CHAPTER I

INTRODUCTION

1.1 Background of the Study

Monetary policy is one of the macroeconomic policies through which the government aims to achieve the broader macroeconomic goal of growth and stability (Davidson and Froyen, 1982). The growth objective generally aim at accelerating economic growth in countries like Nepal, while stability aims to ensure that price, interest and exchange rate are stable. While objectives of the monetary policies may vary in terms of macroeconomic context, period of economic cycles, scope and need, they intend to impact the economy to create favorable macroeconomic position and avoid instability in the economy (Federal Reserve Bank of San Francisco, 2003).

A central monetary authority uses various instruments to achieve the goals of economic policy that can be classified into direct or indirect instruments. They affect the level of aggregate demand through the supply of money, cost of money and availability of credit (Hamdan, 2008). Indirect devices of monetary policy are bank rate variation, open market operations, and reserve requirement. They are meant to regulate the overall level of credit in the economy through Commercial Banks (CBs). On the other hand, direct devices aims at controlling specific types of credit. They include changing margin requirements and regulation of customer credit (Jhaingal and Stephen, 2004).

As monetary policy aims to create a favorable impact on the economy, the various stakeholders or participants of financial and money market get affected. Such policies have implications for the working of the financial institutions such as commercial banks. Monetary policy is implemented by Nepal Rastra Bank in Nepal to influence the banking activates in the desired course of action. Nepal Rastra Bank considers the factors such as inflation, national output, and employment through its control on bank credit, quantity of money, bank deposit, and interest rate while designing the monetary.

Nepal Rastra Bank effects in day to day operation of the commercial banks than other government agencies in Nepal through the monetary policy. Monetary policy refers to the central banks program of managing monetary variables, viz., total supply of money; interest rates and credit volume, to achieve certain predetermine objectives (Dwivedi, 2000). It comprises of monetary decisions of the central bank aiming at controlling the money supply and credit conditions in the country. The objectives of monetary policy

may be different depending upon the economic situation of the country. Developed country like USA has two basic goals of monetary policy that is to promote maximum sustainable output and employment and stable price to promote economic growth. Since monetary policy is mainly a tool of demand management, its role in the Nepalese economy should also be primary sought in economic stabilization rather than in economic growth (Khatiwada, 1994). Central bank can use tools of monetary policy viz. reserve requirement, open market operation and discount rate to achieve these objectives. Central bank uses these monetary policy tools to control credit and supply of money in the economy that affect the activities and thereafter profitability of commercial banks.

The monetary policy, in the recent years, focuses its attention on stabilizing the nominal variables such as inflation and exchange rates, its role of income stabilization, as yet, cannot be undervalued, especially for the developing countries like Nepal where the economy is below the full employment level (Poudel, 2003). Nepal Rastra bank can play key role to help achieve the appropriate rate of economic growth with stability by exercising practical monetary measures available in its hand. It works in the economy through changes in money supply.

The present financial environment, which depends more on market factors and less on the government intervention, does require a sound and prudent regulation (Atreya, 2005). The author also says that the best operation of financial market does need financial regulation. It is also important to safeguard from the market imperfections and failures in the financial system. Financial liberalization not only brings opportunities but also risks in Nepal. The increasing internationalization of financial sectors, liberalization of cross-border capital and the member of world trade organization can be termed as economic globalization, requires new regulatory framework in Nepal. The growth to international leading and the establishment of multinational banks and their branches will be accepted in Nepal as it is the member of world trade organization.

Now banking business is no longer a national phenomenon in Nepal. Sound monetary policy and supervisory structures are necessary to cope with the unexpected problems that arise from the financial liberalization in Nepal. The important fact to be realized that the banking sector is complex sand to govern such a market requires standard monetary policy so that it would help to ensure Nepalese banking sector stability and promote economic growth in Nepal.

1.2 Statement of the Problems

Commercial banks are financial institutions that deal with others money effectively and make profit. The heart of money is not its taste, color, or feel, rather its ability to purchase goods and services. Individuals keep their money in banks, accepting lower interest rates, because doing so is safer and more convenient than the alternatives (Colander, 2001). On the other hand, major objective of commercial banks is to maximize the profit through the use of deposits made by public. Activities of commercial banking system are regulated by the government to achieve its objectives. Despite the empirical evidences that found the efficacy of monetary policy lies on the effectiveness of the real sector, and how those monetary policies had influenced the volume of bank loans and advances in Nepal, with motive to accelerate investment, savings and economic growth as well as economic development.

They include the Bank Rate, CRR and SLR the regression coefficient was insignificant to explain the relationship between bank profitability and the monetary policy instrument in the case of public sector banks. It can be concluded that banking is still regulated and controlled in terms of a strict credit policy followed by the Reserve Bank of India to combat inflationary pressures (Rao, 2006). Government should adopt legal reserve ratio that is not too stringent,to avoid illiquidity and distress in the banks. This paper focuses on the effect of monetary policy on corporate profitability in the banking sector with a reflection on the Nigerian economy (Udeh, 2009). The study concluded that the amount of effect of the bank-specific determinants on bank's profitability varies between Jordanian banks due to special features of each bank (Ramadan, Kilani and Kaddumi, 2011).

The most important agency in this regard is the NRB in Nepal. Nepal Rastra Bank through the use of measures of monetary policy limits on the amount of commercial bank lending, effecting interest rates and thereby the profits. Available literature suggests that monetary policy affects the commercial bank profits and this calls for the research on this area under discussion.

It is increasingly believed that a sound and healthy financial system contributes to economic growth and development (Atreya, 2005). The author says that the present financial environment, which depends more on market factors and less on the government intervention, does require a sound and prudent regulation. Banks borrow or hire funds from non-bank public sector (lenders) and pay interest on the borrowed

funds. They lend funds to borrowers and earn interest there on. Holding some of the details constant for the moment, the excess of the interest earned on the loaned funds over the interest paid of the borrowed funds is the profit of the commercial bank. As they "intermediate", commercial banks make a number of decisions. Author specifies some of these decisions as the interest rates they will pay to borrow or hire funds, the interest rate they will charge to lend funds, the type of loans they will make, the type of securities they will acquire. Bank behavior affects interest rates, the money stock, the volume of credit extended by banks, and economic activity. And how does monetary policy affect such behavior? Monetary policy involves the formulation and issuance of specific rules to govern the structure and conduct of commercial banks by manipulation cost and availability of credit.

Every commercial bank creates income-yielding assets from the deposits, which constitute the liabilities, subject to certain constraints- for instance deposits should be refunded to the holders, under specific rules required by central bank. During the course of making investment portfolio by banks, they create money in the economy. Banks create money because the banks liabilities are defined as money (Colander, 2001). So, when a bank incurs liabilities it creates money. As a result, money supply in the economy is increased, which leads to inflation and affects the interest rate on loaned funds. In order to balance the money supply with demand, central bank uses its tools to have a desired result in the economy. Main tools of monetary policy include reserve ratio, bank rate, and open market operation.

In this age of globalization and economic liberalization, banking sectors should have been reformed with a view toward improving its performance. After 2009, as per WTO provision, there will be large number of foreign banks coming to the country (The Kathmandu Post, Feb 7, 2011). The effect of monetary policy on banking profit should not be neutralized (Greenbaum, Ali, and Merris, 1976). Authors say that instead, these profits effects are supposed to be used to influence the structures of the banking industry with a view toward improve performance. The econometric estimate of the effects of monetary policy on the banking profits in an area of research that has interested monetary and financial economists for a long time. Greenbaum, et al. (2009) had studied this subject for the first time in 1976. This research has followed the model use by them to see the effect of monetary policy on the banking profitability in Nepal.

Commercial Banks have played a vital role in giving a direction to economy's development over time by financing the requirements of trade and industry in the country. By encouraging saving among people, hanks have fostered the process of capital formation in the country. Monetary policy in this context can play a vital role in affecting the banking industry and their behavior in developing countries like Nepal. Monetary policy can lead the banking sector in development activities by improving its performance.

Banking profitability is sensitive toward the alternative combinations of reserve requirements, and open market operations. Nepalese researchers have studied other aspects of monetary policy in Nepal. However, econometric estimates of monetary policy and its effects on banking portfolio and profits are not found in Nepal. It certainly stimulates the curiosity to know the effect of monetary policy instrument in the framework of banking profits and investment portfolio behavior by applying regression model. Using these estimates of the effects of monetary policy, this study assesses the differences in portfolio and banking profitability implied by alternative combinations of reserve requirements and open market operations.

The reserve requirement and open market operations of monetary policy affect the commercial banks portfolio and profits in Nepal is the issue of this study. In this context, the research questions of the study are:

i. What are the perceptions of commercial banks staff's about effectiveness of the monetary policy?
ii. What key issues and challenges they perceived with regard to effectiveness of the monetary policy?

1.3 Research Objectives

The general objective of this study is to examine the attitude towards instruments of monetary policy on the performance of commercial banks in Nepal. The specific objectives of the study include the following:

1. To examine the perception of the commercial banks staffs on effectiveness of the monetary policy.
2. To identify major issues and challenges perceived by commercial bank's staff on the effectiveness of the instruments of the monetary policy.

1.4 Significance of the Study

This study aims to examine the impact of monetary policy in commercial banks performance. Existing studies on this issue are conducted using secondary source of data however this study has used primary source of data to better analyze the data. The result obtained so far on this issue in different countries of the world is controversial. The research finding can help the commercial banks to identify the major monetary policy which affects the banks performance. The research findings will also be useful to academia by assisting lecturers, students, instructors and other future researchers to approach the subject matter with deeper understanding as well as serving as a source of reference.

It is the matter of common knowledge that monetary policy affects the banking performance. However, there is a lack of econometric estimate of the effects of the same in Nepal. This study is an attempt to address the issue of attitude towards monetary policy instrument on commercial banks performance it may be useful for the financial managers of the commercial banks in credit policy decision because it will indicate the effect of monetary policy in the profits from investment portfolio decision.

1.5 Limitations of the Study

This study is not free from limitations. The limitations of the study are as follows:

i. This study is based on perception indicators by the staff of commercial bank. This captures the perception but a comprehensive quantitative assessment of the effectiveness of monetary policy is not discussed in this paper.
ii. The study follows a purposive sampling technique. The study is subjected to limited geographical area. Therefore, the results obtained from the study cannot be generalized.

1.6 Organization of the Study

Preliminary part of the report comprises front page, recommendation letter, viva voice sheet, acknowledgements, dedication, and declaration, table of contents, list of tables and figures and list of abbreviations. The main body part of this report consists of five sections namely: Introduction, Literature review, Research methods, Analysis and results and discussion and implication.

Chapter one gives a background on the monetary policy and its impact on commercial banks performance. The chapter also sets out the research problem and significance, scope and limitation of the study.

Chapter two reviews the literature and provides the theoretical frame work which forms the basis of the research. It also comprises of conceptual framework that forms the basis of this study. Conceptual framework is followed by the review of the past literatures from the developed as well as developing countries.

The third chapter deals with research methods. This section consists of research design which explains the type and orientation of research. Furthermore it involves population and sample, data collection methods used in the study, software used for analysis, data analysis tools, data collection procedure and period, reliability and validity, and analysis plan.

The fourth section deals with analysis and results. Chapter four presents data presentation and analysis which consists of presentation and analysis of data with different statistical and financial tools. It also includes major findings of the study.

And chapter five provides the information about discussion, conclusions and implication of the study. The final segment involves the listing of references and annexes which were used in the study and construction of this report.

CHAPTER II

RELATED LITERATURE AND THEORETICAL FRAMEWORK

2.1 Review of International Contexts

Kakes and Sturm (2001) studied on "Monetary Policy and Bank Bending: Evidence from German Banking groups". This paper analyses the effect of monetary shocks on bank lending in Germany. Researcher followed a cross sectional approach by looking at six different banking groups. The findings showed that big banks have relatively little liquid assets and are nevertheless able to insulate their lending activity from monetary disturbances, whereas the credit cooperatives have a relatively large amount of liquid assets but still have to reduce their loans portfolio after a monetary contraction.

Gambacorta and Iannoti (2005) carried out research entitled on "Are there asymmetries in the response of bank interest rates to monetary shocks?". The major objective was to investigate the velocity and asymmetry in response of bank interest rates (lending, deposit, and inter-bank) to monetary policy shocks (changes) in Italy from 1985-2002 using an Asymmetric Vector Correction Model (AVECM) that allows for different behaviors in both the short-run and long-run. The study shows that the speed of adjustment of bank interest rate to monetary policy changes increased significantly after the introduction of the 1993 banking law, interest rate adjustment in response to positive and negative shocks were asymmetric in the short run, with the idea that in the long- runs the equilibrium is unique. In the short run, lending rates adjust faster with rising interest rates and less markedly when interest rates are falling. Monetary policy affects on bank lending. They argued that monetary policy affects bank lending through two channels.

They argued that by lowering bank reserves, contractionary monetary policy reduces the extent to which banks can accept reservable deposits, if reserve requirements are binding. The decrease in reservable liabilities will, in turn, lead banks to reduce lending, if they cannot easily switch to alternative forms of finance or liquidate assets other than loans.

Rao (2006) carried out research on "Monetary Policy: Its Effect on the Profitability of Banks in India" with the purpose of this study was to investigate the effect of monetary

policy on the profitability of banks in the context of financial sector reforms in India. In this study used multiple regression models to find out the effect of monetary policy on bank profit. When researcher looks at the M2 value, the private sector banks with respect to the SLR has the maximum value. The study indicated a greater effect of general credit control on the private sector banks. The coefficient of the lending rates is positive which indicates a fall in lending rates will reduce the profitability of the banks. When they include the Bank Rate, CRR and SLR; the regression coefficient was insignificant to explain the relationship between bank profitability and the monetary policy instrument in the case of public sector banks. It can be concluded that banking is still regulated and controlled in terms of a strict credit policy followed by the Reserve Bank of India to combat inflationary pressures.

Ghosh (2006) studied on "Monetary Policy and Bank Behavior: Empirical Evidence from India". This article developed an empirical model to explore the role that bank characteristics play in influencing the monetary transmission process. In this study author used econometric model. The sample in the study covers the period 1992 to 2004 and covers 50 banks. Major finding of the study indicated that for banks classified according to size and capitalization, a monetary contraction lowers bank lending, although large and well capitalized banks are able to shield their loan portfolio from monetary shocks. The analysis indicated that bigger banks are able to protect their loan portfolio from monetary contraction.

Tarawneh (2006) carried out research on "A Comparison of Financial Performance in the Banking Sector: Some Evidence from Omani Commercial Banks". The purpose of this study was to classify the commercial banks in Oman in cohesive categories on the basis of their financial characteristics revealed by the financial ratios. The annual data for all Omani commercial banks during (1999-2003) are used for calculating key financial ratios in order to assess the performance of the banks. The major finding of the study was a total of five Omani commercial banks with more than 260 branches were financially analyzed and simple regression was used to estimate the effect of asset management, operational efficiency, and bank size on the financial performance of these banks. The study found that the bank with higher total capital, deposits, credits, or total assets does not always mean that has better profitability performance.

Udeh (2009) carried out research on "Monetary Policy and corporate profitability in the banking sector". The major objectives of the study were to determine the effect of

the relationship between monetary policy and corporate profitability in the banking sector and the level of its influence on the Nigerian economy. The study employed regression analysis to carry out the investigations. The data for the study were secondary data. The population of this study comprises the 24 banks in Nigeria. The result of the findings indicated that monetary policy had constrained corporate profitability of banks in Nigeria. Owing to this, it was recommended, among others, that the monetary authorities should adopt strict adherence to deregulation. Government should adopt legal reserve ratio that is not too stringent, to avoid illiquidity and distress in the banks. This paper focuses on the effect of monetary policy on corporate profitability in the banking sector with a reflection on the Nigerian economy. According to the results, interest rate has significant effect on corporate profitability of banks in Nigeria based on the analysis that computed value (0.98) of t-statistics is greater than the theoretical value (0.025) at 5%level of significance; therefore reject the null hypothesis and accept the alternative. It then explains that the size of the legal reserve ratio with CBN has significant effect on the corporate profit of bank.

Chuku (2009) studied the effect of monetary policy shocks on output and prices in Nigeria, using structural vector auto regression (SVAR) model and assumed that the unexpected changes in output and price within that period remained untraced by the central bank. The study conducted with the three major alternative policy instruments, broad money (M2), Minimum Rediscount Rate (MRR) and the real effective exchange rate (REER) revealed their effects on output and prices.

The quantity-based nominal anchor (M2) has modest effects on output and prices with a very fast speed of adjustment. While, innovations on the price-based nominal anchors (MRR and REER) have neutral and fleeting effects on output. They finally concluded that (M2) is the most influential instrument with the central bankers for the monetary policy implementation and suggested that quantity based nominal anchor should be given more weight age compared to price based nominal anchor. Hence, that was imperative to correctly identify the effect of monetary policy changes to facilitate superior policy making.

Younus and Akhtar (2009) examined the significance of Statutory Liquidity Requirement (SLR) as a monetary policy instrument in Bangladesh. Using descriptive analysis techniques like trend analysis and summary statistics, they found that statutory liquidity requirement has experienced infrequent changes and past evidence has shown

that reduction in SLR produced positive effect on bank credit and investment especially prior to the 1990s. SLR and Cash Reserve Requirement (CRR) were found to be significant tools of reducing inflation and both for scheduled banks are used only in situation of drastic imbalance-resulting from major shocks. They posited that Bangladesh Bank has used open market operations (OMOs), more frequently rather than changes in the Bank rate and SLR as instruments of monetary policy in line with its market oriented approach. The CRR and SLR for scheduled banks are used only in situations of drastic imbalance resulting from major shocks. The effectiveness of SLR in bringing about desired outcomes, however, depends on appropriate adjustments of other indirect monetary policy instruments such as repo and reverses repo rates. The SLR also helps to reduce interest rate differentials which in turn help to increase investment and economic activity.

Rasiah (2010) examined on "Theoretical Framework of Profitability as Applied to Commercial Banks in Malaysia". The principal objective of this study was to theoretically investigate the profitability determinants of commercial banks that paper was represents a theoretical review of the profitability of Commercial banks. The determinants of profitability and theories thereof used in this study are those frequently described in conventional banking studies and literature. The profitability determinants were basically divided into two main categories, namely the internal determinants and the external determinants.

In order to incorporate the internal and external determinants into a single profitability model, it was necessary to pool cross-section and time-series data. As a result, it was necessary to include dummy variables to take account of inter-firm and inter temporal differences in the intercept. The study offered an insight into the internal determinants and the external determinants of profitability of commercial banks. The factors indicated in this theoretical study were consistent with the variables. The internal determinants included in this theoretical study are items involving total revenue and total cost. The internal variables included in this study are asset portfolio mix, total expenses, liability composition, and liquidity ratio and capital structure. In addition to the above the external determinants that were taken into consideration i.e. competition, regulation, inflation, market share, market growth, firm size and interest rate. The variables specified for this study are consistent with the variables used in much of the literature on bank profitability. However, some of the variables such as market

concentration were omitted in this theoretical study. Finally, the dependent variable of profitability and the measurement of profitability have also been broadly discussed.

Ramadan, Kilani and Kaddumi (2011) studied on "Determinants of bank Profitability: Evidence from Jordan" for the purpose of investigating the nature of the relationship between the profitability of banks and the characteristics of internal and external factors.

For this purpose 100 observation of 10 banks over the period 2001-2010 were comprised.

Two measures of bank's profitability have been utilized: the rate of return on assets (ROA) and the rate of return on equity (ROE). The study was used linear regression Model. Profit = f (Bsit + Ist + Mst)

Where

Profit indicates the performance measure for ith cross-sectional bank.

Bsit= Bank-specific determinants for the bank

i=Time

Ist = Industry-specific during the period t

Mst= Macro-economic determinants during the period t

Major finding of the studied results showed that the Jordanian bank's characteristics explain a significant part of the variation in bank profitability. High Jordanian bank profitability tends to be associated with well-capitalized banks' high lending activities, low credit risk, and the efficiency of cost management. Results also showed that the estimated effect of size did not support the significant scale economies for Jordanian banks. Finally, the estimation results indicated that individual effects on the profitability are present; this is concluded due to the fact that some of the differential slope coefficients are statistically significant.

Based on the results of the empirical analysis, bank-specific determinants are able to explain significant part of bank profitability in Jordan. A major outcome of this study was that banks with high capital ratio tend to earn more profit through translating the safety advantage into profit. The study also concluded that the lending activities in Jordanian banking sector were associated with profit, and in order to maximize the profit, banks in Jordan should maintain sizable volume of lending activities.

In conclusion also the study concluded that the amount of effect of the bank-specific determinants on bank's profitability varies between Jordanian banks due to special features of each bank.

Liu (2011) carried out research on "Monetary Policy, Bank size and Bank lending: Evidence from Australia". The major objective of the research was to assess the importance of the bank-lending channel in the transmission of monetary policy in Australia. Researcher was used econometric model to meet the objective of the research cash rate as an indicator of monetary policy and confidence index as an indicator as a surrogate for overall economic health. In this paper, researcher found that the effectiveness of monetary policy varies with the size of the bank as well as the type of the loan. For different asset size and different kinds of loans, the effect of monetary policy was different. The data collected monthly from March 2004 to December 2010 for 61 commercial banks in Australia. Researcher divided the 61 banks into three groups according to their asset value in December 2010. 5 large banks with resident assets value more than 100 billion falls in group 1, group 2 contains 16 banks with resident assets value between 10000 and 100 billion, group 3 includes 40 banks with resident assets value below 10000 million.

The empirical model as follows:

$\Delta \ln(loans)_{i,t} = \alpha \Delta \ln(loans)_{i,t-1} + \beta 0 \Delta ratet + \beta 1 \Delta ratet\text{-}1 + \beta 1\ \Delta ratet\text{-}3 + \delta\ \Delta \ln(deposit)_{i,t}$

$+\gamma \Delta confidence + \delta\ \Delta \ln(securities)_{i,t} + \varepsilon\ \Delta liquidity_{i,t} + \text{ØDomestic}_i + \partial_i + uit$ With i=1, . . ., N, and t=1, . . ., T

where

i= Number of bank, and t = A month, ∂_i= Individual-specific effects and uit = Residuals this paper uses micro-data from individual bank balance sheet to study monetary policy on bank lending in Australia. Studies using total loans for the aggregate banking system have generally shown a positive and insignificant effect of monetary policy on loan growth. In this paper, we found that the effectiveness of monetary policy varies with the size of the bank as well as the type of the loan. For different asset size and different kinds of loans, the effect of monetary policy is different. Thus, policy has distributional effects on bank loans that depend on asset size and industry in the economy. Both the one lagged period and three period cash rate change have negative effects on loan growth. The scope of the effect is different between different types of loan. For the nonfinancial loan, the scope of the effect is larger than the other types of loan. A one percentage point increase in the lagged one period monetary policy rate leads to more than 1.1 percent decline in the log of change of nonfinancial loan while one percentage

point increase in the monetary policy rate leads to less than 0.5 percent decline in the log of change of household loan.

In conclusion for different asset size and different kinds of loans, the effect of monetary policy is different. Our results suggest that coordination of regulatory and stabilization policies that consider both the bank size and loan industry may offer better monetary control of bank loan growth or decline and the effect on the real economic activity.

Bhaumik and Sumon (2011) carried out on “Implications of bank ownership for the credit channel of monetary policy transmission: Evidence from India”. The major objective of the studies was to we examine the effect of ownership on the reaction of banks to monetary policy, and also test whether the reaction of different types of banks to monetary policy changes is different in easy and tight policy regimes. The data for the estimation are obtained from a number of sources. Bank balance sheets are obtained from the Indian Banks' Association. Our final sample consists of 58 banks, and the data covers the 2000–07 periods, resulting in over 300 bank-year observations. Model used by researcher regression estimates for the basic model are reported.

$\Delta yit = \alpha + \beta\Delta MPit\text{-}1 + y1\Delta CAPi,t\text{-}1 + y2\Delta LIQi,t\text{-}1 + y3PROFITi,t\text{-}1 + y4LISTINGi,t\text{-}1 + y5INDi,t\text{-}1 + ut + \varepsilon it$

Where,

Δyit =Model as a function of monetary policy

$\Delta MPit\text{-}1$ =the lagged change in the monetary policy instrument

t =time ,ut =Bank-specific fixed effect , εit =Error term

IND =Industrial growth , LIQ = Previous four quarters liquidity

CAP = Capitalization , PROFIT= Profitability

Major finding of the study suggested that there were considerable differences in the reactions of different types of banks to monetary policy initiatives of the central bank, and that the bank lending channel of monetary policy is likely to be much more effective in a tight money period than in an easy money period. They also find differences in effect of monetary policy changes on less risky short-term and more risky medium-term lending. We discuss the policy implications of the findings.

Cristadoro and Veronese (2011) studied on "Monetary policy in India: is something amiss?" The major purpose of the study was Indian monetary policy performed reasonably well in the past, while both strategy and operational framework were

evolving on par with domestic financial and monetary markets. The purpose of this paper was to document how this good track record came to an abrupt stop in recent years as inflation rose sharply and, more worryingly, expected inflation followed suit.

This paper had analytical, empirical and policy dimensions. Given the recent surge in inflation in India, as well as in inflation expectations, a discussion of the role of monetary policy is needed. This is presented by resorting to survey evidence on expectations as well as to indirect evidence inferred from the market reactions to macroeconomic news.

The finding of the studied were documented the unhinging of inflation expectations in India in the aftermath of the financial crisis. The evidence gathered leads to the conclusion that both the monetary policy strategy and framework of the Reserve Bank of India would benefit from further evolution in the direction of a precisely defined and overarching objective (price stability), instead of the present multiplicity of goals, and of a well-defined operating target, enhancing the transparency, communication and signaling effect of policy moves. The authors suggest that embracing a flexible inflation targeting approach is a possible solution. Much progress has been made over the years in creating liquid monetary and financial markets that are key ingredients in the monetary policy transmission. The monetary policy framework underwent significant changes moving from direct administrative measures to indirect, market-based interventions. These moves contributed to align RBI to best practices in central banking. They also created the conditions for a clearer definition of the set of tools and the objectives of the monetary policy.

Argue that a lack of a clear definition or ranking in the RBI’s objective function was one of the major causes of policy ineffectiveness in the aftermath of the inflation shock linked to rising commodity prices. Given the steady increase in inflationary expectations that continued notwithstanding previous moves and RBI's officials declarations, this might indicate that there is still room for convincing markets that the RBI is really fighting inflation.

In conclusion this change in emphasis in the monetary policy strategy should entail a redefinition of the legal mandate of the RBI and thus involve the Government in the process. This would also be the occasion to further proceed in establishing the

separation of the monetary policy and banking system from the needs of Government financing.

Ajayi and Atanda (2012) studied on "Monetary Policy and Bank Performance in Nigeria: A Two-Step Co integration Approach". The major objective of the study was effect of monetary policy instruments on banks performance was examined in this paper with the view to determine the existence of long-run relation between 19780 and 2008. The Engle granger two step co-integration approach was adopted based on the regression model that regress banks total loan and advances on minimum policy rate, cash reserves ratio, liquidity ratio, inflation and exchange rate.

$Pt = \beta 0 + \beta 1\ BR + \beta 2\ LR + \beta 3\ CRR + \beta 4\ SLR + \mu$

Where,

Pt =Profitability of the Banks
LR=Lending Rates of the Banks
CRR =Cash Reserve Ratio
SLR =Statutory Ratio

The empirical estimates indicated that bank rate, inflation rate and exchange rate are total credit enhancing, while liquidity ratio and cash reserves ratio exert negative effect on banks total credit. Although, it is only cash reserve ratio and exchange rate found to be significant at 5% critical value. However, the co-integration test indicated that the null hypothesis of no co integration was accepted.

The main conclusion draw is that monetary policy instruments are not effective to stimulate credit in the long-run, while banks total credit is more responsive to cash reserve ratio. Then, it is proffered that the monetary authority should moderate the minimum policy rate as a tool for regulating commercial banks operations and facilitating investment in the economy. However, emanating from the empirical analysis this study proffered that monetary authority, the Central Bank of Nigeria (CBN) should moderate the minimum policy rate as tool for regulating commercial banks operations and facilitating investment in the economy; the cash reserve ratio should be kept at an optimal level considering its high correlating and negative effect on commercial bank credit; and exchange rate disparity between naira to other international standard currencies should be well stabilized and bridged in order to encourage private savings and strengthen commercial banks operations in Nigeria.

2.2 Nepalese Evidences

NRB has been formulating and publicly announcing monetary policy on an annual basis since 2002/03 with the major objectives of maintaining price stability and external as well as financial sector stability and to create a favorable environment for high and sustainable economic growth as directed by NRB Act, 2002. Narrowing down of current account deficit for the improvement of export and remittances inflow had resulted in the marginal surplus of the Balance of Payment despite increase in imbalance of financial account.

2011/2012

In year 2011/12 NRB has implemented the monetary policies with regard to control the different SLR, OMO, CRR and other factor with the objectives of controlling the bank. NRB imposed the Bank rate 7 percent from 6.5 percent. The existing provision of SLR will be revised so that commercial banks, development banks, finance companies and finance companies not authorized for operating current account deposits and class 'D' financial institutions collecting deposit from general people are required to maintained SLR at 15 percent, 11 percent, 10 percent, 6 percent and 4 percent respectively. In addition, class 'D' financial institutions that mobilize deposit from the general people are also required to maintain 2 percent CRR. To ensure adequate credit flow to productive sectors especially agriculture, energy, tourism, small and cottage industries, banks will be asked to submit a three-year action plan to double credit flow to these sectors and regular monitoring and necessary directives will be issued in this regard.

In response to protect public confidence on financial and payment system, NRB has provided liquidity against good loan through the lender of the last resort window to financial institutions facing structural liquidity problems. Similarly, a 120-day refinance facility for liquidity management has been introduced under which NRB provides refinance up to 80 percent of collateral of good loan for financial institutions having quality assets in balance sheet but facing liquidity problem for being unable to convert those assets into liquid assets. The broad money supply, an important indicator of the monetary liquidity, increased by only 3.7 percent as compared to 9 percent growth in the corresponding period of the previous year. The broad money supply expanded by 7.3 percent based on the broad monetary survey which also includes activities of development banks and finance companies. This is mainly because of

higher growth deposit mobilization and credit expansion by development banks and financial institutions relative to commercial banks.

2012/2013

In year 2012/13 the Nepal Rastra Bank has implemented the monetary policies with regard to control the different SLR, OMO, CRR and other factor and maintaining growth of broad money supply at 12.5 percent. Broad money supply growth is estimated to be 22.5 percent due to elevated growth of foreign exchange reserves. Considering improved liquidity situation and rapid growth of money supply, cash reserve ratio (CRR) to be maintained by BFIs has been revised as 6 percent for "A" class financial institutions, 5.5 percent for "B" class financial institutions and 5 percent for "C" class financial institutions from existing 5 percent to all categories.

The provision of statutory liquidity ratio (SLR) which provide with an automatic adjustment of liquid asset in asset portfolio along with growth of deposit of BFIs has been continued. NRB has been using open market operations as the main instrument to manage liquidity in the banking system. Liquidity is managed through open market operations on the basis of liquidity indicated by weekly liquidity monitoring and forecasting framework. Therefore, monetary policy play an active role on enhancing public confidence towards BFIs by encouraging their merger and by promptly resolving their liquidity and payment problems arising from poor corporate governance.

2013/2014

One of the major objectives of monetary policy is to attain 5.5 % economic growth along with objective to limit inflation rate at 8 % and also to maintain foreign exchange to cover the import of goods and services for at least 8 months. The monetary policy has sought to increase internal credit by 17.1 percent to achieve the economic growth target. The commercial banks' cash reserve ratio (the part of total deposits that BFI's should keep at NRB) has been reduced to 5% for "A" class, 4.5 % for "B" class and 4% for "C" class, which is bound to make liquidity available to commercial banks that can be used to expand lending. Refinancing rate for agriculture, hydro-power and other productive sectors have been decreased to 5% from the earlier 6%. Likewise, the policy has also specified Statutory Liquidity Ratio (SLR) of 12% for category A, 9% for category B and 8% for category C financial institutions, which is 1% decrease from earlier provision. SLR is the percentage of total currency deposits invested in government securities or kept at the central bank. Similarly, the policy has the provision

to maintain Credit-Deposit Ratio (CDR) at 80%. The policy has made provisions for commercial banks to flow 20% of total loans in the productive sector including at least 12% in agriculture and energy sector until Ashad 2072 B.S

2014/2015

This monetary policy has been formulated on the basis of the analysis of current macroeconomic situation, review of the previous year's monetary policy, internal and external economic outlook, current challenges of monetary policy and priorities of government budget for 2014/15.The concept of base rate has been implemented since 2012/13 with the objectives of reducing the spread rate. The base rate has been gradually declining. The growth rate of broad money supply is estimated to meet the target as it grew by 19.4 percent in mid-June 2014.From 2014/15 onwards, the CRR to be maintained by BFIs has been fixed at 6 percent for "A" class, 5 percent for "B" class and 4 percent for "C" class financial institutions. The bank rate which is used in the provision of lender of last resort facility and discount of securities has been kept unchanged at 8 percent. The existing provision of statutory liquidity ratio (SLR) to be maintained by BFIs has been kept unchanged. Likewise, the provision of providing standing liquidity facility (SLF) to BFIs for managing short-term liquidity at the bank rate has been continued.

2015/2016

The monetary policy aims at notching up six per cent economic growth and confining inflation to 8.5 per cent. The monetary policy has kept unchanged the CRR (cash reserve ratio) and SLR (statutory liquidity ratio). In the last fiscal year, the CRR was increased to 6 per cent from 5 per cent. At present, there is an excessive liquidity of Rs. one billion in the banking sector. The monetary policy has given some relief to the banks when they seek a refinancing facility from Nepal Rastra Bank. From now onwards, the banks can get such a facility at 7 per cent interest, down by one per cent vis-à-vis last fiscal year. Such an interest rate is known as the bank or policy rate. There is a harsh provision in the monetary policy. As per the policy, commercial banks will have to increase their paid-up capital to Rs. 8 billion from the current Rs. 2 billion within the next two years. The paid-up capital of other banks and financial institutions will also have to be increased to a great extent within the same period.

2016/2017

Banking sector witnessed an excess liquidity from the beginning of the review year. It was mainly due to a lower than expected lending growth in the first half of the fiscal year. However, the excess liquidity has been managed through open market operations (OMOs).Monetary policy for 2016/17, formulated following the mandate of the Nepal Rastra Bank (NRB) Act, 2002, includes the review of monetary policy in the preceding year as well as the rationale and analysis of the proposed programs. This is the fifteenth monetary policy in sequence since 2002/03. Monetary policy for 2015/16 had projected the broad money supply (M1) growth at 18 percent. The growth of M2 basis was slightly higher at 19 percent in mid-June 2016.The excess reserve of BFIs is taken as an operating target of monetary policy for the last few years. OMO, compulsory cash reserve ratio (CRR), bank rate and deposit auction are the instruments used by this bank in conducting monetary policy operations. The NRB mopped up Rs. 588.59 billion liquidity through OMOs as of 13 July 2016. Of this, Rs. 297.5 billion liquidity was drained through deposit collection auction, Rs. 235.95 billion through reverse repo, Rs. 46.04 billion through NRB bond and Rs. 9.10 billion through outright sale auction on a cumulative basis. OMOs conducted by this bank have multiple objective of managing liquidity, steering interest rate, and signaling the stance of monetary policy. Growth in M2, which is an intermediate target of monetary policy, will be limited to 17 percent. Given the situation of liquidity overhang, the broad money growth is targeted at a lower rate than it would have been on the basis of economic growth, inflation and income elasticity. It is expected that this amount of money growth will assist in achieving growth target and maintaining overall economic stability. The Cash Reserve Ratio (CRR) remains unchanged. Likewise, the arrangement to calculate CRR by taking the deposits of BFIs at this bank is continued. Statutory Liquidity Ratio (SLR) to be maintained by BFIs remains unchanged. The bank rate, applied for the purpose of lender of last resort (LOLR) facility and discount of securities, has been kept unchanged at 7 percent.

2.3 Research Gap

This study focuses on effect of monetary policy instrument on bank performance from the very beginning. There has been number of studies about monetary policy and its effect on commercial banks internationally in different approach. But in the context of Nepal has not. Monetary policy plays the crucial role for nation development with the

help of different banking and financial institutions. Review of different literatures reveals the different researches conducted in different period relating to monetary policy and its influences the banks in different way. All of them analyze the implication of monetary policy in the commercial bank performance. These literatures directly and indirectly talk about the effect of monetary policy instrument in the banks CAMEL performance. All of the authors had used different methodologies for their empirical studies according to the research purpose.

In the context of Nepal only few efforts has been made to examine the issues associated with bank performance. But the research on effect of monetary policy instrument on banks performance has not included. Banking profitability is sensitive toward the alternative combinations of reserve requirements, and open market operations. Nepalese researchers have studied other aspects of monetary policy in Nepal. However, econometric estimates of monetary policy and its effects on banking portfolio and profits are not found in Nepal. It certainly stimulates the curiosity to know the effect of monetary policy instrument in the framework of banking profits and investment portfolio behavior. Do the reserve requirement and open market operations of monetary policy affect the commercial banks portfolio and profits in Nepal is the issue of this study? Some of the major issues of the present study include Does the legal reserve requirement affect the commercial bank profits? Does the bank rate (policy rate) affect the interest rate? Does the amount of loan supplied by bank depend upon broad money supply? Do the open market operations affect on reserves of commercial banks in Nepal? Does the SLR affect the commercial bank loan and advance growth? Therefore, present study wants to address the monetary policy instrument on commercial banks performance. Bank performance includes the capital adequacy ratio, assets quality, management quality, earning of banks and liquidity.

CHAPTER III

RESEARCH METHODOLOGY

This chapter provides insights about the methodology and research design used in this study. Furthermore, population for the study is defined in this segment along with the samples used. The method of data collection and the method of data analysis along with its brief explanation are subsequently shown.

3.1 Definition of the terms

Cash Reserve Ratio

The reserve requirement (or Cash reserve ratio) is a bank regulation that sets the minimum reserve so that each bank must hold to customer deposits and notes. The required reserve ratio is sometimes used as a tool in monetary policy, influencing the country's borrowing and interest rates by changing the amount of funds available for banks to make loans.

Bank Rate

Bank rate is the rate at which the central bank of the country is prepared to buy or rediscount the eligible bills of exchange. It operates on the cost of credit directly by altering the cost at which the central bank's credit is available to the commercial banks.

Open market Operation

Open market operations are the most important monetary policy tool because they are the primary determinants of changes in interest tares and the monetary base, the main source of fluctuations in the money supply (Miskin, 2000).

Broad Money (M2)

Broad money refers to the most inclusive definition of the money supply. The M2 measure includes the money in circulation as well as bank deposits such as checking, time, and savings accounts. Broad money is the sum of currency outside banks; demand deposits other than those of the central government; the time, savings, and foreign currency deposits of resident sectors other than the central government; bank and traveler’s checks; and other securities such as certificates of deposit and commercial paper (Miskin, 2000).

Standing Liquidity Ratio

SLR is the amount that BFIs are required to maintain in the form of cash or gold or government approved securities before providing credit to customers. It is determined and maintained by the central bank to control the expansion of bank credits.

Interest Spread Rate

Net interest spread refers to the difference in borrowing and lending rates of financial institutions such as commercial banks in nominal terms. In simple terms, the net interest spread is like a profit margin. The greater the spread, the more profitable the financial institution is likely to be; the lower the spread, the less profitable the institution is likely to be. Loan-granting financial institutions, such as many commercial banks, receive interest income from a range of sources. Deposits (often called core deposits) are a primary source, generally in the forms of checking or savings accounts. These are often obtained at low rates. So, the difference of lending and borrowing rate is interest spread. Monetary policy of the country determines the interest spread rates.

Interest Rate Corridor:

An interest rate corridor (IRC) is a system for guiding short-term market interest rates towards the central bank (CB) target/policy rate. It consists of a rate at which the central bank lends to banks (typically an overnight lending rate) and a rate at which it takes deposits from them (deposit rate).

3.2 Conceptual Framework

Monetary policy which is regarded as an indispensable tool of economic management of the economy is one of those familiar economic concepts which are difficult to precisely. Monetary policy is as a policy employing the central bank's control of the supply of money as an instrument for achieving the objectives of general economic policy. The central bank influences the total amount and the cost of credit primarily by affecting the cash reserve of commercial banks in the economy. The concept of monetary policy is broad enough to encompass the institutional changes in the banking and credit structure.

Monetary policy has a rich past and in the pre-Keynesian days it was the single established instrument of macroeconomic policy. During the great depression of the thirties and following the publication of Keynes' book The General Theory economists generally felt that monetary policy was too weak to stimulate recovery from a depression (Vaish, 1999). In summary, while both the neo-Keynesians and the

monetarists' base their theories of the transmission mechanism on the portfolios approach, the asset portfolios held by households in the neo-Keynesian analysis is confined to money, financial assets and owner-occupied housing (Vaish, 1999).

The various instruments of monetary policy which the central bank employs to achieve the goals of economic policy can be classified into the general or quantitative instruments and the selective or qualitative instruments. The general instruments employed by the central bank to carry out its monetary policy are open market operation, changes in the minimum legal cash reserves ratio and changes in the bank or discount rate. All these monetary policy instruments influence the credit-creating capacity of the commercial banks in the economy by operating directly or indirectly on their excess cash reserves (Vaish, 1999).

The central bank can influence increase or decrease the commercial banks cash reserves through its open market operation. The instrument of open market operations is the most effective instrument which is available to the central bank to carry out its monetary policy (Vaish, 1999). Being flexible, it enables the central bank to change the direction of its open market operations according to circumstances form a policy of increasing the cash reserve of the commercial banks to decreasing their reserves and vice-versa. If the bank rate is raised, interest rates particularly those on short-term securities generally rise and credit markets tighten. That’s why monetary policy instrument effect on bank performance either directly or indirectly.

Conceptual Framework

On the basis of literature review following conceptual framework is designed for observing the impact of monetary policy on perceived bank performance.

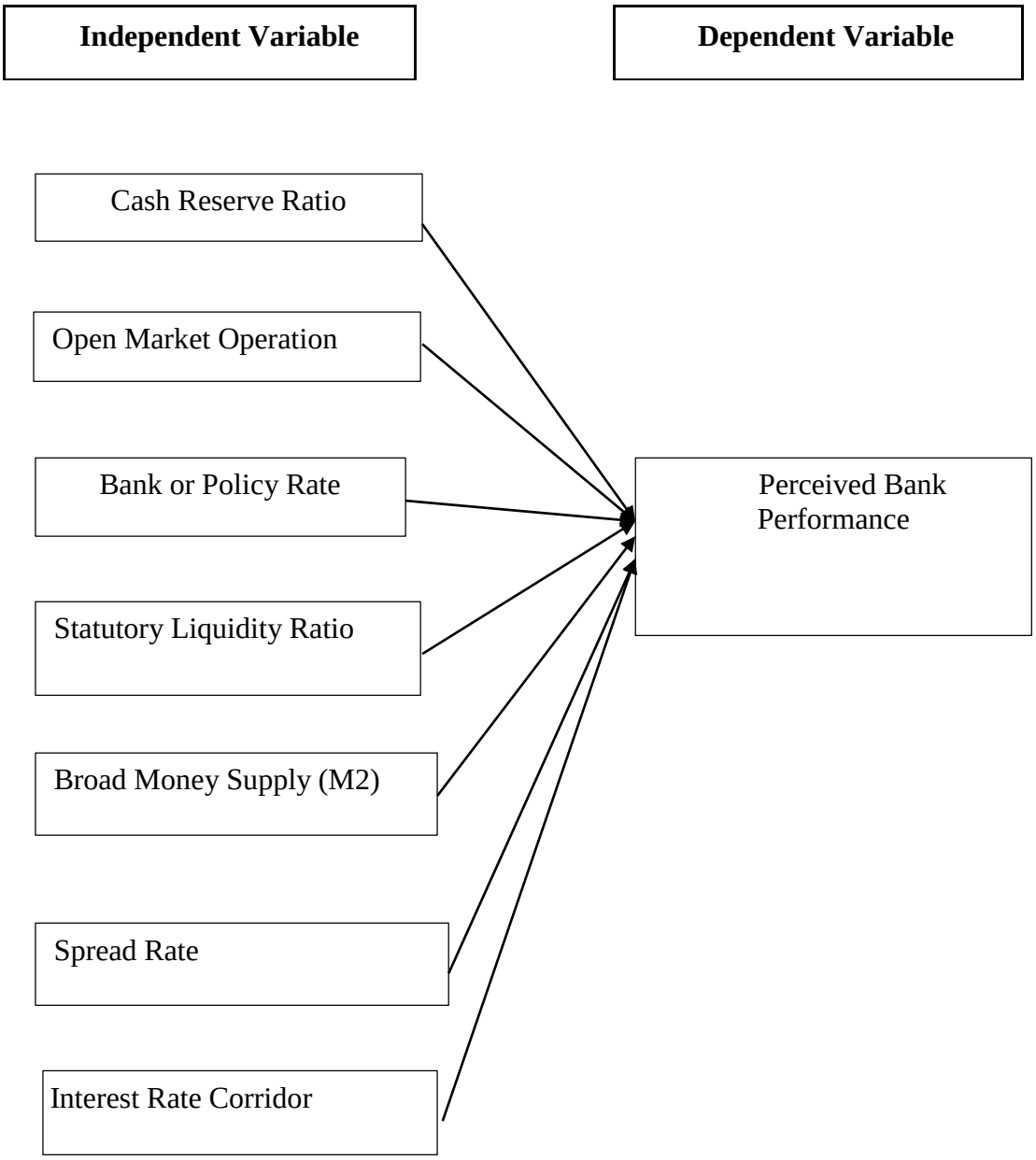


Figure 2.1 Theoretical framework

Dependent variable

Dang (2011) states that "CAMEL rating has become a concise and indispensable tool for examiners and regulators". CAMEL is an acronym for five components of bank safety and soundness:

- Capital adequacy Ratio

- Asset quality
- Management quality
- Earning ability
- Liquidity

Perceived performance of Nepalese commercial banks is measured by capital, asset quality, management, earning ability and liquidity of the banks.

Independent Variables

Cash Reserve Ratio

This weapon was suggested by Keynes in his Treatise on Money and the USA was the first to adopt it as a monetary device (Jhingal, 2004). Nepal has adopted this device since October 17, 1966 (Shrestha, 2004).The percentage of a bank's total monetary holdings that must be kept on hand in the form of actual currency. Under fractional-reserve banking, a bank may lend out any money deposited there, but must maintain on site the amount mandated by the cash reserve ratio.

Bank Rate or Rediscount Rate

The bank rate is the minimum lending rate of the central bank at which it rediscounts first class bills of exchange and government securities held by the commercial banks (Jhingan, 2004). NRB started to use this tool as monetary policy tool from January, 1966 (Ghimire, 2004).

Open Market Operation

The central banks can influence-increase or decrease- commercial banks cash reserve through its open market operations. NRB started to use open market operation since 1989 for short term liquidity management (Ghimire, 2004). He said that in order to reduce the liquidity, NRB had issued "NRB bond" in December 31, 1991. Open market operation is the buying and selling of securities in the money market by the NRB. During the period of expansion, when prices are rising and there is need to control them, the central bank sells securities.

Credit Limit and Statutory Liquidity Ratio

SLR is used by bankers and indicates the minimum percentage of deposits that the bank has to maintain in form of gold, cash or other approved securities (Hill and Schiller, 1980). Thus, we can say that it is ratio of cash and some other approved liability (deposits).

Broad Money Supply (M2)

Broad money refers to the most inclusive definition of the money supply. The M2 measure includes the money in circulation as well as bank deposits such as checking, time, and savings accounts. Broad money is the sum of currency outside banks; demand deposits other than those of the central government; the time, savings, and foreign currency deposits of resident sectors other than the central government; bank and traveler's checks; and other securities such as certificates of deposit and commercial paper.

Interest Spread

Net interest spread refers to the difference in borrowing and lending rates of financial institutions such as commercial banks in nominal terms. In simple terms, the net interest spread is like a profit margin. The greater the spread, the more profitable the financial institution is likely to be; the lower the spread, the less profitable the institution is likely to be. Loan-granting financial institutions, such as many commercial banks, receive interest income from a range of sources. Deposits (often called core deposits) are a primary source, generally in the forms of checking or savings accounts. These are often obtained at low rates. So, the difference of lending and borrowing rate is interest spread. Monetary policy of the country determines the interest spread rates.

Interest Rate Corridor

An interest rate corridor (IRC) is a system for guiding short-term market interest rates towards the central bank (CB) target/policy rate. It consists of a rate at which the central bank lends to banks (typically an overnight lending rate) and a rate at which it takes deposits from them (deposit rate).

In Nepal Rastra Bank (NRB, the central bank) revised its rules governing the interest rate corridor (a mechanism through which the central bank conducts monetary policy) to facilitate liquidity management and lower interest rate volatility.

The central bank will now allow short-term interest rates to fluctuate between 3% and 7%, with an average target of 5%. Since mid-2016 NRB has sought to guide short-term market interest rates through the implementation of an interest rate corridor, but did not apply specific limits to the corridor. The upper interest rate limit relates to the standing liquidity facility rate, which has been set at 7%. This is used by NRB when it wants to inject liquidity in the banking system. The interest rate at the bottom of the corridor relates to a two-week term deposit rate, which is now fixed at 3%. This is used

by NRB to mop up excess liquidity. The average 5% is the repo rate, in effect NRB's main policy rate.

Giving a clear signal of the lower interest rate limit will help to reduce fluctuations in the interest rate spread. Previously, the central bank used the weighted average interbank rate of commercial banks for guidance. However, this benchmark proved volatile on a weekly and annual basis.

3.3 Research Design

Research design is a master plan specifying the methods and procedures for collecting and analyzing the needed information. The research design of this study includes: Descript analysis, validity, pre-test, statistical analysis plan and data.

This study describes and explores the performance of commercial bank toward the monetary policy instruments. The purpose of the study is fulfilled by examining the effect of seven independent variables i.e. cash reserve ratio, open market operation, bank rate, broad money supply, statutory liquidity ratio, spread rate and interest rate corridor on dependent variable i.e. bank performance. This study is conducted in Kathmandu valley to know the effect of monetary policy instrument on commercial bank performance. This study attempts to find relationship between the monetary policy instruments and bank performance. The purpose is to test the conceptual framework developed from the related literatures in this topic.

Based on the literature, the researcher built the survey instrument, using scales that were already validated in previous research. Participants answered these items using Likert scales varying from 1 (strongly disagree) to 7 (strongly agree). Questions considered the expression monetary policy instrument in general because the aim was to examine commercial banks performance in overall. The data are collected through the questionnaire and then analyzed to test the hypotheses developed from the theoretical framework.

3.3 Population and Sample

The entire 28 commercial banks are functioning in the population of the study. Commercial banks are taken as subjects on sampling basis. The researcher distributed questionnaire to a total of 250 respondents.

Judgmental sampling is used to make the sample unit representative for the study. Since judgmental sampling is the appropriate choice for purposive sampling. Judgmental sampling is one of the main types of non-probability sampling method. A judgmental sample is a method used by selecting those people as respondents who are easy to reach. This is in contrast to probability sampling techniques, where the selection of units is made randomly.

Table 3.1

Total Numbers of Respondents

S.NO	Commercial Banks	No. of banks	% in Total
1	Government Banks	2	14.28
2	Private Banks	12	85.72

Source: Based on survey

3.4 Nature and Sources of Data

The primary source of data is used to collect the data from the respondents for the purpose of fulfilling the objectives of this study. Under this study, a structured questionnaire is prepared and distributed to the small retail business owners in order to collect the data.

3.5 Instrumentation (Tools and Techniques)

In this study, questionnaires are developed to study the monetary policy instrument effect on bank performance. Survey in the form of questionnaires was chosen for this research.

Questionnaires are divided into two parts. In the first part, the respondents profile is asked such as work experience position etc. The second part comprise of 40 questions to measure independent and dependent variables. It contains only close-ended questions in order to create less time consuming when filling in the answer. Most of the close-ended questions are measured using 7-point scales anchored by 1 (strongly disagree) and 7 (strongly agree) to create an easy to answer and unbiased questionnaire. To measure the independent and dependent variables the questionnaires are divided into two parts. The variables measured were need for cash reserve ratio, bank rate, stand liquidity ratio, open market operation, M2, spread rate and interest rate corridor towards commercial bank performance. The questionnaire are designed to be completed in less

than 10 minutes. Likert scale was used in this study to generate statistical measurements of bank performance. A Likert scale is a scale commonly used in questionnaires, and is the most widely used scale in survey research. Respondents specify their level of agreement to a statement when responding to a Likert questionnaire item. The advantages of using Likert scale are obvious that "they are easy to construct, administer and score".

After the questionnaire is completed, each item will be analyzed separately or in some cases item responses are summed to create a score for a group of items. Hence, Likert scales are also known as summative scales. As in this study, a high score would indicate a favorable monetary policy instrument towards performance and a low score an unfavorable. In this study a seven point Likert scale was used as 1-Strongly Disagree to 7-Strongly Disagree.

3.5.1. Data Collection Procedure

Study is based on primary data. Primary data are collected through questionnaire survey. Liker based questionnaires are used, in this regard and some open-end questions are also taken as per requirement.

The data collection method used in this study is the survey method. A structured questionnaire is prepared and distributed to the respondent through personal visit and via emails. It is stressed that participation was totally voluntary, free of obligations. The respondents filled out the questionnaire following the instructions given in the questions. Then, the responses are collected from the respondents directly and via email. The questionnaire is distributed to 250 respondents.

3.4.2. Primary Data Collection

The questionnaires are the primary sources of data collection. Questionnaires were prepared according to the requirement of the study on the basis of literature review and guidance of various personalities. This questionnaire is distributed according to the method described in sampling procedure.

3.5. Validity and Reliability

After the collection of data's through questionnaire, the reliability is tested and validity of all the data was tested. The result was reliable and valid with Cronbach's Alpha i.e. 0.87 which is shown in table 3.2.

Table 3.2

Reliability Analysis

Cronbach's Alpha	No. of Items
0.87	40

Source: Authors own calculation

The Reliability and Validity results in the table 3.2 showed that the instrument was both reliable and valid since the variable coefficient is 0.87.

3.6 Methods of Analysis

The collected data are analyzed through data entry and coding in the Statistical Package for Social Science (SPSS) software. The extensive use of SPSS and MSE xcel software is incorporated to organize, manage analyze and interpret the data.

3.6.1 Descriptive Statistics

Descriptive statistics is used to explain the demographic characteristics of the respondents and analyze the attitude of respondent towards monetary policy. Descriptive analytical tools like mean, standard deviation, minimum, maximum values are used. The analyzed data is presented by use tables.

3.6.2 Correlation

The correlation is used to depict the relationship between dependent and independent variables and also between the independent variables themselves. It indicates how or to what extent the variables are associated with each other. Pearson correlation coefficient is used for the purpose of testing the hypothesis to come up with certain conclusion.

3.6.3 Multiple Regression

Multiple regression model is adopted for inferential statistics. The study used SPSS (Statistical Package for the Social Sciences) program to aid the analysis. The study uses multiple regression analysis, it involves finding the best straight-line relationship to explain how the variation in an outcome (or dependent) variable, Y, depends on the variation in a predictor (or independent or explanatory) variable, X. The regression equation will be:

The following model is specific in an attempt to determine the effectiveness of monetary policy on commercial banks in Nepal as:

$$BP = \alpha + \beta_1 CRR + \beta_2 BR + \beta_3 SLR + \beta_4 OMO + \beta_5 M2 + \beta_6 SR + \beta_7 IRC + \varepsilon \quad \ldots\ldots\ldots\ldots\ldots 1$$

Where,

BP= Bank Performance

CRR= Cash Reserve Ratio, BR=Bank Rate, SLR=Standing Liquidity Ratio, OMO=Open Market Operation, M2= Broad Money Supply, SR=Spread Rate, IRC= Interest Rate Corridor.

3.6.4 ANOVA Test

The goodness of fit of regression line is checked by the ANOVA test. The ANOVA showed that the multiple regression model is significant for overall model.

3.6.5 Residual Test

After fitting a regression model it is important to determine whether all the assumptions are valid or not before drawing inference. If there are any violations of assumption, subsequent inferential procedures may be invalid resulting in faulty conclusions. Therefore, it is crucial to perform appropriate residual diagnostics test. So, the study has adopted following regression diagnostic test:

Residual: Auto correlation test

Autocorrelation is a problem where correlation exists between the errors in different time periods. If the autocorrelation exist, then it needs to be corrected. The Durbin Watson Test is a measure of autocorrelation (also called serial correlation) in residuals from regression analysis.

Residual: Multicollinearity test

One of the assumptions of regression analysis is that the independent variables should not be strongly correlated. In other words, there should be no multicollinearity among independent variables. To test this assumption, this study employs pair wise correlation test .While the rule of thumb for correlation coefficient result is that the value for the all the variables must not exceed .7 in order to be accepted as no multicollinearity.

3.7. Statistical Analysis Plan

Data obtained from various sources cannot be used in their raw form. The raw data is of no use if they are not presented in an understandable form. It is necessary to arrange and analyze the raw data so that it makes some sense and it can later be used in the project work as meaningful information. Relevant statistical tools are used to find out the best appropriate outcomes as per designed objectives of the present study. This study formulates different hypotheses during the course of study and analysis.

So, after the completion of data collection, all information are gathered, edited, coded and recorded in Microsoft Excel and SPSS. Data are processed and due consideration were taken that those data were accurate and consistent with the intent information obtained. For data analysis, various statistical tools are used to test the hypotheses. The data are summed up as per the requirement and the division of the sections of the questionnaire using the Microsoft Excel sheet. For presentation of data, several graphical tools like tables, charts, diagrams and graphs are used. The descriptive study part use the graphs, tables, pie charts, mean, standard deviation and percentage distribution for the presentation and analysis. And the hypotheses testing part included tables, mean, standard deviation and Pearson's correlation coefficient and the p-values. The p-values are used to find the significance of the relation and the correlation coefficient is used to determine the direction of the relation between the dependent and independent variables.

CHAPTER IV

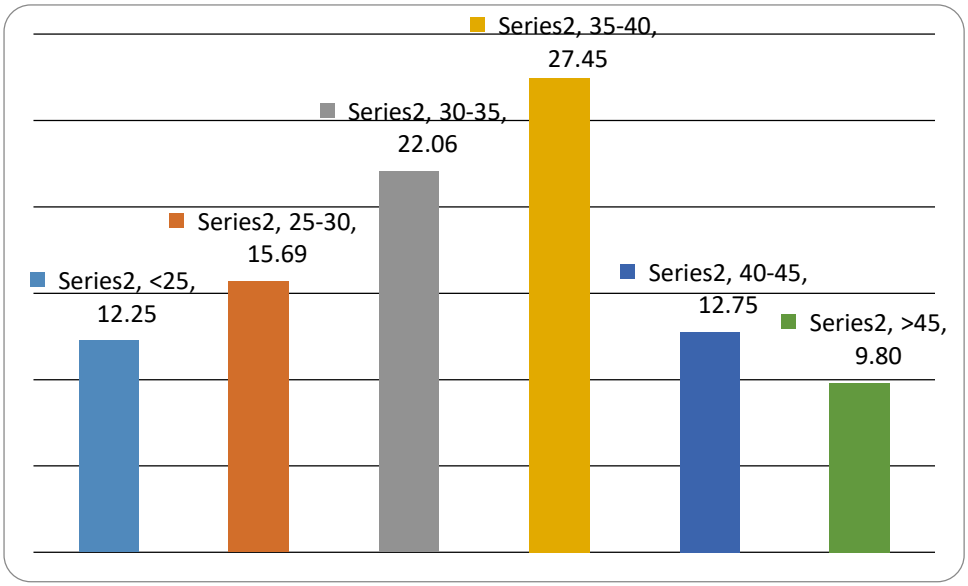
PRESENTATION AND ANALYSIS OF DATA

This chapter deals with presentation and analysis of survey results. Here the collected data are tabulated, presented and analyzed. The main aim of this chapter is to present the characteristics of the variables studied and to present and interpret the result. This chapter also covers the test of hypotheses which have been set in the previous chapter. Each hypothesis is tested and analyzed individually of the respondents. This part analyzes and interprets the collected data through correlation and regression of dependent and independent variables.

4.1 Demographic Characteristics

This section explains the demographic characteristics of the respondents. Figure 4.1 shows the age distribution of the respondents. Among 202 respondents in total, the majority of working group falls between 35-40 age groups (27 %) followed by 30-35 groups (22 %). A significant number of the staffs are between 25-40 years meaning that they are young and are of mid-career.

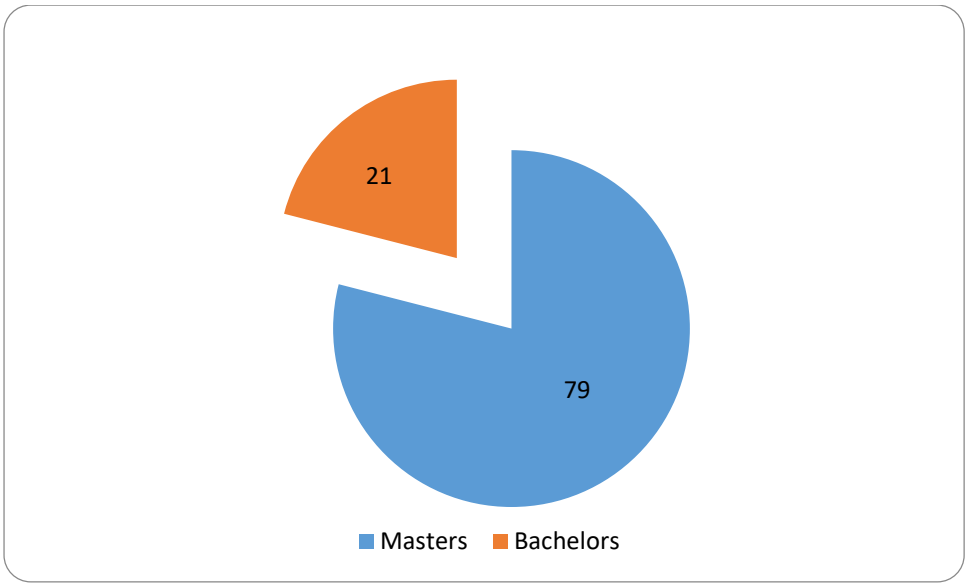
Figure 4.1: Age Distribution of the Respondents (in %)



Source: Field Survey 2018

Regarding the education, 79 % of staffs have the Masters or equivalent degrees. Only a about 21 % reported that they have completed Bachelor's level, among which a few are still studying at Master's level.

Figure 4.2: Education of the Respondent

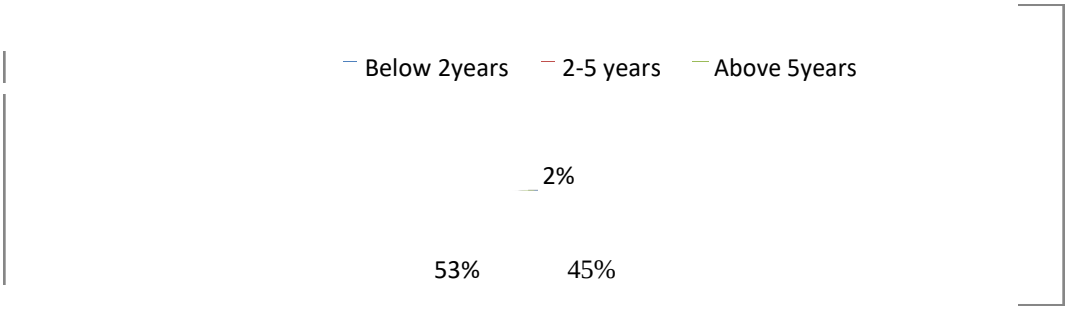


Source: Field Survey, 2018

In this section, the respondents profile has been analysed in terms of job experience and Designation. In total, 202 respondents were selected for this study and the questionnaires were distributed to them through either personal visit or through e-mail. 250 questionnaire distributed among them 202 of the respondents replied to the questionnaire. Hence the response rate was 80.8%. The respondents are the treasury officer, loan officer and supervisor and all the respondents were within the Kathmandu valley. The questionnaire were presented to each of them in English language and in the same format.

Figure 4.1

4.1.1 Job Experience



From the Figure 4.1, it can be seen that majority of the respondents are with more than 5years of experience which is followed by 2-5 years of experience. Only, few numbers of respondents are below 2years of experience. The main target of questionnaire is for top level of management.

Table 4.1

4.1.2. Designation of the Respondents

Designation	Number of the Respondents	Percentage
Officer Level	117	57.92%
Assistant Level	85	42.08%

Source: Field Survey 2018

All the respondent has been categorized into just two level i.e. officer level and assistant level. Although they replied for other post as well, they have been kept in either of the one. Table 4.1 shows that out of 202 respondents, numbers of office respondents were 117 and that of the assistant level respondents were 85.Number of officer level is higher than that of assistant level respondents.

4.2. Descriptive Analysis

In this section descriptive analysis regarding the attitude towards the monetary policy instrument on bank performance that play an important role in drawing conclusion has been presented in this section. The mean, standard deviation and maximum and minimum values are presented in the tabular form for the variables and questions in this section.

4.2.1. Descriptive Study of Cash Reserve Ratio

The first question was asked i.e. cash reserve ratio has effect on bank performance where they tick for the appropriate option in 7 likert point. Thus, the analysis is shown below.

Table 4.2
Cash reserve ratio on Commercial Banks Performance

		1. CRR has effect on commercial bank CAR.	2. CRR has effect on commercial bank assets quality.	3. CRR has effect on commercial bank L/A growth.	4. CRR has effect on commercial banks earning.	5.CRR has positive relationship with liquidity.
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
Mean		4.33	4.7	4.52	4.77	4.51
Std. Deviation		1.749	1.568	1.6	1.403	1.655
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table above shows that the mean value for all indicators is above 4, which shows that the respondents believe cash reserve ratio effects on bank performance. With a mean value of 4.77, respondents strongly believe that cash reserve ratio effects on banks earning of the commercial banks performance. With the mean of 4.33, the overall response of the respondents is quite positive towards the cash reserve ratio its effect on capital adequacy ratio of the banks. Likewise, the respondents with the mean value of4.7, 4.52 and 4.51, also highly believe cash reserve ratio effect the assets quality, management quality and liquidity of the banks.

4.2.2. Descriptive Study of Open market Operation

Open market operation is the buying and selling of securities in the money market by the NRB. Another important weapon of monetary policy is the use of open market operations that's affects the reserves in the banking system. Thus it reduces the credit creation capacity of the commercial banks and consequently affects their profitability.

Table 4.3

Open Market Operations on Commercial Banks Performance

		6. Sells or buy (Open market operation) of T-bills by NRB has effects on the capital adequacy of banks.	7. Sells or buy (Open market operation) of T-bills by NRB has effects on the assets quality of banks.	8. Sells or buy (Open market operation) of T-bills by NRB has effects on the management quality of banks.	9. Sells or buy (Open market operation) of T-bills by NRB has effects on the return on equity of banks.	10. Sells or buy (Open market operation) of T-bills by NRB has effects the liquidity of commercial banks.[EJN1]
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
Mean		4.57	4.43	4.41	4.55	4.62
Std. Deviation		1.73	1.538	1.867	1.503	1.767
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table 4.3 shows the tendency of the responses on the five questions developed for the variable of open market operation effects on bank performance. Each of the 202 respondents submitted their responses in the seven Likert scale being strongly disagree (1), Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree and Strongly Agree. The mean, standard deviation and maximum and minimum values for each category is shown in the above table 4.3.

Mean value of 4.57 for sixth question describes the effect of open market operation on CAR of the banks. Mean value of 4.41, 4.43 are for seventh question and eighth which shows the effect of to sell or buy of T-bill on asset quality and management of banks.

Similarly, mean value of only 4.62 for tenth question show that an open market operation tool has high effect on banks liquidity. Each question got the mean value above 4 which shows that the respondents believe an open market operation has effect

on bank performance. Standard deviation for each of the questions is above 1 showing that the response is consistent enough to judge on the purpose. Minimum scale of response for the entire questions is 1. Maximum scale of response for the entire question is 7.

4.2.3. Descriptive Study of Bank Rate (Policy Rate)

The bank rate is the minimum lending rate of the central bank at which it rediscounts first class bills of exchange and government securities held by the commercial banks. Commercial banks also can borrow directly from the central bank at the discount rate whenever they lack the fund. It reduces commercial banks borrowing from central bank as the cost of credit because costly.

Table 4.4

Bank Rate has effect on Commercial Banks

		11)Banks' Capital Adequacy	12)Banks' Asset Qualty	13)Banks' Borrowing	14)Banks' Net Interest margin	15) Banks' Liquidity
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
Mean		4.51	4.59	4.48	4.55	4.47
Std. Deviation		1.643	1.556	1.562	1.421	1.693
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table 4.4 shows the tendency of the responses on the five questions developed for the variable of bank rate or policy rate effect on bank performance. Each of the 108 respondents submitted their responses in the seven Likert scale being strongly disagree (1), Disagree, Slightly Disagree, Neutral, Slightly Agree, Agree and Strongly Agree. The mean, standard deviation and maximum and minimum values for each category is shown in the above table 4.4.With the mean value of 4.51 for the eleventh question, it shows that almost all Nepalese commercial banks are affecting by bank rate in their performance. Mean value of 4.59 for twelve questions describes the effect of bank rate on assets quality of the banks. Mean value of 4.48, 4.55 are for thirteenth question and

fourteenth which shows the effect of bank rate or discount rate on management quality and earring of commercial banks. That mostly affects the earning like return on assets, return on equity, net interest margin etc. Similarly, mean value of only 4.47 for fifteenth question show that policy rate has average effect on banks liquidity. Each question got the mean value above 4 which shows that the respondents believe bank rate or policy rate has effect on bank performance. Standard deviation for each of the questions is above 1 showing that the response is consistent enough to judge on the purpose. Minimum scale of response for the questions is 1. Maximum scale of response for the entire question is 7.

4.2.4. Descriptive Study of Broad Money Supply (M2)

Broad money refers to the most inclusive definition of the money supply. The M2 measure includes the money in circulation as well as bank deposits such as checking, time, and savings accounts.

Table 4.5

Broad Money Supply (M2) on Commercial Bank Performance

		16)M2 has +ve relationship with CAR	17)M2 has +ve relationship with AQ	18)M2 has +ve relation with lending growth	19)M2 has effect on Banks' NIM	20)M2 has +ve relation with deposit growth
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
Mean		4.39	4.55	4.47	4.71	4.71
Std. Deviation		1.69	1.651	1.633	1.544	1.544
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table above shows that mean value above 4 which shows that the respondents believe broad money supply effect on bank performance. With a mean value of 4.71, respondents strongly believe that money supply effect on earnings and liquidity of the commercial banks. With the mean of 4.55, the overall response of the respondents is

quite positive towards the broad money supply its effect on assets quality of the banks. Likewise, the respondents with the mean value of 4.39 and 4.47, also highly believe broad money supply effect the CAR and management quality of the banks.

4.2.5. Descriptive Study of Statutory Liquidity Ratio

SLR is the amount that BFIs are required to maintain in the form of cash or gold or government approved securities before providing credit to customers. It is determined and maintained by the central bank to control the expansion of bank credits.

Table 4.6:
Statutory Liquidity Ratio on Commercial Banks Performance

		21) SLR has effect on CAR	22) SLR has effect on assets quality	23) SLR has effect on L/A growth	24) SLR has effect on capital earning	25) SLR has effect on liquidity
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
	Mean	3.34	3.7	3.84	3.81	3.52
	Std. Deviation	1.528	1.67	1.588	1.64	1.637
	Minimum	1.00	1.00	1.00	1.00	1.00
	Minimum	7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table above shows that mean value below 4 which shows that the respondents believe statutory liquidity ratio has no effect on bank performance. With a mean value of 3.84 respondents believe that statutory liquidity ratio has negative effect on loan and advance growth of the commercial banks. With the mean of 3.34,3.7,3.81 and 3.52 the overall response of the respondents is quite lower towards the statutory liquidity ratio and its effect on capital adequacy, assets quality, and earning and liquidity ratio of the banks. Standard deviation for each of the questions is above 1 and around one showing that the response is consistent enough to judge on the purpose. Minimum scale of response question is 1. Maximum scale of response for the entire question is 7.

4.2.6. Descriptive Study of Spread Rate

Net interest spread rate is difference in borrowing and lending rates of commercial banks. Higher the spread rate higher will be the profit.

Table 4.7:

Interest Spread Rate on Commercial Banks Performance

		26) SR has effect on CAR	27) SR has effect on assets quality	28) SR has effect on L/A growth	29) SR has effect on capital earning	30) SR has effect on liquidity
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
Mean		5.4	4.68	4.7	4.79	4.69
Std. Deviation		1.559	1.564	1.55	1.56	1.616
Minimum		1.00	1.00	1.00	1.00	1.00
Minimum		7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table above shows that mean value above 4 which shows that the respondents believe Spread rate has effect on bank performance. With a mean value of 5.4 respondents believe that spread rate has positive effect on capital adequacy ratio of the commercial banks. With the mean of 4.68,4.71,4.79 and 4.69 the overall response of the respondents is quite high towards the Spread rate and its effect on loan and advances, assets quality, earning and liquidity ratio of the banks. Standard deviation for each of the questions is above 1 and around one showing that the response is consistent enough to judge on the purpose. Minimum scale of response question is 1. Maximum scale of response for the entire question is 7.

4.2.7. Descriptive Study of Interest Rate Corridor

Interest Rate Corridor refers to the central banks lending rate as well as borrowing rate. It is one of the latest instrument implemented by NRB as a monetary policy.

Table 4.8

Interest Rate Corridor on Commercial Bank Performance

		31)IRC has +ve relationship with CAR	32)IRC has +ve relationship with Assets quality	33)IRC has +ve relation with lending growth	34)IRC has effect on Banks' NIM	35)IRC has +ve relation with deposit growth
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
	Mean	4.57	5.14	4.68	4.62	4.77
	Std. Deviation	1.73	1.248	1.519	1.595	1.538
	Minimum	1.00	1.00	1.00	1.00	1.00
	Minimum	7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

Table above shows that mean value above 4 which shows that the respondents believe broad money supply effect on bank performance. With a mean value of 5.14, respondents strongly believe that interest rate corridor effect on asset quality of the commercial banks. With the mean of 4.77, the overall response of the respondents is quite positive towards the interest rate corridor its effect on liquidity of the banks. Likewise, the respondents with the mean value of 4.68 and 4.62, also highly believe IRC effect the management quality and loan and advance growth of the banks.

4.2.8. Descriptive study of Bank Performance

Bank performance represent through CAMEL. CAMEL rating has become a concise and indispensable tool for examiners and regulators. This rating ensures a bank's healthy conditions by reviewing different aspects of a bank based on variety of information sources such as financial statement, funding sources, macroeconomic data, budget and cash flow.

Table 4.9

Descriptive study of Bank Performance

		36)Capital Adequacy Ratio	37)Assets Quality	38)Management Quality	39)Earning (L/A growth)	40)Liquidity
N	Valid	202	202	202	202	202
	Missing	0	0	0	0	0
	Mean	4.6	5.02	5.00	4.90	4.85
Std. Deviation		1.67	1.607	1.409	1.493	1.520
	Minimum	1.00	1.00	1.00	1.00	1.00
	Minimum	7.00	7.00	7.00	7.00	7.00

Source: Authors own calculation

E Table above shows that the mean value above 4 which shows that the respondents believe that monetary policy instrument has effect on bank performance. Standard deviation for each of the questions is above 1 showing that the response is consistent enough to judge on the purpose. Minimum scale of response for the entire questions is 1.Maximum scale of response for the entire question is 7.

4.3. Relationship between perception and Bank performance indicators

This section tests the hypothesis developed for the study and finds out whether the relationship projected earlier in chapter one is significant. This section specifically attempts to deal with analysis of possible relationship between the various independent variables and dependent variable. Pearson correlation coefficient is used for the purpose of testing hypotheses to come up with conclusion.

4.3.1. Cash Reserve Ratio

Table 4.10 shows the correlation between the independent variable cash reserve ratio and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the cash reserve ratio and bank performance of commercial banks. The Pearson correlation between the two variables is 0.611, which implies that the two variables are positively correlated. Thus,

it can be concluded that Nepalese commercial banks who maintains the cash reserve ratio will gain the better performance and vice versa. Therefore, the above stated hypothesis H_1 is accepted i.e. there is significant relationship between cash reserve ratio and bank performance.

Table 4.10

The Pearson Correlation between Cash Reserve Ratio and Bank Performance

Correlations

		CRR	Performance
CRR	Pearson Correlation	1	.611**
	Sig. (2-tailed)		.000
	N	202	202
Performance	Pearson Correlation	.611**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

4.3.2. Open Market Operation

Table 4.11

Correlation between Open Market Operations and Commercial Banks performance

Correlations

		OMO	Performance
Mean OMO	Pearson Correlation	1	.564**
	Sig. (2-tailed)		.000
	N	202	202
Mean Performance	Pearson Correlation	.564**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

Table 4.11 shows that correlation between the independent variable open market operation and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the open market operation and bank performance of commercial banks. The Pearson correlation between the two variables is 0.564, which implies that the two variables are positively correlated. Thus, it can be concluded that Nepalese commercial banks that buy or sell T-bill will gain the better performance and vice versa. Therefore, the above stated hypothesis H1 is accepted i.e. there is significant relationship between open market operation and bank performance.

4.3.3. Bank Rate

Table 4.12

Correlation between Bank Rate and Commercial Banks Performance

Correlations

		Bank Rate	Performance
BR	Pearson Correlation	1	.739**
	Sig. (2-tailed)		.000
	N	202	202
Performance	Pearson Correlation	.739**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

Table 4.12 shows the correlation between the independent variable bank rate and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the bank rate or policy rate and bank performance of commercial banks. The Pearson correlation between the two variables is 0.739, which implies that the two variables are positively correlated meaning better or more effective the bank rate and bank performance. Thus, it can be concluded that liberalized bank rate will gain the better performance and vice versa.

Therefore, the above stated hypothesis H_3 is accepted i.e. there is significant relationship between bank rate (policy rate) and bank performance.

4.3.4. Broad Money Supply

Table 4.13

Correlation between Broad Money Supply and Commercial Banks Performance

Correlations

		M2	Performance
Mean M2	Pearson Correlation	1	.772**
	Sig. (2-tailed)		.000
	N	202	202
Mean Performance	Pearson Correlation	.772**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

Table 4.13 shows the correlation between the independent variable broad money supply (M2) and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the broad money supply and bank performance of commercial banks. The Pearson correlation between the two variables is 0.772, which implies that the two variables are positively correlated meaning better or more effective the money supply and bank performance. Thus, it can be concluded that broad money supply will gain the better performance and vice versa. Therefore, the above stated hypothesis H4 is accepted i.e. there is significant relationship between broad money supply and bank performance.

4.14 Statutory Liquidity Ratio

Table 4.14

Correlation between Statutory Liquidity Ratio and Commercial Banks Performance

Correlations

		SLR	Performance
SLR	Pearson Correlation	1	.816
	Sig. (2-tailed)		.124
	N	202	202
Performance	Pearson Correlation	.816	1
	Sig. (2-tailed)	.124	
	N	202	202

Source: Authors own calculation

Table 4.14 shows the correlation between the independent variable statutory liquidity ratio and dependent variable bank performance of commercial banks. The correlation is insignificant because the P-value is higher than alpha 1%, 5%, and 10%. Hence, there exists an insignificant relationship between the statutory liquidity ratio and bank performance of commercial banks. The Pearson correlation between the two variables is 0.816, which implies that the two variables are positively correlated meaning higher the statutory liquidity ratio and higher the bank performance. Thus, it can be concluded that Nepalese commercial banks who maintains the statutory liquidity ratio will gain the better performance and vice versa. Therefore, the above stated hypothesis H_5 is rejected i.e. there is insignificant relationship between statutory liquidity ratio and bank performance.

4.3.6. Spread Rate

Table 4.15

Correlation between Spread Rate and Commercial Banks Performance

Correlations

		Spread Rate	Performance
SR	Pearson Correlation	1	.966**
	Sig. (2-tailed)		.000
	N	202	202
Performance	Pearson Correlation	.966**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

Table 4.15 shows the correlation between the independent variable spread rate and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the spread rate and bank performance of commercial banks. The Pearson correlation between the two variables is .966, which implies that the two variables are positively correlated meaning better or more effective spread rate and bank performance. Thus, it can be concluded that Spread Rate will gain the better performance and vice versa. Therefore, the above stated hypothesis H_6 is accepted i.e. there is significant relationship between spread rate and bank performance.

4.3.7. Interest Rate Corridor

Table 4.16

Correlation between Interest Rate Corridor and Commercial Banks Performance

Correlations

		Interest Rate Corridor	Performance
SR	Pearson Correlation	1	.983**
	Sig. (2-tailed)		.000
	N	202	202
Performance	Pearson Correlation	.983**	1
	Sig. (2-tailed)	.000	
	N	202	202

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

Source: Authors own calculation

Table 4.16 shows the correlation between the independent variable interest rate corridor and dependent variable bank performance of commercial banks. The correlation is significant at the significance level of 0.01 because the P-value is less than alpha i.e. 0.00< 0.01. Hence, there exists a significant relationship between the interest rate corridor and bank performance of commercial banks. The Pearson correlation between the two variables is .983, which implies that the two variables are positively. Thus, it can be concluded that Interest Rate Corridor will gain the better performance and vice versa. Therefore, the above stated hypothesis H_7 is accepted i.e. there is significant relationship between interest rate corridor and bank performance.

4.4. Regression Result of the Study

Table 4.17

Regression Result

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	sig.F.Change	Durbin-Watson
1	.940[a]	.883	.880	.2533899	.000	1.862

a. Predictors: (Constant), M2, BR, OMO, CRR b. Dependent Variable: BP

Source: Authors own calculation

Table 4.17 gives us the value of regression result of dependent and independent variables R-square which represents the correlation between the observed values and predicted values of the dependent variable. R-square is called the coefficient of determination and it gives the adequacy of the model. Here the value of R-square is 0.883 that means the independent variable in the model can predict 88.3 percent of the variance in dependent variable. The P-value is given by 0.000 which is less than 0.01, which shows the significance of our model. The values of Durbin-Watson statistics for dependent variables in our case is 1.862, this indicates that there is no autocorrelation exists in our study and the regression models assume that the error deviations are uncorrelated.

Table 4.18

Analysis of Variance (ANOVA)

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	95.343	4	23.836	371.238	.000b
Residual	12.649	197	.064		
Total	107.992	201			

Source: Authors own calculation

Table 4.18 shows that analyze the goodness of fit of the regression line, the analysis of variance (ANOVA) is used. The ANOVA result shows that the multiple regression model is significant for overall model. The total sum of square of deviation of individual observation is 107.992. The regression sum of square or explained sum of square is 95.343and residual or unexplained sum of square is 12.649 and the total degree of freedom is 201.

4.5. Multicollinearity test

The assumption for OLS regression analysis is there should be no multicollinearity among the independent variables. To test this assumption, the study has employed correlation coefficient.

Table 4.19

Correlation Analysis

	CRR	OMO	BR	M2	SLR	SR	IRC
CRR	1						
OMO	0.424 (0.000)	1					
BR	0.478 (0.000)	0.402 (0.000)	1				
M2	0.331 (0.000)	0.374 (0.000)	0.372 (0.000)	1			
SLR	0.475 (0.000)	0.33 (0.000)	0.396 (0.000)	0.486 (0.000)	1		
SR	0.758 (0.000)	0.691 (0.000)	0.717 (0.000)	0.7 (0.000)	0.759 (0.000)	1	
IRC	0.621 (0.000)	0.705 (0.000)	0.733 (0.000)	0.746 (0.000)	0.774 (0.000)	0.982 (0.000)	1

Source: Authors own calculation

The rule of thumb for correlation coefficient result is that the correlation value for the all the variables must not exceed 0.7 in order to be accepted as no multicollinearity. To support this assumption, this study employs the correlation coefficient among the explanatory variables, and confirms no multicollinearity problem exists among the variables. All the variables in this model have correlation coefficient below 0.7 as well as above 0.7, so we can say that the model is not free from the error of multicollinearity. Since correlation coefficient of Spread rate and IRC are higher than 0.7.So, Spread rate and Interest Rate corridor are not free from multicollinearity. They have been excluded from the model in order to get accurate result.

4.6 Summary of the hypotheses test results

Table 4.20.

Result of hypotheses tests

S No.	Alternative Hypotheses	Method Used	Accept/Reject
1	There is a significant relationship between CRR and banks performance	Pearson Correlation	Accept
2	There is a significant and dynamic relationship between OMO and banks performance	Pearson Correlation	Accept
3	There is a significant and dynamic relationship between BR and banks performance	Pearson Correlation	Accept
4	There is a significant and dynamic relationship between M2 and banks performance	Pearson Correlation	Accept
5	There is a significant and dynamic relationship between SLR and banks performance	Pearson Correlation	Reject
6	There is a significant and dynamic relationship between SR and banks performance	Pearson Correlation	Accept
7	There is a significant and dynamic relationship between IRC and banks performance	Pearson Correlation	Accept

Source: Based on survey

Altogether seven hypotheses have been tested in this study to examine the impact of monetary policy on banks performance. Among the seven hypotheses, null hypotheses of no significant relationship for fifth hypothesis were rejected at 1% level of significance. Among the remaining six hypotheses, alternative hypothesis has been accepted.

CHAPTER V

MAJOR FINDINGS, CONCLUSION AND IMPLICATIONS

This chapter comprises the discussion of findings, conclusion drawn from the study and implications. The discussion segment involves the comparison of the findings of this study with the past research studies. The conclusion segment involves the inferences drawn from the study whereas implication segment involves the utility and contribution of the study.

5.1 Major Findings

The major findings from the analysis of data are listed below:

i. The majority of the respondents were well experienced and working in the top position. Almost 98% of the respondents are working for more than 2 years.

ii. Out of 202 respondents, office respondents were 117 and that of the assistant level respondents were 85.Number of officer level is higher than that of assistant level respondents.

iii. Majority of the respondents were working in the commercial banks for more than 5 years. Only very few in number were with less than two years of experience in that field.

iv. The mean value of explanatory variable i.e. cash reserve ratio with bank performances is higher than average 4 which shows that the cash reserve ratio has effect on bank performance. It is sufficient for bank performance i.e P value is less than Alpha 0.000 < 0.01

v. The mean value of explanatory variable i.e. open market operation with bank performances is higher than average 4 which shows that the liberalized open market operation has effect on bank performance. It is significant with bank performance. i.e P value is less than Alpha 0.000 < 0.01

vi. The mean value of explanatory variable i.e. bank rate with bank performances is higher than average 4 which shows that the increase in bank rate has effect on bank performance. It is significant with bank performance. i.e P value is less than Alpha 0.000 < 0.01

vii. The mean value of explanatory variable i.e. broad money supply with bank performances is higher than average which shows that the broad money supply has effect on bank performance. If money supply is higher the bank performance

will be higher. It is sufficient for bank performance. i.e P value is less than Alpha 0.000 < 0.01

viii. The mean value of explanatory variable statutory liquidity ratio with bank performances is lower than average 4 which shows that the statutory liquidity ratio has highly effect on bank performance. If SLR will be increase the bank performance will increase, which shows that higher SLR increase the credit creation of commercial banks. It is insignificant with bank performance. . i.e P value is higher than Alpha.

ix. The mean value of explanatory variable i.e. Spread Rate with bank performances is higher than average which shows that the Spread Rate has effect on bank performance. If spread rate is higher the bank performance will be higher. It is sufficient for bank performance. . i.e P value is less than Alpha 0.000 < 0.01

x. The mean value of explanatory variable i.e. interest rate corridor with bank performances is higher than average 4 which shows that the increase in interest rate corridor has effect on bank performance. It is significant with bank performance. . i.e P value is less than Alpha 0.000 < 0.01

5.2. Conclusion

The purpose of this study was to assess the effect of monetary policy instruments on bank performance. Nepalese commercial banks have been chosen for the study because monetary policy mainly affects commercial banks that also handled the most portion of the economy of the country. The central bank needs to much of concern during issuing the monetary policy in the country.

The identified factors i.e. cash reserve ratio, open market operation, bank rate or policy rate, broad money supply, spread rate and interest rate corridor which influence the bank performance significantly. But, one variable statutory liquidity ratio with bank performance has no significant effect on bank performance as per the result of this study. This study shows that those variables which have significant relationship with dependent variable, is decisive in making better performance of banks or not is crucial for bank performance.

The study confirms the underlying fact in the literature by providing that all the identified variables are essential for the bank performance. But the study reveals that

these factors are properly taken. The aggregate mean responses in the statement developed for most of the variables are above average scale of response meaning these factors are satisfactorily managed by Nepalese banks as well as central banks on Nepal. Only one factor i.e. statutory liquidity ratio has below average effect on bank performance. Except for this one, all other factors are better and effective for bank performance.

In short it can be said that all the identified factors, except for statutory liquidity ratio with bank performance, has significant relationship with the commercial bank performance of Nepal. They are positively correlated with the bank performance.

5.3 Implications

Nepal lacks studies on effect of monetary policy instruments on bank performance and many expected with it. There have been a couple of studies but none of them have dealt with the monetary instrument and its effect on bank performance. Hence, this research provide knowledge about the status of monetary policy and bank performance of Nepal and the factors that need to be taken into consideration during monetary policy issuing to know about bank performance.

For the further study, researchers can also use purely quantitative data to examine on the same objective since this study employs only qualitative data to come up with the results or study could be done by using both type of data. In future, monetary policy instrument will be improved or changed that's why it is more important for further study.

At least, this research shown that one of the independent variable statutory liquidity ratio is insignificant with dependent variable. This is not conformed to the underlying researches and literature. Hence, this study serves as legacy for further researcher to test and validate this unconformity.

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