MONETARY POLICY AND PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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REG. D53/OL/KER/26659/2015

A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILMENT FOR THE AWARD OF DEGREE IN MASTER OF BUSINESS ADMINISTRATION, KENYATTA UNIVERSITY.

NOVEMBER 2017
DECLARATION

Declaration by the candidate

This research project is my original work and has never been presented for any award.

Sign ........................................ Date....................... 

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D53/OL/KER/26659/2015

Supervisor’s Approval

I confirm that this research project was done by the candidate under my supervision and I approve as the supervisor.

Signed ................................. Date .........................

Dr. Charles Tibbs.
DEDICATION

I dedicate this work to my family members who have continually been instrumental and inspirational, understanding and the sacrifice they have towards starting my master program.
ACKNOWLEDGEMENT

I wish to thank the Almighty God for the good health He provided throughout this program.

Secondly is to sincerely thank my supervisor Dr. Charles Tibbs who guided me throughout the development of this research project to this far and also to extend my gratitude to my colleague who continually gave provoking thoughts that led me understand research project. Lastly, I express a lot of thanks to Kenyatta university lecturers and the administration for their contribution made towards the program.
ABSTRACT

This research project aimed at investigating the monetary policy and performance of commercial banks in Kenya. Commercial Banks have on average been posting a continuous decline in their performance over the last decade. The return on asset in 2014 was 4.46% declined to 3.4% in 2015 and 3.1% in 2016 while the return on equity has also been declining from 28.2% in 2014 to 23.8% in 2015 and 20.6% in 2016 forming the basis of the study. The central bank of Kenya is tasked with responsibilities to ensuring, among them price stability, economic growth, attainment of and assurance of sound banking system in the economy and it uses commercial banks as transmission mechanism through monetary policy formulation and implementation. It was carried out with the following objectives; to establish the effect of interest rate, reserve requirement, open market operation and discount window operation and performance. The study conducted was a census of all commercial banks in Kenya from the year 2011 to 2015. This study utilized both primary and secondary data. Primary data were gathered by administering questionnaire on a drop and pick basis while secondary data were collected from the country’s central bank annual reports depository and specific commercial banks audited financial statements. Data editing and coding were done to detect anomalies and omissions. Data collected were analysed using multiple regression model and data presentation using graphs and tables. The statistical package for social sciences (SPSS) version 16 was used to analyse data. Correlation research design also adopted to explain the existing relationship between the variables. The study found out that monetary policy controls 72.2% of performance of commercial banks in Kenya. If all the variables were taken constant at zero the performance of commercial banks would be 10.365, a unit increase in central bank rate would lead to a 0.025 increase in performance commercial bank; a unit increase in cash reserve ratio would lead to a 1.053 times decrease in performance of commercial bank, a unit increase in open market operation would lead to a 0.057 increase the performance of commercial in banks and a unit increase in discount window operation would lead to 0.61 decrease in the performance of commercial banks. This study concluded cash reserve ratio had the biggest effect on the performance of commercial banks succeeded by open market operation.
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ABBREVIATIONS

CBK: Central Bank of Kenya

CRR: Cash reserve ratio

DWO: Discount Window Operation

KBA: Kenya Bankers Association

MPAC: Monetary Policy Advisory Committee

MPC: Monetary Policy Committee

OMO: Open Market Operation

REPO: Repurchase Agreement
OPERATIONAL DEFINITION OF TERMS

**Cash Reserve Ratio:** This is a fraction of total liabilities of that commercial banks are required to hold in there vaults and not to utilize it in business operations.

**Discount Window Operation:** Refers to a facility that central bank avails to commercial banks when faced with liquidity challenge in order to raise their liquidity and enable smooth flow of banking business as a ‘lender of last resort’,

**Monetary Policy:** Policies adopted by CBK in order to ensure price stability, full employment and economic growth and development.

**Open Market Operation:** Refers to trading with government securities by central bank of Kenya and commercial banks to control money supply and providing investment opportunities.

**Performance:** Refers to the return on investment from banking business and it is measured by the amount of profits, growth in assets holding and increase in market share of commercial banks.
CHAPTER ONE

INTRODUCTION

1.0 Introduction

The chapter deals with the background of the study, problem statement, the objectives, significance, the scope and the limitation of the study.

1.1 Background of the Study:

Commercial banks play a very imperative part in countries’ economy first is mobilising savings for capital formation, providing long-term finance for the improvement of economic activities and aiding implementation of monetary policies to accomplish the anticipated level of development among others. Performance of these commercial banks determines their continual operation existence. Bank loans is one of the back born source of income to commercial banks. For example, in Japan, longstanding bank loan represents excess of 70% of its total debt. The existence of commercial banks is felt by a wide range of stakeholders such as shareholder, debt holders, customers and even the government through the taxes it collects from them. High performance therefore is the main driver of commercial banks activities. Consequently, banks engage in a so many products and services in order for them to diversify and earn profit, the commonest being advancement of loans to borrowers seeking financial accommodation, (Kimani, 2013)

Federal Reserve Bank of United State uses three instruments of monetary policy, Open Market Operation where it engages in the buying and selling of government securities therefore altering the level of money supply therefore attaining the desired level of prices and thus making it the most frequently used tool of monetary policy the discount rate and the cash reserve ratio to
promote full employment, stable and low inflation rate and restrain the long-term interest rate thereby supporting the long-term economic growth. United State has enhanced its development through the immense support of Federal Open Market Committee. In developing countries across the world, long-term loans represents over 70% of its total debt that is borrowed from banks, (Mudida, 2015).

Introduction of monetary procedure in most developing Nations has been gradual. Kenya introduced open market operation in 1990 while other countries like South Africa introduced earlier in 1989 and closely followed by others. In the recent past significant changes in the conduct of monetary policy has been felt all over the world. Developing countries, Kenya included have adopted monetary policy with an objective of enhancing sustainable economic growth, achieving full employment and ensuring that inflation rate is predictably low and stable. A rise in the overall price level erodes savings and discourages investments. In recent years, central bank through the monetary policy organ has adopted inflation targeting where they set the desired inflation targets and attempts to steer actual inflation towards the target rate. A popularly use tools is the interest rate among others, (Adeusi, Kolapo, & Aluko, 2014).

1.1.1 The Concept of Monetary Policy in Kenya

Monetary policy committee (MPC), a department of central bank that is bestowed with the responsibility of formulating and implementing monetary policies. It was formed through Gazette Notice 3771 on 30th April 2008 replacing the then monetary policy advisory committee. The membership is constituted by CBK Governor who chairs the committee, the deputy Governor, two members appointed by the Governor and four other members from outside who have exemplary understanding in issues relating to finance, banking and fiscal policy. It is a requirement by law that MPC submits report on the findings to the Cabinet secretary for the
National Treasury. Although monetary policy framework has remained the same over decades, CBK has been routinely altering it operations and procedures in order to enhance effectiveness and efficiency in delivering its objectives in dynamic financial and economic environment, CBK Act (2005). During early years, CBK relied upon support of banking institutions through their regular meetings with the chief executives of banks to explain the monetary policy that should be exerted in banks to enhance economic development, (PriceWaterCoopers, 2011)

Among the duties of MPC is to determine rate at which banks lend to borrowers in order to attain a stable economy. Reduced performance forced commercial banks to retain high interest rate in order to mitigate losses as a result of reduced performance of loans advanced and cater for unforeseen defaults and in so doing it affects their clients leading to slow uptake of loans. Commercial banks engage in transforming short-term liabilities into long-term assets. The mismatch in maturity of these assets and liabilities exposes banks to re-pricing risk and it is seen as one of the causes of interest rate fluctuation. Suitable interest rate by the monetary policy committee helps the commercial banks reduce on the exposure to this risk. The ceiling and floor lending rate was established in order to remove punitive cost of doing business by entrepreneurs. This rate was then reduced to a ceiling of no more than 4% above Central Bank Rate (CBR) of 10%. The nation’s growth and development, an objective of monetary policy, is enhanced through small investments of small investors, however, this effect bring unfavourable result both to institution and the nation (Ngari, 2013).

Central bank of Kenya requires that commercial banks maintain a cash reserve ratio of all customer deposits liabilities. Cash reserve ratio has been linked to attempt to control money circulation and provide revenue to Treasury. This is done to facilitate commercial banks liquidity management and is checked on a daily basis, however banks may hold voluntarily
excess reserve. This cash reserve ratio does not earn commercial banks any interest and hence reducing on profit margin of the sector. When CBK wants to raise the amount of money in circulation it reduces on the cash reserve ratio and banks be supplied with additional money which was in excess and when there is excess money in circulation the cash reserve ratio is revised upwards and commercial banks are required to remit certain fraction of their cash holding. The main aim of introducing cash reserve ratio is to keep inflation by regulating the amount of money in circulation. (Clews, 2005)

Central bank of Kenya through the monetary policy organ uses open market operation where it sells and purchases government security through the central bank to alter money supply of bank and check on the capacity to expand credit to its customers. Central bank sells these government securities at a high and attractive rate to entice commercial bank subscribe to them. The treasury bills sold as of January 2017 earned interest at 8.662%. When the government sell securities it shrinks the money supply, thus the interest rate reduces and hence ensuring price stability but the commercial banks are left with liquidity challenge where they have little money to lend to clients, and when central banks buys securities, banks are left with better lending position and encourages high inflation rate, (Central Bank of Kenya, 2016)

Central bank being a lender of last option can employ discount window operation (DWO). The CBK lends to the commercial bank on an overnight basis at a penal rate currently at 16% as of January 2017 which is above commercial banks’ lending rate. This penal rate is meant to control the commercial banks from regularly seeking finances from the CBK and to them it is made lender of last resort by raising the lending rate and utilizes other finances first and opts for DWO funds when they cannot get from anywhere else. However, this facility is not readily always available to commercial banks but is regulated (Waweru, N., & Kalani, V. (2009)
1.1.2 The Commercial Banks in Kenya

The banking sector in Kenya is composed of 42 Commercial Banks. These institutions have come together under one umbrella the Kenya Bankers Association (KBA), which serves to protect the banks’ interests. The commercial banks in Kenya offer corporate and retail banking services with most of the banks diversifying to offer other services such as investment banking and insurance services. The CBK, which falls under the Cabinet Secretary to the National Treasury, is given responsibilities for formulating and implementing monetary policies and encouraging the liquidity, creditworthiness and soundness of the financial system in the country. The Central Bank of Kenya is the main regulator of Kenya’s commercial banks. (CBK Annual Report, 2011).

1.1.3 Performance of Commercial Banks in Kenya

Commercial Banks on average have been posting a continuous decline in their performance over the last decade. The return on asset in 2014 was 4.46% declined to 3.4% in 2015 and 3.1% in 2016 while the return on equity has also been declining from 28.2% in 2014 to 23.8% in 2015 and 20.6% in 2016 (Central Bank Supervision report, 2010-2016). Commercial banks in Kenya have been enjoying an interest rate spread of more than 10% on average as compared with the world average of 6.6% (Bova, M. et al. 2014).

Monetary policy committee was on record acknowledging that interest spread was high and advocated for the interest rate to be pegged. This rate, despite the continuous worsening in performance of commercial banks, was reduced to a ceiling of no more than 4% above the Central Bank Rate of 10%. This reduction of lending rate was argued by Kenya bankers’ association citing survival of commercial banks and high operating cost. Some commercial banks have struggled to remain in business but they have not been able to raise their performance
and consequently put under receivership (Imperial bank, Chase bank and Dubai bank) in 2015 and beginning of 2016. (Cytonn investment banking report, Aug 2016)

1.2 Statement of the Problem

Commercial banks in any economy play a very imperative role in ensuring that that the economic growth and development is enhanced. The continual operational existence of commercial banks is dictated by their performance. Profitability of commercial banks is affected by central banks’ interventions. Over the last decade, performance of commercial banks has been low and unpredictable. This low performance has seen two commercial banks (imperial and chase bank) put under receivership. Cheng (2006) studied the impact on monetary policy intervention in Kenya and found out that there was a significant relationship between monetary policy and price stability, employment and economic development. The (CBK), just like other economic regulating institutions in the world is delegated the task of articulating and instigating economic policies directed towards sustaining the set monetary targets in order to achieve economic growth and development. Additionally, CBK ought to ensure that there is guideline to sustain a sound financial system. Between 2010 and 2016 inflation swung in spite of numerous intermediations by the central bank monetary policy committee. Most prices of goods and services sky rocketed in the same era making the cost of living intolerable to low income Kenyan, unemployment on the other hand, in which the CBK’s monetary policy attempts to address has been continually increasing gradually and constantly.

The central bank is given the responsibility of ensuring that price level is kept at equitable level and setting of lending rate to ensure that loans become affordable in order to aid in economic development. CBK uses commercial banks as the main transmission mechanism of the
formulated monetary policies towards attainment of the set targets. A study by Nairobi stock Exchange (2013) raised question ‘why are some commercial banks more successful than others’ which is relevant to the study. The continual operation of commercial banks is solely determined by the current and or future performance. This study therefore sought to investigate the effect of monetary policy and performance of commercial banks in Kenya.

1.3 Objective of the Study

This study was guided by the following objectives.

1.3.1 General Objective

To assess the effects of monetary policy on performance of commercial banks in Kenya.

1.3.2 Specific Objectives

i. To establish the relationship between interest rate and performance of commercial banks in Kenya.

ii. To determine the relationship between cash reserve ratio and performance of commercial banks in Kenya.

iii. To examine the relationship between open market operation and performance of commercial banks in Kenya.

iv. To investigate the relationship between discount window operation and performance of commercial banks in Kenya.

1.4 Research Hypotheses

These hypotheses were framed to guide the study.
\( H_0 \): There is no significant relationship between central bank rate and performance of commercial banks in Kenya.

\( H_0 \): There is no significant relationship between cash reserve ratio and performance of commercial banks in Kenya.

\( H_0 \): There is no significant relationship between open market operation and performance of commercial banks in Kenya.

\( H_0 \): There is no significant relationship between discount window operation and performance of commercial banks in Kenya.

1.5 Significance of the Study

Banks play an imperative role in nation’s economic development as a medium through which surplus unit and deficit unit interacts to form equilibrium and provision of finances to investors seeking financial accommodation. Their existence is solely determined by their performance. However, level of intervention by the regulator explains their survival. Low level of interventions by the regulator encourages competition in the sector and in the long run does not guarantee survival. Therefore, there is a specific level of regulation that should be exerted on these institutions. The central bank through the monetary policy organ partners with banks to ensure price constancy and growth by providing of inexpensive loan.

Outcomes of the study is helpful to commercial banks, since they will be able to get an insight of the effect of monetary policy on performance and appreciate the duty in achievement of anticipated growth in the economy and price stability in Kenya. This study is also of great significance to a number of participants in banking sector among them, banks’ clients who wants
to know why they are paying the price they are paying and fluctuations in interest rate and shareholder on investment decision. The findings would also be helpful to upcoming scholars to form a reference for their studies.

1.6 Scope of the Study

The researcher investigated monetary policy and its relationship with performance of commercial banks and analysed each and every tool of monetary policy to determine how it affects the performance of commercial banks in Kenya. A survey of forty-two banks in Kenya were selected for a period of five years from 2011 to 2015. The selection of the period for study was very unique in that, during the same period two banks; chase bank and imperial bank were put under receivership.

1.7 Limitations of the Study

Non-response by the response was the main limitation. This limitation reduced the respondents size and the conclusion may have differed from if there were hundred percent responses from the respondents. However, to reduce the chances of this limitation, the researcher increased the number of respondents in order to increase the chances of getting bigger number of responses that justifies conclusion drawn from them. Banking sector’s information is very sensitive and not all respondents taken for the study gave full evidence required because of the competition from other commercial banks and the fear that the information may be used against them to acquire a competitive advantage. This led to reduction of the number of respondents, however to combat with this limitation, researcher obtained for introductory letter confirming the intended purpose of the information collected was purely academic and utmost confidentiality would be upheld and clearly showing the benefits accruing from the study to them as the industry
players. Additionally, the researcher conducted a census study where all the heads of credit departments were taken in order to increase the chances of getting higher response rate.

Performance of commercial banks is swayed by a number of factors and it was not possible to separate the effects of the monetary policy and the effect of other variables such as fiscal policy, non-performing loan and customer base, on performance of commercial banks among others. Monetary policy accounted for 72.2% while these other factors were found to be accounting for 27.8%. The researcher overcame this limitation by pooling data from a bigger respondents’ size to streamline the effects of banks’ specific characteristics and also pooling data from a wider period in order to overcome the limitation of seasonal variation and reach to a conclusion that is not moderated and informative.
CHAPTER TWO
LITERATURE REVIEW

2.0 Introduction
This chapter offers a description of hypothetical basis of the problem being considered, Theoretical review, empirical reviews of the related studies and the conceptual framework and highlights and the research gap, various researchers have adopted the following measures:

2.1 Theoretical Review
This section review existing theories relating to performance of commercial banks.

2.1.0 Loanable Fund Theory
This theory was developed by Robertson in 1940. According to Robertson, interest rate with which banks lend depends on demand and supply of loan-able fund, and savings and hoards are responsible for determination of the interest rate in the long run while interest rate in the short run is determined by prevailing financial conditions in a country. The rate of interest is measured by the availability of loan-able funds, the availability of such loan-able funds is determined by deposits made by customers, and demand for loan-able fund determined by availability of investments opportunities offered by the environment. The nominal rate of interest is calculated by the collaboration of forces of supply of and demand for loan-able funds. However, holding all other factors constant, a rise in loan-able fund demand for push interest rate upwards and reverse is true. The demand for loan-able fund is determined by demands for final goods and services. An increase in supply of loan-able fund reduces interest rate. If both demand for and supply of loan-able fund change, the change in rate of interest will depends upon the magnitude and net change. Supply of and demand for loan-able fund is not the sole determinant of interest
rate but also other factors such as productivity of capital and savings affects interest rate. (Bibow 2000)

2.1.1 Classical Theory of Interest Rate
According to Marshall et al (1924), the classical theory of interest rate is the most adapted theory in determining the equilibrium interest rate by comparing supply of saving and demand of borrowing. Equilibrium is reached when supply of saving and demand of borrowing for investment equals each other by drawing a simple demand-supply curve and the intersection is taken as the equilibrium interest rate and the desired level of money supply and demand. Demand is represented by investment for investable funds and supply represents the savings of these resources. If supply of funds is greater than investment, interest rate drops up to a point where the two are equal and vice versa and if savings is less than investment it causes disequilibrium and the interest rate shifts to ensure equality in both, (Albertazzi & Gambacorta, 2006).

It is also explained by the loan-able fund theory supply of credit represent activities of depositors and any party supplying directly or indirectly credit to finance market and activities of investors which include parties selling financial assets to raise capital for their business to determine interest rate equilibrium, the theory is therefore indeterminate because the position of savings is contingent on the level of real income. As income rises amount of savings also rises. Therefore, rate of interest is indeterminate unless the level of income is known, and the level of income cannot be known unless rate of interest is known and hence this theory of interest offers no solution to how interest rate in the economy is determined, (Satija, 2009),
2.1.3 Liquidity Preference Theory

The theory was proposed by John Maynard Keynes in 1936. According to Keynes, liquidity refers to the ease at which assets are changed into liquid money cheaply and quickly. People prefer liquidity depending on individuals varying reasons and can either be transactional, precautionary or speculative motive. Transactional motive according to Keynes refers to the amount of money that individual holds to cater for daily usage of funds. The precautionary motive is the amount of money held to cater for unplanned activities such as illness while speculative is where individuals hold money to take benefit of investment opportunities that arise in security market. The speculative demand for money is affected by the prevailing interest rate in the market, commercial banks may get exposed to low level of liquidity and reduces their performance level by constraining on the funds that will be lend out and earn profits and may lead to a state of bank run a situation where depositors panic and withdraw their deposits. Banks depends mostly on the individuals’ deposit, which they consider it to be the cheapest source of loan-able funds. Liquidity preference theory is centred on the interest rate that the bank offers out of client’s savings as it would lead to attracting deposit from them. If investment yields them higher returns, then they will choose to deposit and forego liquidity, (Biefang & Howells, 2002).

However, excess liquidity leads to rise in earnings in a situation of resilient call for loan-able funds by investors. It may lead to a fall in profit in a condition of weak demand especially when the rate at which deposits earn to a customer is such that profits earned from the loan-able funds is utilized to pay depositors and hence condenses the ability of banks to make profits. However, Keynes only explains interest in the short-run and did not give clue on how long-run interest rate is determined, Keynesian theory of interest rate is indeterminate like the classical and the loan-able fund theory since no one can know with certainty the amount of money needed for
speculative purpose unless the transaction and precautionary demand for money is known due to interdependence, Mwangi,N. et al. 2014)

2.1.4 Financial Intermediation Theory

According to Adrian and Shin (2009), financial intermediations are made available because of the information gap and cost of transaction between the borrowers and the lenders. Banks as intermediaries therefore helps in smooth and efficient working of the market by bringing the lenders and borrowers together. Adrian and Shin concluded that rational investors do not like risk and cannot foresee timing of forthcoming consumption requirements, therefore preferring to hold their wealth in a more liquid form which can be accessed on demand basis and hence providing funds to commercial banks to lend to investors at a fee. Without the financial intermediation by commercial banks leads to locking out of investors and slowing down the nation’s development and similarly forcing depositors to dive to illiquid and long-term inconvenient investment yielding high returns while those who wants to consume early receives low pay due to premature liquidation of long term investment. Commercial banks can perfect the market by sharing risk among individuals who wants to consume at a different and unpredictable arbitrary moments. The optimal contract in Adrian and Shin is a demand deposit contract where the depositors are given their deposit on demand basis.

Commercial banks as financial intermediaries are able to overcome this market catastrophe and resolve the information dis-appropriateness problem. Information difference arise as a result of borrowers generally knowing more about their investments opportunities and without information asymmetry financial intermediaries would not receive deposit as they would prefer investing in this investment opportunities, than the lenders/depositors do. Therefore, information asymmetry is the bedrock of financial intermediation. This information asymmetry
occurs either “ex ante” or “ex post”. An ex ante information asymmetry is as a result of lenders becoming indifferent amongst borrowers having diverse credit risk aforesaid to advancing loans leading to an adverse selections problem. A problem in which interest rate will be raised to accommodate a most risky pool of investors a situation which also reduce the economic growth of a nation by charging high interest rate which discourages potential borrowers from seeking funding. To overcome the problem of adverse selection, lenders put the borrowers under thorough scrutiny to determine their credit-worthless and may not fully meet financial need of an investor and or in the extreme may reject finding at all. Adrian and Shin (2009) Mutinda, D. M. (2014) claimed that the rate of interest affects the quality of loan directly and commercial banks should be more concern about interest rate in order to improve on the loan quality. The information asymmetry occurs “ex post” once borrowers can perceive concrete pay-off afterwards perfect achievement a situation leading to moral hazard where the commercial banks participate in acts that reduces the possibility of the loan defaults. In summary financial intermediaries have an important role in economic development absorbing surplus from the surplus unit in the economy and advancing it to the deficit units which will carry out development activities. In addition, it helps the surplus unit collect funds from them and professionally scrutinize those requiring financing from the deficit unit in the economy in order to enhance economic development as well as risk taking and providing assurance to the depositors as well as availing liquidity on demand when needed by depositors.

2.2 Empirical Review

To understand performance of commercial banks in Kenya, studies have largely engrossed on monetary policy and different dimensions of banks’ performance. In all these studies, literature
revealed that Kenya has been less studied and therefore there is need for more information for planning. This study addressed the gap in knowledge in Kenyan banking sector.

2.2.1 Central Bank Rate and Performance

Monetary policy involves the relationship between acts by the central bank and economic development and price stability. Central bank employs a variety of measures to attain the desired level of economy and inflation rate. A handful of literature related to monetary policy exist; Irungu (2013) in the study on the effects of interest rate on the financial performance of commercial banks said that interest rate impacts commercial banks positively as well as negatively, high interest rate benefits commercial banks and on the other hand discourages borrowing leading to shrinking investment in the economy. Kimani (2013) concluded that low interest rate increases the demand for loans.

Simiyu & Ngile (2015) studied the exchange rate and financial performance of commercial banks in Kenya and established that there is a direct and progressive relationship amongst the rate of interest and performance of commercial banks. As the rate of interest rises, profitability also went up since because of a greater spread between CBR and the rate that banks charge its customer and the spread between long term and short term rate of interest and widens since short term rate hikes faster than long term leaving a commercial bank better off and additionally banks response to interest rate hike faster than what they pay on deposits boosting their net interest margin instantly Gavin (2010). Ghaffari, A., & Rehman, A. U. (2016) concluded that, central banks changes short term interest rate in answer to any deviation in target rate of inflation and exchange rate movement to restore equilibrium and it refers to the price paid for the use of funds.
2.2.2 Cash Reserve Ratio and Performance

Laurent (2015) study on ‘cash reserve ratio and the bank lending channel in China’, cash reserve ratio is considered to be one of the most effective policies in China to control money supply and maintain desired inflation rate. Change in cash reserve ratio signals policy intent to tighten or loosen bank lending. An increase in cash reserve ratio reduces the ability of commercial to advance loans to its deficit unit and thus reducing banks profit hindering its performance. An advantage of using cash reserve ratio over interest rate as central bank enjoys greater discretion in making cash reserve ratio decision and hence making it more immediate in its effect.

Kashyap and Stein (2012) concluded that, if central banks follows mostly price constancy policy and practices the interest rate as the basic tool, changing cash reserve ratio leads to the economic steadiness. Kashyap and Stein added that higher cash reserve ratio increases interest rate spread which induces raises the pressure on consumption because of lower deposit rate and exchange rate depreciation and tough credit conditions. Cash reserve ratio is a prominent tool in developing countries; Kenya for example raised it six times in 2010 while interest rate was changed only once. Kimani (2013) Concluded that cash reserve ratio cause an immediate liquidity challenge to banks with low excess reserve as it constraints the lending capacity of the banks and thereby affecting its performance negatively and similarly holding excess reserve leads to high interest paid out for unutilized funds hence impeding banks profitability.

2.2.3 Open Market Operation and Performance

During the 1970s open market operation was conducted in to have the resources within a slender range which in turn was chosen to appreciate money growth goal set by central bank, Oyanda (2011). Oyanda added that high rate of inflation in a monetary situation related to surplus money supply. The driver was the printing of money to finance the budget deficit, an expansionary
stance of fiscal policy. It is a response to this excess money supply in the economy that open market operation was introduced through the sale of government securities, by the country’s central bank, at an attractive rate of return to entice banks an individual buy them. Main aim for introducing open market operation was to control and maintain the supply of money in the short run in an economy and interest rate, as it is intertwined with the money supply, and consequently control the total money supply in the long run. This entails meeting the demand of base money at the targeted rate of interest by trading in government securities.

Central banks have employed this instrument to fine-tune the supply of reserve balances to keep these monetary targets in balance and in line with the central banks objectives Kimani (2013). Kimani added that through open market operation, banks performance is raised as the rate offered is higher compared to that paid by those advanced with loans and taking advantage of less risky investment with less cost.

**2.2.4 Discount Window Operation and Performance**

Helleiner (2007) concluded that central bank procedures for controlling money supply involve use of discount window and open market operation working together. Helleiner concluded that discount window is an effective tool to control money supply by boosting banks liquidity at a penal rate which force commercial banks to mobilize savings from their clients, commercial banks when faced with liquidity challenge may go for an overnight fund from central bank of Kenya at a higher rate intended to discourage them from relying on this fund. The penalties they are paying through the interest rate make commercial banks enjoy narrow spread and hence impede their performance Helleiner added.
In the past, banks were unenthusiastic to count on discount window to acquire financing need with fear that if it became known might infer weaknesses in doing business. A situation which may lead to bank run and depositors may rush to withdraw their deposits and may warrant bank closure. Kirui et al (2014) in the study on “Discount window stigma in the 2007-08 financial crises” concluded that in usual times, in the money and illiquid banks must have the ability to obtain financing from bank with surplus liquidity via inter-bank lending. This inter-bank lending may become dysfunctional due to information asymmetry problem in such a case lending rate might be raised in order to cater for uncertainties.

2.3 Research Gap

From literature review there is inconclusive evidence on how monetary policy influence performance of commercial banks. While researchers seem to have agree that internal variables such as asset quality, liquidity ratio and expenses management among others, otherwise termed as banks’ specific characteristics in the study, affects performance of commercial banks, there has been no consensus on the connection between external variables and performance of commercial banks, others have concluded that external variables have no effect at all and the relationship is insignificant.

Odufulu in the search on ‘effect of monetary policy on banks’ profitability in Nigeria sampled twelve banks out of a total of one hundred and twenty banks in Nigeria which represented only 10%. As per Mugenda and Mugenda (2003) good model size to enable inference should be at least 30%. This sample size was too small and not adequate to generalize findings. One of the independent variables in Odufulu’s study was lending rate, lending rate is seen inappropriate as it one aspect of interest rate and its changes is a reflection of changes in interest rate hence lending rate is indeterminate but depends on the level of interest rate changes.
Kiganda (2014) analysed the impact of monetary policy on profitability of commercial banks in Kenya having focus on Equity bank collecting data spanning from 2008 to 2012 and made conclusion thereof. The conclusion made might not be meaningful and inappropriate to generalize to other banks since it might have been moderated by equity bank’s specific characteristics which are very significant and it could be streamlined by pooling a bigger size of population.

While reviewing literature, one of the past studies found on monetary policy related to Kenyan banks was Kithuka (2015)’s effects of monetary policy on profitability of commercial banks in Kenya’. Profitability is one aspect of banks’ performance and shareholders does not only seek to maximise profits but only their wealth, which can take form of asset ownership or profit now or in future, therefore Kithuka’s study does not explain what determine banks operational existence as the conclusion drawn from profitability is meaningless. Kithuka also agreed with past researches that only the banks’ internal variables to be the sole determinants of banks’ profitability, the researcher used capital adequacy, expense management, assets quality and liquidity management being independent variables and summarized that monetary policy has insignificant effect on commercial bank profitability. There was no adequate literature on how discount window operation influences banks performance. This study sought to clearly set out how discount window and bridge the above highlighted gap that exists in the past studies under the umbrella of effects of monetary policy on performance of commercial banks in Kenya.

Table 2.1 Summary of Research Gap
<table>
<thead>
<tr>
<th>Researcher</th>
<th>Topic/theme</th>
<th>Research findings</th>
<th>Research gap</th>
<th>Focus of the study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odufalu(2010)</td>
<td>Effects of monetary policy on performance of profitability of commercial banks in Nigeria</td>
<td>There was a significant relationship between the variables</td>
<td>The sample was too small only twelve banks out of Nigeria’s one hundred and twenty banks representing ten percent.</td>
<td>Focus was a census study of all commercial banks.</td>
</tr>
<tr>
<td>Kiganda(2014)</td>
<td>Effects of monetary policy on profitability of commercial banks in Kenya. Case study of Equity bank</td>
<td>Monetary policy affected performance of equity bank negatively</td>
<td>A case study of only equity bank. The findings might be affected by the banks specific characteristic and may not be generalizable</td>
<td>Focus is a census of all commercial banks in Kenya.</td>
</tr>
<tr>
<td>Kithuka (2015)</td>
<td>Effects of monetary policy on profitability</td>
<td>Agreed that only bank internal variables are</td>
<td>Focused on profitability only. Profitability is</td>
<td>Focus was on performance of</td>
</tr>
</tbody>
</table>
of commercial banks in Kenya responsible for determination of banks’ profitability one aspect of banks’ performance and shareholders does not only seek to maximise profits but only their wealth

| Oyanda. (2015) | Monetary policy and financial performance of commercial banks in Kenya. | Monetary policy works only through discount window and open market operation | Monetary policy works through central bank rate, cash reserve ratio, open market operation and discount window operation | The study focused on the four mechanism of monetary policy. |

2.4 Conceptual Framework

This is a graphic representation of relationships between variables to help the reader see the connections of variables in the study at a glance. (Mugenda and Mugenda, 2003). This part discusses the conceptual framework that were used for analysing the effects of monetary policy.
on the performance of commercial banks in Kenya. The dependent variable is the banks’ performance measured by the return on asset. The following is a diagrammatic representation of variables that influence the performance of commercial banks.
Conceptual Framework

Independent Variable

Central Bank Rate
- Lending rate
- Interest rate spread

Cash Reserve Ratio
- Liquidity ratio
- Amount of deposit liabilities

Open Market Operation
- Treasury bills
- Treasury bonds
- Repurchase agreement

Discount Window Operation
- Rate charged
- Rate of usage

Dependent Variable

Banks Performance
- Profit margin

Source: Author, (2017)
CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

This chapter gives the plan utilized by the investigator in conducting this study in order to arrive at findings regarding the monetary policy and performance of commercial banks in Kenya

3.1 Research Design

The study adopted correlation design to examine relationship between variables. According to Kothari (2004) the major reason of correlation research design is to reveal the relationship between variables as it exists at present and the degree to which they are related, correlation research is concerned with how one or more variables affects the other. The independent variables for the study cannot be manipulated by the researcher and therefore tries only to elucidate the current performance of commercial banks as influenced by the autonomous variables.

3.2 Target Population

Kothari (2004) defined population as whole group of persons or objects with common noticeable characteristics. The target population for this study was the heads of credit departments of all commercial banks in Kenya having operating licensed by the central bank of Kenya from the year 2011 to 2015. In Kenya, there are forty-two banks.

3.3 Data Collection Instrument and Procedures

This study used data from primary and secondary sources; the primary data were acquired by administering questionnaire to the heads of departments of all commercial banks on a drop and pick basis. According to Kothari (2004) secondary data is available in various publications of
the central bank of Kenya depository and individual banks’ annual financial statements. The data contained in the central banks of Kenya relating to the performance of commercial banks and the regulations of the independent variables in different years from the year 2011 to 2015.

3.3.1 Validity of Research Instrument
Kothari (2004), this is the magnitude to which variances institute by measuring instrument give accurate variances between those under test. Validity, refers to the degree to which an instrument can measure what it is invented to measure and implies the extent to which a device seeks the correct inquiries in terms of exactness and the degree to which the research instrument is emanates from the research objective. Content validity were determined through discussion of research instrument with the supervisor and lecturers from Kenyatta university school of business and they helped in checking of the appropriateness of the research instruments if it measures what it ought to measure. Content validity were also determined by conducting pilot study where responses were checked if it is addressing research objectives.

3.3.2 Reliability of Research Instrument
Cooper and Schindler (2003) defined reliability as the consistency of the research tool in order to ensure that the data collected has internal consistency to enable data analysis. The reliability of the research instrument is found by conducting preliminary study in banks used for the study in order to observe the consistency in response

3.4 Data Analysis and Presentation
The researcher after collecting data did the editing which refers the practice of probing the gathered raw data to discover errors and omission and to rectify them when probable and tabulation in order to identify anomalies in the data collection Kothari (2004). The data was then
evaluated using the Statistical Package for Social Sciences (SPSS) version 16. The findings then presented using graphs and table to enable comparison.

3.5 Model Specification

The variables of the study comprised of the banks’ performance as the dependent variable and interest rate, cash reserve ratio, open market operation and discount window operation as the independent variables. Since the study was multivariate the researcher employed multiple regression exploration to study the relationship between the performance of commercial banks and causal variables. The choice of multivariate regression model was appropriate since it explained the nature and magnitude of impact of independent variable on the independent variable. Thus the regression equation appears as follows;

Regression Model

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

Where; \( Y \) = banks performance; \( \beta_0 \) = the constant; \( \beta_1, \beta_2, \beta_3, \beta_4 \) = beta coefficients; \( X_1 \) = Central bank rate; \( X_2 \) = cash reserve ratio rate; \( X_3 \) = open market operation; \( X_4 \) = discount window operation rate; \( \varepsilon \) = error term

The bank performance was taken to mean the overall performance of the commercial banks as defined in the dependent variables as return on asset. The percentage change in \( Y \) was taken to mean the percentage change in the performance of commercial banks in Kenya. The errors term refers to the deviation that may arise during the measurements of these variables either by the banking institutions and/or the researcher, the error term helped in stabilizing the model. The \( \beta_0 \) terms represent the performance of commercial banks that is not dependent on the variable under
the study. The effects of intervening variables were streamlined by pooling data of different commercial banks together for a longer period of time.

3.6 Ethical Consideration

According to Kothari (2004), ethics refers to norms or standards that distinguish between what is right and what is wrong that must be upheld in research. The researcher before administering research instruments obtained informed consent on the participant by the use of introductory and data collection letter from the university clearly showing the purpose of the activity and that information treated with high degree of confidentiality.
CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

This chapter covers analysis data, presentation and discussion. The research aimed at examining the monetary policy and performance of commercial banks in Kenya. It had the following objectives, to establish the relationship between of interest rate, reserve requirement, open market operation and discount window operation and performance of commercial banks. The questionnaires were administered to 42 heads of department working in different commercial banks in Kenya accredited by the central bank employing simple random sampling. The data therefore were analysed and findings interpreted to attain the foremost aim of the study of examining monetary and performance of commercial banks in Kenya.

4.2 Response Rate

4.2.1 Response Rate of Questionnaires

The table 4.1 shows the response rate on the questionnaires distributed by the researcher in various commercial banks.

Table 4.1 Rate of response

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response</td>
<td>29</td>
<td>69.10</td>
</tr>
<tr>
<td>Non-Response</td>
<td>13</td>
<td>30.90</td>
</tr>
<tr>
<td>Total</td>
<td>42</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Research findings (2017)
Out of a census of 42 employees 29 responded to questionnaire while 13 failed to respond which gave a response rate of 69.01%. The responses collected from questionnaire were adequate. Mugenda and Mugenda (2003) said that response rate in excess of 50% is enough to make informed conclusion, reporting a response rate of 60% and above is decent. A response rate of 69.01% was sufficient to proceed to analysis. As shown in table 4.2.

### 4.2.2 The Rate of Response on the Respondents’ Experience.

Table 4.2 The number of year’s respondent had worked in the bank.

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 1 year</td>
<td>2</td>
</tr>
<tr>
<td>1 to 5 years</td>
<td>11</td>
</tr>
<tr>
<td>6-10 years</td>
<td>12</td>
</tr>
<tr>
<td>Over 10 years</td>
<td>4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29</td>
</tr>
</tbody>
</table>

Source: Research findings (2017)

Majority of respondents, 41.39% had worked in for between six and ten years. 6.9% indicated that they had worked between one and five years, 13.9% had over ten years’ experience while those who had less than one years’ experience were 6.9% and this was acceptable since the targeted respondent for the study were the department heads who are in management level.

### 4.2.3 The Rate of Response on the Category of the Bank where Respondent is working.

The study sought respondents to indicate the category of the bank as to whether tier I, II or III and the data findings presented shown table 4.3.
Table 4.3 Respondents’ bank category

<table>
<thead>
<tr>
<th>Bank Category</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier I</td>
<td>8</td>
<td>27.58%</td>
</tr>
<tr>
<td>Tier II</td>
<td>12</td>
<td>41.37%</td>
</tr>
<tr>
<td>Tier III</td>
<td>9</td>
<td>31.05%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source; Research findings (2017)

From table 4.3 out of the filled and returned questionnaires, 31.05% were from the tier 3 banks, 41.37 % were from tier 2 banks while 27.58% were from tier 1 banks.

4.2.4 Level of Education of Respondent

Table 4.4 displays findings on the level of education.

Table 4.4 qualification of the respondent

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Diploma</td>
<td>3</td>
<td>10.34%</td>
</tr>
<tr>
<td>Degree</td>
<td>18</td>
<td>62.07%</td>
</tr>
<tr>
<td>Masters</td>
<td>8</td>
<td>27.59%</td>
</tr>
<tr>
<td>PhD</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>29</td>
<td>100%</td>
</tr>
</tbody>
</table>

Source; Research findings (2017)

The research instrument required the respondents to indicate their academic qualifications and findings presented in the table 4.4. It can be seen that, none of the respondents had qualification
of certificate representing 0%, 3 respondents had diplomas representing 10.34%, 18 respondents had degrees representing 62.07%, 8 respondents had masters representing 27.59% and none of the respondents were PhD holders representing 0% of total respondents. Respondents with qualification of degree were therefore the majority of the respondents

4.4.1 Central Bank Rate

This research aimed at establishing the connection between rate of interest and performance of commercial banks in Kenya. It obtained data regarding the trend of rate of interest and performance of commercial banks. The descriptive statistics was conducted and revealed that the bank performance was having a mean of 4.424 and a standard deviation of 0.344 whereas central bank rate was having a mean of 10.62 and a standard deviation of 2.67.

4.4.1.1 Model Summary

Table 4.5 shows the model summary. It was conducted to reveal the proportion that the central bank rate predicts in performance of commercial banks.

Table 4.5 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>.059a</td>
<td>.004</td>
<td>-.329</td>
<td>.39609</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Central bank rate

Source; Research findings (2017)

The coefficient of multiple determination, R² value of 0.004 indicates that only 0.4% of the variation in performance can be elucidated by variation in central bank rate. The other portion of 99.6% of the variation is explained by other forces as shown in table 4.5

4.4.1.2 Analysis of Variance (ANOVA)
Analysis of variance is a technique for separating the entire variability of a variable to parts that can be ascribed to various sources. The researcher utilized analysis of variance to examine the importance of independent variable in determining the dependent variable. The analysis of variance results is shown in table 4.6

Table 4.6 Analysis of Variance

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.002</td>
<td>1</td>
<td>.002</td>
<td>.011</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.471</td>
<td>18</td>
<td>.157</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.472</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Central bank rate

b. Dependent Variable: Performance

Source: Research findings (2017)

An important statistical test done was in analysis of variance was the fishers test. The correlation coefficient was 0.059 which showed a weak and positive association between the central bank rate and performance.

The $F$-statistics was 0.011 and significant at 5% level, $p$- 0.025 implying that the model was fit to explain the relationship between central bank rate and performance. The hypothesis testing was conducted to test the relationship among the variables. Where the $p$-value was below the critical value of 0.05, the null hypothesis was banned. The null hypothesis indicated that there is no significant relationship between the central bank rate and performance. The $p$-value was 0.025 which was less than the significance value of 0.05 which implied that the null hypothesis
is rejected. And therefore there is a significant relationship between central bank rate and performance of commercial banks in Kenya.

### 4.4.1.3 Regression Coefficients

Table 4.7 displays a summary of the findings of regression of central bank rate and performance.

#### Table 4.7 Coefficients

<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>1 (Constant)</td>
<td>4.344</td>
<td>.800</td>
<td></td>
<td>5.431</td>
</tr>
<tr>
<td>Central bank rate</td>
<td>.008</td>
<td>.073</td>
<td>.059</td>
<td>.103</td>
</tr>
</tbody>
</table>

#### a. Dependent Variable: Performance

**Source; Research findings (2017)**

With 95% level of confidence, holding central bank rate constant, performance of commercial banks would be 4.344 and an element rise in central bank rate led to 0.008 increase in performance as shown in table 4.7. The regression equation would therefore become Performance (Y) = 4.344 + 0.008X₁ which implies that holding all the factors constant, the performance of commercial banks would be 4.344 as depicted by the constant in the regression equation. This was in support to Simiyu, C. N., & Ngile, L. (2015) conclusion was that there is a positive relationship of rate of interest and performance. Simiyu, C. N., & Ngile, L argued that as interest rate rises the performance of commercial bank also rise since the lending rate is raised leading to higher interest rate spread between lending rate and central banks rate as banks are
responding to interest rate hike faster than response to what they pay on deposits boosting their net interest margin

4.4.2 Cash Reserve Ratio

This research aimed at instituting the relationship between of cash reserve ratio and the performance. Descriptive statistics was conducted to reveal the means of performance and cash reserve ratio. The performance was having a mean of 4.424 and a standard deviation of 0.344 had cash reserve ratio had a mean of 4.65 with standard deviation of 0.418.

4.4.2.1 Model Summary

Table 4.8 shows the model summary. It was conducted to reveal the proportion that the cash reserve ratio determines in performance.

Table 4.8 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>-.710a</td>
<td>.503</td>
<td>.338</td>
<td>.27959</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Cash reserve ratio

Source; Research findings (2017)

The coefficient of multiple determination, R² value of 0.503 indicates that only 50.3% of the variation in performance can be illustrated by variation in cash reserve ratio. The other portion of 49.7% of the variation is explained by other factors apart from the cash reserve ratio as shown in table 4.8. It was established that there is a robust and negative relationship of cash reserve ratio and performance with a correlation coefficient of -0.710.
4.4.2.2 Analysis of Variance (ANOVA)

Analysis of variance is a technique for separating the entire variability of a variable into parts that can be ascribed to various sources. The researcher utilized analysis of variance to examine the importance of independent variable in determining the dependent variable. The analysis of variance results is shown in table 4.9

Table 4.9 ANOVA

<table>
<thead>
<tr>
<th>Model</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>.238</td>
<td>1</td>
<td>.238</td>
<td>3.042</td>
<td>.019</td>
</tr>
<tr>
<td>Residual</td>
<td>.235</td>
<td>18</td>
<td>.078</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.472</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Cash reserve ratio

b. Dependent Variable: Performance

**Source; Research findings (2017)**

In regression analysis, the researcher used ANOVA to decide the usefulness of the independent variables in explaining the dependent variable. An important statistical test done was in analysis of variance was the $F$-test. The $F$-statistics was 3.042 and insignificant at 5% level, $p$- 0.019 implying that the model was fit in explaining the connection and since the $p$-value was below the critical value ($\alpha$) of 0.05 the relationship between cash reserve ratio was not by chance. The hypothesis testing was done to test the relationship between the variables.

4.4.2.3 Regression Analysis

The researcher did regression analysis to establish the relationship between cash reserve ratio and performance of commercial banks and findings presented in table 4.10.
The regression analysis was done to show the relationship between cash reserve ratio and performance and results are shown in table 4.10. Holding cash reserve constant, the study showed that, the performance of commercial banks would be 7.134 and with a unit increase in cash reserve ratio, performance of commercial banks would decrease by 0.583 units. The study showed that cash reserve ratio had a significant relationship with performance of commercial banks. The p-value of 0.019 which was less than 0.05 implying that the relationship between cash reserve ratio was significant in explaining the performance of commercial banks. The regression equation would become, Performance (Y) = 7.134 - 0.583X. The findings of this study supported of Laurent (2015) study on reserve requirement and performance of commercial banks. The conclusion was that an increase in reserve requirements reduces the ability of commercial banks to advance loan to its customers hence reducing the profitability and consequently the performance of commercial bank. The findings of this study supported of Laurent (2015) study on reserve requirement and performance. The conclusion was that an increase in reserve requirements reduces the ability of commercial banks to advance loan to its customers.
customers hence reducing the profitability and consequently the performance of commercial banks.

4.4.3 Open Market Operation

The researcher aimed at studying the collaboration between the open market operation and performance of banks in Kenya. The descriptive statistics performed to showed the means of performance and open market operation and showed that the mean for performance were 4.424 with a standard deviation of 0.343 while open market operation had a mean of 8.22 with standard deviation of 0.981.

4.4.3.1 Model Summary

Table 4.8 shows the model summary. It was conducted to reveal the proportion that the open market operation predicts in performance of commercial banks.

Table 4.8 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>-.834a</td>
<td>.696</td>
<td>.594</td>
<td>.21891</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Open market operation

Source; Research findings (2017)

The coefficient of multiple determinations, R² value of 0.696 indicates that only 69.6% of the disparity in performance can be elucidated by variation in open market operation. The other portion of 30.4% of the variation is explained by other factors apart from the open market operation as shown in table 4.11. the research also recognised that there is a very strong and negative relationship between open market operation and performance of commercial banks in Kenya a correlation coefficient of -0.834.
4.4.3.2 Analysis of Variance (ANOVA)

Analysis of variance is a procedure for dividing the total variability of a variable into parts that can be ascribed to various sources. The researcher utilized analysis of variance to examine the importance of independent variable in determining the dependent variable. The analysis of variance results is shown in table 4.12

Table 4.12 ANOVA

<table>
<thead>
<tr>
<th>Model</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>.329</td>
<td>1</td>
<td>.329</td>
<td>6.856</td>
<td>.000</td>
</tr>
<tr>
<td>Residual</td>
<td>.144</td>
<td>18</td>
<td>.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>.472</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Open market operation
b. Dependent Variable: Performance

Source: Research findings (2017)

Analysis of variance (ANOVA) is a statistical technique for dividing the entire differences of variable into constituents that can be associated with difference sources. In regression analysis, the researcher used analysis of variance to define the significance of the independent variables in predicted the dependent variable. An important statistical test conducted was in analysis of variance was the $F$-test. The $F$-statistics was 6.856 and significant at 5% level, $p$- 0.000 implying that the model was fit to demonstrate the connection of open market operation and performance and since the $p$-value was less than the critical value ($\alpha$) of 0.05 the relationship between open market operations was not by chance. The hypothesis testing was performed to test the relationship between the variables. The null hypothesis indicated that there is no significant
relationship between open market operation and performance of commercial bank in Kenya. The $p$-value was 0.000 which was less than the significance value of 0.05 which implied that the null hypothesis is rejected and hence, there is significant relationship between open market operation and performance.

4.4.3.3 Regression Analysis

Table 4.13 displays a summary of the findings of regression of open market operation and performance.

Table 4.13 Coefficients

<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>1 (Constant)</td>
<td>6.826</td>
<td>.923</td>
<td></td>
<td>7.399</td>
</tr>
<tr>
<td>Open market operation</td>
<td>-.292</td>
<td>.112</td>
<td>-.834</td>
<td>-2.618</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance

Source: Research findings (2017)
The regression analysis was done to depict the relationship between open market operation and performance. The result found that open market operation controlled 69.6% shown by the R square of the model summary. It also showed that, holding the open market operation constant, the performance would be 6.826. With a unit increase in open market operation, the performance of commercial banks would increase by 0.292. The regression equation between performance and open market operation would become Performance (Y) = 6.826 – 0.292X3. The model was therefore significant at 95% level of confidence.

Kimani (2013) concluded that open market operation raises banks performance as the return from government security is higher and accompanied by less risk and cost compared to the returns from advancing loans to individual clients. Open market operation therefore affects the performance of commercial banks positively as per Kimani. The outcome of this study therefore disagrees with Kimani’s finding and therefore there is a negative correlation between open market operation and performance.

4.4.4 Discount Window Operation

The researcher intended at analysing the relationship concerning the discount window operation and performance. Descriptive statistics were performed to show the means and standard deviations of performance of commercial banks and discount window operations. The study showed that, performance was having a mean of 4.424 with standard deviation of 0.344 while the performance had a mean of 17.06 and standard deviation of 2.089.

4.4.4.1 Model Summary

Table 4.14 shows the model summary. It was conducted to reveal the proportion that the discount window operation determines in performance of commercial banks.
Table 4.14 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>.173(^a)</td>
<td>.030</td>
<td>-.293</td>
<td>.39080</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Discount window operation

Source; Research findings (2017)

The coefficient of multiple determinations, \( R^2 \) value of 0.030 indicates that only 3.0% of the variation in performance can be described by variation in discount window operation. The other portion of 97% of the variation is explained by other factors apart from the discount window operation as shown in table 4.14.

4.4.4.2 Analysis of Variance (ANOVA)

Analysis of variance is a technique for dividing the entire variability of a variable to parts that can be ascribed to various sources. The researcher utilized analysis of variance to examine the importance of independent variable in determining the dependent variable. The analysis of variance results is shown in table 4.15

Table 4.15 ANOVA

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.014</td>
<td>1</td>
<td>.014</td>
<td>2.093</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.458</td>
<td>18</td>
<td>.153</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.472</td>
<td>19</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Discount window operation
b. Dependent Variable: Performance

Source; Research findings (2017)

A significant statistical test done was in analysis of variance was the fishers test. The $F$-statistics was 0.093 and insignificant at 5% level, $p$- 0.011 implying that the model was fit to explain the relationship between discount window operation and performance, since the $p$-value was below the critical value ($\alpha$) of 0.05 the relationship between discount window operation was not by chance. The hypothesis testing was done to test the relationship amongst the variables. Where the $p$-value was below the critical value of 0.05, the null hypothesis was rejected. The null hypothesis indicated that there is no significant relationship between discount window operation and performance of commercial bank in Kenya. The $p$-value was 0.011 which was less than the significance value of 0.05 which implied that the null hypothesis is rejected and hence, there is significant relationship between discount window operation and performance.

4.4.4.3 Regression Analysis

Table 4.16 displays a summary of the findings of regression of discount window operation and performance.
Table 4.16 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Un-standardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>3.938</td>
<td>1.605</td>
</tr>
<tr>
<td>Discount window operation</td>
<td>.028</td>
<td>.094</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Performance

Source; Research findings (2017)

With 95% level of confidence, the findings showed that holding discount window operation constant, the performance of commercial bank would be 3.938 and a unit increase in discount window operation would lead 0.028 increases in performance. As shown in table 4.16. The regression equation between performance and open market operation would become Performance (Y) = 3.938 + 0.028X4. This model was therefore significant at 95% level of confidence.

It was found that an rise in discount window operation led to 0.028 rise in performance of commercial banks. The findings when discount window is assumed to be the sole determinant of banks performance conflict with Alton (1985) conclusion that banks using this facility when faced with liquidity challenge end up enjoying a narrower interest rate spread as the facility interest is too high meant to discourage commercial banks to use it.
4.3 Correlation Analysis

The study explored the spearman’s rank correlation coefficients which were used to illustrate the relationship between various pairs of variables, that is, dependent and independent variables and between independent variables.

Table 4.17 Correlation matrix

<table>
<thead>
<tr>
<th></th>
<th>Performance</th>
<th>Central bank rate</th>
<th>Cash reserve ratio</th>
<th>Open market operation</th>
<th>Discount window operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Performance</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Central bank rate</td>
<td>.059</td>
<td>1.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash reserve ratio</td>
<td>-.710</td>
<td>.162</td>
<td>1.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Open market operation</td>
<td>-.834</td>
<td>-.070</td>
<td>.901</td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Discount window operation</td>
<td>.173</td>
<td>.607</td>
<td>-.284</td>
<td>-.412</td>
<td>1.000</td>
</tr>
</tbody>
</table>

Source; Research findings (2017)

Correlation coefficients greater than zero were considered as positive relationship while coefficients less than zero as an indicator of an inverse relationship. Table 4.17. shows correlation analysis of all the variables used in this study. The analysis is done to show whether the independent variables are related to each other and therefore becoming indeterminate and allows ascertaining multi-co linearity of variables and avoiding development of spurious regression mode. The result shows that cash reserve ratio and open market operation were highly correlated to the performance of commercial banks. This means that there was evidence of
multi-co linearity among the variables which suggests that entry into the regression model as they are without transformation would lead to spurious regression results.

4.4 Model Summary

The model summary was used to give the value of dependent variable using independent variables. The study independent variables were the central bank rate, reserve requirement. Open market operation and discount window operation while the dependent variable was the performance.

Table 4.18 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>.850a</td>
<td>.722</td>
<td>.648</td>
<td>.31900</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Central bank rate, Open market operation, Cash reserve ratio, Discount window operation

Source; Research findings (2017)

The coefficient of multiple determination R square value of 0.722 indicates that only 72.2% of the variation in performance of commercial banks in Kenya can be described by the variation in the independent variables herein studied. The other portion of 27.8% of the variation in performance can be explained by other factors not studied as shown in table 4.18. The independent variable was found to be having a strong and positive and strong correlation with a correlation coefficient of 0.850.
4.5 Analysis of Variance

Analysis of variance is a technique for dividing the entire variability of a variable to parts that can be ascribed to various sources. The researcher utilized analysis of variance to examine the importance of independent variable in determining the dependent variable. The analysis of variance results is shown in table 4.19. An important analysis of variance conducted was $f$-statistics.

Table 4.19 ANOVA

<table>
<thead>
<tr>
<th>Model</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>1.829</td>
<td>1</td>
<td>4</td>
<td>6.454</td>
<td>.003</td>
</tr>
<tr>
<td>Residual</td>
<td>1.063</td>
<td>18</td>
<td>15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>2.892</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. predictors, (constant), central bank rate, cash reserve ratio, open market operation, discount window operation.

Source: Research findings (2017)

4.6 Regression Analysis of all Variables

The researcher did multiple regression analysis to realize the relationship that exists between monetary policy and performance of commercial banks. The study used the statistical package for social sciences (SPSS version 16) to code, enter and compute the measurement of regression analysis.
The researcher did a multiple regression analysis to determine the relationship between monetary policy and performance of commercial banks. The SPSS generated table 4.20, regression equation \( Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 \) becomes;

\[
\text{Performance (Y) = 10.365 + 0.025X}_1 - 1.053X_2 - 0.057X_3 - 0.61X_4
\]

The positive beta of central bank rate displays a positive relationship between central bank rate and performance while the negative betas of cash reserve ratio, open market operation and discount window operation depicts that they have a negative relationship with performance. According to the regression equation, taking central banks rate, cash reserve ratio, open market operation and discount window operation caused by expected changes in monetary policies into account, constant at zero performance would be 10.365. However, the model had negative and positive coefficients.

### Table 4.20 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Un-standardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1 (Constant)</td>
<td>10.365</td>
<td>1.538</td>
</tr>
<tr>
<td>Central bank rate</td>
<td>.025</td>
<td>.032</td>
</tr>
<tr>
<td>Cash reserve ratio</td>
<td>-1.053</td>
<td>.378</td>
</tr>
<tr>
<td>Open market operation</td>
<td>-.057</td>
<td>.034</td>
</tr>
<tr>
<td>Discount window operation</td>
<td>-.061</td>
<td>.053</td>
</tr>
</tbody>
</table>

**Source:** Research findings (2017)
With 95% level of confidence the p-value for central bank rate was 0.010 which was less the critical value ($\alpha= 0.05$) hence central bank rate was significant in determining the performance. If all other factors are held constant at zero, a unit rise in CBR will led to a 0.025 increase in performance commercial bank. These findings supported Simiyu, C. N., & Ngile, L. (2015) conclusion that there is a positive direct relationship between interest rate and performance. Simiyu & Ngile argued that as interest rate rises the performance of commercial bank also rise since the lending rate is raised leading to higher interest rate spread between lending rate and central banks rate as banks are responding to interest rate hike faster than response to what they pay on deposits boosting their net interest margin.

With 95% level of confidence the p-value for cash reserve ratio was 0.01 which was less the critical value ($\alpha= 0.05$) hence cash reserve ratio was significant in defining the performance of commercial banks in Kenya. A unit rise in cash reserve ratio led to a 1.053 decrease in performance of commercial bank. The findings of this study supported of Laurent (2015) study on reserve requirement and performance of commercial banks in Kenya. The conclusion was that an increase in reserve requirements reduces the ability of commercial banks to advance loan to its customers hence reducing the profitability and consequently the performance of commercial banks.

With 95% level of confidence the p-value for open market operation was 0.000 which was less the critical value ($\alpha= 0.05$) hence open market operation was significant in determining the performance of commercial banks in Kenya. A unit rise in open market operation led to a 0.057 decrease in the performance of commercial in banks. The findings of this study rejected Kimani’s (2013) concluded that open market operation raises banks performance as the returns
from government securities is higher and accompanied by less risk and cost compared to the returns from advancing loans to individual clients. According to the study, open market operation negatively affects performance of commercial banks in Kenya.

With 95% level of confidence the p-value for discount window operation was 0.001 which was less the critical value (α= 0.05) hence discount window operation was significant in determining the performance. A unit increase in discount window operation will lead to 0.061 decrease in the performance of commercial banks. It was also revealed cash reserve ratio had the greatest effect on the performance of commercial banks followed by open market operation and therefore it was the significant predictor of performance of commercial banks. Alton’s (1985) conclusion that banks using discount window facility when faced with liquidity challenge end up enjoying a narrower interest rate spread as the facility interest is too high meant to discourage commercial banks to use it. A decrease in discount rate makes it cheaper for commercial banks to borrow resulting in an increased availability of funds for lending. These findings however differed from when discount window operation is studied alone and all the variables are put together which implied that the independent variables are indeterminate but affected by the other variables in this study. The conclusion is, however, discount window operation affects the performance of commercial banks.
CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides the summary of the findings, conclusions and recommendations of the study.

5.2 Summary of Findings

Objectives of this inquiry were to examine the relationship between central bank rate, cash reserve ratio, open market operation and discount window operation and performance of commercial banks in Kenya.

The research concluded that central bank rate had a very weak positive relationship with performance of commercial banks in Kenya. These findings supported to Simiyu, C., & Ngile, L. (2015) conclusion that interest rate and performance are positively correlated. The study showed that central bank rate was a significant determinant of performance of commercial banks in Kenya which implied that a unit increase in central bank rate led to increase in the performance of commercial banks.

It was found that cash reserve ratio had a noteworthy effect on the performance of commercial banks. The p-value was less than 0.05 implying that the effect of cash reserve ratio had significant in explaining the performance of commercial banks. A unit increase in cash reserve ratio led to decrease in the performance of commercial banks in Kenya. This study supported Laurent (2015) study on reserve requirement and performance of in Kenya.

It was established that, there was a negative correlation amongst open market operation and performance. The model was important in amplifying relationship between open market
operation and performance of commercial banks in Kenya. The study explained that an increase in open market operation led to increase in performance by. Kimani (2013) said that open market operation raises banks performance as the return from government security is higher and accompanied by less risk and cost compared to that from advancing loans to clients. The study however rejected Kimani’s conclusion and the argument was that, through the profitable opportunity that the central bank offers on the purchase of government securities through open market operation, individual customers considers investing in these securities and commercial banks are left with little money to lend out hence affecting performance negatively.

On discount window operation the study resolved that a negative correlation between discount window operation and performance of commercial banks in Kenya existed. This is in support of Alton’s (1985) conclusion that banks using this facility when faced with liquidity challenge end up enjoying a narrower interest rate spread as the facility interest is too high meant to discourage commercial banks to use it. A decrease in discount rate makes it cheaper for commercial banks to borrow resulting in an increased availability of funds for lending. The conclusion is however; discount window operation affects the performance of commercial banks negatively.

5.3 Conclusion
Central bank rate was positively correlated to the performance with beta of 0.025 and p-value of 0.010. Cash reserve ratio is negatively correlated with performance of commercial banks with beta -1.053 and p-value of 0.009 while open market operation is negatively correlated with beta value of -0.057 and p-value 0.000 and discount window operation is negatively with beta value of -0.61 and p-value 0.001 at 95% level of confidence or 5% level of significance, when all variables were kept constant the performance of commercial banks would be 10.365. The
regression equation therefore became Performance (Y) = 10.365+ 0.025X_1- 1.053X_2- 0.057X_3- 0.61X_4

5.4 Recommendations

The following recommendations were made:

1. Central bank of Kenya should consider raising the central banks rate since it was found to be improving commercial banks performance to raise performance.

2. Commercial banks should understand the source of funds the utilizing in order to avoid seeking funds from the discount window facility which was found to be having negative impact on the performance.

3. It was recommended that banks to put more effort on internal factors to enable them attain good performance.

4. In order to realize it’s objectives such as economic growth and full employment which are key in development of a country, central bank of Kenya should provide a good environment for commercial banks to easily and cheaply get finances to continue in business.

5.5 Suggestion for Further Studies

Performance of commercial banks in Kenya is affected by a number of causes apart from monetary policy, from the study it was found out that monetary policy account only for 72.2% on performance while 27.8% is dictated by other factors apart from monetary policy, therefore a recommendation to upcoming researchers to study these other factors accounting for 27.8%.

One of the other factors might be the international trade balance of payment. Monetary policy may have effect on the balance of payment which implies that there is a triangular effect on each
other. Another study should perform to define the effects of monetary policy and balance of payment.

This study also suggests that more studies be conducted focusing on the tier of commercial banks as it was noted in the study that performance of commercial banks in the same tier were almost equal with those in tier one leading followed by tier two and tier three respectively.
APPENDIX I

References


**APPENDIX II**

**Questionnaire**

I am doing a investigation on title “MONETARY POLICY AND PERFORMANCE OF COMERCIAL BANKS IN KENYA” Herewith is the question to enable the researcher collect data on the above title. I kindly request to fill the questions and to assure you that any data provided by you will treated with a high degree of confidentiality.

**Section A; GENERAL INFORMATION**

1. Your Name (Optional)…………………..

2. Name of your bank (optional)……………..
3. How long have you worked in this bank. (Tick where appropriate)

Less than 1 year [ ]
1 to 5 years [ ]
6 to 10 years [ ]
above 10 years [ ]

4. Kindly indicate the category of your bank (Tick where appropriate)

Tier I [ ]
Tier II [ ]
Tier III [ ]

5. Tick below your level education.

Certificate [ ]
Diploma [ ]
Degree [ ]
Masters [ ]
PhD [ ]

6. To what extent do central banks’ monetary policy affects the performance of your bank.

Very great extent [ ]
Great extent [ ]
moderate extent [ ]
Low extent [ ]
very low extent [ ]

SECTION B; MONETARY POLICY

Policies adopted by central bank of Kenya in order to ensure price stability, full employment and economic growth and development

Part One:- Interest Rate,

7. What was the rate of interest and interest rate spread in the following years?
<table>
<thead>
<tr>
<th>Year</th>
<th>Lending rate</th>
<th>Interest rate spread</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. To which level do you agree with statements below regarding interest rate? Tick where appropriate.

<table>
<thead>
<tr>
<th>Statement</th>
<th>5</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monetary policy works purely via interest rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low interest rate raises performance by raising demand for loan</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes of interest by central bank eventually leads to bank changing lending rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest rate spread affect performance of the bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9. Do you think interest rate has any effect on the performance of your bank? If yes please describe the effect briefly ............................................................


**Part Two: Cash Reserve Ratio**

10. How was the rate of cash reserve ratio maintained by your bank in the following years? Tick where appropriate.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. In your own opinion, do you think cash reserve ratio has any effect on the performance of your bank? If yes, kindly explain the effect………………………………………………………………………………

12. To which level do you agree with the following statements relating to cash reserve ratio. Tick where appropriate.

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
</table>
Cash reserve ratio adjustments causes an immediate liquidity problems or boost the liquidity position of your bank.

Holding some funds in excess enhances smooth operation of payment system and improves banks’ performance.

The higher the requirement set by central bank, the lesser the funds available to the bank to loan out.

The higher the amount of deposits the higher the amount reserve bank is required to maintained and hence impeding the banks performance

13. In your own opinion, do you think cash reserve ratio affects the performance of your bank?

If yes please describe the effect briefly .........................................................

............................................................... ...............................................................

Part Three; - Open Market Operation

This refers to trading with government securities by central bank of Kenya and commercial banks to control money supply and providing investment opportunities.

14. How was the rate of adoption of the following instruments of open market operation in the following years? Tick where appropriate.

<table>
<thead>
<tr>
<th>Year</th>
<th>Instrument</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td>Treasury bills</td>
<td>Treasury bonds</td>
<td>REPOs and Reverse REPOs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------</td>
<td>----------------</td>
<td>-------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2013</td>
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<tr>
<td>2014</td>
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<tr>
<td>2015</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
14. To which level do you agree with the statements below relating to Open Market Operation?

Tick where appropriate Using a scale of 1 to 5 where 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 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>Open Market Operation investment provide bank with certainty in pay off</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Banks can boost their performance by timing the purchase and sale of</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>securities and they can relied upon to improve the bank’s performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Open Market Operation has influence on the short term interest rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>and hence indirectly controls money supply</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

15. In your own opinion, do you think open market operation has any effect on the performance of your bank? If yes please describe the effect briefly ..........................................................

Part Four;- Discount Window Operation

This refers to a facility that central bank avails to commercial banks when faced with liquidity challenge in order to raise their liquidity and enables smooth flow of banking business as a ‘lender of last resort’,

16. What was the discount window rate charged in the following years? Tick where appropriate using a scale of 1 to 5 where 1= Very low 2= Low 3=Moderate 4= High 5= Very high.
17. To extent did your bank relied on discount window in the following years? Tick where appropriate.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td></td>
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<tr>
<td>2012</td>
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<tr>
<td>2013</td>
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<tr>
<td>2014</td>
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<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

18. to which level do you agree with the following statement relating discount window operation? Tick where appropriate Using a scale of 1 to 5 where 1= Strongly disagree 2= Disagree 3= Neutral 4= Agree 5= Strongly agree.
Bank opting to Discount Window frequently attracts close scrutiny by central bank and can lead to adverse condition even up to bank closure.

Bank opting to Discount Window at a penal rate constrains the performance of banks than it raises.

Discount Window brings more losses to your bank than benefits.

19. In your own opinion, do you think discount window operation has any effect on the performance of your bank? If yes, please describe the effect briefly

........................................................................................................................................................................................................................................................................................................................................................................................................................................................................................................

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THANK YOU FOR YOUR PARTICIPATION
APPENDIX II;

Commercial Banks in Kenya

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Bank</th>
<th>Date Licensed</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ABC Bank</td>
<td>8\textsuperscript{th} Dec 1994</td>
</tr>
<tr>
<td>2</td>
<td>Bank of Africa</td>
<td>30\textsuperscript{th} Apr 2004</td>
</tr>
<tr>
<td>3</td>
<td>Bank of Baroda</td>
<td>1\textsuperscript{st} July 1953</td>
</tr>
<tr>
<td>4</td>
<td>Bank of India</td>
<td>8\textsuperscript{th} June 1953</td>
</tr>
<tr>
<td>5</td>
<td>Barclays Bank of Kenya</td>
<td>1916-No date</td>
</tr>
<tr>
<td>6</td>
<td>CFC Stanbic Bank</td>
<td>1\textsuperscript{st} June 2008</td>
</tr>
<tr>
<td>7</td>
<td>Charterhouse Bank Limited</td>
<td>1\textsuperscript{st} August 1998</td>
</tr>
<tr>
<td>8</td>
<td>Chase Bank Limited</td>
<td>1\textsuperscript{st} April 1996</td>
</tr>
<tr>
<td>9</td>
<td>Citibank</td>
<td>1\textsuperscript{st} July 1974</td>
</tr>
<tr>
<td>10</td>
<td>Commercial Bank of Africa</td>
<td>1\textsuperscript{st} January 1967</td>
</tr>
<tr>
<td>11</td>
<td>Consolidated Bank of Kenya</td>
<td>8\textsuperscript{th} December 1989</td>
</tr>
<tr>
<td>12</td>
<td>Co-operative Bank of Kenya</td>
<td>1\textsuperscript{st} July 1968</td>
</tr>
<tr>
<td>13</td>
<td>Credit Bank,</td>
<td>30\textsuperscript{th} November 1994</td>
</tr>
<tr>
<td>14</td>
<td>Development Bank of Kenya</td>
<td>20t September 1996</td>
</tr>
<tr>
<td>15</td>
<td>Diamond Trust Bank</td>
<td>15\textsuperscript{th} November 1994</td>
</tr>
<tr>
<td>16</td>
<td>Eco-bank</td>
<td>16\textsuperscript{th} June 2008</td>
</tr>
<tr>
<td>17</td>
<td>Equity bank</td>
<td>28\textsuperscript{th} December 2004</td>
</tr>
<tr>
<td>18</td>
<td>Family Bank</td>
<td>1\textsuperscript{st} May 2007</td>
</tr>
<tr>
<td>19</td>
<td>Fidelity Bank</td>
<td>1\textsuperscript{st} April 1996</td>
</tr>
<tr>
<td>20</td>
<td>First Commercial Bank Limited</td>
<td>29\textsuperscript{th} April 2008</td>
</tr>
<tr>
<td></td>
<td>Bank Name</td>
<td>Date</td>
</tr>
<tr>
<td>---</td>
<td>----------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>21</td>
<td>Giro Bank</td>
<td>17th December 1992</td>
</tr>
<tr>
<td>22</td>
<td>Guaranty Trust Bank</td>
<td>13th January 1995</td>
</tr>
<tr>
<td>23</td>
<td>Guardian Bank</td>
<td>20th December 1995</td>
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<tr>
<td>24</td>
<td>Gulf African Bank</td>
<td>1st November 2007</td>
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<td>25</td>
<td>Habib A.G Zurich Bank</td>
<td>1st July 1978</td>
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<tr>
<td>26</td>
<td>Habib Bank</td>
<td>2nd March 1956</td>
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<td>27</td>
<td>I&amp;M Bank</td>
<td>27th March 1996</td>
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<tr>
<td>28</td>
<td>Imperial Bank</td>
<td>8th January 1996</td>
</tr>
<tr>
<td>29</td>
<td>Jamii Bora Bank</td>
<td>2nd March 2010</td>
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<tr>
<td>30</td>
<td>Kenya Commercial Bank</td>
<td>1st January 1896</td>
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<td>31</td>
<td>Middle East Bank</td>
<td>28th November 1980</td>
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<tr>
<td>32</td>
<td>National Bank</td>
<td>1st January 1968</td>
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<td>33</td>
<td>NIC Bank</td>
<td>28th September 1995</td>
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<td>34</td>
<td>Oriental Commercial Bank</td>
<td>8th February 1991</td>
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<td>35</td>
<td>Paramount Universal bank</td>
<td>5th July 1995</td>
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<td>36</td>
<td>Prime Bank</td>
<td>3rd September 1992</td>
</tr>
<tr>
<td>37</td>
<td>Sidian (Formely Faulu)Bank</td>
<td>23rd March 1999</td>
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<td>38</td>
<td>Spire Bank</td>
<td>23rd June 1995</td>
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<td>39</td>
<td>Standard Chartered Bank</td>
<td>1910-no date</td>
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<td>40</td>
<td>Trans-National Bank,</td>
<td>8th January 1985</td>
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<td>41</td>
<td>United Bank of Africa</td>
<td>25th September 2009</td>
</tr>
<tr>
<td>42</td>
<td>Victoria Bank</td>
<td>11th January 1996</td>
</tr>
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</table>

Source: Central bank of Kenya, 2009