CHAPTER I
INTRODUCTION

1.1. Background of the Study

Bank is the critical part of financial system and plays an important role in the growth and the development of economic sector of any nation. A bank is a financial institution and a financial intermediary that accepts deposits and channels those deposits into lending activities. In this process of lending and borrowing funds, the interest rate is discovered by paying lower interest to lender in a certain rate and receiving higher interest from borrower in order to retain profitability.

Profitability is the rate of expressing profit as a percentage of total assets or sales or any other variable to represent the relation between the variables. In fact, there may be various dimensions of profitability analysis. Different ratios can be used in order to measure the bank's profitability like interest income to working fund ratio, spread to working funds ratio, non interest income to working funds ratio, net profit to working funds ratio, etc.

Profitability is simply the difference between total revenue and total cost. Therefore, the factors which affect the commercial bank's profitability would be those that affect the bank's revenue and cost. Hence, the impact of the internal and external determinants of commercial bank profitability is analyzed with a view to show their impact on bank revenue and costs. This study focuses on the dependent variable named as bank profitability which is followed by the internal determinants of commercial bank's profitability.

Profitability is a measure of firm's efficiency (Khan and Jain, 1998). It is also a control measure of the earning power of a firm as well as operating efficiency. Weston and Copland (1998) described profitability as net result of a large number of policies and decisions. Ratios are used to measure profitability and these give final answers about how effectively the firm is being managed. Therefore, management, creditors and owner of the company are also interested in the profitability ratio of the firm (Pandey, 1995).
At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. It is not merely a result, but also a necessity

for successful banking in the period of growing competition on financial markets. Therefore, the basic objective of a bank's management is to achieve a profit, as the essential requirement for conducting any business (Bobakova, 2003). At the macro level, a sound and profitable banking sector is necessary to survive from negative shocks and contribute to the stability of the financial system. The importance of bank profitability at both micro and macro level have made researchers, academicians, bank managements and bank regulatory authorities to develop considerable interest on the factors that determines the bank profitability (Athanasoglou et al., 2005).

Profitability is an indicator of the bank's competitive position in banking market and of the quality of its management, ensuring the health of the banking system. Profitability is a measure of firm's efficiency .Profitability is the primary goal of all business ventures. All banks are operating with the major objective to achieve the profitability. Managers constantly look for traditions to change the business to improve profitability. If there is high profitability in any bank, it means that the bank is in good position which enhances great image in the market and vice-versa. A variety of profitability ratios can be used to assess the financial health of a business ventures.

The analysis of profitability is necessary. A balance sheet, profit and loss account and funds flow statement are necessary to fulfill their own targets but they may not meet the requirement of different interests. Therefore to obtain the meaningful information according to own need, profitability should be analyzed effectively and efficiently. Ratio analysis in this context is also widely used (Hudgens and Rose, 2008).

Commercial banks have always played an important role in tremendous economic development that has taken place in our country over recent years. In the light of these developments, the objective of this study is to identify the determinants of profitability of commercial banks. The profitability determinants are basically divided into two main categories, namely the internal determinants and the external determinants. The internal determinants include management controllable factors such as liquidity, investment in securities, investment in subsidiaries, loans, non-performing loans and overhead expenditure. Other determinants such as savings, current account deposits, fixed deposits, total capital, capital reserves and money supply also play a major role in influencing the profitability. Similarly, external determinants include those factors

which are beyond the control of management of these institutions such as interest rates, inflation rates, market growth and market share.

This empirical study is carried out on determinants of profitability of banks in Nepal. Bank profitability is measured by the return on assets and the return on equity. As an explanatory variable, the study focuses on bank specific variable named as capital adequacy ratio measured by total capital divided by total asset, bank size measured by total bank assets, bank liquidity measured by total credit to deposit ratio, quality of asset measured by non performing loan to total asset and lastly cost efficiency ratio measured by total revenue divided by total cost. This study aims to identify the factors affecting the profitability of banks in Nepal. This study analyzes different effects of management (management effects) and other selected variables on commercial bank profitability.

1.2. Statement of the Problem

Profitability is simply the difference between total revenue and total cost. Thus, the factors which affect the commercial bank profitability would be those that affect the bank's revenue and the costs. Hence, the impact of the internal and external determinants of commercial bank profitability is analyzed with a view to show their impact on bank's revenue and costs. This study focuses on the dependent variable namely bank profitability. This is followed by the internal determinants of commercial bank profitability.

Prior studies were carried out regarding the international comparison of developed country and emerging country. So, the earlier studies have not analyzed many aspects of profitability of commercial banks to represent the entire market of Nepal. This study identifies the determinants of profitability of Nepalese commercial banks. Many theoretical and empirical studies were carried out to analyze the profitability of commercial banks using CAMEL model. Therefore, in this study, bank's profitability and their links with capital adequacy, asset size, quality of asset, liquidity and cost efficiency is explored to determine the profitability of selected Nepalese commercial banks.

Many studies have been carried out on determinants of profitability. such as Athanasoglou et al.,(2006) conceded empirical study on determinants of bank

profitability in the south eastern European region with explanatory variable of liquidity, credit risk, capital, operating expenses management, size, foreign ownership, market share, concentration, inflation and economic activity. Dietricha and Wanzenriedb (2009) investigated the determinants of profitability of commercial banks with explanatory variables of equity over total assets, cost to income ratio, bank size, bank ownership, yearly growth of deposits and real GDP growth. However, these all studies had carried out in the context of developed countries only. Very few studies had carried out to find out the determinants of profitability in small economies country like Nepal. So, this study deals with the determinants of profitability which has considered different explanatory variables such as credit capital adequacy ratio, bank size, liquidity, asset quality and cost efficiency in context of Nepalese commercial banks.

Akhavein, Berger, and Humphrey (1997) found a positive and significant relation between size and bank return on equity. According to Athanasoglou et al., (2005), poor asset quality (credit risk), and lower level of liquidity are the two major causes of bank failure. Similarly, Rasiah (2010) found internal variables that affect profitability of the commercial bank were asset portfolio mix, total expenses, liability composition, and liquidity ratio and capital structure. Akhtar et al., (2011) found that the profitability of Islamic Banks had a long-term relation with size of the bank, debt equity ratio, asset management, NPLs Ratio, capital adequacy ratio and operating efficiency.

Some of the studies on determinant of profitability found strong and positive relation between capital adequacy and profitability variables. Athanasoglou et al., (2006), Ponce (2009), Akhtar et al., (2011) and Scott and Arias (2011) found that capital was important in explaining bank profitability. Similarly, some studies advocated strong relationship between liquidity and profitability (Adebayo and David et al., 2011) and similarly, Saleem and Rehman, (2011) concluded significant and positive relationship between liquidity and profitability. Contrary to which Goddard et al., (2004) revealed that banks that maintained high capital to assets or liquidity ratios tended to record relatively low profitability. Francis (2007) also concluded that liquidity ratio (net loans/ total assets) negatively and significantly affects bank profitability. Qin and Pastory (2012) documented that capital adequacy negatively impact bank profitability.

In addition, many other studies were carried out on the determinants of profitability in different countries and found different results. Olweny and Shipho (2011) documented that capital ratio (CAP) was positively related to return on assets (ROA). Additionally, the study also found that liquidity was positively correlated with ROA. However, the study found a strong negative correlation between operational cost and profitability. K and Pillai (2011) indicated the vulnerability of scheduled commercial banks with growth of non-performing asset, reduction in asset quality, reduction in credit to deposit ratio and less profitability.

Changes in credit risk (asset quality) may reflect changes in the health of a bank's loan portfolio (Cooper, Jackson and Patterson, 2003), which may affect the performance of the bank. Duca and McLaughlin (1990), among others, concluded that variations in bank profitability are largely attributable to variations in credit risk, since increased exposure to credit risk was normally associated with decreased firm profitability.

Similarly, many studies argued that reduced expenses improve the efficiency and hence raise the profitability of a financial institution, implying a negative relation between the operating expenses ratio and profitability (Bourke, 1989). However, Molyneux and Thornton (1992) observed a positive relation between operating expense ratio and profitability, suggesting that high profits earned by firms might be appropriated in the form of higher payroll expenditures paid to more productive human capital.

The relation between profitability and bank size is conflicting. Bank size is generally used to capture potential economies or diseconomies of scale in the banking sector. Eichengreen and Gibson (2001) suggested that the effect of a growing bank's size on its profitability might be positive up to a certain limit. Beyond this point, the impact of its size could be negative due to bureaucratic and other factors. Hence, the size and profitability relation might be expected to be non-linear (Sufian and Chong, 2008). Meanwhile, some studies showed negative relation between bank size and profitability. Studies from Sufian et al., (2008), revealed that impact of bank size was negatively related to the profitability of Philippines banks, indicating a negative relation between bank profitability and bank size.

Few studies have been conducted on determinant of profitability of the commercial banks in Nepal. Most of the studies were focused on measuring the performance of banks rather than finding the factors affecting the profitability. In addition, such studies were based on smaller sample (mainly two or three) banks to determine the factors influencing profitability. Even though those studies showed that there is possibility to conduct a meaningful analysis of bank profitability, some issues are not dealt sufficiently. In most of the studies, the econometric methodology was not adequately described which implies that the estimates obtained may be biased and inconsistent. Siwakoti (1998), Shakya (2000), Acharya (2004) and Shrestha (2011) carried out studies on the performance of commercial banks in Nepal.

1.3. Research Questions

i. How are commercial banks performing in terms of profitability?
ii. What is the relation between profitability and company specific capital adequacy ratio, bank size, credit to deposit ratio, non performing loan ratio and cost efficiency ratio?
iii. What is the role of capital adequacy ratio in explaining the profitability?
iv. How does size of the bank affect the profitability?
v. What is the role of liquidity in explaining the profitability of banks?
vi. How does quality of asset affect the profitability of commercial banks?
vii. How the cost efficiency affect the profitability of commercial banks?

1.4. Objectives of the Study

The general purpose of this study is to determine the factors that affect the profitability of commercial banks in Nepal. The specific objectives of the study are as follows:

i. To analyze the financial highlights and indicators of commercial banks
ii. To assess the trends of the major indicators of profitability and its determinants.
iii. To examine the univariate relationship between profitability and its determinants through portfolio analysis
iv. To examine the empirical relationship between profitability and its determinants.
v. To assess the opinions on profitability and factors influencing
vi. To provide necessary suggestions and recommendations.

1.5. Research Hypothesis

Null hypothesis1 H_0: There is no difference in financial indicators of sample commercial banks

Null hypothesis2 H_0: There is no difference in trends of major indicators of profitability and its determinants

Null hypothesis3 H_0: There is no significant relationship between profitability and its determinants

Null hypothesis4 H_0: There is no difference in opinions on profitability and factors influencing it among different managers of sample commercial banks

1.6. Significance of the Study

The importance of conducting this study is to provide empirical evidence on the determinants of profitability of banks in Nepal. Hence, the outcome of the study will help the country's regulator in formation of policy to deal with unexpected change in economic conditions, capital adequacy regulations and other factors that might affects the bank's profitability. Furthermore, the study which is expected to provide empirical evidence might guide the bank's manager and owner in their strategic planning and consideration which allows them to make more precise decision. This will generate greater impact on banks' profitability.

The study of bank profitability is significant for the various groups for various reasons. The bank shareholders take more interest to know whether the value of their investments is utilized or not. Investors also use current and past performance to form expectation concerning future price of the bank's shares traded on the stock exchanged. The management of the bank as trustee of the shareholders is evaluated and compensated on the basis of how well their decisions and planning have contributed to growth in assets and profits of their banks. Bank employees are also concerned with profits, since their salaries and promotions are frequently tied up with the profitability performance of their banks. Regulators concerned about the safety and soundness of the banking system and about preserving public confidence, monitor closely the banks performance and profits using on-site examinations and computer-oriented "early

warning system" tracking (Ezra et al., 2008). Depositors use bank performance and profitability as indicators of security for their deposits. Finally, business community and general public concentrate about their banks profitability to the extent that their economic prosperity is linked to the success or failure of their banks.

1.7. Operational Definitions and Assumptions

The term, terminologies and the definition presented in this study are guided by the Nepal Rastra Bank, as included in unified directives (NRB, 2011). All the definition, term and terminologies have been described according to the guidelines prescribed by monetary policy. This sections deal with major assumptions of the study based on the profitability measurement of commercial banks. This study is concentrated on descriptive analysis, portfolio analysis and empirical analysis. In the empirical analysis, it is focused on the study of correlation and adjusted R square. The variables related to this study are mentioned below:

Capital Adequacy Ratio

Capital adequacy ratio is calculated as required capital fund on risk weighted assets. According to the NRB norms capital adequacy framework requires the banks to maintain minimum capital requirements. As per the framework, commercial banks need to maintain at least 6 percent Tier I capital and 10 % Total Capital (Tier I & Tier II). The banks are required to maintain the capital adequacy ratio (CAR) as specified by NRB from time to time. As per the latest NRB norms, the banks in Nepal should have a CAR not less than 16% (NRB, 2011). Capital adequacy ratio has been included to see whether a relation exists between profitability and the capital adequacy ratio or not. The assumption is that the capital adequacy is between 14 to 16%. It is arrived at by dividing the sum of Tier-I, Tier II capital by aggregate of risk weighted assets (RWA). Symbolically,

$$CAR = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Total Assets}}$$

Tier-I capital includes equity capital and free reserves. Tier-II capital comprises of subordinate debt of 5-7 years tenure, revaluation reserves, hybrid debt capital instruments, undisclosed reserves and cumulative perpetual preference shares.

Assets Quality Ratio

The quality of assets is an important parameter to gauge the degree of financial strength. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans .In Nepal, as per NRB guidelines, loan are classified as pass, substandard, doubtful and loss. Pass loan is such loan which has not overdue and which are overdue by a period up to three months. Sub-standard loan is loan which is overdue by a period from three months to a maximum period of six months. Doubtful loan is a loan which is overdue by a period from six-months to a maximum period of one year. Lastly, Loss loan is such loan which is overdue by a period of more than one year. Those loans which are in pass class and which have been restructured are called as "the performing loan, and the sub-standard, doubtful and loss categories are called non-performing loans (NRB, 2011). Asset quality ratio is represented by nonperforming loan ratio. Nonperforming loan is calculated by non performing loan to total assets. Thus, negative association between nonperforming loans with profitability of bank is expected in this study. Non-performing loan up to 5% is considerable (NRB, 2011). This study assumes that the non-performing loan is around 5% in this study. The lower the ratio, the better is the quality of advances.

Credit to Deposit Ratio

Commercial banks remained in comfortable liquidity position in FY 2011/12. This position was mainly due to continuous increase in deposit mobilization of commercial banks and development banks arising from the impressive growth in export, remittances, inflow, net services income and capital transfer as well as slowdown in credit expansion. The liquidity situation also improved due to surge in government expenditure at the end of the review period. Apart from this, policies are adopted to bring informal financial transactions into formal channel and improved economic growth was also responsible for deposit growth of the banks. This has created favorable situation for banks to maintain the required credit-deposit ratio as per the bank's directives (NRB, 2012). The study assumes 70-80% of credit to deposit ratio. A high liquidity ratio indicates that the bank is more affluent. Credit to deposit ratio has been used as an indicator of sound liquidity ratio. Credit to deposit ratio can be calculated by dividing total credit to total deposit.

Bank Size

Bank size is another important variable that affects profitability of commercial bank. Bank size is measured by total assets. According to annual bank supervision report 2011, the total assets of commercial banks increased by 10.43 percent in the fiscal year 2011/12 compared to 13.35 percent growth in 2010/11. The increase in the total assets was mainly on account of the growth of the loan portfolio of banks by Rs.65.50 billion in 2011/12 (NRB, 2012). Larger banks are likely to have a higher degree of product and loan diversification than smaller banks. In addition to the higher diversification potential, economies of scale can also arise from a larger size. As diversification reduces risks and economies of scale lead to increased operational efficiency, which is expected to have a positive effect of size on bank profitability. However, it is well known that banks that have become extremely large exhibit negative relation between size and profitability due to agency costs, bureaucratic processes and other reasons related to a large firm size. Accordingly, the overall effect is indeterminate from a theoretical point of view. As a robustness test, total assets have been used as an alternative size variable in this study.

Cost Efficiency

Operational efficiency is also another key driver of profitability that is examined. Operational expense efficiency is usually used to assess managerial efficiency in banks. The cost-to-income ratio is used to measure banks' operational efficiency. The cost-to-income ratio is defined as the operating costs (such as the administrative costs, staff salaries and property costs, excluding losses due to bad and nonperforming loans) over total generated revenues. It is used to measure the impact of efficiency on bank profitability. Therefore it has been expected that higher cost-income ratios have a negative effect on bank profitability. Cost efficiency ratio can be calculated by dividing operating costs to total revenue.

Return on Asset

The ROA reflects the ability of a bank's management to generate profits from the bank's assets. Low growth of credit, huge credit exposure in real estate sector and decline in real estate transactions as well as price, excess liquidity resulting in lower returns, unstable socio-political environment and growing competition led to the deterioration in interest income as well as total income of Banks adversely impacting in

the profitability of the institutions. In mid-July 2012, return on Asset (ROA) of commercial banks is 2.04 percent compared to 2.08 in mid-July 2011(NRB, 2012) .A bank without a good return on assets finds it almost impossible to generate satisfactory (ROE). Higher the ROA indicates the higher the efficiency in the utilization of total assets and vice- versa. ROA is low due to low profit. In this study, ROA is examined to measure the profitability of bank assets. Return on asset is calculated by dividing net profit after tax to total assets.

Return on Equity

ROE is return to shareholders on their equity. The objective of any bank is to earn high profit. The return on equity shows the extent to which a bank is successful to mobilize its equity. It is measuring rod of the profitability. A high ratio indicates the success of bank in mobilizing its equity capital and vice-versa. Return on equity (ROE) recorded to stood at 22.44 percent for A class institutions in mid-July 2012 while in the mid-July 2011, ROE was 25.37 percent (Bank supervision report, NRB, 2012). Even though the ROE is also commonly used in the literature, it is not the best profitability indicator. In what follows, ROA is considered to be more significant and better profitability measure and main dependent variable. However, the results of ROE are also presented in the study. Return on equity is calculated by dividing net profit after tax to total equity.

1.8. Limitations of the study

Every works have been its own restriction and limitation due to the lack of time, resources and knowledge the work is completed within the periphery of its limitation. Despite ample efforts on the part of the researcher this study is not free from limitation. This study also will have some limitations which will be as follows:

a. This study is based on secondary data collected from head office of the concerned banks. Thus the result of the analysis depends on the information provided by the concern offices.
b. The study covers only the latest five fiscal year 2003/04 to 2010/11 the primary data will be included where matters.
c. The study is mainly conducted on the basis of secondary sources of data eg. Annual reports of various banks, NRB and governments publications and other related journals.

d. The study only covers the analysis of profitability of 13 selected banks from the population of 30 commercial banks in Nepal.

e. Standard normal performance level is not available as benchmark, especially in Nepalese context. So interpretations of date are depended upon judgment and concern sense. In this context concerned experts are also consulted.

1.6 Organization of the Study

For the systematic presentation of the report, the whole study is divided into five chapters.

Chapter-I: Introduction

The first chapter of this thesis is introduction. It deals with the subject matter. It consisted of introduction, general background of the company, identification of the problem and significance of the study, objectives, limitations and organization of the study.

Chapter-II: Review of Literature and Conceptual Framework

Review of Literature and Conceptual Framework is the second chapter of the study. It included review of the literature obtained during the library searches. Review of literature is an essential aspect of all studies. It is a way to discover what other research in the area of our problem has uncovered. This chapter explained about the determinants of profitability and also reviewed the earliest study related to the determinants of the profitability.

Chapter-III: Research Methodology

The third chapter of the study is Research Methodology. It explained the methods used in the study. It included research design, sources of data, data collection technique, methods of presentation and analysis of data and general meaning of research methodology.

Chapter-IV: Presentation and Analysis of Data

Presentation and Analysis of Data is the fourth chapter. It included presentation and analysis of collected data by using various statistical and financial tools and major findings.

Chapter-V: Summary, Conclusions and Recommendations

The fifth and final chapter is Summary, Conclusions and Recommendations. It concerned with the suggestive framework, it dealt with the summary, conclusions and recommendations of the study.

CHAPTER II
LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1. Literature Review

The various studies have analyzed the importance of profitability in banking sectors from time to time. Since the literature available in this field under the reference is limited in nature and scope, the literatures found in the form of popular write-ups, reports, and the studies/articles are reviewed.

A study evaluating the comparative financial performance of Gryindlays Bank and Himalayan Bank explored that Himalayan Bank was more efficient in case of liquidity (Shakya, 2000). The study revealed that Capital Adequacy, operational activity and profitability ratios of Himalayan Bank were also better than Nepal Gryindlays bank. But in terms of profit before tax, Nepal Gryindlays Bank was better than Himalayan bank. The study used descriptive research design. Data was analyzed by using financial tools along with statistical tools. The study was only revolving around performance appraisal between two bank and limited to extract the information within these banks only. The study completely ignored the empirical model to be applied for the better return and to maintain capital adequacy to the line of satisfying the need prescribed by Nepal Rastra Bank.

Goddard, Molyneux et al., (2004) conducted study on dynamics of growth and profitability in banking with an objective to investigate the interactions between firm growth and profitability. The study was based on primary data from the sample of commercial, savings, and co-operative banks from five major European Union countries during the mid-1990s. The study concluded that little or no evidence of mean-reversion in bank size. It also documented that profit was an important prerequisite for future growth. In addition, the study also found that banks that maintain a high capital-assets ratio tended to grow slowly, and growth was linked to macroeconomic conditions. The persistence of profit appeared higher for savings and co-operative banks than for commercial banks. Banks that maintained high capital-assets or liquidity ratios tended to record relatively low profitability. There was some evidence of a positive association between concentration and profitability, but little evidence of a link between bank-level x-inefficiency and profitability.

Using an empirical framework that incorporates the traditional Structure-Conduct-Performance (SCP) hypothesis, Athanasoglou et al., (2005) explored that capital was important in explaining bank profitability and explored that higher exposure of credit risk lowers the profits. The objective of the study was to examine the effect of bank-specific, industry-specific and macroeconomic determinants of bank profitability. The study also found that operating expenses were negatively and strongly linked to profitability, showing that cost decisions of bank management are instrumental in influencing bank performance. The estimated effect of size does not provide evidence of economies of scale in banking. All bank-specific determinants, with the exception of size, affect bank profitability significantly in the anticipated way. The study was carried out in Greece. To account for profit persistence, the study applied a GMM technique to a panel of Greek banks that covers the period 1985-2001.

A study evaluating the comparative financial performance of Nabil Bank and Standard Chartered Bank, Acharya (2004) revealed that Standard Chartered Bank was more successful in generating profits than Nabil Bank. Both banks have been able to utilize their assets satisfactorily. Comparatively, loan and advances to total deposits ratio, loan and advances to saving deposits ratio and nonperforming assets to total assets ratio of Nabil Bank was higher than that of Standard Chartered Bank. However, loan and advances to fixed deposits ratio, performing assets to total assets ratio, performing assets to total debt ratio and investment to total deposits ratio of Standard Chartered bank was higher than that of Nabil Bank. The capital structure ratio displayed that capital structure of both banks were highly leveraged. The study comparatively indicated better liquidity position of Nabil Bank than that of Standard Chartered Bank. Similarly so many case studies had been done on Financial Performance of Commercial banks in Nepal such as Tewari (2009) and Timsina (2009) has analyzed the profitability of Nepalese Commercial Banks by taking sample of four commercial banks in industries.

Using the data from 2000 to 2005, Sharif (2006) performed empirical study on commercial bank's profitability in context of Bangladesh. The major purpose of the study was to closely examine the relationships of bank's market concentration, market size, and bank's risk with return on equity in Bangladeshi banks between 2000 and 2005. The data came from the annual reports of individual banks listed in Dhaka Stock

Exchange (DSE) and from the Bangladesh bank's published statistics book (Scheduled Banks Statistics). The study documented that market concentration and bank's risk do little to explain bank's return equity. The study found that bank's market size is the only variable providing explanation for bank's return on equity in context of Bangladesh. The correlation study suggested that there is strong relationship between market concentration and bank's return on equity. Market size and bank's return on equity proved to have strong relationship in the correlation analysis as well as regression analysis. The findings suggested that capital adequacy is important for a bank to be profitable. Similarly the study also found that there is negative relationship between bank's risk and return on equity in correlation analysis.

Athanasoglou, Delis et al., (2006) conducted study on determinants of bank profitability in the south eastern European region. The major purpose of the study was to examine the profitability behavior of bank-specific, industry related and macroeconomic determinants, using an unbalanced panel dataset of South Eastern European (SEE) credit institutions over the period 1998-2002. The results indicated that, with the exception of liquidity, all bank-specific determinants including credit risk, capital ratio, overhead efficiency ratio, bank size, bank ownership significantly affect bank profitability in the anticipated way. In contrast, the credit risk variable is negatively and significantly related to bank profitability. Similarly the result shows capital ratio and bank size is positively and significantly related with the profitability of commercial banks while operating expense variable present a negative and significant effect on profitability. Findings of the study also revealed that foreign banks operating in the SEE countries perform significantly better in terms of both ROA and ROE than domestic banks.

Francis (2007) performed study with an objective to investigate some of the key determinants of commercial banks' profitability in Sub-Saharan Africa. The study used data from balance sheet as well as standardized financial accounts derived from the Bank-Scope International bank database. An unbalanced panel data set for a sample of 224 commercial banks from 42 countries, for the period 1999 to 2006 was utilized. The results confirmed the importance of bank level factors such as assets, capital adequacy, operational efficiency, and liquidity and macroeconomic factors such as growth in GDP and inflation in explaining bank profitability in SSA. This study explored that capital

adequacy and credit risk (growth in bank deposit) have positive effect on bank profitability. However operational efficiency and liquidity ratio (net loans/ total assets) negatively and significantly affect bank profitability.

Sufian and Chong (2008) investigated study with an objective to examine the determinants of Philippines banks profitability during the period 1990–2005.The empirical findings suggested that all the bank-specific determinant variables have a statistically significantly impact on bank profitability. The empirical findings suggested that size, credit risk, and expense preference behavior were negatively related to banks' profitability, while non-interest income and capitalization have a positive impact. During the period of study, the results suggested that inflation had a negative impact on bank profitability, while the impact of economic growth, money supply, and stock market capitalization have not significantly explained the variations in the profitability of the Philippines banks.

In an effort to present empirical results in the area of profitability determinants in Switzerland, Dietrich and Gabrielle (2009) highlighted the profitability of commercial banks in Switzerland over the time period from 1999 to 2006. The study documented that better capitalized bank seems to be more profitable. Additionally, the study also explored that if the bank's loan volume grows faster than the market, and then there would be positive impact on bank profitability. The study also found that banks with a higher interest income were less profitable. Similarly, bank age did not have an impact on bank profitability. Further, looking at the ownership variables, foreign banks are clearly less profitable than Swiss owned banks. Finally, the study also explored that market-specific and macroeconomic factors also have a significant effect on our dependent variables. The most important factors are the GDP growth variable, which affects the bank profitability positively, and the effective tax rate and the market concentration rate, which both have a significantly negative impact on bank profitability.

Ponce (2009) conceded study with an objective to examine the factors that determine the profitability of Spanish banks for the period of 1999-2009. The sample used for the study includes all Spanish commercial banks, savings banks and credit cooperatives in the Bank scope database during the period 1999–2009. The major conclusion of the

study was Spanish banks were profitable during the period of 1999 to 2009 due to the large percentage of loans in total assets, a high proportion of customer deposit, good efficiency and a low credit risk. In addition, higher capital ratios also increase the bank's profitability.

In an attempt to develop a theoretical framework of commercial bank profitability to determine the variables which should be included in profitability models by applying pooled regression analysis to a linear model , Rasiah (2010) pointed out that internal variables that affect profitability of commercial banks are asset portfolio mix, total expenses, liability composition, and liquidity ratio and capital structure. In addition to the above, the external determinants that affect the profitability of commercial banks are competition, regulation, inflation, market share, market growth, firm size and interest rate.

Akhtar, Ali et al., (2011) performed study on factor influencing the profitability of Islamic Banks of Pakistan with an objective to investigate the impact of how the bank-specific factors of profitability affects the performance of Islamic banks. This study had used sample that was composed of Islamic banks of Pakistan from period 2006 to 2009. The study documented that the profitability of Islamic banks had a long-term relationship with size of the bank, debt equity ratio, asset management, NPLs Ratio, capital adequacy ratio and operating efficiency because all these variables affected the profitability. It was evident from both statistical multivariate regression models that the relationship of gearing ratio and capital adequacy ratio found to have a positive relation and were statistically significant at the 5% significance level, whereas the asset management was statistically significant in model I and insignificant in model II with positive relation in both models. Size of the bank reported negative and insignificant relation in both models, which could be explained with the fact that most of the Islamic banks were facing losses in recent years. Moreover capital adequacy found to have significant relation in both models, as prudential regulations tighten by the State bank of Pakistan.

Using the various ratios to examine the bank profitability cost of banking operations and spread of banks for the period of 2003-04 to 2009-10, Kheechee (2011) conducted comparative study on profitability of different groups of scheduled commercial banks in India. The main objective of the study was to compare the profitability of different

categories public, private and foreign bank and to find out the causes of difference in their profitability. The study found that returns on funds were very high in private sector banks as well as in foreign banks and very low in public sector banks. Cost of banking operations was very high in case of old private sector banks and public sector banks and very low in foreign banks showing that foreign banks were very efficient in having high degree of operational efficiency in getting deposits and borrowing funds. And as far as spread, it was very high in case of foreign and new private sector banks and was very low in public sector banks due to the difference of cost of funds.

Scott and Arias (2011) investigated study to develop an appropriate econometric model whereby the primary determinants of profitability of the top five bank holding companies in the United States could be examined and understood. To accomplish this purpose, an econometric model based on internal aspects of the banking organizations as they related to their return on assets and external aspects of the environment in which they compete as measured by growth in GDP was developed. The major conclusion of the study was there was a positive relationship between the return of equity and capital to asset ratio as well as the annual percentage changes in the external per capita income. There was also a virtual consensus identified concerning the effect that the internal factor of size as measured by an organization's total assets had on its ability to compete more effectively, even in times of economic downturns.

Saleem and Rehman (2011) examined the impact of liquidity on profitability. The study revealed that there was a significant impact of liquid ratio on ROA while insignificant impact on ROE and ROI. The results also showed that ROE was not significantly affected by three ratios i.e. current ratio, quick ratio and liquid ratio while ROI was greatly affected by current ratios, quick ratios and liquid ratio. The main results of the study demonstrated that each ratio (variable) had a significant effect on the financial positions of enterprises with differing amounts and that along with the liquidity ratios in the first place. Profitability ratios also play an important role in the financial positions of enterprises. The study revealed that liquidity and profitability were closely related.

Using a descriptive and analytical research design based on secondary data, Shrestha (2011) conducted study with the sample of 7 commercial banks established in and before 1995. The main objectives of the study was to investigate growth rate of net-worth of the commercial banks, to analyze profitability of commercial banks and finally

to assess forecasting of profitability of commercial banks. Considering the net-worth of commercial banks as the long-term investment, the study has examined their profitability in terms of various financial tools and indicators to conclude that they were likely to be financially sound and viable in the next 5 years also. The study revealed that profitability in future was sound for the commercial banks in Nepal as it has concluded that NPV was positive, PI was greater than 1 and IRR was greater than cost of capital.

In an attempt to investigate the performance of Indian scheduled commercial banks before and after global financial crisis, K and Pillai (2011) performed study on asset quality and profitability of Indian scheduled commercial banks during global financial crisis. The results of the study documented the vulnerability of scheduled commercial banks to the financial crisis. Various indicators that reflect efficiency of banks were affected during the financial crisis. The growth of NPA, reduction in asset quality, reduction in credit-deposit ratio, less profitability etc, were indicators of its vulnerability. A notable result was the financial stability of public sector banks and increased susceptibility of private sector and foreign banks during financial crisis.

The study on liquidity management and commercial bank profitability in Nigeria was carried out with an aim to investigate empirical evidence of the degree to which effective liquidity management affects profitability in commercial banks and how commercial banks can enhance their liquidity and profitability Positions. The quantitative methods of study were applied considering the nature of survey. Adebayo, David et al., (2011) revealed that there was significant relationship between liquidity and profitability. That means profitability in commercial banks was significantly influenced by liquidity and vice versa.

Olweny and Shipho (2011) conceded study with first objectives to determine and evaluate the effects of bank-specific factors such as capital adequacy, asset quality, liquidity, operational cost efficiency and income diversification on the profitability of commercial banks in Kenya. The second objective was to determine and evaluate the effects of market structure factors; foreign ownership and market concentration, on the profitability of commercial banks in Kenya. This study adopted an explanatory approach by using panel data research design to fulfill the above objectives. Annual financial statements of 38 Kenyan commercial banks from 2002 to 2008 were obtained

from the CBK and banking survey 2009. The study found that all the bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact. The study revealed that capital ratio (CAP) was positively related to return on assets (ROA), the profitability measure. Similarly, study also documented that liquidity was positively correlated with ROA. In contrast, the result explored negative and strong relationship between poor assets quality and profitability. Similarly the study also found a strong negative correlation between operational cost and profitability. Further, the study explored that revenue diversification was positively correlated with the profitability of the bank. On the other hand market variables like ownership and market concentration was negatively associated with profitability.

With an objective to examine the effects of capital adequacy conditionality on the performance of selected banks within the Nigerian banking sector, Onaolapo and Olufemi (2012) carried out study employing the secondary data. Data employed were obtained from the publications of regulatory agencies like the Central Bank of Nigeria in a ten year period 1999-2008.Ordinary Least Square (OLS) estimation obtained from an SPSS 17.0 package was adapted to analyze relationship between the variables while the Augmented Dickey Fuller (ADF) was used to test the stationary of the time series data employed. A pair wise Granger Causality was further used to determine co-integration between the study variables. The study revealed that all the performance indicators tested such as Returns on Assets (ROA), Returns on Capital Employed (ROCE) and Efficiency Ratios (ER) among others do not reflect much on Capital Adequacy Ratio (CAR) of the Nigerian banking sector.

Qin and Pastory (2012) examined commercial banks profitability in Tanzania for the period of ten years (2000-2009). The study used National Microfinance Bank (NMB), National Bank of Commerce (NBC) and CRDB as the case study. The study employed the profitability measures of commercial banks, based on return on average asset, net interest income to average bearing assets and non-interest expenses to average assets. The paper utilized panel secondary data. The findings revealed that there was no significant difference on profitability among the commercial banks, in the context of regression model it has been noted that liquidity and asset quality has positive impact in profitability with exception to the level of nonperforming loans which has a negative influence on profitability. Also capital adequacy had shown negative impact on profitability.

2.2. Conceptual Framework

Profitability is a rate of expressing profit as a percentage of total assets or any other variable to represent the relationship. In fact, there may be various dimensions of profitability analysis. A large number of ratios can be used in order to measure the bank's profitability like interest income to working fund ratio, spread to working funds ratio, non interest income to working funds ratio, net profit to working funds ratio and etc.

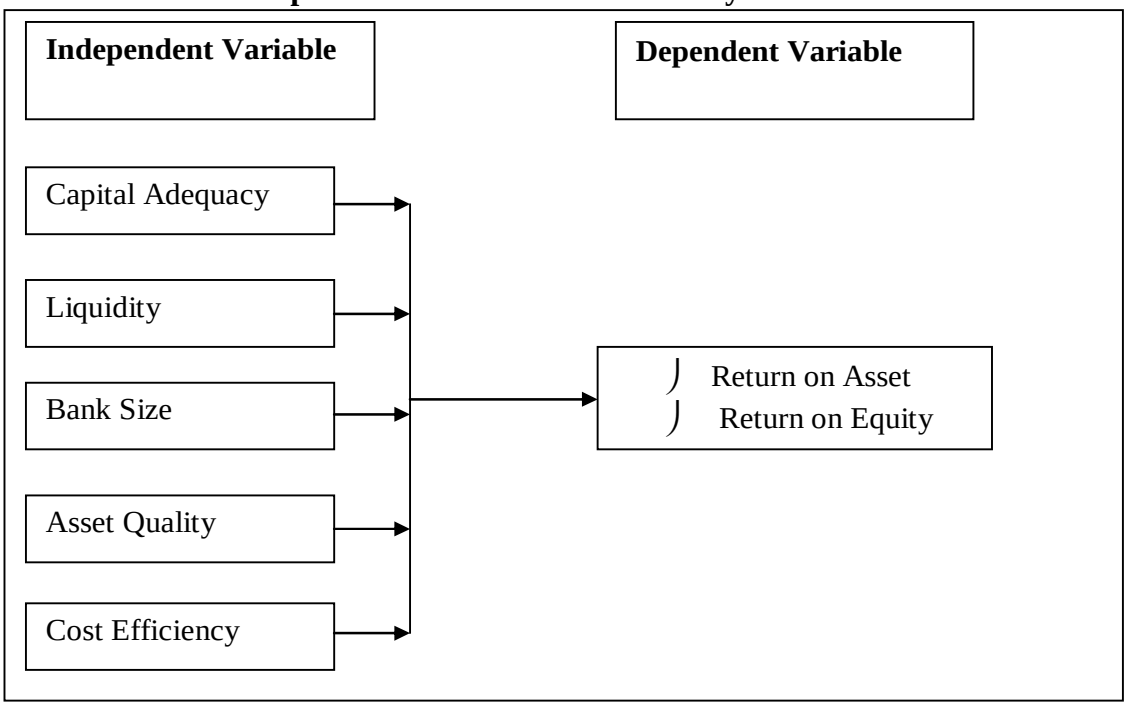
In accordance with the different theories and models, many studies have introduced some useful variables in the profit function of commercial banks to shed light on key factors that make a difference in bank profits. Such studies are not without ambiguity especially with regard to the measurement of the variables and the results reported thereafter. However there is general agreement that bank profitability is a function of internal and external factors. Athanasoglou et al., (2006) concurred and argued that profitability is a function of internal factors that are mainly influenced by a bank's management decisions and policy objectives such as the level of liquidity, provisioning policy, capital adequacy, expense management and bank size, and the external factors related to industrial structural factors such as ownership, market concentration and stock market development and other macroeconomic factors.

The conceptual model proposed by Olweny and Shipho (2011), has been employed as the conceptual framework of this study. The conceptual model includes return on asset and return on equity which is used as the dependent variable and independent variables are capital adequacy ratio, bank size, liquidity ratio, quality of assets and operational cost efficiency ratio. The relationships between profitability and its determinants have been shown in Figure 2.1.

As shown in Figure 2.1, bank profitability is measured by the return on assets and the return on equity. As to the explanatory variables, bank specific characteristics have been used, namely, capital adequacy, liquidity, bank size, asset quality and cost efficiency.

Capital adequacy is regarded as the amount of capital that can effectively discharge the primary function of preventing bank failures by absorbing losses. Capital adequacy is an important indicator of the strength of a bank as well the profitability of banks. Banks with higher capital to asset ratios are considered relatively safer compared to institutions with lower ratios. Given that banks with low capital ratios are also riskier in comparison with better capitalized financial institutions, it has been expected them to have higher returns.

Figure 2.1
Conceptual Framework of Profitability Measurement



Similarly, another important explanatory variable that affect the profitability of bank is liquidity position of bank. Liquidity management is life blood of commercial banks. Liquidity is very important for any organization dealing with money. For a bank, liquidity is a crucial aspect which represents its ability to meet its financial obligations. It is of utmost importance for a bank to maintain correct level of liquidity, which will otherwise lead to declined earnings. Banks have to take proper care in hedging liquidity risk, while at the same time ensuring that a good percentage of funds are invested in higher return generating investments, so that banks can generate profit while at the same time provide liquidity to the depositors. High liquidity ratio indicates that the bank is more affluent.

Additionally, bank size is another important explanatory variable that affects the profitability of commercial banks. Bank size is calculated by using total asset from bank's balance sheet. It has been argued that a growing bank size is positively related to bank profitability. Larger banks are likely to have a higher degree of product and loan diversification than smaller banks. As diversification reduces risks and economies of scale lead to increased operational efficiency, it has been expected to have a positive effect of size on bank profitability. However, it is well known that banks that have become extremely large exhibit a negative relationship between size and profitability due to agency costs, bureaucratic processes and other reasons related to a large firma size. Accordingly, the overall effect is indeterminate from a theoretical point of view. As a robustness test, total assets have been used as an alternative size variable for the analyses.

Asset quality as a proxy of credit risk is measured by non performing loan ratio that is credit to total asset. Credit risk is one of the factors that affect the health of an individual bank. The extent of the credit risk depends on the quality of assets held by an individual bank. The quality of assets held by a bank depends on exposure to specific risks, trends in non-performing loans, and the health and profitability of bank borrowers. The profitability of a bank depends on its ability to foresee, avoid and monitor risks, possibly to cover losses brought about by risks arisen. Hence, in making decisions on the allocation of resources to asset deals, a bank must take into account the level of risk to the assets. As a robustness test, asset quality has been used as an alternative non performing loan variable for the analysis.

Finally, operating cost efficiency is another bank specific variable that has been used in this study. Operating cost efficiency means optimum utilization of resources. Better utilization of resources improves profitability. Operating efficiency can be measured by using the cost to income ratio. In the literature on bank profitability, operational expense efficiency is usually used to assess managerial efficiency in banks. It is used to measure the impact of efficiency on bank profitability. Therefore, it has been expected that higher cost to income ratios have a negative effect on bank profitability. Although the relationship between expenditure and profits appears straight forward implying that higher expenses mean lower profits and vice versa, this may not always be the case. The reason is that higher amounts of expenses may be associated with higher volume of

banking activities and therefore higher revenues. Therefore, operational cost efficiency has been used for the analysis of the profitability of commercial banks.

2.3. Concluding Remarks

The studies on profitability measurement on banking sector are scarce in context of Nepal. It is assumed that this study is probably the new one to compare and critically analyzed findings and conclusions with previous study which were undertaken in developed countries. It is very much required to study in the context of Nepal whether the capital adequacy, liquidity, assets quality, bank size, and cost efficiency ratio influences profitability of the commercial banks?

Few studies have been conducted on determinant of profitability of the commercial banks in Nepal. Most of the studies were focused on measuring the performance of banks rather than finding the factors affecting the profitability. In addition, such studies were based on smaller sample (mainly two or three) banks to determine the factors influencing profitability. Even though those studies showed that there is possibility to conduct a meaningful analysis of bank profitability, some issues are not dealt sufficiently. In most of the studies, the econometric methodology was not adequately described which implies that the estimates obtained may be biased and inconsistent. Finally, most of the studies were all based on quantitative analysis; this study somehow presents some analysis related with qualitative analysis. This approach will open frontier for other study to determinants of profitability by quantitative as well as qualitative methods. Thus, this study has attempted to deal with some of the major issues that have been untouched by the previous studies. What are the major factors that affect the profitability of commercial banks in Nepal? What is the role of capital adequacy in shaping the bank profitability? Is it important for a bank to expand its size to increase the financial performance? What is the effect of bank liquidity in its profitability? What is the role of quality of asset in shaping the bank profitability? Does quality of asset affect the profitability of bank?

CHAPTER III
RESEARCH METHODOLOGY

Research methodology describes how the research is carried out in terms of research framework, variable specification, data collection methods and techniques of data analysis. Before presenting the analysis and interpretation of data, it is necessary that research methodology should be described first. This chapter, therefore, explains the methodology employed in this study which includes various sections describing research design, nature and sources of data, population, samples and sampling procedure, data analysis methods and techniques, and models used for this study. This chapter has been divided into five sections. Section one provides a description of research plan and design used in the study, section two deals with secondary method of data collection, section three describes the primary method of data collection employed in the study. Similarly, section four describes the validity and reliability of the study. Finally, section five presents the instrumentation of the study.

3.1. Research Plan and Design

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions. The plan is the overall scheme of research. It includes an outline of what the investigator will do from writing the hypothesis and their operational implications to the final analysis of the data.

This study has employed descriptive and correlation research designs to deal with the fundamental issues associated with determinants of profitability of Nepalese commercial banks. The descriptive research design has been adopted for fact-finding and searching adequate information about factors affecting profitability of commercial banks. This design has also been employed to assess the opinions, perceptions, and views of respondents. This portion also deals with the occupation, years of banking experience of the selected employees for the sample commercial banks. Besides, an

effort has also been made to describe the nature of panel data of the commercial banks consisting of 104 observations during fiscal year 2003/04 through 2010/11 by using descriptive statistics with respect to company specific variables such as ROA, ROE, CAR, SIZE, CDR, NPL and CE. This study is also based on correlation research design. This design has been adopted to ascertain and understand the directions, magnitudes and forms of observed relationship between profitability and its corresponding variables. Furthermore, causal comparative research design is also used to understand and examine effect of independent variables on bank profitability (ROA and ROE). Other methodological issues associated with this study are dealt extensively in the respective sections.

3.2. Secondary Data

This study is primarily based on the analysis of secondary data. This study has used panel data to analyze the relationship between the profitability and factors influencing it. The data for firm specific variables includes return on assets return on equity, total asset, credit to deposit ratio, capital adequacy ratio, non -performing loan ratio and cost efficiency ratio which are obtained from annual supervision reports of the sample banks recorded in the database provided in the websites of NRB. The secondary data also puts an insight into the financial highlights to the sample commercial banks through total assets, return on asset ratio, return on equity ratio and others. Overall, the period covered in study with respect to firm specific variables ranges from fiscal year 2003/04 to 2010/11.

3.2.1. Description of the Sample

Sample is a collection of items from a population. It comprises some observations selected from the population. So far the population of this study is concerned, all companies listed in the Nepal Stock Exchange Limited (NEPSE) as of mid July, 2012(31st Ashad, 2069) is taken. In this study, 13 selected banks are taken from the population of 32 commercial banks in Nepal. Hence, the 13 banks form the sample for the study. As a carefully chosen sample can be used to represent the population, the sample reflects the characteristics of the population from which it is drawn. The systematic random sampling method has been used for the study. The banks are selected on the basis of availability of market and firm specific financial information of at least eight continuous years from the fiscal year 2003/04 to 2010/11. The proportion

of sample banks and the number of observations are presented in the following Table 3.1.

Table 3.1 shows the population and sample of the study along with their respective number of observations that represents different banks. The overall sample represents 40.625 percent of the population. Altogether there are 104 observations for these 13 sample banks.

Table 3.1
Population and Sample Bank from Years of Establishment

S.N.	Section	Population (N)	Sample		Number of Observations (ns)
			(n)	%	
1	Banks	32	13	40.625	104

Source: Banking and Financial Statistics (2011), NRB

3.2.2. Data Collection Procedure and Time Frame

The secondary data is employed in order to analyze the form of relationship and between profitability and the factors affecting it. Furthermore, predictive strength of such factors is also assessed using secondary data.

Data are collected from different sources includes annual reports of respective banks, Nepal Rastra Bank official sites, central bureau of statistics, security board of Nepal and others, ministry of finance, Nepal stock exchange, professional associations and different publications and online database. 13 commercial banks were taken for the study. And the data of 8 years were taken from the year 2004 to 2011.

3.2.3. Method of Secondary Data Analysis

The method of secondary data analysis in this study consists of regression models includes several statistical test of significance. The study uses the financial analysis, descriptive statistics, correlation analysis, and portfolio along with statistical test of significance such as F-test, t-test and Adjusted R^2. Details of models and statistical test of significance are also dealt in this section.

Financial Analysis

Financial analysis is one of the most common ways of analyzing financial data. Analyzing financial data is carried out through calculating the ratios from the data to compare against those of other firms or against the firm's own historical performance. Financial analyst often focuses on the income statement, balance sheet, and cash flow statement. In addition, one key area of financial analysis involves extrapolating the company's past performance into an estimate of the company's future performance. Different ratios are calculated for the financial analysis purpose. The technique of ratio analysis is the part of the whole process of analysis of financial statement of any business and industrial company especially to tame output and credit decision. The ratios which are going to be used are as follows:

i. Return on Assets(ROA)
ii. Return on Equity (ROE)
iii. Capital Adequacy Ratio (CAR)
iv. Credit to Deposit Ratio(CDR)
v. Non-performing Loan Ratio(NPL)
vi. Cost Efficiency Ratio(CE)

Specification of Model

The econometric models employed in this study intends to analyze the relationship between profitability and the firm specific explanatory variables such as capital adequacy, liquidity, bank size, quality of assets and cost efficiency.

$$ROA_{it} = \beta_0 + \beta_1 CAR_{it} + \beta_2 SIZE_{it} + \beta_3 CDR_{it} + \beta_4 NPL_{it} + \beta_5 CE_{it} + U_{it} \quad (3.1)$$

$$ROE_{it} = \alpha_0 + \alpha_1 CAR_{it} + \alpha_2 SIZE_{it} + \alpha_3 CDR_{it} + \alpha_4 NPL_{it} + \alpha_5 CE_{it} + V_{it} \quad (3.2)$$

i=1,2,3,.....

t=1,2,3,.....

Where,

ROA= Return on Asset

ROE= Return on Equity

CAR= Tier 1 capital + Tier 2 capital / risk weighted assets

SIZE= Total Asset

CDR = Credit to deposit ratio

NPL = Non-performing loans/total loans

CE=Cost Efficiency

β_0=Intercept in ROA

α_0 = ROE Model

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$=Regression Coefficients of ROA

$\alpha_1. \alpha_2, \alpha_3, \alpha_4. \alpha_5$ = Regression Coefficients of ROE

U_{it}, V_{it} = Normal Individually Independent Distributed Error Terms

In the models, secondary data are processed and analyzed using computer software that is EXCEL and SPSS program. The Pearson correlation technique, multiple correlation and regression model have been used for the study in order to show the relationship between the dependent variable and independent variables, association of strength between these variables and to show the extent of the influence of the independent variables on the dependent variable. Pearson correlation coefficient is also used to investigate the correlation between the variables at 5 percent and 10 percent level of significance. The details of the analysis are mention in the following chapter:

Analysis of Portfolios Formed

Secondary data analysis are also based on the analysis of portfolios formed on firm size, capital adequacy ratio, credit to deposit ratio, non performing loan ratio and cost efficiency ratio. For the purpose of sorting of portfolios, 104 observations of all sample firms over the period from 2003/04 through 2010/11 have been grouped into three equal percentile groups of portfolios. The portfolios have been formed on the basis of total assets, capital adequacy ratio, credit to deposit ratio, non performing loan ratio and cost efficiency ratio. At each sort, the properties of return on assets and return on equity have been observed and analyzed with respect to the movement in variables on the basis of mean value and standard deviation.

Correlation Analysis

This study is also based on correlation research design. This design has been basically adopted to identify the direction and magnitude of relationship between different pairs of variables. For this purpose, correlation analysis has been used. It is a statistical tool to identify direction and magnitude of relation between two set of variables. It shows how two variables move together and also shows the degree of association between them. The relationship has been explained by using Pearson correlation coefficient. The value of correlation coefficient ranges from -1 to +1. If correlation coefficient is exactly -1, two variables are said to have perfect negative correlation as such that they move

together exactly into opposite direction. On the other hand, if correlation coefficient is +1, the variables are said to be perfectly positively related. The correlation coefficient can be computed as:

$$\text{Correlation}(r)=\frac{n\sum_{t=1}^{n} X_t Y_t-\sum_{t=1}^{n} X_t \sum_{t=1}^{n} Y_t}{\sqrt{\left\{n\sum_{t=1}^{n} X_t^2-(\sum_{t=1}^{n} X_t)^2\right\}\left\{n\sum_{t=1}^{n} Y_t^2-(\sum_{t=1}^{n} Y_t)^2\right\}}}$$

where, 'X' denotes profitability ratio, 'Y' denotes capital adequacy ratio, credit to deposit ratio, bank size, non-performing loan ratio and cost efficiency ratio and 'n' is the total number of observations for the variables mentioned above.

Test of Significance

There are various assumptions of classical linear regression model. Some of the important assumptions are regarding the significance of the regression coefficients, overall significance, the problem of autocorrelation etc. This study has employed t-statistic to perform significance test of regression coefficients. In the language of significance test, a regression coefficient is said to be statistically significant if the critical p-value of test statistic is less than the level of significance specified. The levels of significance specified in this study are at 5 and 10 percent level.

Further, it is necessary to test the overall significance of the model. This can be done by using adjusted coefficient of determination (Adj.R^2) and F- statistics. The adjusted coefficient of determination has been used to identify the percentage of total variation in dependent variable that has been explained jointly by all explanatory variables. The statistical significance test of this joint explanatory power has been conducted by using F-statistic. The p-value of F-test has been examined to confirm whether the regression models are significant at 5 and 10 percent level. The t value is computed as

$$t = r\sqrt{\frac{n-2}{1-r^2}}$$

Where,'t' is t- test, 'r' is correlation coefficient, and 'n' is number of observations.

3.3. Primary Data

This study is also based on primary sources of data. The questionnaire survey has been conducted to record the opinions, perceptions, and characteristics of managers and

executives in terms of profitability of commercial banks. The survey has been basically designed to understand the opinion of respondents as how they perceive the factors affecting profitability of the commercial banks in Nepal.

3.3.1. Questionnaire Design

The questionnaires contain total of 20 questions of mixed type options such as personal information, five point Liker scale items, and open-end options. First part questions are about personal information of the respondents such as name, age, gender, and academic qualification. Next part of the questionnaire consists of multiple choice options in which respondents are asked to tick in an appropriate option in relation to the satisfaction of the customers. Similarly, next question is designed in a 5 point Likert scale type to identify the degree of agreement or disagreement of respondents in relation to the operations, banking facilities, location, years of experience etc. Finally, open-end question is included to obtain write-in comments of customers about the improvement area of the bank. The questionnaire survey will be conducted to record the opinions and perceptions of at least 54 managers and executives regarding the profitability in Nepalese commercial banks. Questionnaires are prepared for the survey of 54 respondents that are asked to the managers and executives of sampled commercial banks.

3.3.2. Survey Design

The primary source of data include the personal interview and questionnaire administered to the sample bank which is done by personal visit to the respective banks and distributing the questionnaire to the managers and executives of the respective sampled commercial banks.

3.3.3. Primary Data Sampling

The total population for this research is managers and executives of the commercial bank within Kathmandu Valley. The respondents have been categorized according to the consideration of their primary bank where they have been working as a Managers or executives of respective Banks. Total of 54 respondents are taken for the research purpose.

3.3.4. Sampling Technique

As it is difficult to access the responses from all the commercial banks, this study has used probability stratified sampling method to categorize sample banks in two strata on the basis of their ownership namely joint venture banks (JVB) and domestic private bank(DPB). After divided into two strata, 83.33 percent of joint venture banks are included in the study that makes the number of sample joint venture banks 5 while 29.62 percent of domestic private banks are included in the sample that makes the number of sample domestic private banks 8. To select the sample of 5 joint venture banks from cluster of 6 banks and 7 domestic banks from cluster of 21 banks, systematic random sampling method have been used. Likewise, for primary survey the selection of sample respondents have been conducted using systematic random sampling of the bank branches.

3.3.5. Method of Primary Data Analysis

The primary data analysis has been carried out on the basis of responses derived from questionnaire survey. For analysis of data SPSS and excel has been used. The methods used for primary data analysis includes percentage frequency distribution, and mean scores of responses to 5 point Likert scale items. Likewise the reliability and validity (Cronbach's Alpha) of the data are also tested to find out the strength of each scale. As stated earlier in this chapter, questionnaire has been used to obtain the response regarding profitability trend in Nepal. Questionnaire contains responses based on multiple choices, Likert scale items. Likert scale items present as strongly disagree = 1, disagree = 2, don't know = 3, agree = 4 and strongly agree = 5.Similarly, some of the open questions are provided to obtain a view of the respondents. 5-point Likert scale items uses weighted mean which has been used to identify the most and least preferred factors to analyze the degree of agreement or disagreement with respect to given statements.

3.4. Validity and Reliability

The internal consistency method provides a unique estimate of reliability for the given test administration. The most popular internal consistency reliability estimate is given by Cronbach's alpha. The value of cronbach's alpha of collected primary information is presented in Table 3.2.

Table 3.2

Coefficient of Cronbach's Alpha

Cronbach's Alpha	Cronbach's Alpha on Standardized items	Number of Items
0.707	0.715	20

Source: Results of the questionnaire included in Appendix C

The reliability and validity results in the Table 3.2 showed that the instrument was both reliable and valid since the variable coefficient is 71.5 percent.

3.5. Instrumentation

This study is based on both primary and secondary data. The secondary sources of data have been employed to determine the profitability with sample of commercial banks in Nepal. The primary sources of data have been employed to obtain bank executives opinion towards profitability trend of Nepalese commercial banks. To collect data from primary sources, questionnaire has been used to record the opinions with respect to determinants of profitability. The survey has been basically designed to understand the opinions of respondents as how they perceive the determinants affecting profitability in Nepalese commercial banks. A questionnaire is prepared to survey the responses of managers and executives. It contained 20 questions of mixed nature. A sample of questionnaire is presented in appendix C. A number of steps were followed to identify such a group of respondents.

Collected data are managed, analyzed and presented in proper table and formats. These data are interpreted and explained wherever necessary. Data are collected then processed using the Statistical Package of Social Science (SPSS) computer software. The function of SPSS helps researcher to analyze the result of the questionnaire and then to be interpreted the major findings.

CHAPTER IV
PRESENTATION AND ANALYSIS OF DATA

This chapter provides systematic presentation and analysis of primary and secondary data to deal with the various issues related to the determinants of profitability. Various statistical and econometric models described in pervious chapter have been used for this purpose. This section is divided into three parts. The first section deals with the presentation and analysis of the determinants of the profitability based on secondary data extracted from annual reports of respected banks. The second section deals with the primary data collected from respondents who are the managers and executives of the respective sample banks in order to analyze the determinants of profitability. Finally, the third section discusses on the concluding remarks associated with findings from the data analysis.

4.1. Financial Highlights and Indicators of Commercial Banks

This section fulfills the first objective of this study. There are literally hundreds of useful financial ratios that can be used to evaluate bank‘s performance. However, in most instances, a few basic ratios can help identify the profitability of commercial banks. This subsection presents the ROA, ROE, CAR, SIZE, CDR, NPL and CE of the sample commercial banks.

Return on Asset: Return on asset is an indicator of how profitable a bank is relative to its total assets. ROA gives an idea of how efficient management is at using its assets to generate earnings. It is calculated by dividing a company's annual earnings by its total assets, ROA is displayed as a percentage. Sometimes this is referred to as return on investment. Like most profit measures, this ratio should be positive and growing over time. The data on Table 4.1 shows ROA of commercial banks for eight years.

Table 4.1 illustrates the return on assets of all the selected commercial banks. On the basis to findings, Nabil Bank has highest ROA of 2.67 percent in an average with comparatively lower standard deviation of 0.32 percent. Second to Nabil Bank is Standard Chartered Bank (SCBNL) which has mean ROA of 2.49 percent and third ranked bank in earning ROA is Bank of Kathmandu (BOK) with the mean ROA of 1.89 percent. Other than these most of the bank’s average return on assets fall on the

category of 1.09 percent to 1.68 percent. Lumbini Bank (LBL) has negative average ROA of -0.15 percent with highest standard deviation of 8.22 percent. Comparatively NABIL, SCBL and BOK rank 1st, 2nd and 3rd on the basis of average ROA. In contrast, LBL ranks last with the negative average ROA. In other hand, average ROA of all commercial banks was highest in the year 2007 (2.28 percent) and lowest in the year 2006 (-0.71 percent).

Table 4.1
Return on Assets of the Sample Banks (2003/4 - 2010/11)

*(In percentage***)**

	Fiscal year									
Bank	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	2.72	3.02	3.23	2.72	2.32	2.55	2.37	2.43	2.67	0.32
SCBL	2.27	2.43	2.56	2.42	2.46	2.53	2.70	2.55	2.49	0.13
HBL	1.06	1.17	1.55	1.47	1.76	1.91	1.19	1.91	1.50	0.34
NSBI	0.72	0.55	0.90	1.83	1.44	1.02	1.03	1.01	1.06	0.40
EBL	1.49	1.41	1.49	1.40	1.70	1.73	2.09	2.10	1.68	0.29
NIBL	1.15	1.53	1.61	1.79	1.77	1.68	2.19	2.02	1.72	0.31
BOK	1.34	1.42	1.65	1.80	2.04	2.25	2.18	2.44	1.89	0.40
NIC	1.15	1.52	1.08	1.36	1.81	1.88	2.30	2.34	1.68	0.48
NCC	0.05	-0.07	-7.72	-1.56	5.48	3.76	3.21	1.61	0.60	4.08
KBLI	0.89	1.18	1.15	1.43	1.16	1.41	1.59	1.23	1.26	0.22
LBL	0.43	-4.38	-18.92	3.37	5.36	4.40	4.10	4.41	-0.15	8.22
Laxmi	0.40	0.83	0.79	0.95	1.13	1.22	1.66	1.70	1.09	0.44
SBL	0.91	2.27	1.37	1.20	1.23	1.22	1.06	1.28	1.32	0.41
Average	1.12	0.99	-0.71	1.55	2.28	2.12	2.13	2.08		
Std. Dev	0.73	1.80	6.08	1.15	1.45	1.00	0.88	0.86		

Source: Bank Supervision Report, 2011

Return on Equity: Return on equity is the amount of net income returned as a percentage of shareholders equity. Return on equity measures a bank's profitability by revealing how much profit a company generates with the money shareholders have invested. The following data shows ROEs of commercial banks of eight year.

Based on Table 4.2, the bank earning highest return on equity on average is Nepal Credit and Commerce Bank (NCC) with the mean ROE of 44.75 percent followed by Standard Chartered Bank Nepal limited with mean ROE of 33.67 percent. The standard deviation for these banks is 61.13 percent and 2.23 percent respectively. Likewise, Nabil Bank earned third highest ROE of 31.39 percent on an average while Standard Chartered Bank and Siddhartha Bank (SBL) stand in fourth and fifth place respectively

with mean net profit of 33.67 percent and 28.53 percent respectively. In other hand, cumulative return on equity of all commercial banks was highest in the year 2006 (39.48 percent) and lowest in the year 2005 (7.90).

Table 4.2
Return on Equity of the Sample Banks (2003/04 - 2010/11)

(In percentage)

Banks	Fiscal Year									
	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std Dev
NABIL	30.73	31.29	33.88	32.76	30.63	32.94	29.69	29.22	31.39	1.65
SCBL	35.96	34.07	37.55	32.68	32.85	33.58	32.22	30.43	33.67	2.23
HBL	19.95	20.86	25.90	22.91	25.30	24.13	14.79	22.35	22.03	3.57
NSBI	9.71	8.33	11.91	21.91	17.51	18.47	15.99	16.13	15.00	4.64
EBL	21.10	22.19	24.65	24.67	23.49	28.99	30.15	29.91	25.64	3.56
NIBL	20.94	19.67	24.77	26.70	25.93	23.05	27.61	22.80	23.93	2.80
BOK	19.59	19.36	24.11	26.42	26.94	26.51	24.56	24.85	24.04	3.00
NIC	11.00	16.63	12.60	17.25	18.65	19.12	25.49	24.81	18.19	5.13
NCC	1.82	-2.02	184.36	22.72	72.80	37.81	27.83	12.66	44.75	61.13
KBL	9.13	13.62	12.00	16.60	12.82	16.09	17.73	11.35	13.67	2.94
LBL	6.29	-80.31	111.63	-44.78	111.56	34.86	20.89	21.07	22.65	66.97
Laxmi	1.88	4.11	5.21	7.59	10.38	14.07	17.10	17.75	9.76	6.05
SBL	29.84	-5.12	4.67	-16.94	9.30	40.37	81.87	84.23	28.53	38.23
Average	16.76	7.90	39.48	14.65	32.17	26.92	28.15	26.74		
Std.Dev	11.12	28.94	51.41	22.01	28.75	8.59	17.17	18.34		

Source: Bank Supervision Report, 2011

Capital Adequacy Ratio: Capital adequacy is the amount of capital a bank has to hold as required by Nepal Rastriya Bank. These requirements are put into place to ensure that the commercial banks are not participating or holding investments that increase the risk of default and that they have enough capital to sustain operating losses while still honoring withdrawals.

Table 4.3 depicts the capital adequacy ratio of the selected commercial banks in the study. On an average, capital adequacy of all commercial banks in the study is fair except Lumbini Bank Limited (LBL) and Nepal Credit and Commerce Bank (NCC). According to NRB, total capital adequacy ratio less than 15 and equal to 10 indicates that capital adequacy is fair. Laxmi Bank and Standard Chartered Bank rank high in terms of average CAR which is 15.68 percent and 15.06 percent respectively. These Banks rank first and second respectively. The standard deviation of those banks is 0.86 and 6.31 percent respectively. Kumari Bank and Nepal Industrial Commercial Bank ranks third and fourth with average CAR of 14.49 percent and

13.02 percent respectively. The CAR of NCC Bank and LBL is lower than 10 percent which is 5.74 percent and 8.17 percent respectively. The sample banks have more CAR in the year 2004 with mean CAR of 14.27 percent and least CAR in the year 2007 with mean CAR of 9.15 percent.

Table 4.3
Capital Adequacy Ratio of the Sample Banks (2003/04 - 2010/11)

(In percentage)

	Fiscal Year									
Banks	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	13.56	12.00	12.31	12.04	11.10	10.70	10.50	10.58	11.60	1.07
SCBL	15.99	16.36	14.91	15.71	14.00	14.70	14.60	14.22	15.06	0.86
HBL	10.62	11.10	11.26	11.13	13.00	11.02	10.72	10.68	11.19	0.77
SBI	10.95	9.47	13.57	13.29	12.32	11.92	12.25	11.52	11.91	1.31
EBL	11.07	13.54	12.32	11.20	11.44	10.55	10.77	10.43	11.42	1.04
NIBL	11.18	11.58	11.97	12.17	11.28	11.24	10.55	10.91	11.36	0.53
BOK	11.18	11.22	14.52	12.62	11.94	11.68	10.85	11.62	11.95	1.17
NIC	13.75	13.29	13.54	12.20	13.11	12.42	12.92	12.89	13.02	0.53
NCC	3.42	5.51	-3.46	-9.14	11.09	11.07	13.94	13.48	5.74	8.41
KBL	29.13	11.15	12.34	11.22	14.41	11.56	12.34	13.76	14.49	6.03
LBL	8.71	6.93	-15.11	-7.80	6.00	17.78	24.62	24.22	8.17	14.26
Laxmi	29.19	20.88	14.96	12.43	11.17	11.48	13.71	11.63	15.68	6.31
SBL	16.76	13.65	14.16	11.84	11.14	10.39	10.04	10.78	12.35	2.32
Average	14.27	12.05	9.79	9.15	11.69	12.04	12.91	12.82		
Std. Dev	7.39	3.89	8.87	7.91	2.06	2.05	3.83	3.66		

Source: Bank Supervision Report, 2011

Total Asset: This study has measured the size of the commercial banks through the total assets of banks. The pattern of the bank size is shown in Table 4.4.

Table 4.4 reveals the total assets of selected commercial banks in the study. In terms of total assets, Nepal investment Bank limited is the largest bank with average total assets of Rs. 35.75 billion. The standard deviation of its total assets is Rs.18.69 billion which indicates that the average assets of the NIBL increased and decreased by Rs. 18.69 billion during the study period. Himalayan Bank limited is the second largest bank with mean total assets of Rs.35.7 billion and Nabil Bank limited is third largest bank with mean total assets of Rs.34.34 billion. Lumbini Bank limited is the smallest bank because of its least total assets of Rs 6.09 billion on an average. The cumulative size of the sample commercial banks was largest in the year 2011 with total assets of Rs.15.18 billion and least in the year 2004 with total assets of Rs 5.77 billion.

Table 4.4
Total asset of the Sample Banks (2003/04 - 2010/11)

(Rs. In billions)

	Fiscal Year									
Bank	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	16.75	17.19	22.33	27.25	37.13	43.87	52.08	58.10	34.34	15.93
SCBL	23.64	22.17	25.78	28.59	33.33	40.58	40.21	43.81	32.26	8.44
HBL	24.76	27.86	29.46	33.52	36.18	39.32	42.72	46.72	35.07	7.61
SBI	8.44	10.35	13.04	13.90	17.19	30.92	38.05	46.09	22.25	14.17
EBL	9.61	11.80	15.96	21.43	27.15	36.92	41.38	46.24	26.31	13.93
NIBL	13.25	16.27	21.33	27.59	38.87	53.01	57.31	58.36	35.75	18.69
BOK	9.50	9.86	12.28	14.58	17.72	20.50	23.39	24.76	16.57	5.95
NIC	5.93	7.51	10.38	11.67	15.24	18.75	20.31	22.09	13.99	6.04
NCC	6.66	7.48	6.43	6.04	8.24	10.59	12.76	13.26	8.93	2.89
KBL	5.49	7.44	9.01	11.92	15.03	18.54	20.52	20.49	13.55	5.97
LBL	4.36	4.49	4.25	5.70	6.15	7.55	7.41	8.83	6.09	1.71
Laxmi	2.59	3.81	5.21	8.58	12.69	18.39	20.95	21.56	11.72	7.80
SBL	1.91	3.09	4.76	7.95	11.67	17.88	22.80	24.41	11.81	8.90
Average	5.77	5.82	7.01	8.35	10.20	12.30	13.41	15.18		
Std. Dev	7.43	7.46	8.47	9.64	11.66	14.13	15.42	16.94		

Source: Bank Supervision Report, 2011

Non-performing Loan Ratio: Non performing loan is a sum of borrowed money upon which the debtor has not made his or her scheduled payments for at least 90 days. A nonperforming loan is either in default or close to being in default. Higher the non performing loan higher would be the credit risk and ultimately lower would be the profitability of commercial banks.

Table 4.5 shows the non performing loan ratio of sample commercial banks. On the basis of finding, Kumari Bank Limited and Everest Bank Limited have lowest NPL ratio with an average of 0.63 percent and 0.89 percent respectively. The standard deviation of these banks is 0.49 percent and 0.59 percent respectively. The declining ratio of NPL reflects that KBL and EBL have lower credit risk and have a better quality of assets. The share of Nepal Credit and Commerce Bank and Lumbini Bank Limited in NPL is extremely high accounting that simply indicates the degradation of quality of loans and concentration as well. Other than that, other banks fall in the range of 1.49 percent to 4.85 percent which is considered to be reasonable. The sample banks have more non performing loan in the year 2006 with mean NPL of 6.11 percent and least non performing loan in the year 2009 with mean NPL of 2.06 percent.

Table 4.5
Non Performing loan ratio of the Sample Banks (2003/04 - 2010/11)

(In percentage)

Bank	Fiscal Year									
	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	3.35	1.32	1.38	1.12	0.74	0.80	1.47	1.77	1.49	0.82
SCBL	3.77	2.69	2.13	1.83	0.92	0.66	0.61	0.62	1.65	1.16
HBL	8.88	7.44	6.60	3.61	2.36	2.16	3.52	4.22	4.85	2.48
NSBI	6.25	6.54	6.13	4.56	3.83	2.02	1.48	1.10	3.99	2.24
EBL	1.72	1.63	1.27	0.80	0.68	0.48	0.16	0.34	0.89	0.59
NIBL	2.47	2.69	2.07	2.37	1.12	0.58	0.62	0.94	1.61	0.88
BOK	6.66	4.99	2.72	2.51	1.86	1.27	1.51	1.82	2.92	1.91
NIC	3.92	3.78	2.60	1.11	0.86	0.23	0.72	0.60	1.73	1.49
NCC	12.72	8.64	21.87	31.40	16.42	8.60	2.88	3.82	13.29	9.66
KBL	0.00	0.95	0.01	0.73	1.32	0.44	0.50	1.12	0.63	0.49
LBL	7.36	15.23	30.99	20.37	14.92	9.06	4.53	0.96	12.93	9.64
Laxmi	0.00	1.63	0.78	0.35	13.00	0.08	0.12	0.90	2.11	4.44
SBL	4.85	2.58	0.87	0.34	0.69	0.45	0.53	0.79	1.56	1.57
Average	4.77	4.62	6.11	5.47	4.52	2.06	1.43	1.46		
Std. Dev	3.61	4.03	9.41	9.42	5.96	3.07	1.38	1.21		

Source: Bank Supervision Report, 2011

Credit to Deposit Ratio: Credit to deposit ratio is a commonly used ratio for assessing a bank's liquidity by dividing the banks total loans by its total deposits. If the ratio is too high, it means that banks might not have enough liquidity to cover any unforeseen fund requirements and if the ratio is too low, banks may not be earning as much as they could be.

Table 4.6 shows the credit to deposit ratio of all selected commercial banks under the study. In terms of the credit to deposit ratio, Siddhartha Bank, Lumbini Bank and Laxmi have highest credit to deposit ratio of 95.22 percent, 89.79 percent and 89.32 percent of mean credit to deposit ratio which depict that these bank does not have enough liquidity to cover unforeseen fund requirement. The standard deviation of credit to deposit ratio of these banks is 10.71 percent, 4.43 percent and 7.50 percent. The banks with lower credit to deposit ratio are Standard Chartered Bank, Himalayan Bank and Nepal SBI Bank with mean credit to deposit ratio of 42.45 percent, 62.99 percent and 69.19 percent for each. The sample banks have more credit to deposit ratio in the year 2008 with mean CDR of 79.47 percent and least credit to deposit ratio in the year 2004 with mean CDR of 74.83 percent.

Table 4.6
Credit to Deposit Ratio of the Sample Banks (2003/04 - 2010/11)

(In percentage)

Banks	Fiscal Year									
	2004	2005	2006	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	60.55	75.05	68.63	68.13	68.18	73.87	69.37	78.29	70.26	5.44
SCBL	31.63	43.55	39.92	43.78	46.95	38.70	45.98	49.11	42.45	5.58
HBL	54.30	50.07	55.27	56.57	61.23	71.49	74.39	80.57	62.99	11.07
SBI	76.85	77.87	69.32	82.66	88.32	55.84	51.48	51.20	69.19	14.62
EBL	75.59	78.24	73.40	77.40	78.60	73.43	74.61	76.98	76.03	2.08
NIBL	63.68	73.33	69.63	72.56	79.91	78.86	81.74	83.54	75.41	6.78
BOK	77.61	69.13	71.42	78.25	80.51	82.65	83.90	85.43	78.61	5.82
NIC	72.73	78.66	78.74	90.67	87.62	89.32	80.97	82.45	82.65	6.16
NCC	78.78	90.66	89.12	78.80	72.14	78.62	77.49	84.28	81.24	6.28
KBL	76.91	90.62	90.20	85.84	92.00	94.17	79.45	87.87	87.13	6.10
LBL	85.31	91.41	90.29	82.07	94.10	88.15	95.23	91.73	89.79	4.43
Laxmi	103.96	89.33	96.30	85.78	89.72	83.88	81.49	84.10	89.32	7.50
SBL	114.95	104.42	98.75	95.39	93.03	85.18	83.65	86.43	95.225	10.71
Average	74.83	77.87	76.23	76.76	79.41	76.47	75.37	78.61		
Std.Dev	32.65	31.52	31.04	29.97	30.83	30.27	29.26	30.25		

Source: Bank Supervision Report, 2011

Cost Efficiency Ratio: In banking, a ratio of expenses to revenue is the cost efficiency. Banks desire a lower efficiency ratio because this means that the bank is making considerably more than it is spending and is therefore on sound fiscal footing.

Table 4.7 reveals the cost efficiency ratio for all the selected commercial banks under the study. On the basis of finding Nepal Credit and Commerce Bank, Kumari Bank, and Lumbini Bank have highest cost efficiency ratio with average cost efficiency ratio of 40.88, 42.23 and 42.02 percent which depicts that these Bank's profitability is lowest in terms of cost efficiency ratio. Standard Chartered Bank, Nabil Bank and Nepal Industrial and Commercial Bank have lowest average cost efficiency ratio of 27.99 percent, 29.05 percent and 29.89 percent with standard deviation of 2.70 percent, 2.30 percent and 3.01 percent respectively. The finding indicates that Standard Chartered Bank, Nabil Bank and Nepal Industrial and Commercial Bank have highest profitability in terms of Cost efficiency ratio. The sampled banks have high cost efficiency ratio in the year 2004 and with mean cost efficiency of 40.58 percent and least cost efficiency ratio in the year 2010 with mean cost efficiency of 33.1 percent.

Table 4.7
Cost Efficiency Ratio of the Sample Banks (2003/04 - 2010/11)

(In percentage)

	Fiscal Year									
Bank	**2004**	**2005**	**2006**	2007	2008	2009	2010	2011	Average	Std.Dev
NABIL	31.56	32.62	29.60	28.94	28.95	27.24	25.39	28.07	29.05	2.30
SCBL	32.76	31.52	27.45	27.49	25.69	25.30	26.47	27.27	27.99	2.70
HBL	35.48	38.13	40.49	44.05	39.85	38.19	41.06	42.52	39.97	2.71
SBI	37.34	31.57	32.21	32.49	35.62	41.75	42.84	49.29	37.89	6.28
EBL	32.15	34.09	32.39	31.34	32.38	31.00	30.03	30.84	31.78	1.25
NIBL	42.28	35.66	32.44	31.20	30.33	30.22	26.09	27.62	31.98	5.07
BOK	31.46	29.75	30.64	30.75	30.25	34.10	34.48	31.34	31.60	1.75
NIC	35.47	30.98	32.67	29.09	28.06	26.99	26.67	29.18	29.89	3.01
NCC	43.62	40.74	37.09	54.93	40.34	33.94	36.53	39.85	40.88	6.41
KBL	47.51	38.01	44.85	37.90	41.95	42.22	41.86	43.56	42.23	3.24
LBL	41.41	37.75	65.99	45.72	37.25	33.19	32.63	42.24	42.02	10.66
Laxmi	69.00	57.72	53.87	46.42	38.68	37.04	32.80	35.15	46.34	12.84
SBL	45.25	39.72	37.47	33.98	29.78	34.09	34.09	45.10	37.44	5.58
Average	40.4	36.8	38.2	36.5	33.8	33.5	33.1	36.3		
Std.Dev	14.58	12.05	14.69	12.78	10.41	10.33	10.65	12.22		

Source: Bank Supervision Report, 2011

4.2. Trend Analysis of Profitability and its Determinants

As this study has employed descriptive research design, among others, descriptive statistics have been used to describe the characteristics of return on asset, return on equity, capital adequacy ratio, firm size, credit to deposit ratio, non performing loan ratio, and cost efficiency ratio during the study period. The descriptive statistics used in this study consists of mean, median, standard deviation, and minimum and maximum values associated with variables under consideration. Table 4.7 summarizes the descriptive statistics of variables used in this study during the period 2003/04 through 2010/11 associated with 13 sample banks.

Table 4.8 shows descriptive statistics- mean, median, standard deviation, minimum and maximum values- of key variables associated with 13 sample banks with 104 observations for the period 2003/04 through 2010/11. ROA refer to return on asset, ROE refers to return on equity, CAR is capital adequacy ratio and is calculated as capital fund to risk weighted assets, SIZE refers to the size of the bank in terms of total assets. CDR refers to credit to deposit ratio, NPL is non performing loan on total assets, CE refers to the cost efficiency ratio.

Table 4.8
Descriptive Statistics of Key Variables of 13 Sample Banks (2003/04-2010/11)

Variables	Unit	Minimum	Maximum	Mean	Standard Deviation
ROA	Ratio	.00	.03	.0154	.0077
ROE	Ratio	.10	.45	.2423	.09293
CAR	Ratio	.06	.16	.1177	.02651
SIZE	Rs. In Billion	6.09	35.75	20.6646	10.8451
CDR	Ratio	.42	.95	.7685	.1394
NPL	Ratio	.01	.13	.0392	.0419
CE	Ratio	.28	.46	.3608	.0588

Table 4.8 summarizes the descriptive statistics of firm specific variables used in this study during the period 2003/04 through 2010/11 associated with 13 sample banks listed in NEPSE. Table 4.8 indicates that average return on asset of the sample banks during the period has been recorded at 0.0154 and standard deviation of 0.0077 with a minimum return on asset of 0 to maximum return of 0.03. Similarly the average ROE of the sample banks is 0.2423 with the standard deviation of 0.09293 with the range of minimum 0.10 to maximum 0.45. The table further depicts that banks differ significantly in terms of Capital adequacy ratio. The CAR has minimum value of 0.06 to maximum 0.16 with a mean of 0.1177 and standard deviation of 0.02651. The size of sample banks ranges from minimum Rs 6.09 billion to maximum Rs.35.75 billion with an average of Rs. 20.6646 billion and standard deviation of Rs.10.8451 billion. The wider range of size implies that the firm included in the sample varies in terms of their size.

Table 4.8 further indicates that the banks differ in terms of their credit to deposit ratio and non performing loan. Credit to deposit ratio has average value of 0.7685 with a minimum to maximum range of 0.42 to 0.95. Further, non-performing loan ratio has

average value 0.0392 and standard deviation of 0.0419 with the minimum and maximum value of 0.01 and 0.13 respectively.

Lastly, Table 4.8 also reveals that value of cost efficiency ratio of the banks varies significantly. It ranges from minimum 0.28 to maximum 0.46 with a mean value and standard deviation of 0.3608 and 0.0588 respectively

4.3. Univariate Portfolios Formed on One-Way Sorts

This section fulfills the third objective of the study. This section attempts to examine univariate relation between profitability and its determinants. Properties of profitability with respect to firm specific variables have been analyzed in this subsection by forming three equal percentiles portfolios based on one-way sorts of capital adequacy ratio, bank size, credit to deposit ratio, non performing loan ratio, and cost efficiency ratio. The characteristics of average returns and standard deviations associated with each of these univariate sorts of portfolios are described below.

i. Properties of Portfolios Sorted on Capital Adequacy Ratio (CAR)

In an attempt to describe the characteristics of movement in return on asset, return on equity and other firm specific variables with respect to capital adequacy ratio, three equal percentile groups of portfolios were formed on Capital Adequacy Ratio (CAR). The descriptive statistics (mean and standard deviation) associated with each of these three portfolio groups corresponding to each of the firm specific variables are reported in Table 4.9.

Table 4.9 presents portfolios sorted by CAR. The banks with high CAR have higher ROA. The ROA increases with CAR when it moves from lowest percentile group, portfolio 1 to the highest percentile group portfolio 3. The ROA on lowest CAR portfolio is 0.72 percent and it shows a clear pattern of increment with CAR that reaches to maximum 1.98 percent in highest CAR portfolio. The results indicate that firms with higher level of capital adequacy ratio have larger return on asset than those with lower capital adequacy ratio. On the other hand, variability in ROA as measured by standard deviation also shows consistent pattern from lower quintile CAR sorted portfolio to higher quintile CAR sorted portfolios. But return on asset is less variable for the largest capital adequacy framework than for the smallest.

Table 4.9
Properties of Portfolios Sorted on Capital Adequacy Ratio

Portfolios Bases of portfolio		1(Lower or Smallest) <11.15	2 11.15-13	3(High or Lowest) >13
CAR	(%)	7.84 (6.51)	11.88 (0.55)	16.17 (4.45)
ROA	(%)	0.72 (4.12)	1.67 (1.55)	1.98 (1.04)
ROE	(%)	31.39 (44.50)	20.54 8.59	20.23 11.69
SIZE	(Billion Rs)	24.51 (18.29)	21.44 (10.65)	15.56 (11.59)
CDR	(%)	78.60 (10.37)	77.00 (11.64)	75.08 (22.13)
NPL	(%)	7.35 (8.55)	1.66 (1.59)	2.42 (2.01)
CE	(%)	36.88 (8.29)	35.03 (5.84)	36.42 (9.88)
N		35	46	32

(Note: The reported figures are mean value of the portfolio sorted on capital adequacy ratio and figure in parenthesis are standard deviation of the portfolio.)

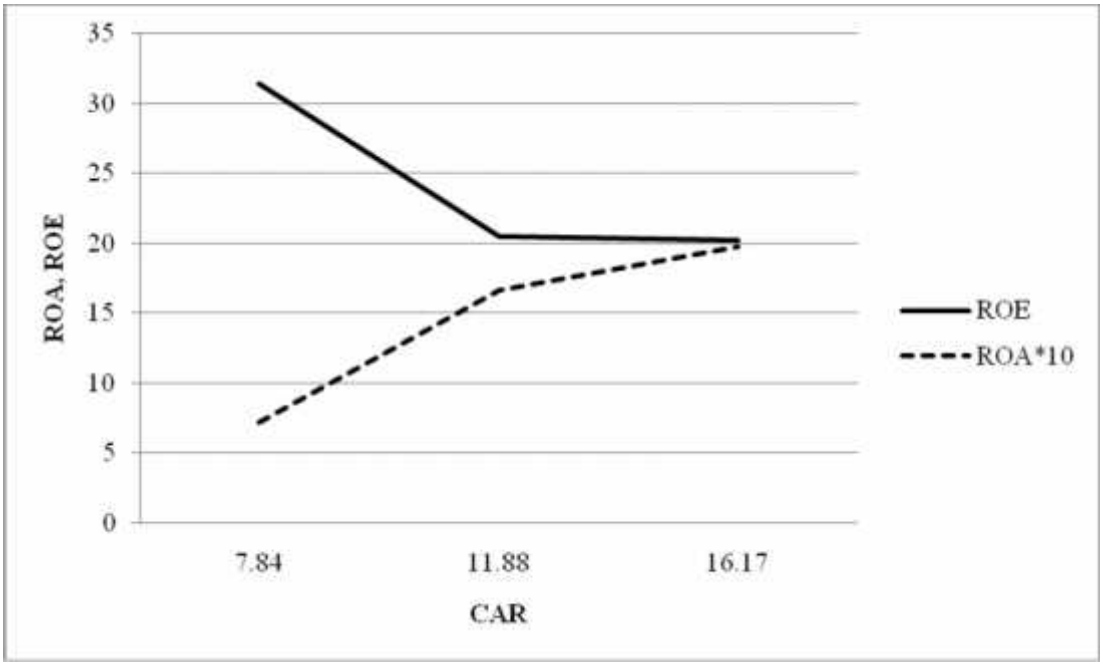
Similarly, Table 4.9 also indicates the pattern of movement of ROE with respect to capital adequacy ratio. The ROE decreases with the increase in CAR. The ROE on the

lowest CAR portfolio is 31.39 percent which declines to 20.23 percent on the highest CAR portfolio. But the return on equity for smallest capital adequacy portfolio is more variable as compared to the largest portfolio.

Table 4.9 indicates the pattern of movement of other firm specific variables with respect to capital adequacy ratio. As the results shows, firm size decreases with the increase in capital adequacy ratio from portfolio 1 to 3. The firm size in low CAR portfolio is equal to 24.51 billion, which have been decreases to 21.44 billion and 15.56 billion respectively. The result generally implies that small size bank have higher capital adequacy ratio than large size bank. Similarly CDR ratio also shows the movement in opposite direction with CAR. The CDR in low CAR portfolio is equal to 78.60 percent, which has been decreased to 75.08 percent in the highest CAR portfolio. NPL and CE ratio also shows the movement in opposite direction with CAR. The NPL and CE in low CAR portfolio is equal to 7.35 and 36.88 respectively which have decreased to 2.42 and 36.42 respectively in the highest CAR portfolio. The result indicates that non performing loan and cost efficiency decreases with increase in capital adequacy ratio.

The diagrammatic presentation of the movement in ROA and ROE with respect to movement in CAR has been done in Figure 4.1. The X axis represents mean value of CAR for three different portfolios while Y axis represents the ROA and ROE.

Figure 4.1
Movement in ROA and ROE across the Portfolios Sorted on CAR



The upward sloping curve of ROA clearly indicates the positive association between return on asset and capital adequacy ratio. In contrast, ROE is sharply downward sloping till the certain i.e. second level of portfolio after which it starts declining in the slow pace as the level of CAR increases. The graphical presentation of ROE curve depicts the negative association between return on equity and capital adequacy ratio.

ii. Properties of Portfolios Sorted on Firm Size (SIZE)

In an attempt to describe the characteristics of movement in return on asset, return on equity and other firm specific variables with respect to firm size, three equal percentile groups of portfolios were also formed on Firm Size (SIZE). The descriptive statistics (mean and standard deviation) associated with each of these three portfolio groups corresponding to each of the firm specific variables are reported in Table 4.9.

Table 4.10
Properties of Portfolios Sorted on Firm Size

Portfolios Bases of portfolio		1(Lower or Smallest) <12	2 12-24	3(High or Largest) >24
SIZE	(Billion Rs)	7.51 (2.82)	18.22 (3.49)	38.25 (10.19)

ROA	(%)	0.75 (4.03)	1.77 (0.57)	1.92 (0.55)
ROE	(%)	31.39 (44.50)	20.54 (8.59)	20.23 (11.69)
CAR	(%)	11.23 (9.09)	12.56 (1.44)	11.82 (1.51)
CDR	(%)	86.46 (10.02)	77.58 (13.12)	65.36 (14.59)
NPL	(%)	6.81 (8.23)	2.15 (2.42)	2.00 (2.08)
CE	(%)	40.25 (9.58)	34.09 (4.60)	33.27 (6.93)
N		38	33	33

(Note: The reported figures are mean value of the portfolio sorted on the bank size and figure in parenthesis are standard deviation of the portfolio.)

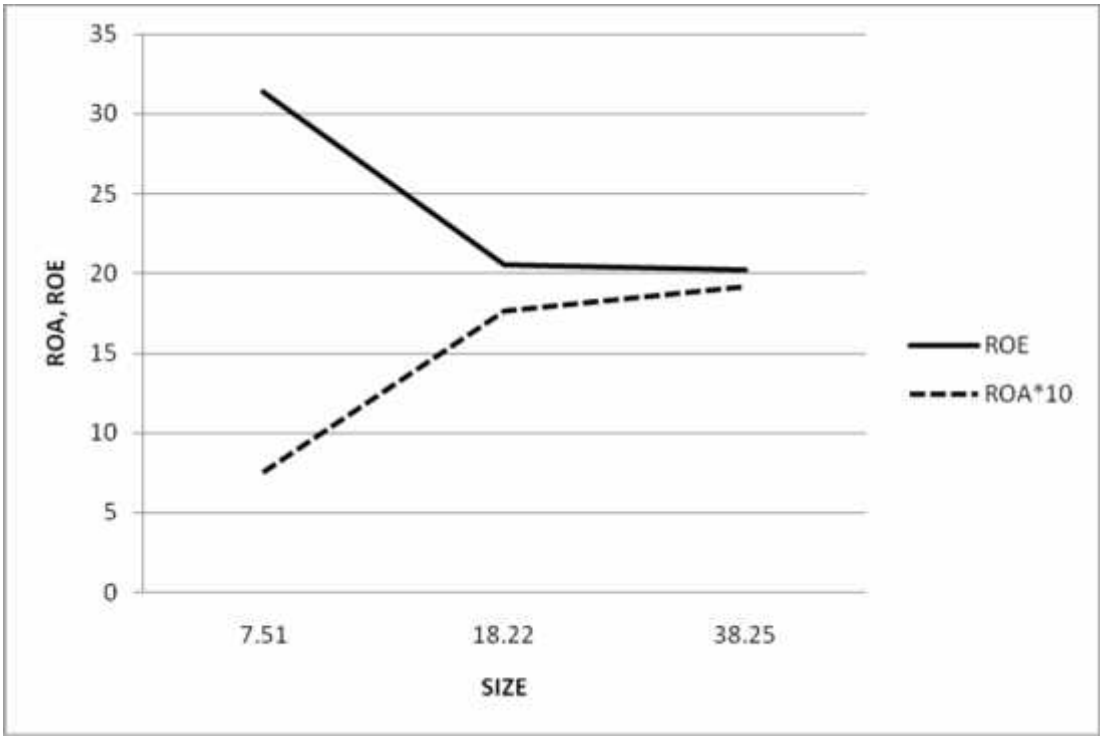
Table 4.10 presents the portfolios sorted by SIZE. It shows that large size banks have high return on asset. The ROA show a general pattern of movement into same direction with SIZE. In other words, the ROA increase with SIZE. The ROA for the lowest size portfolio (that is, portfolio 1) is 0.75 percent and it has been increased to 1.92 percent in the largest portfolio (that is, portfolio 3). In relation to ROA volatility with respect to firm SIZE, the results indicate that variability is lower for larger size firm in general. The standard deviation shows a general pattern of decrement from 4.03 percent in portfolio 1 to 0.55 percent in portfolio 3. The results indicate that large size firm in general has lower variation in return on asset than the smaller firm**.**

Table 4.10 also presents the movement of ROE with respect to SIZE. The ROE decreases with the increase in SIZE. The ROE in the lowest SIZE portfolio is 31.39 whereas it decreases to 20.23 percent in highest SIZE portfolio. The standard deviation

shows a general pattern of decrement from 44.50 percent in portfolio 1 to 11.69 in portfolio 3. The findings indicate that large size firm in general has lower variation in return on equity than small size firm. The findings also depicts that large size firm has lower return on equity than small size firm.

In addition, Table 4.10 also reports the patterns of movement in other firm specific variables with firm size. The results indicate that CAR also increases with firm size. The CAR in lowest firm SIZE portfolio has average value of 11.23, which has been increased to 11.82 in the highest firm SIZE portfolio. However CDR, NPL and CE show the movement in opposite direction with firm SIZE. The results indicate that credit to deposit ratio, non performing loan and cost efficiency decreases with the increase in firm size. The findings suggest that larger size bank tend to have good liquidity position, good quality of asset and are more cost effective than that of small size banks.

Figure 4.2
Movement in ROA and ROE across the Portfolios Sorted on SIZE



The univariate relationship between the SIZE and the profitability variables (ROA and ROE can be viewed from Figure 4.2. The upward sloping ROA curve shows positive association between asset size of the bank and return on asset. However, it can be

observed that ROE falls sharply for first two portfolios while the intensity of fall of ROE in next portfolio is lesser as compared to earlier falls. Therefore the ROE curve depict that there is negative association between bank size and return on equity.

iii. Properties of Portfolios Sorted on Credit to Deposit Ratio

Three equal percentile groups of portfolios were formed in order to examine the pattern of movement in ROA, ROE and other firm specific variables with respect to the movement in CDR. The Table 4.11 reports the average value of ROA, ROE other firm specific variables along with their corresponding standard deviations in three portfolios.

Table 4.11 shows a clear pattern of movement in return on asset with respect to credit to deposit ratio. Return on asset shows decreasing trend from smallest credit to deposit group to the largest credit to deposit group. The ROA on the smallest CDR group is 1.97 percent which has been decreased to 0.55 percent in the highest CDR group. This implies banks having higher CDR have lower ROA than the banks having smaller CDR. The results further indicate that variation in ROA is higher in high CDR group than that in low CDR group. The standard deviation shows that return on asset of the largest credit to deposit portfolio is more variable than that of smallest.

In addition, Table 4.11 also indicates the relationship between CDR and ROE. . Return on equity shows inconsistent pattern of relationship with return on equity. The ROE on the smallest CDR group is 27.21 percent which has been decreased to 21.18 percent in portfolio 2 which is again increased to 23.87 percent in portfolio 3. Overall the CDR decreases from 27.21 in the smallest portfolio to 23.87 percent in the last portfolio. This kind of result seems to be contradictory to negative relation between CDR and ROE. This implies banks having higher CDR have lower ROE than the banks having smaller CDR. The results further indicate that variation in ROE is higher in high CDR group than that in low CDR group. The standard deviation of ROE in the lowest CDR portfolio is 10.53 percent whereas that in the highest CDR portfolio is 44.94 percent. The Credit to deposit ratio under the largest portfolio is more variable as compared to smallest portfolio.

Table 4.11
Properties of Portfolios Sorted on Credit to Deposit Ratio

Portfolios Bases of portfolio		1(Lower or Smallest) <75	2 75-85	3(High or Largest) >85
CDR	(%)	60.71 (12.66)	79.87 (2.61)	91.92 (6.39)
ROA	(%)	1.97 (0.88)	1.71 (0.95)	0.55 (4.23)
ROE	(%)	27.21 (10.53)	21.19 (16.82	23.87 (44.94)
CAR	(%)	12.50 (1.74)	10.91 (5.88)	12.15 (7.75)
SIZE	(Billion Rs)	28.57 (12.05)	21.92 (15.97)	10.36 (6.42)
NPL	(%)	2.97 (3.13)	3.79 (6.23)	4.76 (7.25)
CE	(%)	33.62 (6.29)	34.53 (6.23)	40.59 (9.83)
N		35	36	33

(Note: The reported figures are mean value of the portfolio sorted on credit to deposit ratio and figure in parenthesis are standard deviation of the portfolio.)

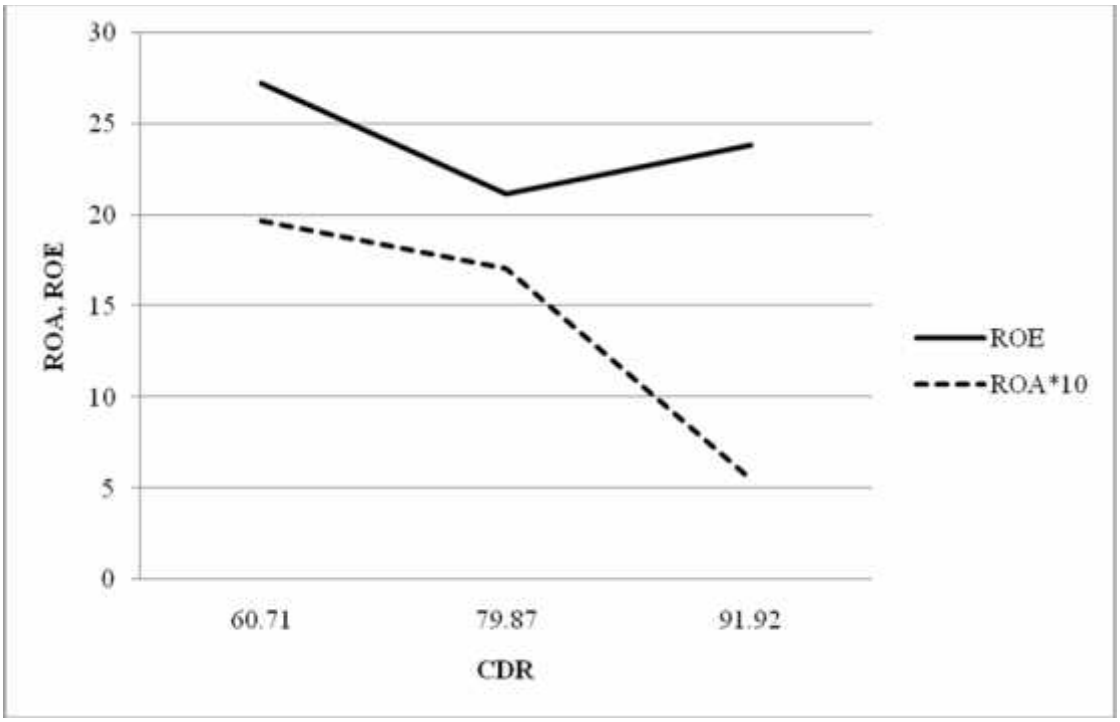
The results in Table 4.11 further reveals the CAR having inconsistent pattern of relationship with CDR. CAR in low CDR Portfolio is equal to 12.50 percent, which has been decreased to 10.91 percent in portfolio 2 which is again increased to 12.15 in portfolio 3. On the other hand bank size shows the clear negative pattern of movement with credit to deposit ratio. The bank size for low CDR group is 28.57 percent, which has been decrease to 10.36 percent in high CDR group. However nonperforming loan and cost efficiency shows a clear pattern of positive movement with credit to deposit ratio. For example, NPL has been increased from 2.97 percent in low CDR portfolio to 4.76 percent in high CDR portfolio. Similarly CE ratio in low CDR group is 33.62 percent, which has been increased in high CDR group to 40.59 percent. The finding reveals the quality of assets of banks declines with the increase in credit to deposit ratio.

Similarly results indicate that the bank bear higher cost with the increase in credit to deposit ratio.

The pattern of movement of ROA and ROE across the three portfolios formed on the credit to deposit ratio (CDR) has also been depicted graphically in Figure 4.3.

It is evident from the downward sloping curve of ROA that higher the ratio of credit to deposit ratio lower the return on asset of the banks. In contrast, the figure depicts that the ROE decreases till the second level of portfolio after which the ROE curve starts sloping upward. Therefore, the curve of ROE does not clearly depict the relationship between return on equity and credit to deposit ratio.

Figure 4.3
Movement in ROA and ROE across the Portfolios Sorted on CDR



iv. Properties of Portfolios Sorted on Non-Performing Loan Ratio

Three equal percentile groups of portfolios were formed in order to examine the pattern of movement in return on asset , return on equity of banks and other firm specific variables with respect to the movement in nonperforming loan ratio. Table 4.12 reports the average return on asset on these three non performing loan ratio sorted portfolios along with the standard deviations given in parentheses. The Table also reports the

average value of other firm specific variables along with their corresponding standard deviations in three portfolios.

Table 4.12
Properties of Portfolios Sorted on Non-Performing Loan Ratio

Portfolios Bases of portfolio		1(Lower or Smallest) <1	2 1-3	3(High or Largest) >3
NPL	(%)	0.56 (029)	1.86 (0.57)	9.45 (7.48)
ROA	(%)	1.74 (0.73)	1.87 (0.66)	0.67 (4.29)
ROE	(%)	23.37 (18.26)	22.98 (8.81)	26.06 (44.12)
CAR	(%)	13.28 (4.55)	12.79 (2.03)	9.25 (7.93)
SIZE	(Billion Rs)	24.48 (15.80)	23.60 (13.09)	14.22 (11.43)
CDR	(%)	80.41 (14.61)	70.55 (18.09)	73.40 (23.36)
CE	(%)	34.99 (9.24)	36.25 (10.19)	41.10 (11.49)
N		37	34	33

(Note: The reported figures are mean value of the portfolio sorted on non-performing loan ratio and figure in parenthesis are standard deviation of the portfolio.)

Table 4.12 indicates that there is alternative pattern of decline and increase in ROA with respect to NPL ratio from portfolio 1 to 3. The ROA in portfolio 1 to 2 have been increased from 0.56 percent to 1.86 percent. The ROA again declined to the lowest 0.67

percent in portfolio 3. The return on asset increased to 1.87 in portfolio 2 and then decreased to 0.67 percent in portfolio 3. Although there is no clear cut pattern of movement in ROA with NPL ratio, the ROA from lowest quintile of NPL sorted portfolio have been declined when it reached to the highest quintile of NPL sorted portfolio. On the other hand, variability in ROA as measured by standard deviation also shows no consistent pattern from lower quintile NPL sorted portfolios to higher quintile NPL sorted portfolios. The standard deviation in the lowest quintile portfolio is 0.73 percent, which has been consistently declined to 14.05 percent in portfolio 2, and finally increased to 4.29 percent in the highest quintile.

Furthermore, Table 4.12 reports the inconsistent pattern of movement in ROE with NPL ratio. The CAR for the lowest NPL portfolio is 23.37 percent which is decreased to 22.98 percent in portfolio 2 which again increased to 26.06 percent in portfolio 3. On the other hand, variability in ROE as measured by standard deviation also shows no consistent pattern from lower quintile NPL sorted portfolios to higher quintile NPL sorted portfolios. The standard deviation in the lowest quintile portfolio is 18.26 percent, which has been consistently declined to 8.81 percent in portfolio 2, and finally increased to 44.12 percent in the highest quintile.

Analysis of Table 4.12 documents a negative pattern of movement in CAR with NPL ratio. The CAR for the lowest NPL portfolio is 10.28 percent which has been decreased to 9.25 in the highest NPL portfolio. The results further show that the bank size also has a negative consistent pattern of movement with NPL ratio in general. The firm size has been first decreased from 24.48 in the lowest NPL portfolio to 23.60 in portfolio 2; it has been consistently decreased, thereafter, to 14.22 from portfolio 2 to 3. On the other hand, the CDR shows a inconsistent pattern of relationship with NPL ratio. Further, with respect to NPL ratio, CE ratio increases from portfolio 1 to 3.

The diagrammatic presentation of the movement in ROA and ROE with respect to movement in the NPL has been done in Figure 4.4. The X axis represents mean value of NPL for three different portfolios while Y axis represents the ROA and ROE.

Figure 4.4
Movement in ROA and ROE across the Portfolios Sorted on NPL

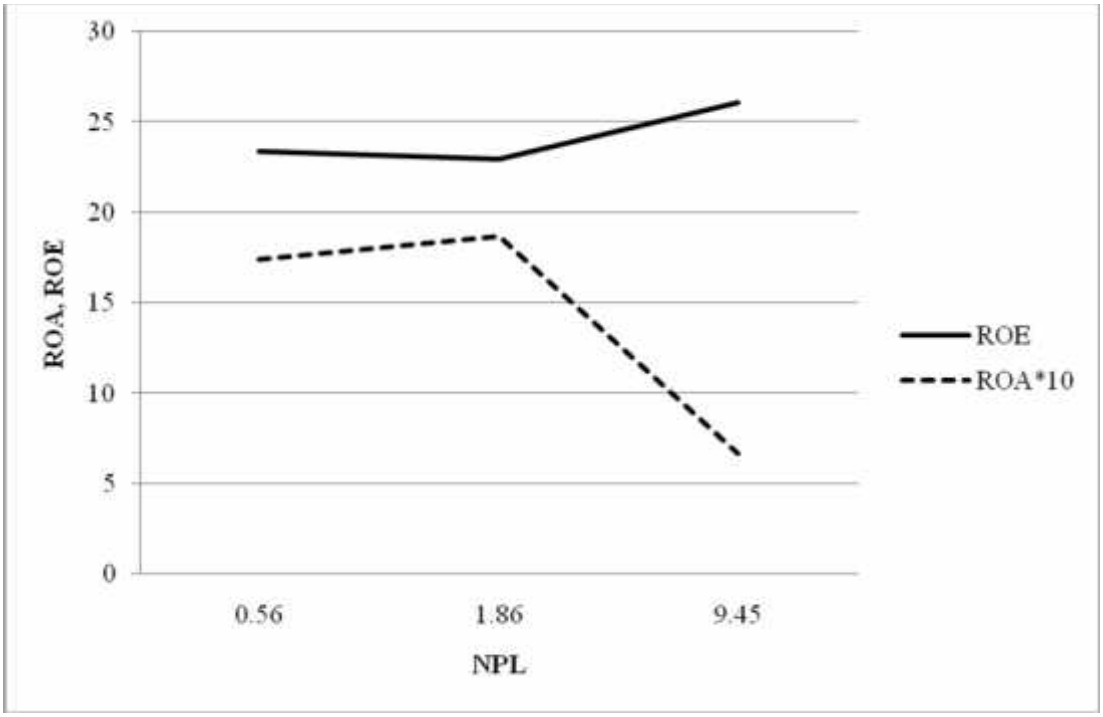


Figure 4.4 shows that the ROA increases slowly till the certain i.e. second level of portfolio before it sharply decreases to reach at the ratio of 0.67 percent as the level of nonperforming loan increases. The figure also depicts that the ROE decreases slowly till the second level of portfolio after which it increases to reach at the ratio of 26.06 percent. So the figure depicts the inconsistent pattern of relationship between the NPL and the Profitability variables (ROA and ROE).

v. Properties of Portfolios Sorted on Cost Efficiency Ratio

Three equal percentile groups of portfolios were formed in order to examine the pattern of movement in ROA, ROE and other firm specific variables with respect to the movement in CE ratio. The Table 4.13 reports the average value of ROA, ROE and other firm specific variables along with their corresponding standard deviations in three portfolios.

Table 4.13
Properties of Portfolios Sorted on Cost Efficiency Ratio

Portfolios Bases of portfolio		1(Lower or Smallest) <32	2 32-38	3(High or Largest) >38
CE	(%)	29.08	34.54	44.89

		(1.99)	(1.93)	(7.28)
ROA	(%)	2.09 (0.53)	1.46 (2.30)	0.78 (3.63)
ROE	(%)	26.32 (6.75)	22.23 (21.61)	18.88 (25.91)
CAR	(%)	12.30 (1.68)	11.93 (4.20)	11.28 (8.67)
SIZE	(Billion Rs)	29.17 (15.40)	14.44 (6.66)	17.36 (14.12)
NPL	(%)	1.69 (1.60)	4.23 (5.08)	5.66 (8.03)
CDR	(%)	71.27 (15.01)	79.92 (12.62)	80.23 (16.29)
N		37	32	35

(Note: The reported figures are mean value of the portfolio sorted on cost efficiency ratio and figure in parenthesis are standard deviation of the portfolio.)

Table 4.13 depicts a clear negative pattern of movement in return on asset with respect to cost efficiency ratio. Return on asset shows decreasing trend from smallest cost efficiency group to the largest cost efficiency group. The ROA on the smallest CE group is 2.09 percent which has been decreased to 0.78 percent in the highest CE group. This implies that banks having higher CE have lower ROA than the banks having smaller CE. The results further indicate that variation in ROA is higher in high CE group than that in low CE group. The return on asset under largest cost efficiency portfolio is more variable as compared to the smallest portfolio.

In addition, Table 4.13 also shows the relationship between ROE and CE. The table shows a consistent negative pattern of movement in return on equity with respect to cost

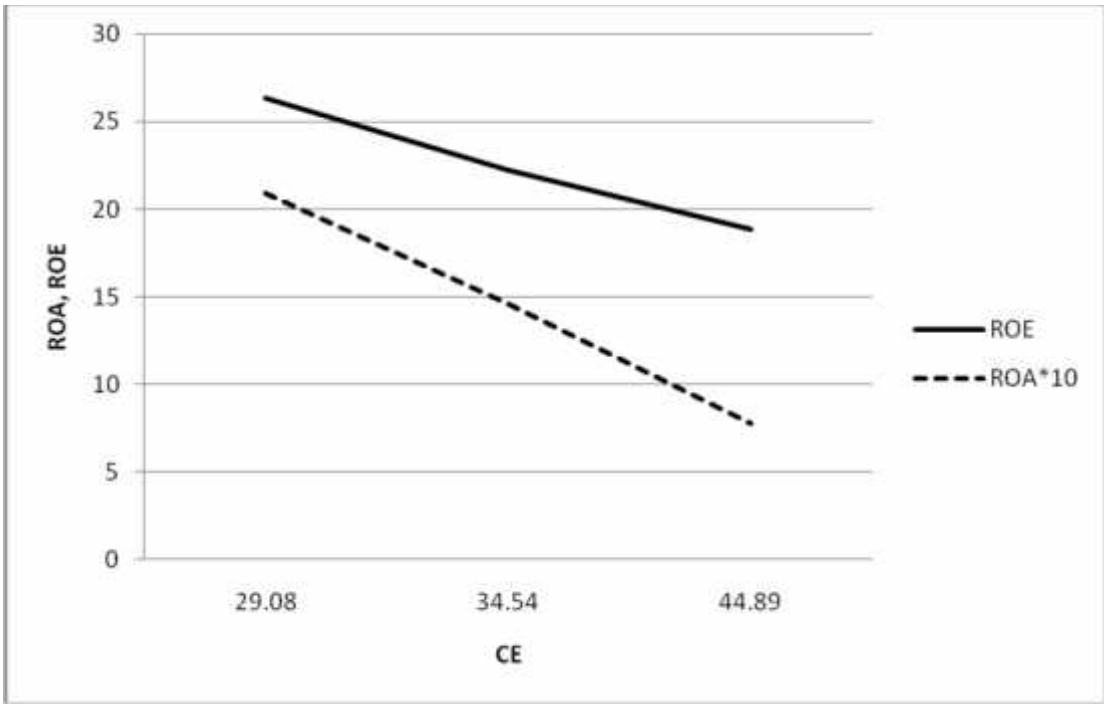
efficiency ratio. The ROA on the smallest CE group is 26.32 percent which has been decreased to 18.88 percent in the highest CE group. This implies banks having higher CE have lower ROE than the banks having smaller CE. The results further indicate that variation in ROE is higher in high CE group than that in low CE group. The standard deviation of ROE in the lowest CE portfolio is 6.75 percent whereas that in the highest CE portfolio is 25.91 percent. The findings indicate that bank having high cost efficiency ratio are more risky in term of earning return on equity than that of bank having low cost efficiency ratio.

Analysis of Table 4.13 documents a negative pattern of movement in CAR with CE ratio. The CAR for the lowest CE portfolio is 12.30 percent which has been decreased to 11.93 percent in the highest CE portfolio. The results further show that the bank size also has a negative pattern of movement with CE ratio in general. The firm size has been first decreased from 29.17 in the lowest CE portfolio to 17.36 percent in the highest CE portfolio. On the other hand, the CDR shows a consistent positive pattern of relationship with CE ratio. The NPL ratio is 1.69 percent in lowest CE portfolio which has been consistently increased to 4.23 percent and 5.66 percent in 2 and 3 portfolio. The results further show that the CDR also has a positive consistent pattern of movement with CE ratio in general. The firm size has been first increased from 71.27 in the lowest CE portfolio to 79.92 in portfolio 2; it has been consistently increased, thereafter, to 80.23 percent from portfolio 2 to 3.

The movement of the ROA and ROE along with the cost efficiency ratio (CE) of the bank can also be analyzed with the help of Figure 4.5.

The downward sloping of both profitability variable (ROA and ROE) indicates the negative association between the cost efficiency (CE) and profitability variable (ROA and ROE). The increase in cost efficiency ratio leads to decrease in return on asset and return on equity of bank.

Figure 4.5
Movement in ROA and ROE across the Portfolios Sorted on CE



4.4. Relationship between Profitability and it Determinants

This section fulfill fourth objective of the study. The empirical relationship includes correlation analysis and regression analysis of profitability. Correlation analysis has been done in order to investigate the relationship between profitability measures and other control variables. Return on asset and return on equity has been used as the dependent variable measuring the profitability of sample banks while capital adequacy ratio, total asset, credit to deposit ratio, non performing loan ratio and cost efficiency ratio has been used as the control variables which may greatly affect the profitability of the bank. The multiple regression analysis has been done in order to investigate the determinants of profitability of the sample banks. Return on asset and return on equity has been used as the dependent variable measuring the profitability of sample banks while capital adequacy ratio, total asset, credit to deposit ratio, non performing loan ratio and cost efficiency ratio has been used as the control variables which may greatly affect the profitability of the bank.

a. Correlation Analysis of ROA

To understand the empirical validity of the models, the study has considered the correlations between return on asset and each of the explanatory variables. Table 4.14 reports the correlations between the variables under study.

Table 4.14 reveals the Pearson correlation coefficients between different pairs of firm specific variables. ROA, CAR, SIZE, CDR, NPL and CE are as defined in the Table 4.8. The correlation coefficients are based on the data on ROA, CAR, SIZE, CDR, NPL and CE from 13 sample banks with 104 observations for the period 2003/04 through 2010/11. t-test is used to test the significance level. '*' sign indicates that correlation is significant at 5 percent level and '**' indicates that correlation is significant at 10 percent level

Table 4.14
Correlation Coefficient between ROA and Independent Variables

	ROA	CAR	SIZE	CDR	NPL	CE
ROA	1.000	.515*	.726*	-.596*	-.745*	-.783*
CAR		1.000	.214	-.186	-.836*	-.133
SIZE			1.000	-.755*	-.466**	-.575*
CDR				1.000	.182	.539*
NPL					1.000	.442**
CE						1.000

Table 4.14 reveals that the return on asset is positively and significantly correlated with the capital adequacy ratio and the bank size. In contrast, the return on asset is negatively and significantly correlated with the credit to deposit ratio, non performing loan and cost efficiency. On return on asset side, the highest positive correlation is observed for SIZE (0.726) while the lowest negative correlation is observed for CE (-0.783). Further, CAR has a positive correlation with Size, and negative correlation with CDR, NPL and CE with the coefficient of 0.214, -0.186, -0.836 and -0.133 respectively. SIZE has a positive correlation with CAR and negative and significant correlation with CDR, NPL and CAR with the coefficient of 0.214, -0.755, -0.466 and -0.575 respectively. CDR has positive correlation with NPL and CE with the coefficient of 0.182 and 0.539 respectively. NPL has positive correlation with CDR and CE and negatively correlation

with CAR and SIZE. Lastly, CE is positively correlated with CDR, NPL and CE and negatively correlated with CAR and SIZE.

The table reveals that CDR, NPL and CE ratios are positively correlated with each other while they are negatively correlated with ROA, CAR and CDR. Similarly ROA ,CAR and SIZE are further positively correlated with each other with they are negatively correlated with CDR, NPL and CE ratios.

b. Correlation Analysis of ROE

To understand the empirical validity of the models, the study has considered the correlations between return on equity and each of the explanatory variables. Table 4.15 reports the correlations between the variables under study.

Table 4.15
Correlation Coefficient between ROE and Independent Variables

	ROE	CAR	SIZE	CDR	NPL	CE
ROE	1.000	-.603*	-.128	-.290	-.413**	-.356
CAR		1.000	.214	-.186	-.836*	-.133
SIZE			1.000	-.755*	-.466**	-.575*
CDR				1.000	.182	.539*
NPL					1.000	.442**
CE						1.000

Table 4.15 reveals the Pearson correlation coefficients between different pairs of firm specific variables. ROE, CAR, SIZE, CDR, NPL and CE are as defined in the Table 4.8. The correlation coefficients are based on the data of ROE, CAR, SIZE, CDR, NPL and CE from 13 sample banks with 104 observations for the period 2003/04 through 2010/11. t-test is used to test the significance level. '*' sign indicates that correlation is significant at 5 percent level and '**' indicates that correlation is significant at 10 percent level.

Table 4.15 reveals that return on equity is negatively correlated with capital adequacy ratio, bank size, credit to deposit ratio, non performing loan ratio and cost efficiency. The result shows that return on equity is negative and significantly correlated with capital adequacy ratio and non performing loan. On return on equity side, the highest negative correlation is observed for CAR -0.603. CAR has a positive correlation with Size, and significantly negative correlation with CDR, NPL and CE and their coefficients are 0.214, -0.186, -0.836 and -0.133 respectively. SIZE has a positive correlation with CAR and significantly negative correlation with CDR, NPL and CE with the coefficient of 0.214, -0.755, -0.466 and -0.575 respectively. CDR has positive correlation with NPL and CE with the coefficient of 0.182 and 0.539 respectively. NPL has positive correlation with CDR and CE and negatively correlated with CAR and SIZE. Similarly CE is positively correlated with CDR, NPL and CE and negatively correlated with CAR and SIZE.

The table further reveals that CDR, NPL and CE ratios are positively correlated with each other while they are negatively correlated with ROA, CAR and CDR.

c. Regressions Analysis of ROA

In the first model of the multiple regression analysis, Return on Equity (ROA) has been used as the proxy for the bank profitability. Whereas, capital adequacy ratio, total asset, credit to deposit ratio, non performing loan ratio and cost efficiency ratio has been used as the explanatory variables. To better understand the empirical validity of the models described in the previous section and the effect of CAR, SIZE and other factors on the dependent variable ROA, coefficient of regressions are described via multiple regressions. The analyses help to gauge the incremental explanatory power of the various factors. The regression results of return on asset, capital adequacy ratio, bank size, credit to deposit ratio, non performing loan and cost efficiency are presented in Table 4.16.

In Table 4.16 the dependent variable (ROA) refer to net profit over total asset, explanatory variables include the ratio of capital adequacy (CAR), the ratio of total capital fund over risk weighted assets), (SIZE) refers to total asset, ratio of credit to deposit (CDR) as a proxy of liquidity of banks, ratio of nonperforming loan on total assets (NPL) and cost efficiency ratio (CE). All variables are scaled in ratio except for

TA is Rs.in billion. t-test is used to test the significance level. Figures in the parenthesis represent the p-value of the respective regression coefficient. '*' sign indicates that correlation is significant at 5 percent level, '**' indicates that correlation is significant at 10 percent level '.

The OLS regression based on equation I are estimated and the results are reported in Table 4.16. The table reveals that coefficient for SIZE is positive. The findings suggest that large size banks are more profitable than that of small sized banks. The coefficient for capital adequacy is positive (0.026) in the model which indicates that ROA tends to high when there is high capital adequacy ratio. The capital ratio is a measure of bank risk. The finding suggests that safer banks tends to be profitable than risky banks.

Table 4.16
Estimated Relationship between Return on Asset and Independent Variables

Explanatory variables	Estimates
(Constant)	.042 (0.181)
CAR	.026 (0.999)
SIZE	.001 (0.725)
CDR	-.011* (0.0452)
NPL	-.082** (0.0982)
CE	-.048* (0.0398)
R^2	.874
Adj. R^2	.784

P-Value	.005
Number of Observation	104

Source: Panel Data in Appendix B

Furthermore, Table 4.16 depicts the coefficient of CDR is negative (-0.011) and highly significant at 5 percent significance level. Supporting prior expectation and suggesting that profitability tends to low with the increase in credit to deposit ratio. Credit to deposit ratio is taken as proxy of liquidity to measure liquidity of banks. Lower the credit to deposit ratio higher would be the liquidity of the banks. So in short the finding suggests that highly liquid banks tend to be highly profitable.

The NPL ratio is a measure of quality of asset. As it can be seen from the estimated result, the coefficient for NPL ratio is negative and significant at 10 percent significance level. The findings suggest that bank having high NPL ratio have less return of asset than bank with the high NPL ratio. The coefficient is (-0.082).And this variable significantly affects the return on asset of the bank.

The coefficient of the cost-to-income ratio, efficiency measure, is statistically highly significant and negative with the regression coefficient of -0.048 which meets the previous expectation. The more efficient a bank, the higher is its return on asset. This result stands in line with the results of Athanasoglou et al., (2006), that clearly shows that efficient cost management is a prerequisite for improved profitability of banks.

Furthermore, Table 4.16 also presents the empirical result for return on Asset. The empirical result shows that explanatory power of regression equation mentioned by R square, which is 87.4 percent this means that 87.4 percent of ROA can be predicted from CAR, SIZE, CDR, NPL and CE and remaining 12.6 percent of ROA can be predicted by other unmentioned variables. Adjusted R^2 is 0.786 and it means that the total value in the dependent variable is explained by this equation. This implies explanatory power of model. Additionally, overall significance of the model is 0.005 which is significant at 5 percent level of significance.

d. Regressions Analysis of ROE

In the Second model of the multiple regression analysis, return on equity (ROE) has been used as the proxy for the bank profitability. Capital adequacy ratio, total asset, credit to deposit ratio, non performing loan ratio and cost efficiency ratio has been used as the explanatory variables. To better understand the empirical validity of the models described in the previous section and the affect of different explanatory factors on the dependent variable ROE, coefficient of regressions are described via multiple regressions. The analyses help to gauge the incremental explanatory power of the various factors. The regression results of return on equity, capital adequacy ratio, bank size, credit to deposit ratio, non performing loan and cost efficiency are presented in Table 4.17.

The dependent variable (ROE) refer to net profit over total equity, explanatory variables include the ratio of capital adequacy (CAR), the ratio of total capital fund over risk weighted assets),(SIZE) refers to total asset, ratio of credit to deposit (CDR) as a proxy of liquidity of banks, ratio of nonperforming loan on total assets (NPL) and cost efficiency ratio (CE), All variables are scaled in ratio except for TA is Rs.in billion. t-test is used to test the level of significance. Figures in the parenthesis represent the p-value of the respective regression coefficient. '*' sign indicates that correlation is significant at 5 percent level, '**' indicates that correlation is significant at 10 percent level.

Table 4.17
Estimated Relationship between Return on Equity and Independent Variables

Explanatory variables	Estimates
(Constant)	1.220 (0.081)
CAR	-3.514 (0.22)
SIZE	-.004 (0.463)
CDR	-.416

	(0.329)
NPL	-.931 (0.651)
CE	-.352** (0.0951)
R^2	.634
Adj. R^2	.572
P –Value	.045
Number of Observation	104

Source: Panel Data in Appendix B

The OLS regression based on equation II are estimated and the results are reported in Table 4.17. The result reveals that coefficients for CAR is negative (-3.514) which means that one unit increase in CAR decreases ROE by 3.514 unit. The result is indicates that higher the capital adequacy ratio lower would be ROE of the bank. Similarly the coefficient of SIZE is also negative (-0.004) which means that one unit increase in SIZE leads to decrease ROE by 0.004 unit. The result indicates that bigger size of the bank have negative return on equity.

Similarly, the coefficient of CDR as a proxy of liquidity is also negative (-0.416) which is insignificant. The result indicates that higher the credit to deposit ratio lower would be return on equity of bank. The regression coefficient for NPL and CE is also negative. The coefficients are 0.931 and 0.352 respectively. The coefficient of CE is significant at 10 percent significance level. The result indicates that higher the non performing loan and cost efficiency ratio, lower would be the return on equity of bank.

Furthermore, Table 4.17 also reports the empirical result for return on equity. The empirical result indicates that explanatory power of regression equation mention by R square is 0.634. This means that 63.4 percent of ROE can be predicted from CAR, SIZE, CDR, NPL and CE and remaining 36.6 percent of ROE can be predicted by other

unmentioned variables. Adjusted R^2 is 0.572 and it means a total values in the dependent variable is explained by this equation. This shows that there is not strong relationship between output and inputs explained in this equation. Additionally, overall significance of the model is 0.045 which indicate that ROE is significant at 5 percent level of significance to determine the profitability of commercial banks in Nepal.

4.5. Qualitative Analysis of Profitability and its Influencing Factors

This section reports the results of questionnaire survey conducted among chief executive officer, branch managers and senior officer of 13 sampled Nepalese commercial banks. Questionnaire survey was designed to understand the views of the respondents in relation to determinants of profitability in Nepal. A set of questionnaire including 'yes'/'no' types, multiple choices, rankings, and likert scales type of questions are provided.

4.5.1. Profile of the Respondents

The respondents profile is represented in Table 4.18. The table reveals the characteristics of sample employees on the basis of gender, age group, academic qualification and years of professional experience

Survey reveals the personal characteristics of respondents combined on the basis of gender, age group, and years of professional experience, academic qualification and the position of respondents. Among the respondents 69 percent are male, 37 percent completed master degree, and 72 percent have 1 to 5 years professional experience. The majority (67percent) of the respondents holds the position of senior manger but there are also a good number holding the position of branch manager. The employees who have completed intermediate are 0 percent which informs the banking industry needs high degree professional executives. With respect to the respondents, majority (72 percent) of the respondents have experience of 1 to 5 years. Whereas, respondents having experiences 6 to 10 years and more than 15 years cover 13 percent and 15 percent respectively.

Table 4.18
Respondents Profile

Respondents' Character	Number(N)	Percentage (%)
Gender:		

Male	37	69
Female	17	31
Total	54	100
Age Group(in years):		
Below 30	16	30
30 to 40	26	48
Above 40	12	22
Total	54	100
Last Academic Qualification:		
Intermediate	0	0
Bachelors	34	63
Masters and above	20	37
Total	54	100
Professional Experience(in years):		
1- 5 years	39	72
6-10 years	7	13
15-Above	8	15
Total	54	100
Position of Respondents:		
CEO	4	7
Branch Manager	14	26
Senior Officer	36	67

Source: Field Survey, 2013

4.5.2. Trend of Profitability of Commercial Bank.

Profitability is simply the difference between total revenue and total cost. There is certain trend of profitability in commercial Banks. The trend of profitability may be increasing, decreasing or may be stable. The table below shows the responses on trend of profitability of Commercial banks.

Table 4.19 illustrates the current trend of profitability of the commercial banks in Nepal. The respondents were asked whether the trend of profitability of commercial banks are increasing decreasing or is stable. According to respondents, 83 percent of the maximum respondents said that profitability is in increasing trend. Whereas, 7 percent and 9 percent of the respondents said that profitability of commercial banks in Nepal are decreasing and stable respectively. The finding reveals that the profitability of commercial Banks in Nepal is in increasing trend as maximum respondents accepted that profitability of commercial banks is increasing.

Table 4.19
Responses on Trend of Profitability of Commercial Bank

Options	Number of Respondents	Percentage
Increasing	45	83
Decreasing	4	7
Stable	5	9
Total	54	100

Source: Field Survey, 2013

4.5.3. Relation between Profitability and Performance of Banks

The relationship between profitability and performance of bank is very close. But still profitability and performance of banks are not synonymous. There is still difference between profitability and performance of banks. The table below shows the response on "whether or not the highly profitable bank has good performance." The options includes 'Yes'/'No'/'Not sure'. 'Yes' refers to agree with the statement, 'No' refers to disagree with statements and 'Not Sure' refers to no idea or reserve with the statements.

Table 4.20 exhibits the responses on "do you believe that bank with the higher profitability have a good performance?" The survey indicates that majority (63 percent) of respondents accept that profitable banks have good performance. Fairly 24 percent of respondents believe that the performance of banks does not depend on the profitability of banks whereas 13 percent of respondents are not sure whether or not highly profitable bank have good performance or not. The findings clearly reveal that highly profitable bank have good performance.

Table 4.20
Responses on Highly Profitable Banks have Good Performance

Options	Number of Respondents	Percentage
Yes	34	63
No	13	24
Not sure	7	13
Total	54	100

Source: Field Survey, 2013

4.5.4. Profitability Measurement Variables

Profitability is a rate of expressing profit as a percentage of total assets or sales or any other variable to represent the relationship. In fact, there may be various dimensions of profitability analysis. A large number of ratios can be used in order to measure the bank's profitability like ROA, ROE, NIM and others. The following table shows the responses on the best options to measure the profitability of Banks.

Table 4.21
Responses Associated with Profitability Measurement Variables

Options	Number of Respondents	Percentage
ROA	0	0
ROE	0	0
NIM	0	0
ROA and ROE	31	57
All of them	23	43

Source: Field Survey, 2013

Table 4.21 shows the response on "variables used to measure the profitability of banks". The survey indicates that majority of (57 percent) respondent accepted that both ROA and ROE is used to measure the profitability of Banks. Whereas, fairly 43 percent of respondents said all variables including ROA, ROE and NIM are used to measure the profitability of commercial banks. The results depicts that most used variables to measure the profitability of banks are ROA and ROE.

4.5.5. Sufficiency of Bank Specific Variables to Determine the Profitability

There are two types of independent variables that are used to determine the profitability of bank. They are bank specific variable and industry specific variable. Bank specific variable includes capital adequacy ratio, liquidity ratio, bank size, quality of asset, cost efficiency and others while industry specific variables includes GDP, bank concentration, effective tax rate and others. The table below shows the responses associated with 54 respondents on "whether or not bank specific variables are sufficient to determine the profitability of banks." The options includes 'Yes'/'No'/'Not sure'. 'Yes' refers to agree with the statement, 'No' refers to disagree with statements and 'Not sure' refers to no idea or reserve with the statements.

Table 4.22
Responses on Sufficiency of Bank Specific Variables to Determine the Profitability

Options	Number of Respondents	Percentage
Yes	23	43
No	31	57
Not sure	0	0
Total	54	100

Source: Field Survey, 2013

Table 4.22 exhibits the responses of sufficiency of bank specific variables to determine the profitability of commercial bank. According to the survey, 57 percent of respondents accepted that bank specific variables are not sufficient to determine the profitability of bank. Whereas, 43 percent of respondents accepted that bank specific variable is sufficient to determine the profitability of banks while none of the respondents are unsure about the sufficiency of bank specific variables to determine the profitability of bank. The findings suggest that bank specific variables are not sufficient to determine the profitability of banks.

4.5.6. Sufficiency of Capital Adequacy Ratio

Capital adequacy refers to the sufficiency of the amount of equity to absorb any shocks that the bank may experience. The capital structure of banks is highly regulated because capital plays a crucial role in reducing the number of bank failures and losses to depositors. Central bank of Nepal (NRB) have prescribed capital adequacy ratio of 10 percent. The table below shows the responses of 54 respondents on "whether or not capital adequacy ratio prescribed by NRB is sufficient." The options includes 'Yes'/'No'/'Not sure'. 'Yes 'refers to agree with the statement, 'No' refers to disagree with statements and 'Not sure' refers to no idea or reserve with the statements.

Table 4.23
Responses on Sufficiency of Capital Adequacy Ratio (10%)

Options	Number of Respondents	Percentage
Yes	37	69
No	12	22

Not sure	5	9
Total	54	100

Source: Field Survey, 2013

Table 4.23 illustrates the responses of 54 respondent on "whether the capital adequacy ratio (10 percent) prescribed by NRB is sufficient or not". The survey reveals that the majority of respondents (69 percent) think that capital adequacy prescribed by NRB is sufficient. However, 22 percent of respondent think that capital adequacy ratio prescribed by NRB is not sufficient while 9 percent of respondents are not sure whether the capital adequacy ratio prescribed by NRB is sufficient or not. The results indicate that capital adequacy ratio prescribed by NRB is sufficient to minimize the risk of commercial banks.

4.5.7. Relationship between Profitability and Shareholder Welfare

Profitability and shareholders welfare has been assumed to be closely related with each other. The profitable bank distributes dividend and right share to their shareholders. The table below shows the responses of 54 respondents on "higher profitability is good for bank shareholders." The options includes 'Yes'/'No'/'Not sure'. 'Yes' refers to agree with the statement, 'No' refers to disagree with statements and 'Not sure' refers to no idea or reserve with the statements.

Table 4.24
Responses Associated with Higher Profitability is good for Shareholder

Options	Number of Respondents	Percentage
Yes	39	72
No	9	15
Not sure	6	11
Total	54	100

Source: Field Survey, 2013

Table 4.24 illustrates the responses of 54 respondents on "whether higher profitability is good for shareholder or not". The survey confirms that the majority of respondents (72 percent) accept the statement that higher profitability is good for bank shareholder. Fairly, 15 percent do not believe that higher profitability is good for bank shareholders while 11 percent of respondents are unsure that whether or not higher profitability is

good for bank shareholder. The findings depicts that higher profitability is good for the shareholder.

4.5.8. Factors Affecting Profitability

There are many factors that affect the profitability of commercial bank. The factor considered to be important to determine the profitability may not be that important to other. In addition, degree to which every executive respond to such factors affecting the bank profitability also differs

Table 4.25
Rank Scores on Determinants of Profitability

Determinants of Profitability	Rank					Mean	Overall Rank
	1	2	3	4	5		
Quality of Asset	22	20	12	0	0	1.8148	I
Liquidity	16	7	6	20	5	2.8333	II
Cost Efficiency	11	1	11	23	8	2.8703	III
Capital Adequacy	5	14	22	9	4	3.2963	IV
Bank size	4	3	5	5	37	4.1666	V

Source: Field Survey, 2013

The results in Table 4.25 confirms that respondents feel quality of asset as the most important factors influencing the profitability of commercial banks in Nepal, followed by liquidity. Liquidity is considered to be the second most important determinant of the profitability by respondents. Cost efficiency is another crucial aspect that affects the profitability of banks while the respondents think that bank size do not have significant role in determining the profitability. However, capital adequacy is the factors that have mild effect in profitability of commercial banks.

4.5.9. Statement of Level of Agreement and Disagreement

Preferences of the respondents on the statements regarding determinants of Profitability are presented in Table 4.26. The Table 4.26 demonstrates the results of preferences of respondents on 5 point likert scale items of 54 employees associated with 13 sample banks.

The number indicates the total response recorded for particular question. In addition, mean value of the responses have also been reported in order to find out the overall rank of the statements.

Table 4.26 has attempted to analyze the level of satisfaction and dissatisfaction on various statements related to the profitability of commercial banks. For this purpose the 5 point likert scale was designed where 1 indicates strong disagreement and 5 represents strong agreement. Mean scores, standard deviation and overall rank has been computed to analyze various statements related to profitability of commercial banks. The mean scores below 3 indicate the disagreement with the provided statements while the mean score above three represents the agreement.

The finding reveals that majority of respondents (16 and 18) agreed to the statement citing the effect of a growing size on profitability has been proved to be positive to a certain extent. However, for banks that become extremely large, the effect of size could be negative due to bureaucratic and other reasons. In addition, mean percentage of 75.18 percent also confirm that majority of respondents agreed that growing size may have negative impact on the profitability of banks. Likewise, statement citing the large size bank is more profitable than small size bank failed to provide any decisive association since most of the respondents (28) remained neutral.

Furthermore, significant number of respondents agreed to the statement citing the positive association between the liquidity and profitability of banks.34 respondents agreed that higher liquidity leads to higher profitability. Additionally mean value of 74.08 percent also confirm the agreeableness of the respondent on a view that higher liquidity leads to higher profitability. Same is the case of liquidity and profitability. Majority of responses (20 and 15) showed positive association between capital adequacy ratio and profitability of banks. The mean percentage of 71.48 also indicates that 71.48 percent of respondents agree to the statement that bank having high capital adequacy ratio is more profitable.

Additionally, majority of the responses (22 and 20) agreed that there is negative relationship between the non performing loan ratio and the profitability. In addition, the mean percentage 76.04 also indicates that the 76.04 percent of the respondents agree to the statement citing high non performing loan ratio reduces profitability. It reveals that

if the quality of asset is less than the profitability of bank will also be less as well. Same is the case for the cost efficiency ratio and profitability. 19 respondents strongly agree to the statement citing negative association between cost efficiency and profitability. Moreover, the mean value higher than 71.48 also indicates that respondents agree to the statement that high cost efficiency ratio reduces profitability

However, there were other additional statements apart from the determinant variables concerning the current profitability of banks. The result shows that the 38.8 percent of the employees from the sample commercial banks strongly agree that without profitability bank will not survive for the long run. In fact, this finding depicts profitability is one of the important factor of the bank. It proves that profitability is the basic need of banks.

Similarly, Table 4.26 also indicates that the majority of respondents with the mean value 3.685 agreed to the statement citing banks would improve profitability by improving screening and monitoring of credit risk and such policies involve the forecasting of future levels of risk. However, most of the responded discarded that current profitability of commercial banks in Nepal is sufficient in order to survive for the long run with the mean value of 2.666.

Table 4.26
Statement on Level of Agreement and Disagreement

Statement representing observation on determinants of profitability	**Strongly Disagree**				**Strongly Agree**	**Mean**	**Agree Percentage**
	1	**2**	**3**	**4**	**5**		
Without profitability bank will not survive for the long run	2	4	6	21	21	4	80
Profitability is primary goal of commercial banks of Nepal	2	5	14	23	14	3.815	76.3
Higher the Non Performing Loan higher would be the credit risk and hence Lower would be the profitability	0	0	12	22	20	3.802	76.04

The effect of a growing size of the bank may be negative for the banks due to bureaucratic and other reasons	3	5	12	16	18	3.759	75.18
Positive relationship between liquidity situation and related profitability	3	4	12	20	15	3.704	74.08
Banks can improve their profitability by improving screening and monitoring of credit risk and such policies involve the forecasting of future levels of risk	2	3	9	27	13	3.685	73.7
Trend in bank profitability and factor affecting it are major indicator of changes in the state of health of national banking system**.**	6	3	10	24	11	3.574	71.48
Capital Adequacy positively influences the commercial banks' profitability	1	4	8	34	7	3.574	71.48
The profitability of the banks in Nepal is not as good as expected due to corruption, high intervention of government, lack of proper policy and higher lending to the non productive sectors.	2	3	14	24	11	3.574	71.48
A bank having higher cost efficiency shows lower profitability	7	6	9	13	19	3.574	71.48
Large size banks (In terms of Assets) are more profitable than small size bank	3	4	28	15	4	3.481	69.62
The Current profitability of commercial banks of Nepal is sufficient in order to survive for the long run.	12	18	12	6	6	2.666	53.32

Source:Field Survey, 2013

4.6. Concluding Remarks

The results documented in this study support the findings and theories of the previous study. On the basis of financial highlights, the profitability of Standard Chartered Bank

(SCBL), Nabil Bank (NABIL), Everest Bank Limited (EBL), Himalayan Bank (HBL) and Nepal Investment Bank (NIBL) is higher than other sampled banks. On the other hand Nepal SBI Bank (NSBI), Bank of Kathmandu (BOK), Nepal industrial and commercial Bank (NIC), Nepal Credit and Commerce Bank (NCC) have average profitability and lastly, the profitability of Laxmi Bank, Siddhartha Bank Limited (SBL), Kumari Bank (KBL), and Lumbini Bank (LBL) is not satisfactory. Therefore, the first hypothesis (H_1) of the study is rejected as there are differences in financial indicators of commercial banks of Nepal.

The descriptive analysis was also conducted to analyze the trend of major indictors of profitability and its determinants. The descriptive statistics i.e. mean value, maximum, and minimum value of return on asset, return on equity, capital adequacy ratio, firm size. credit to deposit ratio, non performing loan ratio and cost efficiency ratio vary significantly. So the second hypothesis (H_2) of the study is also rejected as there is difference in trends of major indicators of profitability and its determinants

This study has also conducted the portfolio, correlation and the regression analysis to find the relationship between the profitability variables and the explanatory variables. The results consistently demonstrated week explanatory power of capital adequacy to predict return on asset and return on equity. Capital adequacy showed positive relation with return on asset in portfolio and correlation analysis. However, in multiple regressions, the coefficient of capital adequacy is again positive but insignificant. Similarly, firm size displays positive and statistically significant relation with returns on asset on the basis of portfolio and correlation analysis. Further, firm size showed an inconsistent relation and insignificant relation with return on equity. Furthermore, credit to deposit ratio observed to be significantly and negatively related with return on asset. In the other hand there is no significant relation between credit to deposit ratio and return on equity since the study reported insignificant regression coefficients. As regard non performing loan, the result persistently showed negative relation with return on asset in portfolio, correlation and regression analysis. In contrast, the multiple regression analysis showed inconsistent and insignificant relation of non-performing loan with return on equity. Lastly, cost efficiency ratio documented significant negative impact with return on asset and return on equity which was in line with prior expectation of negative sign of coefficient. Therefore, the study found significant

relationship between the profitability variable (return on asset) and explanatory variable (credit to deposit ratio, non performing loan ratio and cost efficiency ratio). Similarly, among others, the regression analysis of commercial banks shows cost efficiency ratio as the most prominent factors affecting the return on equity. Therefore, the findings reject the third hypothesis (H_3) citing there is no significant relationship between profitability and its all determinants. But, capital adequacy ratio and asset size are identified as the insignificant variables in explaining return on asset. In addition, capital adequacy ratio, firm size, credit to deposit ratio, non performing loan ratio also shows insignificant relationship with return on equity. Therefore, as a whole, third hypothesis is accepted as all the explanatory variables does not show significant relationship with return on asset and return on equity.

Finally, according to primary survey of data, the opinions of different managers regarding profitability and the factors influencing it differ significantly. So the fourth hypothesis (H_4) of the study is also rejected.

All the issues raised in the statement of problems are addressed by this study. Among the reviewed literatures, findings and conclusions, some results of this study also supported the previous findings and conclusions and some are contradicted. To sum up, most of the findings in this study are not consistent with many of the studies conducted in big and developed market context around the globe. Therefore, it is worthwhile to note that nature of data and the specification of the models may themselves be responsible for the differences in results. Hence, conclusions drawn should be interpreted within these limitations.

CHAPTER V
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

Profitability is simply the difference between total revenue and total cost. Thus, the factors which affect commercial bank profitability would be those that affect the bank's revenue and costs. Hence, the impact of the internal and external determinants of commercial banks profitability is analyzed with a view to show their impact on bank revenue and costs. This study focuses on the bank profitability and its determinants. Such determinants are the internal factors of commercial banks namely capital adequacy, bank size, liquidity, quality of asset and cost efficiency ratio.

The importance of bank profitability can be appraised at the micro and macro levels of the economy. At the micro level, profit is the essential prerequisite of a competitive banking institution and the cheapest source of funds. It is not merely a result, but also a necessity for successful banking in a period of growing competition on financial markets. Hence, the basic aim of a bank's management is to achieve a profit, as the essential requirement for conducting any business (Bobakova, 2003). At the macro level, a sound and profitable banking sector is better able to withstand negative shocks and contribute to the stability of the financial system. The importance of bank profitability at both the micro and macro levels has made researchers, academics, bank managements and bank regulatory authorities to develop considerable interest on the factors that determine bank profitability (Athanasoglou et al., 2005).

This study aimed to investigate the determinants of profitability of Nepalese commercial banks. In addition, the opinions and views of bank executives' opinion on the determinants of profitability are also assessed. The specific objective of the study are: i) to analyze the financial highlights and indicators of commercial banks; ii) to assess the trends of the major indicators of profitability and its determinants; iii) to examine the univariate relationship between profitability and its determinants through portfolio analysis; iv) to examine the empirical relationship between profitability and its determinants.; v) to assess the opinions on profitability and factors influencing it.

This study is based on the analysis of secondary data and primary data. The data for firm specific variables including return on asset, return on equity, capital adequacy, asset size, credit to deposit ratio, NPL ratios, and cost efficiency ratio data have been obtained from financial statements of the sample firms recorded in the database of Nepal Stock Exchange (NEPSE) Limited and banking and financial statistics of NRB. The firm specific data have been derived from various issues of financial statements of selected banks. There are 104 observations of 13 sample banks for the period of 2003/4 to 2010/11. Moreover, the primary survey has been basically designed to understand the opinions of respondents as how they perceive the determinant affecting profitability in Nepalese commercial banks. A set of questionnaires was prepared to survey the responses of bankers and regulators. A set of questionnaires contained total of 20 questions of mixed type options such as personal information, five point Likert scale items, multiple choice question and open ended question.

The methods of data analysis used in the study includes financial analysis, descriptive statistics, correlation analysis, portfolio analysis and panel regression analysis to understand the relationship between the bank's profitability and factors affecting it. Different statistical tests of significance for validation of model such as F-test and t-test have been employed to ensure the significance of overall model and individual variables. The primary data analysis includes percentage, frequency distribution and means scores of responses to likert scale items.

The major findings of this study are summarized as under:

Major Findings

i. The financial analysis of sampled banks on the basis of ROA, ROE, CAR, CDR, NPL, CE ratios found that profitability of SCBL, Nabil Bank and EBL is higher than other sampled banks. Additionally, HBL, NIBL, NSBI, BOK, NIC Bank, NCC Bank's profitability is fair. In contrast, the profitability of Laxmi Bank, SBL, KBL, and LBL is not satisfactory.

ii. The analysis of the one-way sort of portfolios on capital adequacy ratio, bank size, credit to deposit ratio, non performing loan ratio and cost efficiency ratio revealed that higher capital adequacy and bank size leads to higher return on

asset, whereas the banks with higher credit to deposit ratio, non performing loan ratio and cost efficiency ratio have lower return on asset.

iii. The univariate portfolio analysis further shows that the banks having higher capital adequacy ratio, bank size, credit to deposit ratio and cost efficiency have lower return on equity. Whereas, the relationship between non- performing loan ratio and return on equity is unclear.

iv. Capital adequacy framework depicted positive and statistically significant correlations with return on asset. By examining the behavior of capital adequacy portfolios, it is also observed that return on asset increases from smallest to largest capital adequacy portfolios. The study result reveals that capital adequacy framework has a significant impact on return on asset and suggests that return on asset is higher for banks having higher capital adequacy.

v. Bank size displays positive and statistically significant correlations with returns on asset. The positive association between ROA and bank size is also confirmed by portfolio analysis. The study reveals that bank size has significant impact on return on asset and suggests that return on asset is higher for large size bank.

vi. The relationship of Credit to deposit ratio, non performing loan ratio and cost efficiency ratio with return on asset is negative and statistically significant. The trend that return on asset decreases with increase in credit to deposit ratio, non performing loan ratio and cost efficiency ratio respectively is also shown by portfolio analysis. This result suggests that return on asset decreases with increase in bank's credit o deposit ratio, non performing loan ratio and cost efficiency ratio respectively.

vii. Capital adequacy framework displays negative and statistically significant correlation with return on equity. By examining the behavior of capital adequacy portfolios, it is observed that return on equity decreases with the increase in capital adequacy ratio. The study reveals that capital adequacy ratio has significant negative impact on return on equity.

viii. Nonperforming loan ratio shows negative and significant correlation with return on equity. Similarly, The relationship of Bank size, credit to deposit ratio and cost efficiency is negatively associated with return on equity

ix. In case of regression specification of return on asset, the analysis documented credit to deposit ratio, nonperforming loan ratio and cost efficiency ratio as the most important determinant of return on assets with regression coefficients of -0.011, -0.082 and- 0.048 respectively. All these coefficients are significant at 5 percent and 10 percent level of significance. Overall model is significant at 1 percent level of significance and explained about 78.4 percent changes in return on assets.

x. In other hand, the regression model of return on equity shows a significant negative relationship of return on equity with cost efficiency ratio. The regression coefficient of cost efficiency ratio is -0.352 and is significant at 10 percent level of significance.

xi. In a multiple regression of return on equity in a complete form, where all explanatory variables have been included, only cost efficiency ratio is found to have significant explanatory power while capital adequacy ratio, bank size, credit to deposit ratio and non performing loan ratio are not significant. The model's explanatory power is 57.2 percent. The overall model is significant at 5 percent level and explained about 57.2 percent changes in return on equity.

xii. Primary survey asserted non-performing loan ratio (quality of asset), credit to deposit ratio (liquidity), cost efficiency ratio, capital adequacy framework and bank size as the important factors affecting profitability in order of their respective rank from most important to least important.

xiii. Majority of respondents felt that level of profitability is increasing in context of Nepalese commercial banks.

xiv. Majority (60 percent) of the respondents believe that bank having high profitability do have good performance.

xv. Regarding the sufficiency of bank specific variable to determine the profitability of commercial bank, the survey result shows that the bank specific variables are not sufficient to determine the profitability of the banks.

xvi. With respect to sufficiency of capital adequacy ratio in Nepal, majority of respondent agreed that capital adequacy ratio (10 percent) is sufficient.

xvii. With respect to the best option to measure the profitability of banks, 57 percent respondents were in favor ROA and ROE.

xviii. Regarding whether the high profitability is good for shareholders, the survey confirmed the statement that high profitability is good for shareholders.

xix. Based on the survey result, most of the respondents agreed that without profitability bank will not survive in the long run.

xx. However, remarkable numbers of respondents also think that the growing size of the firm may have negative effect on the bank performance because of some bureaucratic and other reasons.

5.2. Conclusion

The major conclusion of this study is that credit to deposit ratio, non performing loan ratio and cost efficiency ratio are the most significant variables among others that affect the return on asset of commercial banks in Nepal. All these dominants variables are found to have significant negative impact on return on asset. Among those three variables, non-performing loan has the highest coefficient in compare to other variables. In contrast, credit to deposit ratio is the weakest variable that influence the return on asset of the banks. These findings derived from secondary data are also consistent with the findings of primary data from questionnaires survey. Furthermore, it is concluded from the study that cost efficiency ratio is only the dominant variable that influence the return on equity ratio of commercial banks in Nepal.

In contrast, capital adequacy ratio and asset size do have positive association with return on asset but were identified as the insignificant in explaining the return on asset of commercial banks in Nepal. Similarly, in terms of ROE model, capital adequacy , asset size, credit to deposit ratio and non performing loan ratio had negative association with return on equity and were documented as the insignificant in explaining the return on equity of commercial bank s in Nepal.

Further, the study concluded that profitability of standard chartered bank, Nabil Bank and Everest Bank is higher than other sampled banks. Additionally, the profitability of Himalayan Bank, Nepal Investment Bank, Nepal SBI Bank, Bank of Kathmandu, Nepal Industrial and Commerce Bank, Nepal Credit and Commerce is fair and lastly, Laxmi Bank, Siddhartha Bank, Kumari Bank, and Lumbini Bank do not have satisfactory level of profitability.

Overall, the results suggested that liquidity position of banks, quality of asset and operating cost efficiency of bank plays significant role in determining the profitability (ROA) of commercial banks in Nepal. Similarly, return on equity is highly influenced by cost efficiency variable. According to the findings, higher the liquidity position of bank, higher would the return on asset of bank. Similarly, the quality of assets was another powerful indicator of return on asset of commercial banks in Nepal. On the basis of finding, higher the quality of asset, higher would be the return on asset of banks. Further, cost efficiency ratio which was used to measure the impact of efficiency on bank profitability. Therefore it was expected that higher cost-income ratios to have a negative effect on bank profitability. The findings also suggested that higher the cost efficiency ratio, lower would be the profitability (return on asset and return on equity) of commercial banks in Nepal.

5.3. Recommendations

Based on the findings of this study, the following major recommendations have been proposed:

i. The results revealed that profitability of Laxmi Bank, SBL, KBL, and LBL's profitability is not satisfactory. So, executives and manager of these banks are recommended to increase the profitability of their respective banks by implementing appropriate plans and policies.

ii. The analysis showed that the bank size is not significant and it does not explain variation of return on asset and return on equity. Therefore, the chief executive, mangers and officers should not base their decisions on size of bank. They should consider other variables in their decision, of which nonperforming loan, credit to deposit ratio and cost efficiency ratio are the dominant ones.

iii. Since the capital adequacy framework of bank is not significant and it does not explain variation of return on asset and return on equity. Therefore, the chief executive and managers should not base their decisions on capital adequacy framework of bank.

iv. The study result documented that credit to deposit ratio has negative relation with ROA and ROE. So, all the commercial banks are recommended to decrease credit to deposit ratio to increase the profitability of bank.

v. The study further revealed that non performing loan is negatively related to ROA, the banks willing to increase return on asset should decrease their non performing loans.

vi. The results illustrated that bank willing to increase their profitability(ROA and ROE) should maintain lower cost efficiency ratio as cost efficiency ratio is negatively related to return on asset and return on equity.

vii. The study revealed that ROA is more significant measure of profitability compared to ROE. So banks are recommended to improve their ROA in order to be more profitable.

viii. Since the profitability of the commercial banks is of great importance for shareholders they should take account of the factors that determines the profitability of the banks in order to maximize their wealth.

ix. The primary result revealed that the growing size of the banks may have negative effect on the profitability of bank, the executives of banks are recommended to focus on the service of banks rather than increasing the number of branches.

Scope for Future Research

i. The sample banks represent more than 41 percent of the population with 13 sample banks out of 32 commercial banks This study used observations from commercial banks along with 54 respondents. The result represents only commercial banks. Hence, future studies are suggested to include significant number of observations from other financial institutions along with commercial banks.

ii. Although this study addressed only some bank specific factors and models including the factors (capital adequacy ratio, bank size, credit to deposit ratio, non performing loan ratio and cost efficiency ratio), industry specific factor (market concentration, market growth etc) as well as macroeconomic factors, (GDP, inflation, taxation etc) could do more to explain the of profitability of banks. Therefore, future studies are recommended to include these variables as well.

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Appendices

Appendix (A)

Correlations between ROA, CAR, SIZE, CDR, NPL and CE

		ROA	CAR	SIZE	CDR	NPL	CE
Pearson Correlation	ROA	1.000	.515	.726	-.596	-.745	-.783
	CAR	.515	1.000	.214	-.186	-.836	-.133
	SIZE	.726	.214	1.000	-.755	-.466	-.575
	CDR	-.596	-.186	-.755	1.000	.182	.539
	NPL	-.745	-.836	-.466	.182	1.000	.442
	CE	-.783	-.133	-.575	.539	.442	1.000
Sig. (1-tailed)	ROA	.	.036	.002	.016	.002	.001
	CAR	.036	.	.241	.272	.000	.333
	SIZE	.002	.241	.	.001	.054	.020
	CDR	.016	.272	.001	.	.275	.029
	NPL	.002	.000	.054	.275	.	.065
	CE	.001	.333	.020	.029	.065	.
N	ROA	104	104	104	104	104	104
	CAR	104	104	104	104	104	104
	SIZE	104	104	104	104	104	104
	CDR	104	104	104	104	104	104
	NPL	104	104	104	104	104	104
	CE	104	104	104	104	104	104

Model Summary R Square and Adjusted R Square

Model	R	R^2	Adjusted R Square	Std. Error of Estimate	Change Statistics					D- W Stat
					R Square Change	F Change	df1	df2	Sig.F Change	
1	.935	.874	.784	.00344	.874	9.718	5	98	.005	1.875

Predicator: (constant), CE, CAR, CDR, SIZE, NPL

Dependent Variable: ROA

Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	0.042	0.028		1.5	0.181
	CAR	0.026	0.122	0.001	0.002	0.999
	SIZE	0.01	0	0.126	0.367	0.725
	CDR	-0.011	0.004	-0.203	-2.646	0.0452
	NPL	-0.082	0.033	-0.478	-2.512	0.0983
	CE	-0.048	0.012	-0.39	-3.904	0.0398

Dependent Variable: ROA

Correlations between ROE, CAR, SIZE, CDR, NPL and CE

		ROE	CAR	SIZE	CDR	NPL	CE
Pearson Correlation	ROE	1.000	-.603	-.128	-.290	-.413	-.356
	CAR	-.603	1.000	.214	-.186	-.836	-.133
	SIZE	.128	.214	1.000	-.755	-.466	-.575
	CDR	-.290	-.186	-.755	1.000	.182	.539
	NPL	.413	-.836	-.466	.182	1.000	.442
	CE	-.356	-.133	-.575	.539	.442	1.000
Sig. (1-tailed)	ROE	.	.015	.339	.168	.081	.116
	CAR	.015	.	.241	.272	.000	.333
	SIZE	.339	.241	.	.001	.054	.020
	CDR	.168	.272	.001	.	.275	.029
	NPL	.081	.000	.054	.275	.	.065
	CE	.116	.333	.020	.029	.065	.
N	ROE	104	104	104	104	104	104
	CAR	104	104	104	104	104	104
	SIZE	104	104	104	104	104	104
	CDR	104	104	104	104	104	104
	NPL	104	104	104	104	104	104
	CE	104	104	104	104	104	104

Model Summary R Square and Adjusted R Square

Model	R	R^2	Adjusted R Square	Std. Error of Estimate	Change Statistics					D- W Stat
					R Square Change	F Change	df1	df2	Sig.F Change	
1	.796	.634	.572	.0 7346	.634	8.481	5	98	.045	1.581

Predictors: (Constant), CE, CAR, CDR, SIZE, NPL
Dependent Variable: ROE

Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.22	0.599		2.037	0.081
	CAR	-3.514	2.61	-1.011	-1.346	0.22
	SIZE	-0.004	0.005	-0.456	-0.8	0.463
	CDR	-0.416	0.396	-0.621	-1.05	0.329
	NPL	-0.931	1.974	-0.431	-0.47	0.651
	CE	-0.352	0.142	-0.227	-2.483	0.0951

a Dependent Variable: ROE

Appendix (B)

Sample Commercial Banks

Bank	Study	Observation
NABIL	2004-2011	8
SCBL	2004-2011	8
HBL	2004-2011	8
NSBI	2004-2011	8
EBL	2004-2011	8
NIBL	2004-2011	8
BOK	2004-2011	8
NIC	2004-2011	8
NCC	2004-2011	8
KBL	2004-2011	8
LBL	2004-2011	8
LAXMI	2004-2011	8
SBL	2004-2011	8
Total		104

List of Banks

S.N.	Banks	S.N.	Banks
1	Bank of Asia Nepal Limited	17	Agricultural Development Bank Ltd
2	Bank of Kathmandu	18	Nepal Credit And Com. Bank
3	Civil Bank Ltd	19	Nepal Investment Bank Ltd.
4	Citizens Bank International Limited	20	Nepal Industrial And Co. Bank
5	Everest Bank Ltd	21	NMB Bank Ltd.
6	Global IME Bank Limited	22	Prime Commercial Bank Limited
7	Grand Bank Nepal Ltd.	23	Sanima Bank Ltd.
8	Himalayan Bank Ltd.	24	Nepal SBI Bank Limited
9	Janata Bank Nepal Ltd.	25	Siddhartha Bank Limited
10	Kumari Bank Ltd	26	Standard Chartered Bank Ltd.
11	KIST Bank Limited	27	Sunrise Bank Limited
12	Laxmi Bank Limited	28	Nepal Bangladesh Bank Ltd.
104	Lumbini Bank Ltd.	29	Nepal Bank Limited

14	Machhachapuchhre Bank Ltd	30	Rastriya Banijya Bank Limited
15	Nabil Bank Ltd.	31	Mega Bank Ltd
16	Century Bank Ltd	32	Commerz and Trust Nepal Ltd

Appendix(C)

Questionnaire on Determinants of Profitability of Commercial Banks in Nepal

Determinants of Profitability of Commercial Banks in Nepal

Dear Respondent,

This is a survey conducted to meet the academic requirement by a MBS (Finance) student to submit the graduate research project report Determinants of Profitability of commercial banks in Nepal. I would be thankful if you could take few minutes and complete this questionnaire for giving feedback on the profitability of commercial bank. Your response will be used at aggregate level and will be kept quite confidential.

A. General Information

Name (optional)…….....

Number of Years in banking Career…….

Gender (Please make a tick mark): Female [ ] Male [ ]

Academic qualification: ……

Position:……

Age group:

….. <30 …… 30 to39 ……above 40

Bank's Name……

Questionnaire

B. Please make a tick mark in an appropriate option for each of the following questions

1. In your view, what is the trend of profitability of your commercial bank?

- ♦ Increasing

- Decreasing
- Stable
- Can’t say

2. Do you believe that bank with the higher profitability have a good performance?

- Yes
- No
- Not sure

3. The profitability of the bank is measured by

- ROA
- ROE
- NIM
- ROA and ROE
- All of them

4. Do you think that industry specific variables (Capital adequacy, firm Size, Liquidity, Quality of asset, Cost efficiency) is sufficient to analyze the profitability of commercial banks?

- Yes
- No
- Not sure

6. What are the factors that most affect the profitability of commercial banks? Please, rank the following by attaching one to the most important one and so on

i) Capital adequacy [ ]

ii) Liquidity [ ]

iii) Cost Efficiency [ ]

iv) Quality of Asset [ ]

v) Bank Size [ ]

7. Nepal Rastra Bank has prescribed capital adequacy ratio 10 percent of RWA at all time in its directive no. 1 for commercial banks. Do you think that the Capital Adequacy Ratio is sufficient for "A" Class Bank in Nepal?
   - Yes
   - NO
   - Not sure
8. Do you think that Joint venture banks are dominating the private and public sectors banks
   - Yes
   - No
   - Not sure
9. Do you believe that higher profitability if good for the bank's shareholders?
   - Yes
   - No
   - Not sure

C. Please specify your level of agreement or disagreement with following statements.
[Strongly agree = *5, Agree = 4, Neutral= 3, Disagree = 2, strongly disagree = 1]*

Q.N.	Statement	1	2	3	4	5
1	Profitability is primary goal of commercial banks of Nepal.					
2	Without profitability bank will not survive for the long run.					
3	Trend in bank profitability and factor affecting it are major indicator of changes in the state of health of national banking system.					
4	The Current profitability of commercial banks of Nepal is sufficient in order to survive for the long run.					
5	Capital Adequacy management is highly influencing our Nepalese commercial banks' Return on Asset (ROA).					
6	There is significant relationship between liquidity situation in a bank and related profitability.					
7	Higher the Non Performing Loan higher would be the credit risk and hence Lower would be the profitability.					
8	Banks would improve profitability by improving screening and monitoring of credit risk and such policies involve the forecasting of future levels of risk.					
9	Large size banks (In terms of Assets) are more profitable than small size banks.					
10	The effect of a growing size on profitability has been proved to be positive to a certain extent. However, for banks that become extremely large, the effect of size could be negative due to bureaucratic and other reasons.					
11	A bank having higher cost efficiency shows lower profitability					
12	The profitability of commercial banks in Nepal is not as good as expected due to corruption, high intervention of government, lack of proper policy and higher lending to the non productive sectors.					

D. Any other comments on determinants of profitability of commercial banks.

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THANK YOU VERY MUCH FOR YOUR ASSISTANCE