ASSESSMENT OF EFFECTS OF MONETARY POLICIES ON LENDING BEHAVIOUR OF COMMERCIAL BANKS IN KENYA

BY
JACKLINE KIMANI

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MAY 2013
DECLARATION

I, Jackline Kimani, declare that this research project is my original work and has not been presented for examination in any other university of higher learning.

Signed ................................................................. Date: ...........................................

Jackline Kimani

Reg No. D53/CTY/PT/20781/2010

SUPERVISOR’S APPROVAL

This Research Project has been submitted for examination with my approval as the university supervisor.

Signed ................................................................. Date: ...........................................

Mr. F W S Ndede

Lecturer, Department of Accounting and Finance school of Business

CHAIRMAN’S APPROVAL

This Research Project has been submitted for examination with my approval as the Department Chairman

Signed ................................................................. Date: ...........................................

Mr. F W S Ndede

Chairman, Accounting and Finance Department

Kenyatta University
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I wish to thank my supervisor who has guided me this far. My colleagues in college who have given me a lot of provoking thoughts that led me to understand the research topic
DEDICATION

I wish to dedicate this project to my family for the support they have given me so far.
ABSTRACT

The purpose of this paper was to investigate the effect of monetary policies on the lending behaviour of commercial banks in Kenya. Previously the government did not develop monetary policies but instead gained their legitimacy by acting as lenders of last resort (through the CBK) in the midst of financial crises. Today there is considerable debate surrounding the effects of monetary policies with the emergence of active foreign trading and the need to formulate policies which will stimulate economic growth and maintain a low inflation. Commercial banks are in the business of mobilizing and lending financial resources to borrower’s. The bank lending channel suggests that banks play a special role in the transmission of monetary policies. Commercial banks are profit motivated institutions and their response to monetary policies largely influence their profit margins. The study analysed the response of commercial banks to monetary policies in context of interest rates (cost of lending) and reserves available for lending. The study employed a descriptive research design. The study target population was drawn from the five most profitable commercial banks in Kenya. Purposive sampling was used to select respondents from credit department - lending department of each commercial bank. This study collected both primary and secondary data. Before processing the responses, the completed questionnaires were edited for completeness and consistency. A content analysis and descriptive analysis was employed. The content analysis was used to analyse the respondents’ views about to establish effects of central banks’ monetary policies on the lending behaviour of commercial banks in Kenya. The data was coded to enable the responses to be grouped into various categories. Descriptive statistics such as means, median mode and standard deviation were used to help in data analysis. Tables and other graphical presentations as appropriate were used to present the data collected for ease of understanding and analysis. Further, correlation and regression analysis was conducted to to study the relationship between monetary policies and the lending behaviors of commercial banks. The study established that CBR, cash reserve ratio, open market operation and uncertainty caused by possible outcomes caused by monetary policy changes influences lending behaviour by commercial banks in Kenya.
LIST OF ABBREVIATIONS

CBK: Central Bank of Kenya

CBR: Central Bank Rate

CRR: Cash Reserve Ratio

FSR: Financial Sector Reform

MPC: Monetary Policy Committee

OPM: Open market operations

SAP: Structural Adjustment Programme

UK: United Kingdom
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OPERATIONAL DEFINITION OF TERMS

Monetary policy

These are policies that the government implements to control money supply.

Central Bank Rate (CBR)

This refers to the interest rate that a central bank will charge for private loans that are made to commercial banks.

Open market operations

It’s an activity by a central bank to buy or sell government bonds on the open market.

Cash reserve ratio (CRR)

Proportion of a commercial bank’s deposit liabilities which must be deposited at CBK at no interest.

Inflation

It’s the overall general upward price movement of goods and services in the economy often caused by increase in the supply of money.
CHAPTER ONE

INTRODUCTION

1.1 Background of monetary policies

Bank loans are one of the most important long-term financing sources in many countries (Freixas and Rochet, 2008). In some developed countries like Japan, long term bank loans represent more than 70% of its total long-term debt. The recent cross-country evidence shows that banks in the emerging and developing countries’ economies are reluctant to extend credit to private businesses. Some factors influencing this reluctance are the unstable local government economic policies, the idiosyncratic country legal risk, monetary policies and the riskiness and opacity of business borrowers in these countries. Although there is a broad body of literature that addresses these issues, it either focuses on the demand side of debt (firms access to credit) or on the cross-country variation of bank lending behavior.

In the view of Nwankwo (2000), credit constitutes the largest single income-earning asset in the portfolio of most banks. This explains why banks spend enormous resources to estimate, monitor and manage credit quality. This is understandably, a practice that impact greatly on the lending behaviour of banks as large resources are involved. According to Adedoyin and Sobodun (1991), “lending is undoubtedly the heart of banking business. Therefore, its administration requires considerable skill and dexterity on the part of the bank management”. While a bank is irrevocably committed to pay interest on deposits it mobilized from different sources, the ability to articulate loanable avenues where deposit funds could be placed to generate reasonable income; maintain liquidity and ensure safety requires a high degree of pragmatic policy
formulation and application (Chodechai 2004). However, lending behavior of banks is greatly influenced by a myriad of factors among them monetary policies.

Monetary policy has developed considerably in recent years due to the governments urge to control inflation and to promote economic growth. In the fifties and sixties, monetary policy relied mainly on direct controls. The government often set limits on the amount that financial institutions could lend, and mortgages were effectively rationed. In those days the Bank could exert some control on financial institutions by what was known as 'moral suasion'. Banks and individuals had strict limits on the amounts they could change into other currencies.

Recently Financial sector reform (FSR) has become a major component of the structural adjustment programme in Kenya with the deregulation of interest rates. However, in terms of attention, research efforts in this regard have been minimal, when compared to the efforts into the other components of the programme such as trade liberalization and exchange rate reforms. Even where research is available, emphasis has tended to be placed on the institutional aspects of the programme and here too the focus has been on the banking sub-sector (Ikhide and Alawode 1994). The reasons for this are not far-fetched. Stabilization issues tend to have more far reaching implications, given the structures of most Sub-Saharan African countries and given the nature of imbalances that necessitated the implementation of economic reforms in these countries in the seventies and early eighties. Efforts were geared towards the investigation of current account and government deficits as well as their implications for saving/investment imbalances.

The financial sector in some of these countries is coterminous with the banking system and an examination of the role of the banks in the mobilization of savings for the purpose of bridging the savings/investment gap come naturally with the aforementioned concerns. The central bank has a great role in regulating the financial sector to achieve accelerated economic growth. The
principle objective of the Central Bank of Kenya (CBK) is to formulate and implement monetary policy directed to achieving and maintaining stability in the general level of prices in the economy. To achieve these objectives monetary policy must directly affects bank lending.

1.1.1 Monetary policies in Kenya

The first decade after independence can be characterized as passive in the conduct of monetary policy in Kenya, mainly because no intervention was necessary in an environment of 8% GDP growth and below 2% inflation rate (Kinyua, 2001). The first major macroeconomic imbalance arose in the second decade in the form of 1973 oil crisis and the coffee boom of 1977/78. This came at a time when the fixed exchange rate system had just collapsed with the Britton Woods System in 1971. In these first two decades, monetary policy was conducted through direct tools which were cash reserve ratio, liquidity ratio, credit ceilings for commercial banks, and interest rate controls.

The 1990s brought about the liberalization of the economy where interest rate controls were removed and exchange rate made flexible, ushering in a new era in monetary policy where open market operations (OMO) was the main tool. This was a period characterized by high interest rates and widening interest spread, which inhibited the benefits of flexible interest rate policy such as increasing financial savings and reducing cost of capital. Competing against double digit inflation rate spurred on by excessive money supply and accommodation of troubled banks, CBK used indirect tools to tame inflation in an atmosphere of instability and extreme uncertainty. In 1996, the CBK Act was amended and this allowed the CBK to shift from targeting broad money to targeting broader money as the principal concept of money stock, Kinyua (2001).
The CBK operates under a monetary policy programming framework that includes monetary aggregates (liquidity and credit) targets that are consistent with a given level of inflation and economic growth, KIPPRA (2006). For instance, the banks objective for the fiscal year 2005/2006 was to achieve inflation rate below 5% using quarterly reserve targets. To this end, the CBK set a ceiling for reserve money and a floor for the net foreign assets (NFA). This was the mainstay of monetary policy at least until the introduction of the Central Bank rate CBR. The use of monetary targeting as currently used by the CBK has also been criticized. Monetary aggregate targeting policy is more effective where there exists a stable demand for money relationship dependent on overall economic activity and price level, but this may not be the case in Kenya which has a financial sector which is at a period of growth, making demand for money unstable according to KIPPRA(2006)

The Central Bank largely relies on Open Market Operations (OMO) to implement monetary policy. The Monetary Policy Committee is the organ of the Central Bank of Kenya responsible for formulating monetary policy. The Committee was formed vide Gazette Notice 3771 on 30th April 2008 replacing the hitherto Monetary Policy Advisory Committee (MPAC).The MPC has adopted a gradual tightening of monetary policy to rein in inflationary pressures and stabilize the exchange rate by raising the Central Bank Rate (CBR) from 6.00 percent in May 2011 to 7.00 percent in September 2011. In addition, the Cash Reserve Ratio (CRR) was raised from 4.50 percent to 4.75 percent during the period to reinforce the monetary policy stance. However, following the unusual persistence of these inflationary and exchange rate pressures longer than was earlier anticipated, the MPC enhanced the tightening of monetary policy in December 2011 by raising the CBR further to 18.00 percent. The upward adjustment of the CBR was also expected to provide a signal to banks that interest rates should rise and therefore reduce
expansion in credit to private sector. On average commercial banks increased their lending rates from 15.21 percent to 20.34 percent in March this year. Following an overall decline in inflation and stability in exchange rate the MPC has reduced the CBR to 11 percent (Monetary policy statement (November, 2012).

The current CRR is 5.25 percent of the total bank domestic and foreign currency deposit liabilities of the previous month, Monetary policy Statement (June 2012). An increase in the CRR tightens liquidity and could also dampen demand-driven inflationary pressures.

1.1.2 Commercial Banks in Kenya.

The Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the Central Bank of Kenya (CBK), governs the Banking industry in Kenya. The banking sector in Kenya was liberalized in 1995 and exchange controls lifted. The CBK, which falls under the Minister for Finance’s docket, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and proper functioning of the financial system. The Central Bank of Kenya (CBK) publishes information on Kenya’s commercial banks and non-banking financial institutions, interest rates and other publications and guidelines. The Central Bank of Kenya acts as the main regulator of commercial banks in Kenya (CBK Annual Report, 2009).

The banking industry in Kenya is dominated by a few large banks most of which are foreign-owned, though some are partially locally owned. Six of the major commercial banks are listed on the Nairobi Stock Exchange. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for the banks’ interests and addresses issues affecting member institutions. The commercial banks and non-banking financial institutions
offer corporate and retail banking services but a small number, mainly comprising the larger banks, offer other services including investment banking (CBK Annual Report, 2009).

The banking sector plays a significant role in the implementation of government monetary policies. One of the key services rendered by banks is offering credit to the members of public. The rate at which members of the public are able to access loans and the amounts available for banks to lend are highly guided the CBK regulations. The banks also participate in purchase of government securities for example treasury bills and bonds which is aimed at raising funds for the government and maintaining low inflation levels. CBK also acts as a render of last resort for commercial banks and hence the rate at which banks access credit influences the rate at which they offer credit to the members of the public.

The five most profitable banks in Kenya are KCB, Equity, Barclays, Standard Chartered bank and Cooperative Bank. In the year 2009, Barclays bank topped the list of the most profitable banks with pre-tax profits of 9.002 billion, followed by Standard Chartered Bank at Ksh 6.726 billion, Kenya Commercial Bank with Ksh 6.426 billion was third while Equity with Ksh.5.57 billion and Co-operative Banks with Ksh 3.727 billion took fourth and fifth position respectively, (CBK, 2010). The pretax profits for these banks in the financial year 2011 are as follows. KCB 15.1 billion (a 54% increase from the previous year), Equity bank pre-tax profit Ksh 12.83 billion (42% increase from the previous year), Barclays bank rose to Ksh 12.01 billion (11% increase from the previous year), Standard Chartered Ksh 8.3 billion (8.7% increase) and cooperative bank 6.3 billion (10% increase) (CBK, 2012).
1.2 Statement of the problem

Monetary policy is one of the principal economic management tools that governments use to shape economic performance. Measured against fiscal policy, monetary policy is said to be quicker at resolving economic shocks. Monetary policy objectives are concerned with the management of multiple monetary targets among them price stability, promotion of growth, achieving full employment, smoothing the business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate. Experience shows that emphasis is usually placed on maintaining price stability or ensuring low inflation rates. The effectiveness of monetary policy on the real economy is still an issue under intense debate particularly related to the efficacy of the transmission. Research carried out on the choice of optimal monetary policy instrument for Kenya; Kehoe (2007) suggest further research to accommodate more realistic features in the economy like the exchange rate and foreign trade, the government sector and consumption behavior.

Several research studies have been done in relation to commercial banks in Kenya: Edwin (2010) did a study on challenges faced by the central bank of Kenya in combating money laundering; Gitonga (2010) studied the relationship between interest rate risk management and profitability of commercial banks in Kenya; Kimoro (2010) did a survey of the foreign exchange reserves risk management strategies adopted by the central bank of Kenya and Mbotu (2010) did a study on the impact of the central bank of Kenya rate (CBR) on commercial banks’ benchmark lending interest rates.
Several gaps have been identified in the current literature and research with respect to monetary policies, the literature reveals while there is much effort by the government to influence the money supply by instituting various policies an analysis on the effectiveness of these tools which mainly depends on the reaction of commercial banks is lacking. This study will therefore be motivated to fill the knowledge gap by undertaking study on effects of the various monetary policy tools on lending behaviour of commercial banks in Kenya. Lending forms a backbone for banks. The cost of lending (interest rates) and amounts available to lend is affected by many factors monetary policies being one of them.

1.3 Objectives of the study

1.3.1 General objective of the study

The general objective of this study was to assess the impact of monetary policies on lending behaviour of commercial banks in Kenya.

1.3.2 Specific objectives of the study

The specific objectives of this study were;

i. To determine the impact of central bank rate (CBR) on lending behavior of commercial banks in Kenya.

ii. To establish the effects of cash reserve ratio on lending behaviour of commercial banks in Kenya.

iii. To find out the extent to which open market operations affect lending behaviour of commercial banks in Kenya
iv. To establish the effect of uncertainty arising from expected change in monetary policies on lending behaviour of commercial banks in Kenya.

1.4 Research questions

This study sought to answer the following research questions;

i. In what way do central bank rate affect the lending behaviour of commercial banks in Kenya?

ii. How does cash reserve ratio affect lending behaviour of commercial banks in Kenya?

iii. What is the impact of open market operations on lending behaviour of commercial banks in Kenya?

iv. To what extent does uncertainty arising from expected change in monetary policies influence the lending behaviour of commercial banks in Kenya?

1.5 Importance of the Study

The findings of the study would be important to commercial banks, as they would be able to establish the impact of the various monetary policy tools on their lending behaviour and hence understand their role in attainment of desired economic growth for the country.

The study would also be of importance to various stakeholders in the banking sector among them bank’s customers who are keen to know why the cost of borrowing has suddenly increased in the recent past. Understanding the effect of monetary policy on cost of borrowing would help the consumers to make borrowing decisions.
The study would also benefit the government as it would provide an insight to the effect of monetary policies on lending behaviour of commercial banks. The government partners with banks to ensure price, interest rates and exchange rates stability and enhance economic development through provision of affordable credit.

Also, the results of this study would also be valuable to researchers and scholars, as it would form a basis for further research. Further, this study would contribute to the pool of knowledge into the relationship between of monetary policies and lending behaviours of commercial banks in Kenya and therefore contribute to academic reference materials.

1.6 Scope of the Study

The study focused on five (5) most profitable commercial banks in Kenya. Geographically, the study was in Nairobi where all banks have their headquarters. This research was limited to determine the effects of central banks’ monetary policies on the lending behaviour of commercial banks in Kenya. The researcher took 20 weeks to write proposal, collect and analyze data and present research findings.

1.7 Limitations of the study

The study focused on effects of monetary policies on lending behavior of commercial banks in Kenya. The study was limited to the five most profitable banks in Kenya. Future research on monetary policies should include all credit providers namely; micro finance institutions, mortgage companies, hire purchase companies and utility companies on a wider geographical area.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter contains a review of literature as presented by various authors and scholars based on the objectives of the study. The literature review provides an explanation of theoretical rationale of the problem being studied as well as what research has already been done and how the findings relate to the problem at hand. The chapter discusses the Theoretical review, literature review and empirical review on monetary policy.

2.1.1 Concept of Monetary Policy

Monetary policy refers to the combination of measures designed to regulate the value, supply and cost of money in an economy. It can be described as the art of controlling the direction and movement of credit facilities in pursuance of stable price and economy growth in an economy (Chowdhury, Hoffman and Schabert, 2003). Monetary policy refers to the actions of the Central Bank to regulate the money supply which could be through discretionary monetary policy instruments such as the open market operation (OMO), discount rate, reserve requirement, moral suasion, direct control of banking system credit, and direct regulation of interest rate (Loayza, and Schmidt-hebbel, 2002).

Monetary policy comprises the formulation and execution of policies by the central bank to achieve the desired objective or set of objectives; the policies and decisions are aimed at guiding bank lending rates to levels where credit demand and money growth are at a level consistent with aggregate supply elasticity (Loayza and Schmidt, 2002). The objectives and goals that the
central bank seeks to achieve generally are low inflation (usually targeted), protection of value of currency, full employment and sustainable economic output (economic growth).

Monetary policy covers the monetary aspect of the general economic policy which requires a high level of co-ordination between monetary policy and other instruments of economic policy of the country. The effectiveness of monetary policy and its relative importance as a tool of economic stabilization varies from one economy to another, due to differences among economic structures, divergence in degrees of development in money and capital markets resulting in differing degree of economic progress, and differences in prevailing economic conditions (Faure, 2007). To achieve the desired stabilization in an economy, central banks use various monetary policy instruments which may differ from one country to another according to differences in political systems, economic structures, statutory and institutional procedures, development of money and capital markets and other considerations. Some of the commonly used monetary policies include: changes in the legal reserve ratio, changes in the discount rate or the official key bank rate (Central bank Rate), exchange rates and open market operations.

Monetary transmission mechanism is the mechanism through which changes in money supply affects the decisions of firms, households, financial intermediaries, investors and ultimately alters the level of economic activities and prices it can be thought of as encompassing the various ways in which monetary policy shocks propagate through the economy (Kuttner and Mosser 2002).
2.2 Theoretical Review

2.2.1 Loanable Funds Theory

Under the loanable Funds theory of interest, the rate of interest is calculated on the basis of demand and supply of loanable funds present in the capital market. The loanable funds theory of interest advocates that both savings and investments are responsible for the determination of the rates of interest in the long run while short-term interest rates are calculated on the basis of the financial conditions prevailing in an economy. The determination of the interest rates in case of the loanable funds theory of the rate of interest depends on the availability of loan amounts. The availability of such loan amounts is based on factors like the net increase in currency deposits, the amount of savings made, willingness to enhance cash balances and opportunities for the formation of fresh capitals (Bibow, 2000).

The nominal rate of interest is determined by the interaction between the demand and supply of loanable funds. Keeping the same level of supply, an increase in the demand for loanable funds would lead to an increase in the interest rate and the vice versa. An increase in the supply of loanable funds would result in fall in the rate of interest. If both the demand and supply of the loanable funds change, the resultant interest rate would depend much on the magnitude and direction of movement of the demand and supply of the loanable funds. The demand for loanable funds is derived from the demand from the final goods and services which are again generated from the use of capital that is financed by the loanable funds. The demand for loanable funds is also generated from the government (Bernake, 2000).
The Loanable Funds Theory of the Rate of Interest has similarity with the Liquidity-Preference Theory of Interest in the sense that both of them identify the significance of the cash balance preferences and the role played by the banking sector to ensure security of the investment funds. Wray (1992) in his work titled alternative theories of the Rate of Interest criticizes the liquidity preference theory by pointing out that the rate of interest is not purely a monetary phenomenon. Real forces like productivity of capital and thriftiness or saving by the people also play an important role in the determination of the rate of interest which is ignored by the Keynes liquidity preference theory. Wray adds that liquidity preference is not the only factor governing the rate of interest. There are several other factors which influence the rate of interest by affecting the demand for and supply of investible funds. The liquidity preference theory does not explain the existence of different rates of interest prevailing in the market at the same time. He further notes that Keynes ignores saving or waiting as a means or source of investible fund. To part with liquidity without there being any saving is meaningless. The Keynesian theory only explains interest in the short-run and gives no clue to the rates of interest in the long run. He finally says that Keynes theory of interest, like the classical and loanable funds theories, is indeterminate as one cannot know how much money will be available for the speculative demand for money unless they know how much the transaction demand for money is.

2.2.2 Keynesian Theory

The Keynesian theory stated that some microeconomic-level actions if taken collectively by a large proportion of individuals and firms can lead to inefficient aggregate macroeconomic outcomes, where the economy operates below its potential output and growth rate. Most Keynesians advocate an activist stabilization policy to reduce the amplitude of the business
cycle, which they rank among the most serious of economic problems. Keynes argued that the solution to the Great Depression was to stimulate the economy ("inducement to invest") through some combination of two approaches: a reduction in interest rates and government investment in infrastructure. Investment by government injects income, which results in more spending in the general economy, which in turn stimulates more production and investment involving still more income and spending. The initial stimulation starts a cascade of events, whose total increase in economic activity is a multiple of the original investment.

A central conclusion of Keynesian economics is that, in some situations, no strong automatic mechanism moves output and employment towards full employment levels. This conclusion conflicts with economic approaches that assume a strong general tendency towards equilibrium. In the 'neoclassical synthesis', which combines Keynesian macro concepts with a micro foundation, the conditions of general equilibrium allow for price adjustment to eventually achieve this goal. More broadly, Keynes saw his theory as a general theory, in which utilization of resources could be high or low, whereas previous economics focused on the particular case of full utilization.

Monetary policy transmission through the interest rate channel is based on the traditional Keynesian interpretation of the role of money for real interest rate movements. A change in interest rates affects firm’s investment spending, consumer spending on housing and personal consumption of durable goods. A problematic observation noted by Mishkin (1995) and Bernanke and Gertler (1995) is that interest rates cannot be identified as the most quantitatively important cost-of-capital variable for aggregate spending. The shortcomings in the traditional interest rate channel are explained with financial market imperfections and the credit view of the transmission mechanism.
Mishkin (1995) spells out the differences in the manifestation of the credit channel. A monetary contraction leads to a reduction in bank lending due to a drop in bank deposits, and due to a deterioration of borrowing firms’ balance sheets and a decline in collateral value. A decline in aggregate credit reduces output. Mishkin (1995) points out the reduction in firms’ cash flow and a drop in equity prices following periods of tight money as putting a downward pressure on aggregate lending. Mishkin (1995) mentions consumer liquidity preferences as well, for example consumers would rather hold more liquid assets after a drop in the stock market following a monetary contraction, thus decreasing spending on illiquid assets such as real estate and on durable goods.

2.2.3 Loan Pricing Theory

Banks cannot always set high interest rates, e.g. trying to earn maximum interest income. Banks should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship (Stiglitz and Weiss, 1981). If banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates. Once these borrowers receive the loans, they may develop moral hazard behaviour or so called borrower moral hazard since they are likely to take on highly risky projects or investments (Chodecai, 2004). From the reasoning of Stiglitz and Weiss, it is usual that in some cases we may not find that the interest rate set by banks is commensurate with the risk of the borrowers.

2.2.4 Credit Market Theory

A model of the neoclassical credit market postulates that the terms of credits clear the market. If collateral and other restrictions (covenants) remain constant, the interest rate is the only price
mechanism. With an increasing demand for credit and a given customer supply, the interest rate rises, and vice versa. It is thus believed that the higher the failure risks of the borrower, the higher the interest premium (Ewert et al, 2000).

The increase in demand for credit brought about by low interest rates eventually may lead to depreciation of currency. Central bank therefore must adjust the interest rate to increase the cost of borrowing. Commercial banks in their turn must increase their rates and therefore lending is lowered as credit becomes expensive.

2.2.5 Theoretical Framework

![Diagram of Theoretical Framework]

**Figure 2.1: Theoretical Framework**

2.3 Empirical review

A lot has been reviewed in terms of lending activities of various commercial banks. Some opinions deliberated on the factor responsible for banks willingness to extend much credit to some sector of the economy, while some discussed effect of such extension of credits on productivity and output. Most of these earlier studies agreed on the fact that it is logical for banks to have some basic lending principles or consideration to act as a check in their lending activities. Since there are many studies in respect of bank’s lending behaviour, it is therefore
imperative to highlight and consider some factor that economist and professionals alike have proposed as virtually significant in explaining the determinants of commercial banks lending behaviour.

According to Amidu (2006), bank credit channel has focused on two issues. The first issue centred whether there are categories of borrowers who depend on bank lending in that any change in banks’ willingness to lend immediately affects their investment and spending decisions. The other issue is whether monetary policy changes directly constrain bank lending to borrowers. Both conditions are necessary for bank lending to play a special role in the monetary transmission mechanism. Thus far, research on a credit channel has yielded mixed results. Some recent research provides support for the view that certain borrowers, especially small businesses, are very dependent on banks for financing (Abor, 2004). This finding suggests that disruptions in bank credit could affect economic activity. At the same time, there is also conflicting evidence that bank lending is directly constrained by monetary policy actions (Bernanke and Blinder, 1995). The present study provides additional insight into the second issue, whether bank lending is constrained by monetary policy.

Amidu (2006) noted that for monetary policy to operate through a credit channel, not only must there be bank dependent borrowers, but monetary policy must also directly affect banks’ willingness to lend. To determine whether monetary policy affects bank lending, some studies have examined how banks adjust their portfolios in periods of monetary tightening, while other studies have looked at changes in the price and non-price terms of lending (Romer & Romer, 2000; Bernanke & Blinder, 2002; Gertler & Gilchrist, 2003).

Accordingly, a number of studies have examined how banks adjust loans, securities, and deposit and non-deposit liabilities to changes in monetary policy. Kashyap and Stein (2000), among
others, suggest that the impact of monetary policy on lending behavior is stronger for banks with less liquid balance sheets. In response to a tightening of policy, bank transactions deposits or core deposits fall immediately, then total bank loans decline, but only after a significant lag of two to three quarters. Subsequently, banks are able to maintain lending in the face of a decline in core deposits by selling securities and issuing managed liabilities such as time deposits and Eurodollar borrowings (Bernanke and Blinder, 2002; Gertler and Gilchrist, 2003). Finally, the eventual decline in bank lending is roughly contemporaneous with a decline in economic activity as measured by industrial production (Romer and Romer, 2000). Morris and Sellen (2005) noted that bank lending declines when policy is tightened, the time lags appear quite long. Moreover, the contemporaneous decline in loans and output is consistent with a reduction in lending as it causes output to fall.

However, there is conflicting evidence on effects of monetary policy tightening and lending from banks. Gertler and Gilchrist (2003) conducted a study that specifically looked at how bank business lending responds to policy tightening. Their study reveals that business lending does not decline when policy is tightened. They concluded that the entire decline in total lending comes from a reduction in consumer and real estate loans. Moreover, they added, when the analysis is narrowed further to loans to manufacturing firms, bank lending actually shows a significant increase in response to tighter policy. Indeed, for manufacturing firms, most of the increased lending appears to go to large firms; while loans to small manufacturing firms are largely unaffected by policy tightening.

In contrast to Gertler and Gilchrist (2003) study, Kashyap and Stein (2000) find evidence that business lending may respond to a tightening of monetary policy. They examine the lending behaviour of small and large banks, rather than loans received by small and large firms. They
find that when policy is tightened, both total loans and business loans at small banks fall, while loans at large banks are unaffected. The differential response of small banks may indicate they have less access to alternative funding sources than large banks and so are less able to avoid the loss of core deposits when policy is tightened. Since small banks lend primarily to smaller firms, their finding is consistent with the view that monetary policy may work, in part, through a credit channel. This study aims to find out the effect of central bank rate, cash reserve ratio (reserve requirement), open market operations and uncertainty to lending behaviors of the five most profitable banks in Kenya.

2.3.1 Central bank rate (CBR)

There is general agreement among economists and policymakers that monetary policy works mainly through interest rates. When the central bank policy is tightened through a decrease in reserve provision, for instance, interest rates rise. Interest rate rise means that the banks have to adjust their lending rates upwards. The rise in interest rates leads to a reduction in spending by interest sensitive sectors of the economy, such as housing and consumer purchases of durable goods. Therefore, the cost of credit becomes high and in most cases becomes unaffordable reducing demand for credit.

Some economists and policymakers have argued that an additional policy channel works through bank credit (Keeton, 2001; Stiglitz and Weiss, 2001). In this view, monetary policy directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing. Thus, in the credit channel, restrictive monetary policy works not only by raising interest rates, but also by directly restricting bank credit. However, Gambarcorta and Mistrulli (2004) study in Italian banks during the period 1992 to 2001 using short-term
interest rates and found that well-capitalised banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising.

Interest rate denotes the time value of money as it is the rate at which an amount of money accrues over time. In economic theory, interest is the price paid for inducing those with money to save it rather than spend it, and to invest in long-term assets rather than hold cash. Rates reflect the interaction between the supply of savings and the demand for capital; or between the demand for and the supply of money (O’Hara, 2005).

The Central Bank’s principal objective is formulation and implementation of monetary policy directed to achieving and maintaining stability in the general level of prices. The aim is to achieve low inflation and to sustain the value of the currency. In addition, the Central Bank aims to support Government economic policy of economic growth and employment (Monetary policy Statement, 2008). Interest rate is the price a borrower pays for the use of money they borrow from a lender/financial institutions or fee paid on borrowed assets (Crowley, 2007). Interest can be thought of as "rent of money". Interest rates are fundamental to a “capitalist society” and are normally expressed as a percentage rate over the period of one year.

Low interest rate lowers the cost of borrowing, which results in higher investment activity and the purchase of consumer durables. The expectation that economic activity will strengthen may also prompt banks to ease lending policy, which in turn enables businesses and households to boost spending. In a low interest-rate environment, shares become a more attractive buy, raising households’ financial assets. This may also contribute to higher consumer spending, and makes companies’ investment projects more attractive. Lower interest rates also tend to cause currencies to depreciate. Therefore, the central bank has to counter the depreciation by adjusting
the CBR up to make the cost of borrowing high and thus make the loans unattractive (Crowley, 2007).

Bernanke and Blinder (1995), among other proponents of the bank lending channel, suggest that the effect of monetary policy on aggregate demand through interest rates may be enhanced by financial market imperfections and the existence of imperfect substitutability between loans and securities in bank portfolios and also as a means of borrowing for firms. ECB, 2008 argued that the monetary policy of low interest rates affecting asset prices has led some institutional investors to invest increasingly in credit-related assets in search for higher yield. This has allowed banks to increasingly fund themselves by selling loans in the secondary market, thus potentially boosting the supply of new loans. However, this may also have contributed to a higher value of non-performing loans. (Kashyap and Stein, 2000; Ashcraft, 2006). A decrease in CBR reduces agency costs or may cause banks to relax their lending standards, raising credit risk and thus non-performing loans (Matsuyama, 2007; Dell’Ariccia & Marquez, 2006).

Ioannidou et al., 2008 indicates that in a low interest-rate environment banks have incentives to take on higher risks in search for yield. Still, a major concern for the empirical analysis is the fact that banks respond quite heterogeneously to monetary policy changes and this may also have implications for their risk-taking and profitability, as in the case of lending. The heterogeneous behavior of banks originates from their different balance sheet characteristics. Theory on the bank lending channel identifies incentive mechanisms that work through the capital structure of banks, their liquidity levels and/or their size and argues that these mechanisms may play an important role in altering bank lending when there is a change in policy interest rates (Diamond and Rajan, 2006; Bolton and Freixas, 2006).
2.3.2 Cash Reserve Ratio

The reserve requirement (or cash reserve ratio) is a central bank regulation that sets the minimum fraction of customer deposits and notes that each commercial bank must hold (rather than lend out) as reserves. These required reserves are normally in the form of cash stored physically in a bank vault (vault cash) or deposits made with a central bank. 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 with. Western central banks rarely alter the reserve requirements because it would cause immediate liquidity problems for banks with low excess reserves; they generally prefer to use open market operations (buying and selling government-issued bonds) to implement their monetary policy (Chodechai, 2004).

In banking, excess reserves are bank reserves in excess of the reserve requirement set by a central bank. They are reserves of cash more than the required amounts. Holding excess reserves has an opportunity cost if higher risk-adjusted interest can be earned by putting the funds elsewhere; the advantage of holding some funds in excess reserves is that doing so may provide enhanced liquidity and therefore more smooth operation of payment system.

The reserve requirement can be used as an instrument of monetary policy, because the higher the reserve requirement is set, the less funds banks will have to loan out, leading to lower money creation and perhaps ultimately to higher purchasing power of the money previously in use. The effect is multiplied, because money obtained as loan proceeds can be re-deposited; a portion of those deposits may again be loaned out, and so on.

Usman (2005), commenting on the factors that affect commercial banks’ lending behaviour said that, “the sound and viable functioning of commercial banks in Nigeria is adversely affected by the choice of certain policy instruments for the regulation of banking operations. Such
instruments include a rigidly administered interest rate structure, directed credit, unremunerated reserve requirements and stabilizing liquidity control measures like the stabilization securities of the past”.

Iluwe (1983) also asserted that, “a bank’s ability to grant further advances is checked by the available cash in its vault. Customers’ drawings are paid in two ways, either in cash or through bank accounts. Since cheques have to be met in cash in many cases, commercial banks, therefore, have to stock reasonable quantity of cash to meet customers’ demands”. Where a bank grants advances in excess of its cashing ability, the bank soon runs into difficulty in meeting its customers’ cash drawings.

2.3.3 Open market operations

An open market operation (also known as OMO) is an activity by a central bank to buy or sell government bonds and bills on the open market. A central bank uses them as the primary means of implementing monetary policy. The usual aim of open market operations is to control the short term interest rate and the supply of base money in an economy, and thus indirectly control the total money supply. This involves meeting the demand of base money at the target interest rate by buying and selling government securities, or other financial instruments. Monetary targets, such as inflation, interest rates, or exchange rates, are used to guide this implementation. Federal Reserve has used OMOs to adjust the supply of reserve balances so as to keep the federal funds rate around the target federal funds rate established

Open market operations are the principal instrument in affecting the full range of credit and monetary conditions. As the ultimate source of liquidity to the economy, the System cannot control total bank reserves precisely in the very short run because the monetary system of a
modern economy must be able to respond flexibly to wide week-to-week changes in the demand for currency, bank deposits and credit that are imperfectly predictable as to timing and amount. But the System can and does exert a strong influence over the growth path of total bank reserves, deposits and credit by varying over time the division between reserves provided without strings through open market operations and those provided with strings through the discount window.

Through open market operations, a central bank influences the money supply in an economy directly. Each time it buys securities, exchanging money for the security, it raises the money supply. Conversely, selling of securities lowers the money supply. Buying of securities thus amounts to printing new money while lowering supply of the specific security. The main open market operations are: Temporary lending of money for collateral securities ("Reverse Operations" or "repurchase operations", otherwise known as the "repo" market). These operations are carried out on a regular basis, where fixed maturity loans (of one week and one month for the ECB) are auctioned off; Buying or selling securities ("direct operations") on ad-hoc basis and foreign exchange operations such as forex swaps.

Treasury bills are the least risky and the most marketable of all money market instruments used by the government to raise money by selling bills to the public. T-bills have a maturity period of 91- and 182-day. Principally, sales are conducted via auction, at which investors can submit competitive or non-competitive bids. A competitive bid is an order for a given quantity of bills at a specific offered price. If the bid is high enough to be accepted, the bidder gets the order at the bid price (Madura, 2003, pp. 135-137). Individuals can purchase T-bills directly at auction or on the secondary market from a government securities dealer. T-bills are sold at a discount from face value (cash payment at maturity) and pay no explicit interest payments. At the bill’s maturity, the holder receives from the government a payment equal to the face value of the bill.
(Bodie et al., 2002). T-bills are highly liquid, which means that they can easily be converted to cash and sold at low transaction cost with low price risk. It is therefore a preferred option by the banks to invest in.

Before 2006 the 91 day Treasury bill was the benchmark rate applied to bank that were look to borrow overnight for the central bank. The rate was pegged at the 91 day Treasury bill rate plus a margin normally 3%. As a result it developed as the benchmark rates on which all rates were directly on indirectly pegged to. Prior to 2006 I would expect to find a very strong correlation between the 91 day Treasury bill rate and deposit rates. Treasury bill also influencing the market by creating demand for money from the ‘loanable’ funds market.

Repurchase agreements on the other hand, play a crucial role in the efficient allocation of capital in financial markets. “With a repurchase agreement (REPO), one party sells securities to another for cash with an agreement to repurchase the securities at a specified date and price. In essence, the repo transaction represents a loan backed by the securities (Madura, 2003). The lender has claim to the securities, in the case that the borrower defaults on the loan. Most REPOS are overnight transactions, with the sale taking place one day and being reversed the next day. Long-term repos can extend for a month or even up to one year by being rolled over. A reverse repo refers to the purchase of securities by one party from another with an agreement to sell them. The term is used to describe the opposite side of a REPO transaction. Thus, a repo and a reverse repo can refer to the same transaction but from different perspectives (Wechsler, 1998).

In addition to the commercial paper market, banks use the repo market, the federal funds market, and the interbank market to finance themselves. Repurchase agreements, or “REPOs,” allow market participants to obtain collateralized funding by selling their own or their clients’ securities and agreeing to repurchase them when the loan matures (Markus, 2009). The Kenyan
money market rate is the overnight interest rate at which banks lend reserves to each other to meet the central bank’s reserve requirements. In the interbank market, banks make unsecured, short-term (typically overnight to three-month) loans to each other. The interest rate is individually agreed upon.

While a repo is legally the sale and subsequent repurchase of a security, its economic effect is that of a secured loan. Economically, the party purchasing the security makes funds available to the seller and holds the security as collateral. If the security pays a dividend, coupon or partial redemptions during the repo, this is returned to the original owner. The difference between the sale and repurchase prices paid for the security represents interest on the loan. Indeed, repos are quoted as interest rates (Hull, 1997, p. 50). The dealer thus takes out a one-day loan from the investor and the securities serve as collateral. Repos are considered very safe in terms of credit risk because, in general, the loans are backed by government securities (CBK, 2012). Since they is low risk involved, banks prefer it to loans.

2.3.4 Uncertainty caused by expected outcome of monetary policy

Banks’ lending to the private sector may be influenced not only by monetary policy actions and the movements of macroeconomic aggregates, but also may vigorously respond to variations in macroeconomic uncertainty stirred by expected variation in monetary policies. In particular, macroeconomic uncertainty will affect the cross-sectional distribution of commercial banks’ loan-to-asset ratios. If banks are profit-maximizing enterprises which must acquire costly information on borrowers, then the decision to extend loans to new or existing customers will be affected by both the current and near-term expected state of the macro-economy as dictated by variation in monetary policies. Greater uncertainty about future economic conditions caused by
change in monetary policies (and the likelihood of loan default) will have a clear effect on banks’
lending strategies (Beaudry, Paul, Mustafa Caglayan and Fabio Schiantarelli, 2001). Thus, it is
expected that there will be variations in macroeconomic uncertainty over the business cycle will
affect the banking sector’s asset allocation between loans and securities. Although the common
characterization of monetary policy as “pushing on a string” highlights the importance of
bankers’ sentiment toward the economy’s prospects, these linkages between macroeconomic
uncertainty and the supply of loanable funds are more general questions than those of how banks
behave during monetary policy contractions or expansions (Hoshi, Takeo, David Scharfstein, and
Monetary policy changes directly constrain bank lending to borrowers. Borrowers who depend
on bank lending are affected in that any change in banks’ willingness to lend immediately affects
their investment and spending decisions. When it is not certain on the changes in the
monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing
loans (Kashyap, Anil K., Owen A. Lamont, and Jeremy C. Stein, 2004).
The uncertainty may lead to herding behaviour by commercial banks. The banks therefore in the
uncertainty mimic the behaviour of the leading institutions. According to Chang, Cheng, and
Khorana, (2000) herding refers to the cases where banks make the same or similar risk-taking,
management, and asset holding decisions. They further explained that herding can occur either
when banks sharing the same information or facing similar circumstances rationally make similar
decisions, or when banks intentionally mimic the lending behavior of each other. Herding among
banks may create or facilitate a number of potential problems, given the important role of banks
in the economy. These problems include deterioration of lending standards, misallocation of
lending resources, asset price bubbles, increased systemic risks, and exacerbation of the business cycle (Barron and Valev 2000; Stever and Wilcox 2007).

2.4 Conceptual framework

According to Mugenda and Mugenda (2003), a conceptual framework helps the reader to quickly see the proposed relationships been variables in the study. This section discusses the conceptual framework for analyzing effects of various monetary tools on lending behavior of commercial banks in Kenya. The conceptual framework comprises of independent and dependent variables. According to Bryman et al (2007) the variables are referred to as the building blocks of theory. The conceptual framework comprises of five independent variables which the researcher feels will influence the lending behavior of commercial banks. They include central bank rate, open market operations, cash reserve requirement and uncertainty arising from expected change in monetary policies. This is represented in figure 2.2 below.

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central bank rates</td>
<td>Bank Lending Behavior</td>
</tr>
<tr>
<td>Cash Reserve Ratio</td>
<td></td>
</tr>
<tr>
<td>Open market Operation</td>
<td></td>
</tr>
<tr>
<td>Uncertainty arising from expected change in monetary policies</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2.2: Conceptual framework**

**Source:** Author, 2012
Open Market operations is the buying and selling of government securities (treasury bills and bonds) by the CBK in the money market in order to achieve a desired level of money in circulation. When the Central Bank sells securities, it reduces the supply of money in the economy as investors give the CBK money in exchange for the securities and when it buys securities it increases the supply of money in the market. Commercial banks participate in purchase of government securities.

Cash Reserve Ratio is the proportion of customer’s deposits that commercial banks are required by law to deposits with the CBK. An increase in this proportion reduces the amount of money available for commercial banks to lend and reduces money supply further while a reduction has the opposite effect.

Central bank rate (CBR) refers to the interest rate the CBK charges the commercial banks. The CBR influences the interest rate commercial banks charge on loans to the public.

Uncertainty caused by unexpected outcomes from monetary policies: banks’ lending may be affected by uncertainty from expected outcomes of changes in monetary policy. For example, when it is expected that that CB rates will go up commercial bank lending is influenced.
2.5 Operationalization

Central bank rates
  High
  Low

Cash Reserve Ratio
  High
  Low

Open market Operation
  Treasury bills
  Treasury bonds
  Foreign exchange
  Repurchase agreement

Uncertainty
  Unfavorable outcomes
  Favorable outcomes

Bank Lending Behavior
  Enhanced
  Reduced

Independent Variables and Statistics

Dependent Variable

Figure 2.3: Operationalization
CHAPTER THREE:

RESEARCH METHODOLOGY

3.1 Introduction

This chapter involves a blueprint for research methodology which presents the research design, population, sample size, sampling technique, nature of data to be used by the study, data collection tools, pretesting of research instruments, data collection procedure, measurement and analysis. Therefore, this section sets to answer the research question raised in the study. To achieve the objective of this chapter, it therefore included research design, target population, data collection instruments, data collection procedures and finally data analysis techniques.

3.2 Research Design

The study employed a descriptive research design as descriptive research design helps describe the state of affairs as it is at present. A descriptive study attempts to describe or define a subject, often by creating a profile of a group of problems, people, or events, through the collection of data and tabulation of the frequencies on research variables or their interaction as indicated by Cooper and Schindler (2003). Descriptive research is more rigid than an exploratory research and seeks to describe uses of a product, determine the proportion of the population that uses a product, or predict future demand for a product. Kombo and Tromp (2006) notes that the choice of descriptive survey research design is made in a study when the research is interested on the state of affairs already existing in the field and no variable would be manipulated.
These descriptions of a descriptive research matched the purpose of this study, as the intention of this study was to establish the effects of monetary policies on lending behaviour of commercial banks in Kenya taking a case of the five (5) most profitable banks in Kenya. Through the questionnaire the researcher was able to estimate the extent to which each of the monetary tool affect the lending behaviour. The main reason for using descriptive research design in this study was to ensure the in depth description of the state of affairs as it exists at the present.

To study the relationship between monetary policies and the lending behaviors of commercial banks, the study used the following regression model:

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon \]

Where: \( Y \) = Bank Lending; \( \beta_0 \) = Constant Term; \( \beta_1, \beta_2, \beta_3 \) and \( \beta_4 \) = Beta coefficients; \( X_1 \) = CBR; \( X_2 \) = Cash Reserve Ratio; \( X_3 \) = Open Market operations; \( X_4 \) = Uncertainty; \( \varepsilon \) = Error term

### 3.3 Target Population

The population of interest of this study was employees in the five (5) most profitable commercial Banks operating in Kenya. The study was conducted in the headquarters in Nairobi. The target populations in the banks are the heads of credit section.

### 3.4 Sampling Techniques

Purposive sampling was used to select respondents from credit department - lending department of each commercial bank, the study had 53 respondents who were used in data collection. The target sample in credit department was selected since they are the main drivers of lending policies and practices in commercial banks.
Table 3.1: Population of the Study

<table>
<thead>
<tr>
<th>Departments</th>
<th>Population</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity Bank</td>
<td>12</td>
<td>22.6</td>
</tr>
<tr>
<td>Cooperative Bank</td>
<td>9</td>
<td>17.0</td>
</tr>
<tr>
<td>Standard Chartered Bank</td>
<td>8</td>
<td>15.1</td>
</tr>
<tr>
<td>KCB</td>
<td>13</td>
<td>24.5</td>
</tr>
<tr>
<td>Barclays Bank</td>
<td>11</td>
<td>20.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>53</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

3.5 Sample size

The sample was drawn from the five most profitable commercial banks in Kenya using purposive sampling. The decision for a purposive sample to select the credit heads was borne out of the fact that they are involved in formulation of lending policies in the banks and therefore lending behaviour of the banks is much dependent on this department. However, since the population of the study is small, a census of the entire study population will be conducted.

3.6 Data Collection Methods and Procedures

3.6.1 Type and Sources of Data

The two mostly used sources of data involve collecting primary data and secondary data. This study collected both primary and secondary data. Primary data was collected using questionnaires. On the other hand secondary data was collected from newspapers, published books, journals, magazines and company handbook.
3.6.1 Data Collection Instruments

Primary data was collected by the use of questionnaires distributed to the respondents who are work in credit departments in the commercial banks. A semi-structured questionnaire was used as the research instrument to collect the data. A questionnaire is a collection of items to which respondents are expected to react, usually in writing. The study was concerned with variables which cannot be directly observed such as opinion, perception and feelings of respondents which can best be obtained through a questionnaire. A questionnaire is used to collect a lot of information over a short period of time. It was used since the respondents are literate. Again information required could easily be described in writing. The questionnaire was developed to address the research objectives. Questions to address each research question were included. Secondary data was collected from relevant journals, in house publications by banks, the banking survey, CBK reports, banks financial report and the internet.

3.6.2 Validity of Research Instrument

According to Fraenkel and Wallen (2000) validity is the quality attributed to proposition or measures to the degree to which they conform to establish knowledge or truth. An attitude scale is considered valid, to the degree to which its results conform to other measures of possession of the attitude. Validity therefore refers to the extent to which an instrument can measure what it ought to measure. It therefore refers to the extent to which an instrument asks the right questions in terms of accuracy. Mugenda and Mugenda (2003) validity is the accuracy and meaningfulness of inferences, which are based on research results.
The content validity of the instrument determined in two ways. First the researcher discussed the items in the instrument with the supervisors and lecturers from the department. These people are expected to indicate by tick or cross for every item in the questionnaire if it measures what it is supposed to measure or not. The advice includes suggestions, clarifications and other inputs in order.

Secondly, content validity of the instrument was determined through piloting, where the responses of the subjects are checked against the research objectives. This also gives a reason as to why content was used. For a research instrument to be considered valid, the content selected and included in the questionnaire must be relevant to the variable being investigated argues Mutai (2000).

3.6.3 Reliability of the Instrument

Reliability refers to the consistency of measurement. Reliability is increased by including many similar items on a measure, by testing a diverse sample of individuals and by using uniform testing procedures. Reliability gives the internal consistency of data collected. This ensures that the data has certain internal consistent pattern. When no pattern is found in the responses, this indicates that probably the test is too difficult and as a result the respondents just guess the answers randomly.

Reliability of the research instrument was enhanced through a pilot study that was done in other bank, other than those used in this study, selecting a pilot group of 10 respondents. The respondents were conveniently selected since statistical conditions are not necessary in the pilot study (Cooper and Schindler, 2003). The pilot data was not included in the actual study. The pilot study allowed for pre-testing of the research instrument. This reliability estimate was
measured using Cronbach Alpha coefficient (α). Nunnally (1978) recommends that instruments used in research should have reliability of about 0.70 and above.

3.6.4 Administration of Research Instruments

The researcher personally administered the questionnaires to the respondents and picked them later for analysis using drop and pick later method.

3.7 Data Analysis and Presentation

The researcher edited completed questionnaires completeness and consistency. Data clean-up followed; this process involves editing, coding, and tabulation in order to detect any anomalies in the responses and assign specific numerical values to the responses for further analysis. The data was then analyzed using descriptive statistics and content analysis. The descriptive statistical tools (SPSS version 20 and Excel) helped the researcher to describe the data. The Likert scale was used to analyze the mean score and standard deviation. The findings were presented using tables and graphs for further analysis and to facilitate comparison. This generated quantitative reports through tabulations, percentages, and measure of central tendency. The content analysis was used to analyze the respondents’ views about to establish effects of monetary policies on the performance the five most profitable commercial banks in Kenya. On testing the relationship between central bank rates and lending behaviors, the study looked at loan portfolio performance in the last three years quarterly.

The researcher further employed a Pearson’s product moment correlation analysis multivariate and regression model to study the relationship between monetary policies and the lending behaviors of commercial banks. The research deemed regression method to be useful for its
ability to test the nature of influence of independent variables on a dependent variable. Regression is able to estimate the coefficients of the linear equation, involving one or more independent variables, which best predicted the value of the dependent variable. Further, correlation analysis was done to illustrate the direction of relationship between the independent variables and the dependent variable.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

4.1 Introduction

This chapter covers data analysis and findings of the research. The study aimed to assess the effect of monetary policies on the lending behaviors of commercial banks in Kenya. It therefore sought to answer the following research questions, way in which central bank rate; cash reserve ratio open market operations and uncertainties arising from expected change in monetary policies influence the lending behaviour of commercial banks in Kenya. The data is summarized and presented in the form of proportions, means, and tables. Data was collected from forty five (45) employees in the five most profitable banks in Kenya. The collected data has been analyzed and interpreted in line with the aims of the study namely, to determine the impact of central bank rate (CBR) on lending behavior of commercial banks in Kenya, to establish the effects of cash reserve ratio on lending behaviour of commercial banks in Kenya, to find out the extent to which open market operations affect lending behaviour of commercial banks in Kenya and finally to establish the effect of uncertainty arising from expected change in monetary policies on lending behaviour of commercial banks in Kenya. The respondents were drawn from credit department.
4.1.1 Response Rate

Table 4.2: Response Rate

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>45</td>
<td>84.9</td>
</tr>
<tr>
<td>Non Response</td>
<td>8</td>
<td>15.1</td>
</tr>
<tr>
<td>Total</td>
<td>53</td>
<td>100</td>
</tr>
</tbody>
</table>

Out of the fifty three (53) employees who were sampled and the questionnaires were administered, forty five (45) responded. This gave a response rate of 84.9% percent. This response rate was adequate and conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This response rate was due to extra efforts were made via personal calls and visits to remind the respondent to fill-in and return the questionnaires.

4.2 Reliability test results

A pilot study was carried out to determine reliability of the questionnaires. The pilot study involved 10 respondents. Reliability analysis was subsequently done using Cronbach’s Alpha which measures the internal consistency by establishing if certain items within a scale measure the same construct.

Table 4.3: Reliability Analysis

<table>
<thead>
<tr>
<th></th>
<th>Cronbach's Alpha</th>
<th>Number of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Bank Rate (CBR)</td>
<td>.967</td>
<td>4</td>
</tr>
<tr>
<td>Cash Reserve Ratio</td>
<td>.809</td>
<td>4</td>
</tr>
</tbody>
</table>
Nunnally (1978) recommends that instruments used in research should have reliability of 0.70 and above, thus forming the study’s benchmark. Cronbach Alpha was established for every objective which formed a scale. The table below shows that central bank rates had the highest reliability ($\alpha=0.967$), followed by cash reserve ratio ($\alpha=0.809$), uncertainty was third ($\alpha=0.740$) and then finally open market operations ($\alpha=0.709$). This illustrates that all the four scales were reliable as their reliability values exceeded the prescribed threshold of 0.7. This therefore depicts that the research instrument was reliable and therefore required no amendments.

4.3 Demographic Information of the Employee

The study sought to establish the respondents duration of service in the bank.

![Figure 4.4: Duration of service in the bank](image)

**Source: Research Data 2012**
The above Figure 4.1 indicates that most of the respondent (38%) indicated that they had worked in the bank for a period between 2 and 5 years, 30% indicated that they had worked in the bank for 5 to 10 years, 18% for more than 10 years while 14% said that they had been in bank for less than 2 years. This illustrates that majority of the respondents (68%) had been in the bank for 5 years and more which depicts that they had been in the organization long enough and could therefore offer reliable information as sought by the study.

Further, the study aimed at establishing the age bracket in which respondents age fell. The figure below presents this data.

![Figure 4.5: Age of the Respondents](image)

Most of the respondents, 46%, were aged between 25 and 34 years, 32% were between 35 and 44 years of age, 10% were below 25 years while 8% and 4% were between 45 and 54 years and above 55 years respectively. This illustrates that majority of the respondents were above 25 years and thus were considered mature and therefore beneficial to the study as they would give reliable information as sought by the study.

The study also required that the respondents gave their highest level of education. The research data are as presented in Table 4.3.
Table 4.4: Respondents Education Qualification

<table>
<thead>
<tr>
<th>Education Qualification</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diploma</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>PhD</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

From the table above, majority of the respondents (52%) had Bachelor’s degree, 22% had Master’s degree, 20% were Diploma holders while 6% had PhD as their highest level of academic qualification. This indicates that the respondents in this study had high level of academic qualification and thus were considered ideal in this study as they would be relied upon to give informed opinion as sought by the study.

The study sought to establish the extent Central Banks’ Monetary Policy affect lending behaviour of commercial banks in Kenya. The results are as indicated in the figure 4.3 below.

Figure 4.6: Extent Monetary Policy affect lending behaviour of commercial banks
The Figure 4.3 above indicates that, according to majority of the respondents, 58%, Monetary policy affect lending behaviour of commercial banks to a great extent, 20% said that it influences to a moderate extent, 12% indicated that it influences to a very great extent while 8% and 2% said that monetary policy affect lending behaviour of commercial banks to a little extent and to no extent respectively. This depicts that monetary policy influences lending behaviour of commercial banks to a great extent.

Table 4.4 below presents data on the level of agreement from the respondents with statements related to monetary policy and lending behaviour of commercial bank in Kenya.

Table 4.5: Monetary Policy and Lending Behaviour of Commercial Bank

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the credit channel, restrictive monetary policy works not only by raising interest rates, but also by directly restricting bank credit</td>
<td>4.1429</td>
<td>1.36753</td>
</tr>
<tr>
<td>When the central bank policy is tightened through a decrease in reserve provision, interest rates rises</td>
<td>4.3986</td>
<td>1.41238</td>
</tr>
<tr>
<td>Using short-term interest rates, well-capitalized banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising</td>
<td>4.1571</td>
<td>1.35417</td>
</tr>
<tr>
<td>Monetary policies induce changes in interest rates, and the amount of money and credit in the economy to minimize excessive price fluctuations, and promote economic growth</td>
<td>4.4821</td>
<td>1.33473</td>
</tr>
</tbody>
</table>
Majority of the respondent strongly agreed that monetary policies induce changes in interest rates, and the amount of money and credit in the economy to minimize excessive price fluctuations, and promote economic growth as indicated by a mean score of 4.4821. They also strongly agreed that when the central bank policy is tightened through a decrease in reserve provision, interest rates rise as indicated by a mean score of 4.3986. They were further in agreement with statements that using short-term interest rates, well-capitalized banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising as indicated by a mean score of 4.1571 and that in the credit channel, restrictive monetary policy works not only by raising interest rates, but also by directly restricting bank credit as indicated by a mean score of 4.1429.

4.4 Effects of Monetary Policies on Lending Behaviour of Commercial Banks

4.4.1 Effects of Central Bank Rate

The study sought respondents opinion on the extent central bank rate affects lending behaviour of commercial banks in Kenya. The results are as indicated in the figure below.

![Figure 4.7: Extent Central Bank Rate affects Lending Behaviour](image-url)
Majority of the respondents indicated that central bank rate affects lending behaviour of commercial banks in Kenya to a great extent, 26% said that it influences to a moderate extent, 14% to a very great while 6% and 2% indicated that central bank rate affects lending behaviour of commercial banks in Kenya to a low extent and to no extent at all.

Further, to establish the effect of central bank rate on lending behaviour of commercial banks in Kenya, the study sought to the central bank rate trend in the 5 years prior to the study. The data findings are as indicated in the Table 4.5 below

### Table 4.6: 5 year central bank rate trend

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reducing</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Fluctuating</td>
<td>31</td>
<td>62</td>
</tr>
<tr>
<td>Steady</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Rising</td>
<td>15</td>
<td>30</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

According to majority of the respondents (62%), CBR have been fluctuating in the 5 year prior to the study. 30% of the respondents indicated that the rates had been increasing, while 6% and 2% said that central bank rate in Kenya had been steady and reducing respectively in the 5 year period prior to the study.

Also, the study sought respondents’ opinion on whether above trend had any effect on lending behaviour of your bank had. The data finding are presented in the Figure 4.5 below.
According to the Figure 4.5 above, majority of the respondents, 64% indicated that indeed, CBR trend had effect on lending behaviour of banks while the rest (36%) felt otherwise. This depicts that unstable CBR influences bank lending due to uncertainties that results.

Since the study established that the trend of CBR influenced banks’ lending behaviour, the study sought to establish further the rate of this effect. The data effect is as presented in the table below.

**Table 4.7: Effect of CBR trend on banks’ lending behaviour**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negligible</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Low</td>
<td>9</td>
<td>18</td>
</tr>
<tr>
<td>Moderate</td>
<td>11</td>
<td>22</td>
</tr>
<tr>
<td>High</td>
<td>22</td>
<td>44</td>
</tr>
<tr>
<td>Very high</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

According to the Table 4.6 above, most of the respondents, 44%, indicated that the CBR trend effect on bank lending behaviour was high, 22% said that the effect was moderate and 18%
indicated that CBR rates trend had low influence on banks’ lending behaviour. Also, 10% of the respondents indicated that CBR trend effect on bank lending behaviour was very high while 6% indicated that it was negligible.

According to the respondents, the effect of CBR trends was indicated to have led to herding behaviour by commercial banks where the banks mimic the behaviour of the leading banks. It has also caused conservative banks to withhold credit for fear of losing when rates changes due to default in payment by the customers. Further, this change in banks willingness to lend affects borrowers who depend on bank lending as their investment and spending decisions are altered.

The study also sought respondents’ agreement with following statements related to central bank rate. The data finding is as presented on table below.

**Table 4.8: Central Bank Rate and Lending Behaviour**

<table>
<thead>
<tr>
<th>Monetary policy works mainly through interest rates</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low interest rate lowers the cost of borrowing and therefore banks attract new loans demands.</td>
<td>4.0357</td>
<td>1.2494</td>
</tr>
<tr>
<td>The central bank rate (CBR) eventually influences the cost of lending for commercial banks.</td>
<td>4.3571</td>
<td>1.3517</td>
</tr>
<tr>
<td>Rise in CBR directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing</td>
<td>4.1571</td>
<td>1.1324</td>
</tr>
<tr>
<td>Rise in CBR directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing</td>
<td>3.5714</td>
<td>1.1730</td>
</tr>
</tbody>
</table>
Majority of the respondents strongly agreed that low interest rate lowers the cost of borrowing and therefore banks attract new loans demands as shown by a mean score of 4.3571. Further, the respondents were in agreement with the statement that central bank rate (CBR) eventually influences the cost of lending for commercial banks as shown by a mean score of 4.1571, that monetary policy works mainly through interest rates as shown by a mean score of 4.0357 and that rise in CBR directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing as shown by a mean score of 3.5714.

4.4.2 Effects of Cash Reserve Ratio

In this section, the study aims at establishing the effect of cash reserve ratio on bank lending behaviour. It therefore seeks respondents’ opinion on the extent of the effect if any and also possible ways in which bank lending behaviour is influenced by cash reserve ratios.

The study required the respondents to indicate whether cash reserve ratio has any effect on bank lending behaviour. The data finding are presented on the Table 4.8 below.

**Table 4.9: Whether cash reserve ratio has effect on bank lending behaviour**

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>42</td>
<td>84</td>
</tr>
<tr>
<td>No</td>
<td>8</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>50</td>
<td>100</td>
</tr>
</tbody>
</table>

According to the majority of the respondents (84%) cash reserve ratio has effect on bank lending behaviour. However, 16% of them felt that cash reserve ratio has no effect on bank lending behaviour. This indicates that cash reserve ratio has effect on bank lending behaviour.
The respondents were required by the study to rate the effects of cash reserve ratio on lending
behaviour of their banks. The data findings are presented on the Figure 4.6 below.

![Figure 4.6: Effects of Cash Reserve Ratio on Lending Behaviour of Banks](chart)

**Majority of the respondents (50%) indicated that cash reserve ratio influence on lending
behaviour of banks was high, 20% said that it was low, 18% indicated that it was moderate while
8% and 4% said that cash reserve ratio influence on lending behaviour of banks was very high
and negligible respectively.**

Respondents indicated that cash reserve ratio influences the country's borrowing and interest
rates by changing the amount of funds available for banks to make loans with. Further, they
indicated that a bank’s ability to grant further advances is checked by the available cash in its
vault. It also indicated that alteration of the reserve requirements may cause immediate liquidity
problems for banks with low excess reserves and therefore CBK should maintain cash reserve
ratio at constant levels to minimize its effect on lending by commercial banks.

The respondents were presented with statement related to cash reserve ratio and influence on
lending behaviour of the banks. The study required that the respondents indicate their level of
agreement with the presented statements.
Table 4.10: Cash Reserve Ratio and Lending Behaviour of Commercial Banks

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve ratio is used as a tool in monetary policy, influencing the banks’ lending and interest rates by changing the amount of funds available for banks to make loans with.</td>
<td>3.8342</td>
<td>.22622</td>
</tr>
<tr>
<td>Reserve requirements cause immediate liquidity problems for banks with low excess reserves thereby influencing lending and payment systems in the commercial banks concerned.</td>
<td>4.3547</td>
<td>.43863</td>
</tr>
<tr>
<td>Holding some funds in excess reserves provides enhanced liquidity and therefore more smooth operation of payment system.</td>
<td>4.2562</td>
<td>.68223</td>
</tr>
<tr>
<td>The higher the reserve requirement is set, the less funds banks will have to loan out, leading to lower money creation and perhaps ultimately to higher purchasing power of the money.</td>
<td>3.9635</td>
<td>.65337</td>
</tr>
</tbody>
</table>

Majority of the respondents strongly agreed that reserve requirements cause immediate liquidity problems for banks with low excess reserves thereby influencing lending and payment systems in the commercial banks concerned as illustrated by a mean score of 4.3547 and that holding some funds in excess reserves provides enhanced liquidity and therefore more smooth operation of payment system as illustrated by a mean score of 4.2562. Further, they were in agreement with the statements that the higher the reserve requirement is set, the less funds banks will have to loan out, leading to lower money creation and perhaps ultimately to higher purchasing power of...
the money as illustrated by a mean score of 3.9635 and that reserve ratio is used as a tool in monetary policy, influencing the banks’ lending and interest rates by changing the amount of funds available for banks to make loans with as illustrated by a mean score of 3.8342.

4.4.3 Open Market Operations

In this section, the study sought to establish the effect of open market operations on lending behaviour of commercial banks in Kenya. The study sought to find out whether the banks targeted participated in open market operations, the extent and the level of engagement with various forms of open market operations.

![Figure 4.10: Whether bank participate in open market operations](image)

The figure 4.7 above indicates that 92% of the respondents indicated that their banks participated in open market operations. Only 8% of them said that their banks did not participate in in open market operations. This illustrates that commercial banks in Kenya participates in open market operations.
Further, the study aimed at finding out the extent to which commercial banks in Kenya participated in open market operation.

Table 4.11: Extent commercial banks participated in open market operation

<table>
<thead>
<tr>
<th>Extent</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not at all</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Low extent</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td>Moderate extent</td>
<td>12</td>
<td>24</td>
</tr>
<tr>
<td>Great extent</td>
<td>26</td>
<td>52</td>
</tr>
<tr>
<td>Very great extent</td>
<td>5</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>50</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Table 4.10 above indicates that majority of the respondents (52%) were of the opinion that their banks participated in open market operation to a great extent, 24% indicated that their banks participated to a moderate extent, 10% said that their banks participated in open market operations to a very great extent. Further, 8% were of the opinion that their banks did not participate in open market operations at all while 6% said that their banks participated to a low extent.

The study required the respondents to state the extent their banks participated in the following forma of open market operations. The data findings are as presented in the Table 4.11 below.
Table 4.12: Open Market Operations

<table>
<thead>
<tr>
<th>Open Market Operations</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury Bonds</td>
<td>4.3826</td>
<td>.70844</td>
</tr>
<tr>
<td>Treasury Bills</td>
<td>4.4826</td>
<td>.76871</td>
</tr>
<tr>
<td>REPOs and reverse REPOs</td>
<td>4.0451</td>
<td>.71244</td>
</tr>
<tr>
<td>Inter-bank borrowing</td>
<td>4.1836</td>
<td>.95147</td>
</tr>
<tr>
<td>Forex trading</td>
<td>4.4134</td>
<td>.45631</td>
</tr>
</tbody>
</table>

Majority of the respondents indicated that the open market operations activities that their banks participated in to a very great extent were Forex trading as shown by a mean score of 4.4334, Treasury Bills as shown by a mean score of 4.4126 and Treasury Bonds as shown by a mean score of 4.3826. Further, they indicated that their banks also participated to a great extent in Inter-bank borrowing as shown by a mean score of 4.1836 and REPOs and reverse REPOs as shown by a mean score of 4.0451.

The respondents were required by the study to indicate their level of agreement with the following statements that relates to open market operation. The findings are as presented on the table below.
Table 4.13: Open Market Operation and commercial bank lending behaviour

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open market operations provides the bank with low risk investments with certainty in pay off and therefore banks may prefer OMO</td>
<td>4.4242</td>
<td>.70813</td>
</tr>
<tr>
<td>OMO are used regulate money in supply and therefore changes the levels of money available to the bank for lending</td>
<td>4.1818</td>
<td>.76871</td>
</tr>
<tr>
<td>Banks can time their purchases of bonds and stocks to their particular views of long-term interest rates and stock prices.</td>
<td>4.1515</td>
<td>.71252</td>
</tr>
<tr>
<td>OMO controls the short term market interest rate of base money in an economy, and thus indirectly control the total money supply and therefore influence lending by the bank</td>
<td>4.2342</td>
<td>.34522</td>
</tr>
</tbody>
</table>

Majority of the respondents indicated that they strongly agreed to the statements that open market operations provides the bank with low risk investments with certainty in pay off and therefore banks may prefer OMO as shown by a mean score of 4.4242 and that OMO controls the short term market interest rate of base money in an economy, and thus indirectly control the total money supply and therefore influence lending by the bank as shown by a mean score of 4.2342. They were further in agreement with statements that OMO are used regulate money in supply and therefore changes the levels of money available to the bank for lending as shown by a mean score of 4.1818 and that banks can time their purchases of bonds and stocks to their particular views of long-term interest rates and stock prices as shown by a mean score of 4.1515.
4.4.4 Uncertainty Caused by Expected Outcome of Monetary Policy

In this section, the study seeks to establish the contribution of uncertainty caused by expected outcome of monetary policy on lending behaviour of commercial banks and the extent uncertainty influences lending behaviour of the bank.

**Figure 4.11: Whether uncertainty influences lending by Commercial Banks**

According to the Figure 4.8 above, majority of the respondents (74%) indicates that uncertainty caused by expected changes in monetary policies influences banks’ lending behaviour. However, 26% of the respondents indicated that expected changes in monetary policies do not influence commercial banks’ lending behaviour.

The Figure 4.9 below presents data on the extent to which uncertainty influences lending behaviour of commercial bank.

**Figure 4.12: Extent to which uncertainty influences lending behaviour**
Most of the respondents (46%) said that uncertainty influences lending behaviour of commercial bank to a great extent, 30% indicated that it influences lending behavior to a moderate extent, 14% to a low extent while 8% and 2% said that uncertainty influences lending behaviour of commercial bank to a very great extent and to no extent at all. These results indicate that uncertainty influences lending behaviour of commercial bank to a great extent.

The study also sought to find out respondents level of agreement with the following statement related to uncertainty and lending behaviour of commercial banks. The results are as presented on the table below.

**Table 4.14: Uncertainty and commercial banks’ lending behaviour**

<table>
<thead>
<tr>
<th>Statements</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in expectations about economic prospects and policies, through their effects on interest rates and financial conditions, can have significant influence on the outcomes for jobs, output and prices</td>
<td>3.8424</td>
<td>.96825</td>
</tr>
<tr>
<td>Decision to extend loans to new or existing customers by banks will be affected by both the current and near–term expected state of the macro-economy as dictated by variation in monetary policies</td>
<td>4.2763</td>
<td>.74352</td>
</tr>
<tr>
<td>Borrowers who depend on bank lending are affected in that any change in banks’ willingness to lend immediately affects their investment and spending decisions</td>
<td>4.0346</td>
<td>.70844</td>
</tr>
</tbody>
</table>
When it is not certain on the changes in the monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing loans

<table>
<thead>
<tr>
<th>Statement</th>
<th>Mean Score</th>
<th>Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uncertainty may lead to herding behaviour by commercial banks</td>
<td>4.2562</td>
<td>.68223</td>
</tr>
</tbody>
</table>

According to the table above, majority of the respondents strongly agreed that decision to extend loans to new or existing customers by banks will be affected by both the current and near-term expected state of the macro-economy as dictated by variation in monetary policies as indicated by a mean score of 4.2763. Further, they strongly agreed that uncertainty may lead to herding behaviour by commercial banks as indicated by a mean score of 4.2562 and that when it is not certain on the changes in the monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing loans as indicated by a mean score of 4.2363. they were also in agreement with the statement that borrowers who depend on bank lending are affected in that any change in banks’ willingness to lend immediately affects their investment and spending decisions as indicated by a mean score of 4.0346 and that changes in expectations about economic prospects and policies, through their effects on interest rates and financial conditions, can have significant influence on the outcomes for jobs, output and prices as indicated by a mean score of 3.8424.

4.5 Inferential Statistics

Pearson’s product moment correlation analysis was used to assess the relationship between the variables while multiple regressions was used to determine the predictive power of the effects of monetary policy on lending behaviour of commercial banks in Kenya.
4.5.1: Correlation analysis

Table 4.15: Pearson Correlation

<table>
<thead>
<tr>
<th></th>
<th>Bank lending behaviour</th>
<th>Central Bank Rates</th>
<th>Cash Reserve Ratio</th>
<th>Open Market Operations</th>
<th>Uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank lending behaviour (r)</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(p) (2 tailed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central Bank Rates (r)</td>
<td>-0.806</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(p) (2 tailed)</td>
<td>0.011</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Reserve Ratio (r)</td>
<td>-0.752</td>
<td>0.118</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(p) (2 tailed)</td>
<td>0.017</td>
<td>0.047</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open Market Operations (r)</td>
<td>-0.793</td>
<td>0.128</td>
<td>0.247</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>(p) (2 tailed)</td>
<td>0.014</td>
<td>0.019</td>
<td>0.047</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Uncertainty (r)</td>
<td>-0.677</td>
<td>0.254</td>
<td>0.254</td>
<td>0.380</td>
<td>1.000</td>
</tr>
<tr>
<td>(p) (2 tailed)</td>
<td>0.024</td>
<td>0.029</td>
<td>0.0464</td>
<td>0.014</td>
<td></td>
</tr>
</tbody>
</table>

The data presented before on the effects of monetary policy (in terms of central bank rates, cash reserve ratio, open market operations and uncertainty) on commercial bank lending behaviour in Kenya were computed into single variables per factor by obtaining the averages of each factor. Pearson’s correlations analysis was then conducted at 95% confidence interval and 5% confidence level 2-tailed. The table above indicates the correlation matrix between the factors.
(central bank rates, cash reserve ratio, open market operations and uncertainty) and commercial banks’ lending behaviour in Kenya. According to the table above, there is a negative relationship between lending by commercial banks and central bank rates, cash reserve ratio, open market operations and uncertainty of magnitude -0.806, 0.752, 0.793 and -0.677 respectively. Negative correlation indicates that there is an inverse relationship between the factors and the commercial bank in Kenya lending behaviour with central bank rates having the highest negative correlation value.

This notwithstanding, all the factors had a significant p-value (p<0.05) at 95% confidence level. The significance values for central bank rates, cash reserve ratio, open market operations and uncertainty were 0.011, 0.017, 0.014 and 0.024 respectively. This indicated that all the factors were significant with central bank rates being the most significant factor followed by open market operations then cash reserve ratio while uncertainty arising from expected changes in monetary policy was the least significant.

4.5.2 Regression Analysis

In addition, the researcher conducted a multiple regression analysis so as to test relationship among variables (independent) on lending behaviour of commercial banks. The researcher applied the Statistical Package for Social Sciences (SPSS Version 20.0) to code, enter and compute the measurements of the multiple regressions for the study.

Table 4.16: Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.919</td>
<td>0.845</td>
<td>0.789</td>
<td>0.6273</td>
</tr>
</tbody>
</table>
Coefficient of determination explains the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (lending behaviour) that is explained by all the four independent variables (Central bank rate, cash reserve ratio, open market operation and uncertainty caused by expected changes in monetary policies).

The four independent variables that were studied, explain only 84.5% of the effects of monetary policies on lending behaviour of commercial banks in Kenya as represented by the $R^2$. This therefore means that other factors not studied in this research contribute 15.5% of the effects of monetary policies on lending behaviour in commercial banks. Therefore, further research should be conducted to investigate the other effects of monetary policies on lending behaviour of commercial banks in Kenya (15.5%).

**Table 4.17: ANOVA (Analysis of Variance)**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2.534</td>
<td>2</td>
<td>1.267</td>
<td>9.475</td>
<td>.0179</td>
</tr>
<tr>
<td>Residual</td>
<td>9.307</td>
<td>48</td>
<td>2.327</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>3.465</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The study used ANOVA to test the relationships since the sample size was small, and the variables are few. Further ANOVA removes some of the random variability so that significant differences can be found more easily and also helps look at interactions between factors.

The sum of squares is a mathematical approach to determining the dispersion of data points. The degree of freedom (df) is the number of independent components minus the number of parameters estimated. F-statistics is a measure of the correlation between variables drawn at
different levels of a subdivided population. Residual of a sample is the difference between the sample and the estimated function value. Significance indicates the relationship between variables.

The significance value is 0.0179 which is less than 0.05 thus the model is statistically significant in predicting how central bank rate, cash reserve ratio, open market operation and uncertainty caused by expected changes in monetary policies affect lending behaviour of commercial banks in Kenya. Further, the F critical (critical test value) at 5% level of significance was 3.23. In this test, the relationship is deemed significant if the calculated F statistic is greater than the critical test value. This regression is statistically significant at the 0.05 level since F calculated (calculated F statistic) is greater than the F critical (value = 9.475).

**Table 4.18: Coefficient of determination**

<table>
<thead>
<tr>
<th>Model</th>
<th>Un-standardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.144</td>
<td>1.2235</td>
<td>1.615</td>
<td>0.367</td>
</tr>
<tr>
<td>Central Bank Rates</td>
<td>0.752</td>
<td>0.1032</td>
<td>0.152</td>
<td>.0192</td>
</tr>
<tr>
<td>Cash Reserve Ratio</td>
<td>0.687</td>
<td>0.3425</td>
<td>0.054</td>
<td>.0269</td>
</tr>
<tr>
<td>Open Market Operations</td>
<td>0.745</td>
<td>0.2178</td>
<td>0.116</td>
<td>.0251</td>
</tr>
<tr>
<td>Uncertainty</td>
<td>0.639</td>
<td>0.1937</td>
<td>0.263</td>
<td>.0354</td>
</tr>
</tbody>
</table>

Multiple regression analysis was conducted as to determine the relationship between banking lending behaviour and the four variables. The regression equation becomes:

\[
Y = 1.144 - 0.752X_1 - 0.687X_2 - 0.745X_3 - 0.639X_4
\]
According to the regression equation, taking all factors into account (CBR, cash reserve ratio, OMO and uncertainty caused by expected changes in monetary policies) constant at zero lending behaviour will be 1.144. However, the model had negative coefficients. This means that the variables are negatively associated indicating that an increase in the independent variable (CBR, cash reserve ratio, OMO and uncertainty caused by expected changes in monetary policies) leads to a decrease in the dependent variable (lending by commercial banks). Taking all other independent variables at zero, a unit increase in CBR will lead to a 0.752 decrease in lending by commercial bank; a unit increase in cash reserve ratio will lead to a 0.687 decrease in lending by commercial bank, a unit increase in open market operation will lead to a 0.745 decrease in lending by commercial bank and a unit increase in uncertainty will lead to a 0.639 decrease in lending by commercial bank. This infers that CBR has the greatest effect on lending behaviour of commercial bank followed by OMO. At 5% level of significance and 95% level of confidence, CBR had a 0.0192 level of significance, cash reserve ratio showed a 0.0269 level of significance, OMO showed a 0.0251 level of significance and uncertainty showed a 0.0354 level of significance hence the most significant role is central bank rates.
CHAPTER FIVE

SUMMARY OF THE FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study.

5.2 Summary

The study indicates that majority of the respondents had worked for the banks sampled for more than 5 years. Majority of the employees were above 25 years of age with most of them between 25 and 35 years. It was also established that majority of them had at least a Bachelor’s degree. According to the study, monetary policy influences lending behaviour of commercial banks to a great extent. Monetary policies induce changes in interest rates, and the amount of money and credit in the economy to minimize excessive price fluctuations, and promote economic growth. It was also found out that when the central bank policy is tightened through a decrease in reserve provision, interest rates rise. The study also indicated that using short-term interest rates, well-capitalized banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising and that in the credit channel, restrictive monetary policy works not only by raising interest rates, but also by directly restricting bank credit.

The research found out that central bank rate affects lending behaviour of commercial banks in Kenya to a great extent. It also indicates that CBR has been fluctuating in the 5 year prior to the study which affected lending behaviour to a high extent. Further, the study indicates that low interest rate lowers the cost of borrowing and therefore banks attract new loans demands, central
bank rate (CBR) eventually influences the cost of lending for commercial banks, monetary policy works mainly through interest rates and that rise in CBR directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing.

It was established that cash reserve ratio has effect on bank lending behaviour. The rate of this influence was established to be high. It was also established that reserve requirements cause immediate liquidity problems for banks with low excess reserves thereby influencing lending and payment systems in the commercial banks concerned, holding some funds in excess reserves provides enhanced liquidity and therefore more smooth operation of payment system and that the higher the reserve requirement is set, the less funds banks will have to loan out. Further, it was found out that leading to lower money creation and perhaps ultimately to higher purchasing power of the money and that reserve ratio is used as a tool in monetary policy, influencing the banks’ lending and interest rates by changing the amount of funds available for banks to make loans with.

The study also illustrated that the banks studied were involved in market operations to a great extent. It also showed that the banks were mainly involved in Treasury Bills, Forex trading, Treasury Bonds, Inter-bank borrowing and REPOs and reverse REPOs in that order of reducing importance. It was also established that open market operations provides the bank with low risk investments with certainty in pay off and therefore banks may prefer OMO, OMO also controls the short term market interest rate of base money in an economy, and thus indirectly control the total money supply and therefore influence lending by the bank. It was also indicated that OMO are used regulate money in supply and therefore changes the levels of money available to the
bank for lending and that banks can time their purchases of bonds and stocks to their particular views of long-term interest rates and stock prices.

Finally, the study indicates that uncertainty caused by expected changes in monetary policies influences banks’ lending behaviour. It was established that uncertainty influences lending behavior to a great extent. Further, it was found that decision to extend loans to new or existing customers by banks will be affected by both the current and near-term expected state of the macro-economy as dictated by variation in monetary policies, uncertainty may lead to herding behaviour by commercial banks and that when it is not certain on the changes in the monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing loans. Also, it was established that borrowers who depend on bank lending are affected in that any change in banks’ willingness to lend immediately affects their investment and spending decisions and that changes in expectations about economic prospects and policies, through their effects on interest rates and financial conditions, can have significant influence on the outcomes for jobs, output and prices.

The study also established that there is a correlation between the factors and the banks’ lending behaviour with central bank rates having the highest value and uncertainty having the lowest correlation value. From the regression analysis the following regression equation was formulated; \[ Y = 1.144 - 0.752X_1 - 0.687X_2 - 0.745X_3 - 0.639X_4 \]

From the above regression equation, it can be deduced that CBR has the greatest effect on bank lending behaviour followed by open market operations. At 5% level of significance and 95% level of confidence, the most significant factor is central bank rates.
5.3 Conclusions

Based on the results from data analysis and findings of the research, one can safely conclude the following, based on the objectives of the study; bank lending behaviour is influenced by CBR. It also concludes low interest rate lowers the cost of borrowing and therefore banks attract new loans demands.

On cash reserve ratio, the study concludes that it has effect on bank lending behaviour. The study also concluded that reserve requirements cause immediate liquidity problems for banks with low excess reserves thereby influencing lending and payment systems in the commercial banks concerned. It was also concluded that holding some funds in excess reserves provides enhanced liquidity and therefore more smooth operation of payment system and that the higher the reserve requirement is set, the less funds banks will have to loan out.

The study further concluded that banks participate in market operations to a great extent and that OMO influences bank lending behaviour. The study also concluded that open market operations provides the bank with low risk investments with certainty in pay off and therefore banks may prefer OMO and that OMO also controls the short term market interest rate of base money in an economy.

Finally, the study concludes that uncertainty caused by expected changes in monetary policies influences banks’ lending behaviour. It also concluded that decision to extend loans to new or existing customers by banks will be affected by both the current and near–term expected state of the macro-economy as dictated by variation in monetary policies, uncertainty may lead to herding behaviour by commercial banks and that when it is not certain on the changes in the
monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing loans.

5.4 Recommendations

The study recommends that the government streamline the economic environment in which banks operates to help curb the fluctuation in CBR and therefore ensure stable rates of borrowing. The government through the central bank should put in measures to curb inflation. This will ensure that Kenyan currency does not lose much on world major currency and therefore this will help to stabilize the central bank rates.

Further, the study recommends that central bank should hold cash reserve ratio constant so as cushion borrowers from fluctuating lending rates by commercial banks. However, since excessive borrowing will have inflationary effect in the economy, the study recommends that central bank commit commercial banks to open market operations to control short term interest rate and the supply of base money in an economy. With CBK effective monetary policies that cushions borrowers, this will curb speculative borrowing that affect lending behaviour by commercial banks.

5.5 Recommendation for Further Studies

This study has looked at effect of monetary policy on lending behaviour by commercial banks in Kenya. This study recommends that another study should be done to augment finding in this study; it therefore recommends a study be done on the effect monetary policies have on borrowing behavior for the consumer to look at how monetary policy influences borrowers decision making.
Further, to augment the research finding of this study, the study recommends that another research on monetary policies should be done but include all credit providers namely; micro finance institutions, mortgage companies, hire purchase companies and utility companies on a wider geographical area.
REFERENCES


Central Bank of Kenya Monetary Policy Statement (2005) 4-6


O’Hara, L. (2005) *the implementation of monetary policy in Australia an examination of interest rate targeting and the endogeneity of liquidity*. Unpublished thesis University of Western Sydney


APPENDICES

Appendix 1: Questionnaire

General Information

1. How long have you served in the bank?
   - Less than 1 year [ ]
   - 2 to 5 years [ ]
   - 5 to 10 years [ ]
   - More than 10 years [ ]

2. What is your age bracket?
   - Below 25 years [ ]
   - 25 to 35 years [ ]
   - 35 to 45 years [ ]
   - 45 to 55 years [ ]
   - Above 55 years [ ]

3. What is your level of education? (Tick where appropriate)
   - Diploma [ ]
   - Bachelors [ ]
   - Master [ ]
   - PhD [ ]

4. To what extent does central banks’ monetary policy affect lending behaviour of commercial banks in Kenya?
   - Very great extent [ ]
   - Great extent [ ]
   - Moderate extent [ ]
   - Low extent [ ]
5. What is your level of agreement with the following statements regarding monetary policy and lending behaviour of commercial bank in Kenya?

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the credit channel, restrictive monetary policy works not only by raising interest rates, but also by directly restricting bank credit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When the central bank policy is tightened through a decrease in reserve provision, interest rates rises</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using short-term interest rates, well-capitalized banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monetary policies induce changes in interest rates, and the amount of money and credit in the economy to minimize excessive price fluctuations, and promote economic growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section B: Effects of Central Bank Rate

6. To what extent does central bank rate affect lending behaviour of commercial banks in Kenya?

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very great extent</td>
<td>[ ]</td>
<td>Great extent</td>
<td>[ ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate extent</td>
<td>[ ]</td>
<td>Low extent</td>
<td>[ ]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>[ ]</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
7. What has been the central bank rate trend in the last 5 years?

   Rising  [ ]  Steady  [ ]  
   Fluctuating  [ ]  Reducing  [ ]  
   Don’t know  [ ]

8. In your own opinion, do you think this trend had any effect on lending behaviour of your bank?

   Yes  [ ]  No  [ ]

i. If yes to above question, how would you rate the effect of central bank rate on lending behaviour of your bank?

   Very high  [ ]  High  [ ]  
   Moderate  [ ]  Low  [ ]
   Negligible  [ ]

ii. In your own words, please describe the effect.

   ……………………………………………………………………………………………………………………………………………………………
9. To what extent do you agree with the various aspect of central bank rate? Use a scale of 1 to 5 where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary policy works mainly through interest rates</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low interest rate lowers the cost of borrowing and therefore banks attract new loans demands.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The central bank rate (CBR) eventually influences the cost of lending for commercial banks.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rise in CBR directly constrains the ability of banks to make new loans, making credit less available to borrowers who depend on bank financing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section C: Effects of Cash Reserve Ratio

10. Do you think cash reserve ratio has any effect on banking lending behaviour?

Yes [ ]  No [ ]

11. How would you rate the effect of cash reserve ratio by central bank on lending behaviour of your bank?

Very high [ ]  High [ ]

Moderate [ ]  Low [ ]

Negligible [ ]
12. Please explain how cash reserve ratio affects the lending behaviour of commercial banks in Kenya.

……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………
……………………………………………………………………………………………………

13. What is your level of agreement with the following aspect of cash reserve ratio effects on lending behaviour of commercial banks? Use a scale of 1 to 5 where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reserve ratio is used as a tool in monetary policy, influencing the banks’ lending and interest rates by changing the amount of funds available for banks to make loans with.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reserve requirements cause immediate liquidity problems for banks with low excess reserves thereby influencing lending and payment systems in the commercial banks concerned.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Holding some funds in excess reserves provides enhanced liquidity and therefore more smooth operation of payment system.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The higher the reserve requirement is set, the less funds banks will have to loan out, leading to lower money creation and perhaps ultimately to higher purchasing power of the money.

**Open market operations**

14. Does your bank participate in open market operations?

   Yes [ ]  No [ ]

i. If yes, to what extent?

   Very great extent [ ]  Great extent [ ]
   Moderate extent [ ]  Low extent [ ]
   Not at all [ ]

15. To what extent does your bank participate in each one of the following open market operations?

<table>
<thead>
<tr>
<th>Open Market Operations</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury Bonds</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Treasury Bills</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REPOs and reverse REPOs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inter-bank borrowing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forex trading</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
16. What is your level of agreement with the following statement concerning open market operation? Use a scale of 1 to 5 where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Open market operations provides the bank with low risk investments with certainty in pay off and therefore banks may prefer OMO.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OMO are used to regulate money in supply and therefore changes the levels of money available to the bank for lending.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks can time their purchases of bonds and stocks to their particular views of long-term interest rates and stock prices.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OMO controls the short term market interest rate of base money in an economy, and thus indirectly control the total money supply.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

17. Please indicate other ways through which OMO influences lending in the commercial bank.

.................................................................................................................................................................
.................................................................................................................................................................
.................................................................................................................................................................
Section D: Uncertainty Caused by Expected Outcome of Monetary Policy

18. In your own opinion, you think uncertainty caused by expected outcome of monetary policy influences lending behaviour of commercial bank?

Yes [ ] No [ ]

i. If yes to what extent?

Very great extent [ ] Great extent [ ]
Moderate extent [ ] Low extent [ ]
Not at all [ ]

19. What is your level of agreement with the following statement relating to uncertainty caused by expected changes in monetary policies? Use a scale of 1 to 5 where, 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree.

<table>
<thead>
<tr>
<th>Statements</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in expectations about economic prospects and policies, through their effects on interest rates and financial conditions, can have significant influence on the outcomes for jobs, output and prices</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision to extend loans to new or existing customers by banks will be affected by both the current and near–term expected state of the macro-economy as dictated by variation in monetary policies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Borrowers who depend on bank lending are affected in that any</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
change in banks’ willingness to lend immediately affects their investment and spending decisions

When it is not certain on the changes in the monetary policies, banks might be forced to withhold credit in fear that it might result to non-performing loans

The uncertainty may lead to herding behaviour by commercial banks

Thank You for Participating!