cash plus deposit ratio has been fluctuating in the majority of banks.

Figure 4.7: Comparative pattern of credit to cash plus deposit ratio (in percentage) of Nepalese commercial banks for the period of 2013/14 to 2017/18

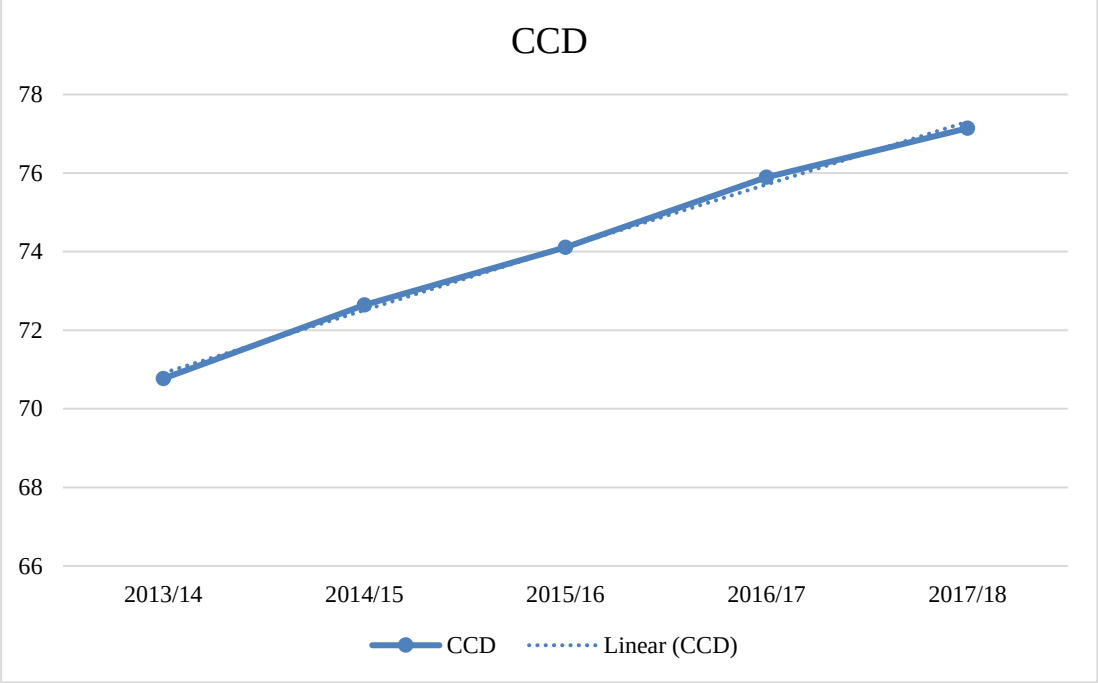


Figure 4.7 the comparative study reveal that the credit to cash plus deposit ratio of different selected commercial banks of Nepal in different financial years from 2013/14 to 2017/18. Credit to cash plus deposit ratio is increasing from 2013/14 to 2015/16 at slower pace and thereafter at higher rate from the following year.

The figure shows that the average credit to cash plus deposit ratio is in increasing trend. It is increasing at slower pace in beginning but afterwards it is increasing in higher pace. The average credit to cash plus deposit ratio is highest in year 2017/18 and is lowest in 2013/14.

4.2 Descriptive analysis

The descriptive statistical used in this study consists of mean, median, standard deviation minimum and maximum values associated with variables under consideration. Table summarizes the descriptive statistics for the Nepalese commercial banks used in this study during the period 2013/14 through 2017/18 for 20 sample commercial banks of Nepal.

Table 4.8: Descriptive statistics

This table shows the descriptive statistics of dependent and independent variables. Dependent variables are EPS (Earning price per share defined as net income to number of shares), ROA (Return on asset defined as net income to total assets, in percentage) and independent variables are NPL (Non-performing loan defined as average percentage of non-performing loan to total outstanding loan each year) LEV(Leverage defined as the average percentage of debt each year), LQ (Liquidity defined as the average percentage of cash plus marketable securities to total asset, CAR (Capital adequacy ratio defined as the average percentage of total capital to risk weighted exposures), CCD (Credit to cash plus deposit is defined as the average percentage of total loan to cash plus total deposits). The descriptive statistics are based on panel data of20 banks with 100 observations for the period *2013/14 to 2017/18 in Nepal.*

Variables	N	Minimum	Maximum	Mean	Std. Deviation
EPS	100	0	91.880	31.585	22.090
ROA	100	0	4.010	1.602	0.731
NPL	100	0	6.560	1.850	1.428
LEV	100	0.39	0.980	0.880	0.074
LQ	100	13.450	65.35	26.600	8.176
CAR	100	6.870	22.960	12.281	2.661
CCD	100	66.450	79.90	74.113	3.42633

Source: SPSS output

Table4.7 shows the descriptive statistics of dependent and independent variables for the Nepalese Commercial banks. Clearly, Earnings per share ranges from a minimum of Rs. 0.00 to the maximum of Rs. 91.88 leading to the average of Rs. 31.585. However, the return on assets ranges from minimum of 0.0 percent to maximum of 4.010 percent leading to an average of 1.602 percent. The average Non-performing loan of selected banks during the study period is noticed to be with a minimum of 0.00 percent and a maximum of 6.560 percent with an average of 1.85 percent. Likewise, leverage revealed a minimum of 0.39 percent to maximum of 0.98 percent with an average of 0.88 percent. The average of liquidity of selected banks during the study period is noticed to be 26.60 percent with minimum of 13.45 percent and maximum of 65.35 percent. Similarly, the average of capital adequacy ratio during the study period is noticed to be 12.28 percent with a minimum of 6.87 percent and a

maximum of 22.96 percent. And the average ratio of credit to cash plus deposit ranges from minimum of 66.45 percent to maximum of 79.90 percent, leading to an average of 74.11 percent.

4.3 Correlation analysis

Pearson's correlation is used to analyze the relationship between leverage, liquidity, CAR, CCD with earnings per share and return on assets in Nepalese commercial banks. Pearson's coefficient is often used as a test statistic in a statistical hypothesis test to establish whether two variables may be regarded as statistically dependent. Correlation measures the strength and the direction of a linear relationship between dependent and independent variables. The study has used correlation analysis to show the correlation between the dependent variable Earnings per share (EPS) and Return on Assets (ROA) and the independent variables leverage ratio (LEV), Non-performing loan (NPL, Liquidity ratio (LQ), Capital Adequacy Ratio (CAR) and Credit to Cash plus Deposit ratio (CCD).

Table 4.9: Pearson's correlation coefficients matrix

This table shows the bi-variant Pearson's correlation coefficients between dependent and independent variables. Dependent variables are EPS (Earning price per share defined as net income to number of shares), ROA (Return on asset defined as net income to total assets, in percentage) and independent variables are NPL (Non-performing loan defined as average percentage of non-performing loan to total outstanding loan each year) LEV(Leverage defined as the average percentage of debt each year), LQ (Liquidity defined as the average percentage of cash plus marketable securities to total asset, CAR (Capital adequacy ratio defined as the average percentage of total capital to risk weighted exposures), CCD (Credit to cash plus deposit is defined as the average percentage of total loan to cash plus total deposits). The correlation statistics are based on panel data of20 banks with 100 observations for the period 2013/14 to 2017/18in Nepal.

Variables	EPS	ROA	NPL	LEV	LQ	CAR	CCD
EPS	1						
ROA	0.684**	1					
NPL	-0.010	-0.113	1				
LEV	0.119	0.064	0.11	1			
LQ	0.247*	0.080	-0.173	-0.031	1		
CAR	0.219*	0.153	-0.026	0.090	0.188	1	
CCD	0.107	0.112	-.206*	-0.047	-0.065	0.451**	1

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

The result shows that which reveals that higher the ratio of non-performing loan, lower there is a negative relationship between earnings per share and non-performing loan would be the earnings per share. Likewise, there is positive relationship between

leverage and earnings per share which indicates that increase in leverage ratio leads to increase in earnings per share. Similarly, there is positive relationship between liquidity ratio and earnings per share. It indicates that more the liquidity firm has; higher would be the earnings per share. Likewise, there is positive relationship between capital adequacy ratio and earnings per share which indicates that higher the ratio of capital adequacy, higher would be the earning per share. Likewise, there is positive relation between credit to cash plus deposit ratio and earnings per share which shows that increase in the proportion credit to cash plus deposit ratio leads to increase in earnings per share.

The result shows that there is negative relationship between return on assets and non-performing loan which reveals that higher the ratio of non-performing loan, lower would be the return on assets. Likewise, there is positive relationship between leverage and return on assets which indicates that increase in leverage ratio leads to increase in return on assets. Similarly, there is positive relationship between liquidity ratio and return on assets. It indicates that more the liquidity firm has; higher would be the return on assets. Likewise, there is positive relationship between capital adequacy ratio and return on assets which indicates that higher the ratio of capital adequacy, higher would be the return on assets. Likewise, there is positive relation between credit to cash plus deposit ratio and return on assets which shows that increase in the proportion credit to cash plus deposit ratio leads to increase in return on assets.

4.4 Regression analysis

In order to test the statistical significance and robustness of the results, this study relies on secondary data analysis based on the regression models specified in chapter three. Regression analysis having indicated the Pearson's correlation coefficients, the regression analysis has been carried out and the results are shown in the table below. The regression analysis has been conducted to examine whether there is any impact of financial distress on profitability. The regression of earnings per share and return on assets has been analyzed. To be more specific, it shows the regression results of leverage, liquidity ratio, non-performing loan, capital adequacy ratio and credit to cash plus deposit ratio.

Table 4.10: Estimated regression results non-performing loan, Leverage, Liquidity ratio, Capital adequacy ratio and Capital Credit to cash plus deposit on earning per share

The results are based on cross-sectional data of 20 banks with 100 observations from2013/14 to 2017/18by using linear regression model. The models are $EPS = \alpha_0 + \alpha_1 LEV + \alpha_2 LQ + \alpha_3 NPL + \alpha_4 CCD + \alpha_5 CAR + e_{it}$ *, where EPS (Earning price per share is defined as net income to number of shares) is the dependent variable. Independent variables are NPL (Non-performing loan defined as average ratio of non-performing loan to total NPL (Non-performing loan defined as average percentage of non-performing loan to total outstanding loan each year) LEV(Leverage defined as the average percentage of debt each year), LQ (Liquidity defined as the average percentage of cash plus marketable securities to total asset, CAR (Capital adequacy ratio defined as the average percentage of total capital to risk weighted exposures), CCD (Credit to cash plus deposit is defined as the average percentage of total loan to cash plus total deposits). The regression statistics are based on panel data of20 banks with 100 observations for the period 2013/14 to 2017/18in Nepal.*

Model	Intercept	Regression coefficients of					Adj. R_bar^2	SEE	F-value
		NPL	LEV	LQ	CAR	CCD			
1	1.485 (12.47)**	-0.058 (1.124)					0.003	0.751	1.268
2	1.054 (1.211)		0.622 (2.632)**				0.126	0.720	9.414
3	1.414 (5.63)**			0.007 (0.795)			0.004	0.733	0.634
4	1.084 (3.146)**				0.042 (1.537)		0.014	0.731	2.364
5	-0.165 (0.104)					0.024 (1.113)	0.002	0.732	1.242
6	1.054 (1.21)	-0.055 (1.056)	0.507 (2.513)*				0.005	0.730	0.757
7	1.235 (4.32)**	0.067 (1.281)		0.009 (1.006)			0.003	0.731	1.14
8	0.963 (2.68)	-0.6 (1.17)			0.043 (1.57)		0.017	0.721	1.878
9	-0.761 (0.464)	-0.073 (1.389)				0.03 (1.38)	0.012	0.727	1.597
10	0.78 (0.857)	-0.064 (1.21)	0.52 (2.525)*	0.009 (1.009)			0.005	0.734	0.842
11	0.656 (0.727)	-0.058 (1.19)	0.367 (2.372)*		0.042 (0.152)		0.009	0.724	1.284
12	-1.273 (0.619)	-0.077 (1.42)	0.471 (2.473)*	0.009 (0.934)	0.023 (0.704)	0.024 (0.962)	0.003	0.734	1.064

Notes:

i. Figures in parenthesis are t-values.
ii. The asterisk signs (**) and (*) indicate that the results are significant at 1 percent and 5 percent level respectively.
iii. Earnings per share are the dependent variable.

Table 4 shows that beta coefficients for financial are positive and significant with earnings per share at 5 percent. It indicates that non-performing loan has negative impact on earnings per share. This finding is similar to the findings of Muturi and

Njeru (2016). Similarly, the result reveals that the beta coefficients for leverage are positive and significant with earning per share. This reveals that liquidity has positive impact on earnings per share. Likewise, the beta coefficients are positive for capital adequacy with earning per share. It indicates that the capital adequacy has positive impact on earnings per share. Similarly, the result reveals that the beta coefficients credit to cash plus deposit are positive and significant with earnings per share. Estimated regression results non-performing loan, Leverage, Liquidity ratio, Capital adequacy ratio and Capital Credit to cash plus deposit to return on assets of Nepalese commercial banks are presented in Table 5.

Table 4.11: Estimated regression results non-performing loan, Leverage, Liquidity ratio, Capital adequacy ratio and Capital Credit to cash plus deposit on return on assets

The results are based on cross-sectional data of 20 banks with 100 observations from from2013/14 to 2017/18by using linear regression model. The models are $ROA= \alpha_0 + \alpha_1 LEV + \alpha_2 LQ + \alpha_3 NPL + \alpha_4 CCD + \alpha_5 CAR + e_{it}$ *, where ROA(Return on assets defined as net income to total assets, in percentage) is the dependent variable. Independent variables are NPL (Non-performing loan defined as average percentage of non-performing loan to total outstanding loan each year) LEV(Leverage defined as the average percentage of debt each year), LQ (Liquidity defined as the average percentage of cash plus marketable securities to total asset, CAR (Capital adequacy ratio defined as the average percentage of total capital to risk weighted exposures), CCD (Credit to cash plus deposit is defined as the average percentage of total loan to cash plus total deposits). The regression statistics are based on panel data of20 banks with 100 observations for the period from2013/14 to 2017/18in Nepal.*

Model	Intercept	Regression coefficients of					Adj. R_bar^2	SEE	F-value
		NPL	LEV	LQ	CAR	CCD			
1	31.87 (8.473)**	-0.153 (0.098)					0.014	22.201	0.071
2	0.771 (0.029)		0.989 (1.182)				0.004	22.05	1.407
3	13.86 (1.884)			0.666 (2.52)**			0.151	21.51	6.349
4	9.231 (1.898)				1.82 (2.225)*		0.138	21.67	4.951
5	-19.49 (0.406)					0.689 (1.064)	0.001	22.08	1.173
6	0.773 (0.029)	-0.359 (0.229)	0.741 (1.195)				0.006	22.15	0.718
7	12.479 (1.47)	0.521 (0.338)		0.682 (2.53)**			0.043	21.61	3.420
8	9.361 (0.868)	-0.064 (0.042)			1.82 (2.21)*		0.028	21.74	2.454
9	-21.093 (0.422)	-0.195 (0.123)				0.706 (1.061)	0.009	22.12	0.568
10	-19.56 (0.730)	-0.314 (0.203)	0.668 (1.26)	0.686 (2.55)**			0.048	21.55	2.467
11	-15.709 (0.582)	-0.241 (0.156)	0.931 (1.013)		1.741 (2.108)*		0.029	21.77	1.947
12	-54.4 (0.957)	-0.005 (0.003)	0.551 (1.221)			0.726 (1.094)	0.004	21.13	0.879

Notes:

i. *Figures in parenthesis are t-values*
ii. *The asterisk signs (**) and (*) indicate that the results are significant at 1 percent and 5 percent level respectively.*
iii. *Return on assets is the dependent variable.*

Table 5 shows that beta coefficients for nonperforming loan are negative and significant with return on assets. It indicates that nonperforming loan has negative impact on return on assets. Similarly, the result reveals that the beta coefficients for leverage are positive and significant with return on assets. This reveals that leverage has positive impact on return on assets. Likewise, the beta coefficients are positive for liquidity ratio with return on assets. It indicates that liquidity has positive impact on return on assets. Similarly, the result reveals that the beta coefficients capital adequacy is positive and significant with return on assets. This reveals that capital adequacy has positive impact on return on assets.

4.5 Findings

This chapter is devoted to analyze and present results derived from the use of secondary data. This study attempts to study the impact of financial distress on profitability of Nepalese commercial banks.

The average earnings per share is highest for EBL (Rs. 82.10) and lowest for CIVIL (Rs. 4.86). It has been found that the average earnings per share have increased from Rs. 27.92 in 2013/14 to Rs.32.79 in 2017/18 for the commercial banks during the study period.

The average return on asset is highest for ADBL (2.32 percent) and lowest for CIVIL (0.53 percent). It has been found that the average return on assets has increased from a.45% in 2013/14 to 1.73% in 2017/18 for the commercial banks during the study period.

The average nom-performing loan is highest for ADBL (4.22 percent) and lowest for CIVIL (0.00 percent). It has been found that the average ratio of non-performing loan has decreased from 2.37% in 2013/14 to 1.27% in 2017/18 for the commercial banks during the study period.

i. The average ratio of leverage is highest for HBL (93 percent) and lowest for SBI (76 percent). It has been found that the average ratio of leverage has decreased from 87% in 2013/14 to 86% in 2017/18 for the commercial banks during the study period.

ii. The average liquidity ratio is highest for LBL (36 percent) and lowest for NMB (19.02 percent). It has been found that the average liquidity ratio has increased from 27.75% in 2013/14 to 28.022% in 2017/18 for the commercial banks during the study period.

iii. The average ratio of capital adequacy ratio is highest for HBL (19.32 percent) and lowest for KBL (9.15 percent). It has been found that the average capital adequacy ratio has increased from 10.34% in 2013/14 to 14.24% in 2017/18 for the commercial banks during the study period.

iv. The average ratio of credit to cash plus deposit is highest for SBI (79.45%) in 2016/17 and lowest for ADBL (66.45%) in 2013/14. It has been found that the average credit to cash plus deposit has increased from 70.76% in 2013/14 to 77.14% in 2017/2018 for the commercial banks during the study period.

v. The descriptive analysis shows earnings per share ranges from a minimum of Rs. 0.00 to to a maximum of Rs. 91.88, leading to the average of Rs. 31.585. However, the return on assets ranges from minimum of 0.0 percent to maximum of 4.010 percent leading to an average of 1.602 percent.

vi. The descriptive analysis the average Non-performing loan of selected banks during the study period is noticed to be with a minimum of 0.00 percent and a maximum of 6.560 percent with an average of 1.85 percent.

vii. The descriptive analysis shows leverage revealed a minimum of 0.39 percent to maximum of 0.98 percent with an average of 0.88 percent.

viii. The descriptive analysis shows average of liquidity of selected banks during the study period is noticed to be 26.60 percent with minimum of 13.45 percent and maximum of 65.35 percent.

ix. The descriptive analysis the average of capital adequacy ratio during the study period is noticed to be 12.28 percent with a minimum of 6.87 percent and a maximum of 22.96 percent.

x. The descriptive analysis shows the average ratio of credit to cash plus deposit ranges from minimum of 66.45 percent to maximum of 79.90 percent, leading to an average of 74.11 percent.

Chapter V

Conclusion

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

5.1 Discussion

Financial sector is regarded as one of the major areas of the economy that plays a vital role in developing the nation. A strong financial system promotes investment by financing productive business opportunity, mobilizing saving and efficiently allocating resources and makes easy the trade of goods and services. In Nepal several commercial banks entered in to the business after the liberalization in 1989, deregulation advancement in information technology and globalization. Since then many commercial banks has been entered into the market.

Every banking sector is faced with various types' distress factors. The one of the major is financial distress which can be explained in terms of leverage ratio, liquidity position of and so on. Financial distress factors are costs that affect the performance of an organization leading to change in investment decision (Tshitangano, 2010). Bergman *et al*. (2012) revealed that financial distress factors play a major role in determining the financing distress position of any institution. Banks play an important role in the economic development of every nation since they have control over a large part of the supply of money in circulation, foster liquidity and proper functioning of the financial system (Karim *et al*., 2013; Nasieku *et al*., 2014).

Financial distress is a situation when a company is unable to meet its financial obligations. The financial distress has become a problem to answer because when a company is about to the signaling of financial distress, there is a problem for the employees of such company as well as for the shareholders, lenders and the other stakeholders. It badly affects the job security of managers and employees and stakeholders' equity position and claims of lenders since their claims are not guaranteed. Financial distress is the probability of voluntary exit which increases with

higher levels of debt and lower levels of cash resulting in inability to make payments for various financial costs.

Business success depends heavily on the ability of financial managers to effectively manage the components of financial position. Profitability is used for long term in each business for strong work and for promotion in the business the profitability is important factor. According to Yalcin *et al*. (2012), profitability is important not only to the stakeholders of a firm but also to firms within the same industry due to competitiveness in the world economy. There are several measures of profitability which can be classified into three categories such as marketing based measures, accounting based measures and survey based measures (Busch *et al*., 2015).

Christiano *et al*. (2010) argued that the factors on the scorecards of organization's profitability reflects the forces that may cause financial distress and profitability fluctuations. Likewise, Perry and Andes (2012) described that financial distress factors are the economic indicators that has influence on the performance of an organization. Tan (2014), Adeyemi (2012) and John (2014) found that firms with lower financial distress tend to perform better than firms with higher financial distress. Consequently, there exists a negative relationship between financial distress and profitability of the firms. According to Gebreslassie (2015), financially distressed insurance companies contribute to the contagion effect in the economy and negatively affect economic stability of other sectors in a country.

The major objective of the study is to analyze the impact financial distress on profitability of Nepalese commercial banks. The specific objectives are to analyze the structure and pattern of leverage ratio, liquidity ratio, nonperforming loan, capital adequacy ratio and credit to cash plus deposit ratio of Nepalese commercial banks .To determine the relationship of leverage ratio, liquidity ratio, nonperforming loan, capital adequacy ratio and credit to cash plus deposit ratio with return on assets of Nepalese commercial banks .To examine the impact of leverage ratio, liquidity ratio, nonperforming loan, capital adequacy ratio and credit to cash plus deposit ratio on earnings per share of Nepalese commercial banks .To identify the most significant factor affecting the profitability of Nepalese commercial banks.

This study based on the secondary source of data which were gathered for a sample of 20 commercial banks of Nepal within the time period from 2013/14-2017/18, leading

to the total of 100 observations . The secondary data have been obtained from annual report of selected banks. The research design adopted in this study is descriptive and causal comparative types as it deals with financial distress factors prevailing in Nepalese banking sector along with its impact on profitability of the banks. Study shows the relationship using financial distress variables like leverage ratio, liquidity level, non-performing loan, capital adequacy ratio, credit to cash plus deposit ratio with return on assets and earnings per share. The statistical methods used in the analysis are descriptive statistics, correlation analysis and regression analysis. The sampling method used in this study is convenience sampling.

5.2 Conclusion

Kariuki (2013) estimated the Z equation developed by Altman (1968) to determine the effect of financial distress on the performance of commercial banks in Kenya. Profitability was given by the Return on Assets (ROA). The study sampled twenty-two banks, eleven of which were listed on the Nairobi Securities Exchange (NSE) and the others were non-listed. The study covered the period 2008-2012. The equation estimated was given as Z=6.56T1+ 3.26T2+ 6.72T3+ 1.05T4. Where T1 denoted the ratio of (current assets – current liabilities)/Total assets, T2 denoted the ratio of Retained earnings to Total assets, T3 denoted the ratio of Earnings before interest and tax to Total assets, and T4 denoted the ratio of Book value of Equity to Total liabilities. The study established that most of the banks under study had financial distress, with the non-listed banks suffering more from financial distress compared to the listed banks. The study established that financial distress has a significant and negative effect on the profitability of banks selected for the study. The study measured financial distress using Altman's Z score. However, the non-performing loans, leverage, and liquidity are important indicators of financial distress, especially for commercial banks.

There are many national and international studies in the field of effect of the financial distress profitability of commercial banks. Those studies have attempted to find out the relationship between financial distress variables and profitability variables. The reviewed literatures show that there is no uniformity in the findings. Thus, the empirical result found in the other countries cannot be generalized in the context of Nepal. However, in the context of Nepal only few efforts have been made to examine

the issues related to the financial distress variables. Specifically, the study is primarily designed to fill the gap of similar studies in Nepalese context. This study has attempted to carry out distinctly from other previous studies in terms of sample size, nature of the sample firms and the research methodology used. This study has covered 20 banks with 5 years' data. Thus, it is been believed that this study is different from earlier studies of Nepalese context. Though there are above mentioned empirical evidences in the context of other countries, no such evidences exist in the context of Nepal. This study therefore attempts to analyze the relationship of financial distress and profitability variables of commercial banks. The purpose of this study is to fill this gap by analysing the effectof the financial distress variables (such as liquidity ratio, leverage ratio, non-performing loan, capital adequacy ratio, and credit to cash plus deposit ratio) and profitability variables (such as earnings per share return on assets) of commercial banks of Nepal during the period of 2013/14 to 2017/18. The importance of this study may be viewed from its contribution to fill gap between the previous studies with updated annual report data that exist in commercial bank annual report and also finding of this study can add value to the existing body of the literature.

In the context of Nepal, a very few or almost no studies related to financial distress factorsof Nepalese commercial banks. Poudel (2012) examined various parameters pertinent to credit risk management as it affect banks' profitability. Such parameters covered in the study were; default rate, cost per loan assets and capital adequacy ratio. Financial report of 31 banks were used to analyze for eleven years (2001-2011) comparing the profitability ratio to default rate, cost of per loan assets and capital adequacy ratio which was presented in descriptive, correlation and regression was used to analyze the data. The study revealed that all these parameters have an inverse impact on banks' profitability; the default rate is the most predictor of bank profitability.

5.3 Implication

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

i. The result of the study is basically from the commercial banks of Nepal. Thus, the future study may include other financial sectors such as development bank, finance companies and micro finance companies.

ii. Similarly, further studies can be done by using some advance statistical tools. For example, the future studies can use non-linear statistical tools and causality tools.

iii. This study is based only on secondary data. Thus, the further study can make much more comprehensive by using primary source such as survey, questionnaire, special group discussion etc. The qualitative phenomena can be considered for the research in future.

iv. There are many other variables that define the degree of financial distress in banking sector. So, the future studies can add more dependent variables like return on equity, profit margin and also more independent variables such as Tobin's Q, CRR etc.

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Appendix

Banks	Year	EPS	ROA	NPL	LEV	LQ	CAR	CCD
ADBL	2013/14	45.09	3.55	5.3	0.89	20.23	12.1	66.45
	2014/15	59.03	2.32	5.8	0.88	25.34	11.23	69.45
	2015/16	35.19	2.47	4.5	0.93	15.98	13.4	79.45
	2016/17	78.83	1.40	3.63	0.93	28.87	15.52	73.46
	2017/18	52.79	1.88	3.52	0.92	27.13	16.41	75
SBI	2013/14	22.93	0.83	0.54	0.92	28.98	9.35	74.56
	2014/15	32.75	1.19	0.37	0.92	29.45	10.11	72.87
	2015/16	34.83	1.51	0.26	0.85	25.65	10.23	68.9
	2016/17	34.84	1.80	0.19	0.39	38	11.1	79.45
	2017/18	34.29	2.00	0.14	0.70	38.15	11.42	69.12
SCB	2013/14	72.6	2.80	0.78	0.77	29.87	11.92	69
	2014/15	65.7	2.67	0.77	0.85	27.43	12.32	78.45
	2015/16	65.47	2.51	0.48	0.88	29	14.44	71.34
	2016/17	57.38	2.01	0.34	0.88	28.76	15	75.34
	2017/18	45.96	1.98	0.32	0.88	26.2	15.58	79.59
NBL	2013/14	40.28	4.01	4.29	0.90	28.67	8.9	73.73
	2014/15	38.75	3.57	1.33	0.87	25.56	9.99	67.34
	2015/16	36.94	2.40	1.35	0.93	23.43	10.86	74.34
	2016/17	33.48	2.06	1.33	0.93	22.12	11.95	75.23
	2017/18	39.43	2.57	0.71	0.93	26.02	12.61	76.494
EBL	2013/14	88.55	1.95	0.84	0.94	34.23	11.87	70.86
	2014/15	91.88	2.24	0.62	0.91	36.32	11.98	79.9
	2015/16	86.04	2.20	0.97	0.89	26.43	12.45	72.41
	2016/17	78.04	1.59	0.66	0.98	27	12.84	69.56
	2017/18	65.97	1.53	0.38	0.89	27.46	13.07	78.47
HBL	2013/14	39.94	2.03	2.09	0.89	34.32	15.98	69.34
	2014/15	34.19	1.54	2.89	0.95	25.21	16.78	74
	2015/16	33.1	1.30	1.96	0.95	26.43	19.46	75.45
	2016/17	33.37	1.34	3.22	0.94	40.23	21.4	77.43
	2017/18	43.03	1.94	1.23	0.93	55.11	22.96	78.97
NABIL	2013/14	83.23	2.80	2.33	0.93	45.21	9.43	75.46
	2014/15	91.05	3.25	2.13	0.91	23.54	10.58	73.25
	2015/16	76.12	2.65	2.23	0.89	22.65	10.96	77.87
	2016/17	57.24	2.06	2.45	0.91	20.11	11.92	79
	2017/18	59.27	2.53	2.38	0.93	21.88	12.38	79.3
PBL	2013/14	18.55	1.63	0.76	0.92	18.45	11.35	69.92
	2014/15	20.97	0.99	2.23	0.92	18.98	12.65	70.12
	2015/16	23.75	1.47	2.43	0.92	19.76	12.87	74.78
	2016/17	30.11	1.46	1.83	0.92	26.34	14.5	73.23

	2017/18	23.25	1.63	1.23	0.88	23.4	15	77.03
NIBL	2013/14	27.6	1.58	3.32	0.87	28.45	12.67	69.45
	2014/15	46.2	2.62	1.91	0.91	24.32	12.85	70.82
	2015/16	40.7	2.25	1.77	0.92	29.45	13.54	73.45
	2016/17	30.9	1.88	1.25	0.92	22.73	14	76.87
	2017/18	29.3	1.94	0.68	0.92	24.12	14.28	79.13
LBL	2013/14	21.55	1.57	0.62	0.92	34.54	9.43	72.45
	2014/15	24.78	1.60	0.15	0.92	45.87	9.87	73.36
	2015/16	26.07	1.56	0.11	0.86	36.87	11.24	74.45
	2016/17	19.42	1.48	1.3	0.86	29.34	13.98	71.21
	2017/18	27.15	1.38	1.2	0.87	45.13	15.68	75.84
SBL	2013/14	20.21	1.12	1.52	0.88	65.35	9.89	68.12
	2014/15	29.8	1.43	2.39	0.90	45.34	10.23	70.67
	2015/16	38.63	1.74	2.75	0.90	24.67	12.65	72.56
	2016/17	37.77	1.51	1.8	0.89	25.45	14.67	77.48
	2017/18	41.53	1.60	1.47	0.89	26.31	15.45	79.24
KBL	2013/14	17.18	1.11	2.21	0.92	22.78	6.87	71.45
	2014/15	15.67	1.03	3.86	0.93	24.46	7.85	68.29
	2015/16	17.18	1.10	4.03	0.91	37.65	9.45	70.67
	2016/17	18.17	1.06	3.39	0.91	26.78	10.34	74.84
	2017/18	18.69	1.01	3.14	0.90	28.23	11.24	70.83
MBL	2013/14	22.57	0.16	2.84	0.88	34.32	10.45	67.72
	2014/15	14.06	0.49	2.84	0.79	30.76	11.45	72.29
	2015/16	11.49	1.12	1.78	0.87	24.34	12	74.46
	2016/17	16.15	1.26	0.64	0.86	25.89	12.89	76.12
	2017/18	19.57	1.60	0.55	0.86	26.31	13.56	78.19
SUNRISE	2013/14	5.52	0.52	3.52	0.84	23.78	11.28	71.16
	2014/15	15.46	1.19	3.74	0.79	22.89	11.98	73.83
	2015/16	11.03	0.83	4.94	0.86	24.89	12.84	74.56
	2016/17	19.27	1.26	2.9	0.89	27.79	14.98	77.21
	2017/18	23.94	1.61	1.22	0.88	28.23	15.67	79.57
SANIMA	2013/14	6.04	0.89	0.79	0.89	15.98	11.23	71.87
	2014/15	15.13	1.39	1.52	0.90	20.56	11.98	75.12
	2015/16	19.28	1.46	2.39	0.91	18.89	12	76.31
	2016/17	18.34	1.54	2.31	0.90	17.34	12.45	76.59
	2017/18	24.57	1.55	2.75	0.91	19.34	13.87	77.56
NCC	2013/14	32.55	1.78	1.8	0.55	20.35	14.48	76.82
	2014/15	12.69	0.96	3.81	0.77	17.34	8.93	72.39
	2015/16	24.14	1.43	3.48	0.88	18.68	9.45	73.84
	2016/17	26.67	1.55	3.82	0.86	19.45	12.23	75.36
	2017/18	17.17	1.16	2.75	0.89	21.78	12.78	78.23
CTZNS	2013/14	18.16	1.96	2.45	0.89	22.75	13.46	77.93

	2014/15	10.7	1.22	6.56	0.86	13.45	9.34	69.35
	2015/16	19.66	1.79	2.01	0.87	21.44	9.67	71.54
	2016/17	23.7	1.71	3.4	0.91	23.54	10.67	73.49
	2017/18	30.94	1.95	1.53	0.90	24.56	11.98	77.87
NMB	2013/14	35.25	2.24	1.38	0.92	25.76	12.42	78.83
	2014/15	2.61	0.28	2.45	0.93	19.45	8.56	69.54
	2015/16	2.61	1.43	1.8	0.93	17.34	9.56	71.56
	2016/17	18.02	1.36	0.55	0.94	18.98	10.67	72.3
	2017/18	20.5	1.21	0.42	0.82	20.16	11	75.45
MEGA	2013/14	25.05	1.45	1.81	0.80	21.56	11.43	77.7
	2014/15	0	0	0	0.77	19.45	10.45	71.29
	2015/16	3.1	0.63	0.13	0.84	24.45	11.34	72.83
	2016/17	7.61	1.01	0.55	0.86	23.54	13.43	75.67
	2017/18	13.11	1.49	0.42	0.84	20.14	14.57	76.64
CIVIL	2013/14	13.27	1.4	1.81	0.85	21.53	15.04	77.41
	2014/15	0.58	0.03	0	0.84	20.32	6.98	71.25
	2015/16	1.36	0.25	0	0.90	26.56	7.46	73.36
	2016/17	6.07	0.66	0	0.91	19.34	10.87	74.29
	2017/18	6.01	0.64	0	0.91	18.94	11	71.23