MONETARY POLICY AND PERFORMANCE OFSELECTED COMMERCIAL BANKS IN KENYA.

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DECLARATION

This research thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other any other award.

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CERTIFICATION

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DEDICATION

This research thesis I dedicate to my family members who have continually been instrumental and inspirational, understanding and the sacrifice they have towards starting my Masters Program.

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ABSTRACT

The purpose of this study was to investigate 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 study was guided by the following objectives; to establish the effect of interest rate and performance of commercial banks, to establish the effect of cash reserve ratio and performance of commercial banks, to establish the effect of open market operation and performance of commercial banks and to establish the effect of discount window operation and performance of commercial banks in Kenya. The study targeted all commercial banks in Kenya from which simple random sampling was used to obtain a sample. Sampling frame being the central bank's list of licensed commercial banks in Kenya before the year 2011. This study used both primary and secondary data. Primary data were obtained by administering questionnaire on a drop and pick basis while secondary data were obtained from central bank of Kenya annual reports and specific commercial banks audited financial statements. Data collected were analysed using multiple regression model and data presentation using graphs and tables to establish the relationship between monetary policy and performance of commercial banks. Correlation research design was also adopted to explain the existing relationship between monetary policy and performance of commercial banks in Kenya. The study found out that monetary policy controls 72.2% of performance of commercial banks in Kenya. Taking all other independent variables at zero the performance of commercial banks was 10.365, a unit increase in central bank rate will lead to a 0.025 increase in performance commercial bank; a unit increase in cash reserve ratio will lead to a 1.053 times decrease in performance of commercial bank, a unit increase in open market operation led to a 0.057 increase the performance of commercial in banks and a unit increase in discount window operation will lead to 0.61 decrease in the performance of commercial banks. This concluded cash reserve ratio has the greatest effect on the performance of commercial banks followed by open market operation. At 5% level of significance and 95% level of confidence, all the independent variables were significant in determining performance of commercial banks in Kenya. The study recommended that central bank of Kenya should consider raising the central banks rate since it was found to be the only variable from monetary policy that is improving commercial banks profitability. Cash reserve ratio has been negating the performance of commercial banks in Kenya, central bank of Kenya should select a low and suitable rate the commercial banks are required to maintain in the cash tills.

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ABBREVIATION AND ACCRONYMS

CBK: Central Bank of Kenya

DWO: Discount Window Operation

KBA: Kenya Bankers Association

MPAC: Monetary Policy Advisory Committee

MPC: Monetary Policy Committee

OMO: Open Market Operation

REPO: Repurchase Agreement

CRR : Cash Reserve Ratio

OPERATIONAL DEFINITION OF TERMS

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'.

Interest rate: This is the rate at which commercial banks lend to borrowers and it is determined by the central bank of Kenya.

Monetary policy: Policies adopted by central bank of Kenya 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.

Cash reserve ratio: This is a percentage of total deposits that commercial banks are required to hold in there vaults and not to utilize it in business operations.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter deals with the background of the study, problem statement and the objectives of the project and finally looks into the scope, justification of the study and its significance of the study.

1.1 Background of the study

Monetary policy encompasses any policy designed to influence the level of economic activity by influencing the supply and demand or the cost of money. A sound monetary-policy framework needs to meet two objectives: maintaining price stability and promoting the utilization of the economy's resources at the highest attain-able level (Svensson, 2011)]. The former is an integral part of the mandate of every central bank, while the latter is one of the stated objectives outlined in the mandate of central banks such as the Federal Reserve and an implicit consideration in the conduct of monetary policy of others. In normal times monetary policy consists in the central bank signalling its desired overnight interbank rate that banks use to meet reserve requirements and settle transactions by engaging in open market operations and clearly communicating its stance on monetary policy. This is what is usually called the central bank's main policy rate.

The effectiveness of monetary policy, however, is not without limits. During the recent financial crisis, it became evident that under certain circumstances a central bank may find itself unable to meet its mandate using conventional monetary policy instruments. Under such circumstances, it is forced to resort to unconventional monetary policy measures. When the zero lower on the policy rate becomes binding

and the transmission mechanism of monetary policy is seriously impaired; a central bank has to part ways with the convenience and safety of conventional monetary policy.

We now turn to a detailed discussion of the fundamental problems that would lead a central bank to employ unconventional policy measures.

Commercial banks play a very imperative role 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 policy to achieve the desired level of development among others. Performance of these commercial banks determines their continual operation existence. Its existence is felt by wider range 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 variety of 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 employment, stable prices and moderate 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 bank loans represent more than 70% of its total long-term debt, (Mudida, 2015).

The introduction of monetary policy in most developing countries 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 past decade significant change in the conduct of monetary policy has been felt around the world. Many developing countries, including Kenya 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 many central banks through the monetary policy organ have 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 Monetary policy in Kenya

Monetary policy committee (MPC) is an organ of central bank responsible for formulating monetary policy. It was formed vide Gazette Notice 3771 on 30th April 2008 replacing the hitherto monetary policy advisory committee (MPAC). The membership of MPC is constituted by the CBK Governor who chairs the committee, the deputy Governor, two members appointed by the Governor and four other external members who have exemplary knowledge in matters relating to finance, banking and fiscal monetary policy. MPC is required by the law to submit 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, (Price Water Coopers, 2011)

One of the responsibilities of monetary policy committee is to determine the rate at which banks lend to borrowers in order to attain a stable economy. Interest rate is the price that one pays in excess of the funds advanced to. Poor performance of commercial banks puts them pressure to retain high interest rate in order to minimize losses associated with poor performance of loans 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, if reserve money cannot easily be increased the cash reserve ratio restrict commercial bank balance sheet growth, 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 (OMO) 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 are sold at 8.662% as of January 2017. When the central bank sells security it reduces the amount of money in circulation and 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 opeKenya, 2016)

Central bank as a lender of last resort can employ discount window operation (DWO). The CBK lends to the commercial bank on an overnight basis at 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 (Central Bank of Kenya 2009).

1.1.2 Commercial Banks in Kenya

The Companies Act 1978 revised 2009, the Banking Act 2011 revised 2012, the Central Bank of Kenya Act 2005, the Kenya Bankers Association and the various guidelines issued by the Central Bank of Kenya (CBK), governs the Banking industry in Kenya. The CBK, which falls under the Cabinet Secretary to the National Treasury, is responsible for formulating and implementing monetary policy and fostering the liquidity, solvency and soundness of the financial system in the country. The Central Bank of Kenya is the main regulator of commercial banks in Kenya. The banking industry in Kenya is composed of 42 Commercial Banks with 10 being listed in Nairobi stock exchange. The banks have come together under the Kenya Bankers Association (KBA), which serves as a lobby for 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.(CBK Annual Report, 2011).

The banking sector acts as a mechanism through which the formulated monetary policies by the government through central bank get implemented. One of the most widespread services offered by banks is loaning to the members of public. The banks also participate in purchase of government securities for such as treasury bills and bonds which are aimed at raising funds for the government and maintaining low

inflation levels and also offering investment opportunities to commercial banks with high and certain returns (Kamau, 2009).

1.1.3 Performance of Commercial Banks in Kenya

Commercial Banks in Kenya have on average been posting a continuous decline in their performance over the last less than a decade. The return on asset in 2012 was 4.7 and 2013 remained 4.7 but 2014 reduced to 4.46% then declined to 3.4% in 2015 and further declined to 3.1% in 2016 while the return on equity has also been declining from 2012 at 30% to 29.2% in 2013 to 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%, according to (International Monetary Fund, 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. Many 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 others voluntarily pulled out from operation. (Cytonn investment banking report, Aug 2016).

1.2 Statement of the problem

Cheng (2006) study on the impact on monetary policy intervention in Kenya showed that there was significant relationship between the monetary policy and price stability, employment and economic development. The Central Bank of Kenya (CBK), just like other monetary controlling institutions in the world is entrusted with the task of formulating and implementing monetary policies geared towards maintaining the set monetary targets in order to achieve economic growth and development. In additional CBK should ensure that there is regulation to maintain a sound based financial system. Between 2012 and 2016 inflation has fluctuated despite frequent intervention by the central bank monetary Committee. Most prices of goods have sky rocketed in the same period making the cost of living unbearable to most 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 tasked with the responsibility to ensuring that inflation is kept at reasonable levels and setting of lending rate to ensure that loans become affordable in order to aid in economic development. Whereas CBK has to some extent managed to intervene, mostly the intervention is too late when the damage is already caused or the time lags between response and effect have been big hence attempts only to restore the initial state and fails to enhance 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 Securities 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

sought to inform on the policies formulation through the examination of monetary policy and performance of commercial banks in Kenya.

1.3 Objective of the study

The study was guided by the following objective.

1.3.1 General objectives

The general objective of this study was to assess monetary policy and the performance of commercial banks in Kenya.

1.3.2 Specific objectives

The general objective was achieved upon achievement of the following 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

The following hypotheses were formulated to guide the study.

H_{01}: There is no significant relationship between interest rate and performance of commercial banks in Kenya.

H_{02}: There is no significant relationship between cash reserve ratio and performance of commercial banks in Kenya.

H_{03}: There is no significant relationship between open market operation and performance of commercial banks in Kenya.

H_{04}: There is no significant relationship between discount window operation and performance of commercial banks in Kenya.

1.5 Significance of the study

Banks plays 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 findings of this study would benefit the central bank in attainment of monetary policy objective as it would provide an insight to the effects of varying monetary policies on the performance of commercial banks. The central bank through the monetary policy organ partners with banks to ensure price stability and economic growth through provision of affordable credit.

The findings of the study would be important to commercial banks, as they would be able to establish the effect of monetary policy on their performance and hence

appreciate their role in attainment of desired economic growth and price stability in Kenya. This study is also of great importance to various stakeholders 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. Further, the findings of this study would also be helpful to upcoming researchers and scholars, as it would form a reference for further research on other factors which affect the performance of all the commercial banks other than the Monetary Policy.

1.6 Scope of the study

The study will investigate monetary policy and its relationship and the 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. The study sampled the commercial banks in Kenya for a period of five years from the year 2012 to 2016. The study utilised both Primary and Secondary data from the commercial banks.

1.7 Limitations of the study

The main limitation was the non-response by the sampled respondents. This limitation reduced the sample size and the conclusion may have differed from if there were hundred percent responses from the sample. 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 sampled for the study gave full information required for the study due to 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 sample size, 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.

Performance of commercial banks is influenced by many 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%. This limitation distorted the relationship between the dependent and independent variables. The researcher overcame this limitation by pooling data from a bigger sample size of the target population 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.

The study used data from commercial banks for the period of five years from 2012 to 2016. The period under study may not be robust to draw any meaningful conclusion that explains the applicability of monetary policy on performance of commercial banks due to seasonal fluctuations. To improve this limitation may be important to study monetary policy and performance of commercial banks collecting for a period of at least ten years. The study was highly dependent on the data from commercial banks, in view of this the sample for the study was restricted to small group of employees due to sensitivity and inaccessibility of this data and it may have affected the reliability of the results of the study due to reduced sample.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides an explanation of theoretical rationale of the problem being studied, Theoretical review, empirical reviews of the related studies and the conceptual framework and highlights and the research gap. A number of literature exist on the relationship between monetary policy and commercial banks performance, various researchers have adopted the following measures:

2.1 Theoretical review

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

2.1.1 Loanable fund theory

Interest rate with which banks lend depends on demand and supply of loan-able fund, and savings and investments are responsible for determination of the long run interest rate while short-run interest rate is determined by the prevailing financial conditions in a country. Interest rate is determined 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 interest rate is determined by the interaction between supply of and demand for loan-able funds. However, holding all other factors constant, an increase in demand for loan-able fund 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 and supply of loan-able fund change, change in the interest rate depends on 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)

Central bank system has ability to alter supply of loan-able fund available in the economy through the use of monetary policy instruments. The expansionary monetary policy leads to the reduction of interest rate which is in itself designed to stimulate the growth in the economy through the safeguarding of small scale borrowers from exploitation while the contraction of monetary policy results to the rise in interest rate, (Albertazzi & Gambacorta, 2006).

2.1.2 Classical theory of interest rate

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. Investment represents demand for investable resources and savings represent supply 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, Classical theory of interest rate therefore is indeterminate because the position of savings depends on the level of real income. As income rises amount of savings also rises. Therefore rate of interest cannot be known unless level of income is known, and the level of income cannot be known unless rate of interest is known and hence the classical theory of interest offers no solution to how interest rate in the economy is determined, (Satija, 2009).

2.1.3 Liquidity preference theory

According to Keynes (1936), liquidity refers to the ease at which assets are converted into liquid cash 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 advantage of investment opportunities that may 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 may lead to increase in profit in a condition of strong demand 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 as one cannot know with certainty how much money will be needed for speculative demand unless the transaction and precautionary demand for money is known due to interdependence, (Njoki, 2014).

2.1.4 Financial Intermediation theory

According to Adrian and Shin (2009), financial intermediaries exist because they can bridge information gap and transaction cost between borrowers and lenders. Banks as financial intermediaries therefore assist the efficient functioning of the market by bringing the lenders and borrowers together. Adrian and Shin concluded that rational investors are risk averse and cannot predict timing of future consumption needs, 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 into illiquid long-term inconvenient investment yielding high pay-off while those who must 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 need to consume at a different and unpredictable

random times. 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 failure and resolve the information asymmetry problem. Information asymmetry 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 cannot differentiate between borrowers with different credit risk before providing loans and leads 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)

Mbotu (2010) claimed that the interest rate affects directly the quality of loan and commercial banks should be more concern about interest rate in order to improve on the loan quality. The information asymmetry occurs “ex post” when borrowers can observe actual returns after perfect completion a situation which lead to moral hazard where the commercial banks engage in activities that reduces the likelihood of the loan being defaulted. In summary financial intermediaries play 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 focused 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 Interest 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 his study on the effects of interest rate on the financial performance of commercial banks said that interest rate impacts commercial banks positively and 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.

Otuori (2013) studied the influence of exchange rate on the financial performance of commercial banks in Kenya and found out that there is a direct and positive

relationship between interest rate and performance of commercial banks. As interest rate rises, profitability of commercial banks rise since there is a greater spread between central bank rate and the rate at which bank charges its customer and the spread between long term rate and short term 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). Mohanty (2003) concluded that, central banks changes short term interest rate in response 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

According to (Laurent, 2015), in his 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 pursues mainly price stability objective and uses the interest rate as its main tool, changing cash reserve ratio contributes to the economic stability. (Kashyap and Stein, 2012) added that higher cash reserve ratio increases interest rate spread which induces an upward

pressure on consumption due to 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 order to keep the funds within a narrow range which in turn was selected to realize money growth objective set by central bank, (Mulwa, 2011). He added that high inflation in a monetary phenomenon related to excess money supply. Main 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 involves meeting the demand of base money at the target interest rate by buying and selling government securities. Monetary targets, such as inflation and interest rates are used to guide this implementation.

Central banks have used this instrument to adjust the supply of reserve balances so as to keep these monetary targets in balance and in line with the central banks objectives (Kimani, 2013). Kimani, 2013 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

Mulwa, 2011; concluded that central bank procedures for controlling money supply involve use of discount window and open market operation working together. Mulwa, 2011; 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.

In August 2007, banks were reluctant to rely on discount window to acquire funding 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. In the study on "Discount window stigma during the 2007-08 financial crises" (Kirui, 2014) concluded that in normal times, solvent but illiquid banks should be able to obtain funding from bank with excess 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. A decrease in discount window operation rate makes it cheaper for commercial banks to borrow money resulting in an increased availability of funds for lending.

2.3 Research Gap

From literature review there is inconclusive evidence on how monetary policy influence performance of commercial banks. While many 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 is no consensus on the relationship between external variables and performance of commercial banks, others have concluded that external variables has no effect at all on the performance of commercial banks or the relationship is insignificant.

Odufulu, 2010 in the study 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%. According to (Mugenda and Mugenda, 2003) good sample 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, 2010 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.

The analysis on the effects of macroeconomic factors on profitability of commercial banks in Kenya by (Kiganda, 2014) with 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 sample size.

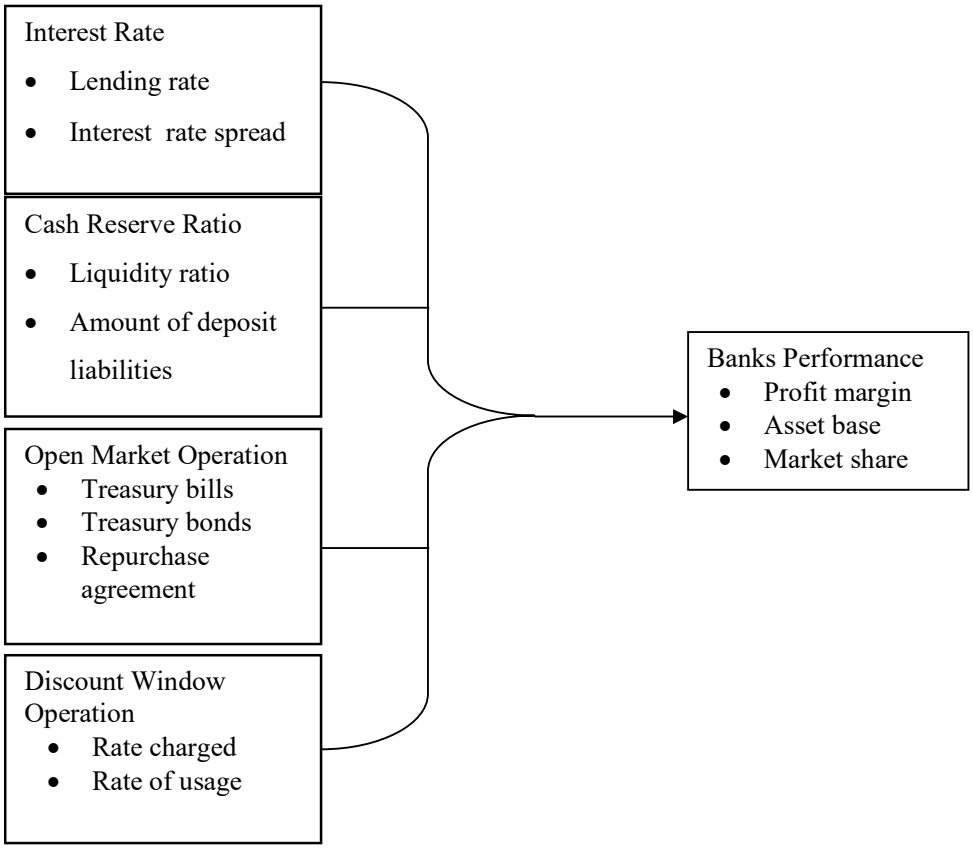
While reviewing literature, one of the past studies found on monetary policy related to Kenyan banks was (Kithuka, 2015)'s effects of monetary policy on profitability of commercial banks in Kenya'. Profitability is one aspect of banks' performance and shareholders does not only seek to maximise profits but only their wealth, which can take form of asset ownership or profit now or in future, therefore (Kithuka, 2015), study does not explain what determine banks operational existence as the conclusion drawn from profitability is meaningless. (Kithuka, 2015), also agreed with past researches that only the banks' internal variables to be the sole determinants of banks' profitability, he used capital adequacy, expense management, assets quality and liquidity management as independent variables and concluded 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 the performance of commercial banks in Kenya.

2.4 Conceptual framework

According (Mugenda and Mugenda, 2003), conceptual framework is a diagrammatic representation of relationships between variables to help the reader see the relationship between the variables in the study at a glance. This section discusses the conceptual framework that were used for analysing the effects of monetary policy on the performance of commercial banks in Kenya. The study had four independent variables as interest rate, cash reserve ratio, open market operation, and discount

window operation. 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.

Independent variable **Dependent variable**



Source: Author 2009

CHAPTER THREE

RESEARCH METHOLOGY

3.0 Introduction

This chapter presents the methodology that the researcher utilized in conducting this study in order to arrive at findings regarding the monetary policy and performance of commercial banks in Kenya. The chapter covered research design, population and sample, data collection and data analysis tools.

3.1 Philosophical Perspective

According to Crotty (1998), research philosophy is a system of beliefs and assumptions about the development of knowledge. It is what the researcher is doing when carrying out research. Research philosophy includes assumptions about human knowledge, the realities a researcher encounters in his/her research, and the extent and ways a researcher's values influence his/her research process.

This study was anchored on positivism research philosophy founded by Auguste Comte (1798 - 1857). According to Crotty (1998), the term positivism refers to the importance of what is 'given' that is 'posited.' Crotty (1998) defines Positivism as a philosophical stance of the natural scientist which entails working with an observable social reality to produce law-like generalizations. Since the study used quantifiable data and statistical analytical technique in the analysis of data, positivism research philosophy was appropriate to achieve its objectives. Macionis and Gerber (2010) state that Positivism is a philosophical theory in which particular knowledge is based on natural phenomena, properties, and relations.

3.2 Research Design

The study adopted correlation research design to study relationship between variables. According to (Kothari, 2004) the major purpose of correlation research 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 explain the current performance of commercial banks as influenced by the independent variables.

3.4 Target Population

According to Kothari (2004) population refers to an entire group of individuals or objects having common observable characteristics. The target population for the study were the 42 heads of departments of all the commercial banks in Kenya licensed by the central bank of Kenya before the year 2011. In Kenya there are a total of forty-two commercial banks, which constituted the population for the study and from which the sample were drawn.

3.5 Sampling

According to (Kothari, 2004) defined sample as a smaller unit of the population that has the same composition and characteristics as the universe. According to (Cooper & Schindler, 2001) sampling frame is the list of elements that contain complete and correct members of the population from which the sample is drawn. To obtain the sample for the study, the researcher used probability sampling method ,simple random sampling was used .

The sampling frame for the study was a list of commercial banks maintained in the central bank of Kenya and or Kenya National Bureau of Statistics (KNBS). To obtain the sample for the study, the researcher used probability sampling method; simple random sampling was used Due to the small population size, (Yamane, 1967) formulae was used to determine the sample size which was;

$$n = \frac{N}{1 + Ne^2}$$

n = optimum sample size

N = number of commercial banks

e = probability error

In the study, N = 42, e = 5 % (at 95% confidence level). The sample size was 38 banks.

3.6 Data Collection

The study used data both primary and secondary sources; the primary data were obtained by administering questionnaire randomly to commercial banks head of department staffs on a leave 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 relates to the performance of commercial banks and the regulations of the independent variables in different years from the year 2012 to 2016.

3.6.1 Pilot study

Pilot study was done in 10 microfinance banks in Nairobi in order to check on validity and reliability, this institutions did not participate in the final study

3.6.1 Validity of Research Instrument

According to (Kothari, 2004), validity is the extent to which differences found with a measuring instrument reflect true differences among those being tested. Validity therefore refers to the extent to which an instrument can measure what it ought to measure and it implies the extent to which an instrument asks the right questions in terms of accuracy 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 of Masinde Muliro University of Science and Technology, school of business and economics and they helped in checking of the appropriateness of the research instruments if it measures what it ought to measure.

3.6.2 Reliability of Research Instrument

According to (Cooper and Schindler, 2003), reliability refers to the consistency of the research instrument in order to ensure that the data collected has internal consistency to enable data analysis. Reliability testing was conducted using the Kuder Richardson coefficient of reliability where 70% reliability coefficient is deemed good .for the study reliability coefficient was 78% rated as good.

3.7 Data analysis and Presentation

The researcher after collecting the data, editing was done to detect errors and omission for correctness (Kothari, 2004). The data were then analysed with the aid of

Statistical Package for Social Sciences (SPSS) version 16 to help the researcher describe the data. Regression tool of analysis was used to infer 5% significance level. The findings were then presented using graphs and table to enable comparison.

3.8 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 analysis 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 influence of independent variable on the independent variable. The study computed coefficients of correlation denoted as ß in the model to determine the relationship between the monetary policy tools and performance of commercial banks in Kenya. Thus the regression equation appears as follows;

Regression model one

$$Y = ß_0 + ß_1X_1 + ß_2X_2 + ß_3X_3 + ß_4X_4 + \varepsilon$$

Regression model two

Where; Y = banks performance; $ß_0$ = the constant; $ß_1, ß_2, ß_3, ß_4$= beta coefficients; X_1 = Interest rate; X_2 = cash reserve ratio rate; X_3 = open market operation; X_4 = discount window operation rate; ε = 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 study utilised secondary data contained in the central bank of Kenya from 2012 to 2016. 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 $ß_0$ terms represent the performance of commercial banks that is not dependent on the variable under the study.

3.9 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 AND PRESENTATION

4.1 Introduction

This chapter covers data analysis, interpretation of findings and discussions of research findings. The research aimed at examining the monetary policy and performance of commercial banks in Kenya. It therefore aimed at attaining 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 in Kenya. The questionnaires were administered to 38 head of departments working in different commercial banks in Kenya licensed by the Central Bank of Kenya before the year 2011 employing simple random sampling. The data therefore was analysed and findings interpreted in order to attain the main aim of the study of examining monetary and performance of commercial banks in Kenya.

4.2 Response rate

4.2.1 Questionnaires response rate

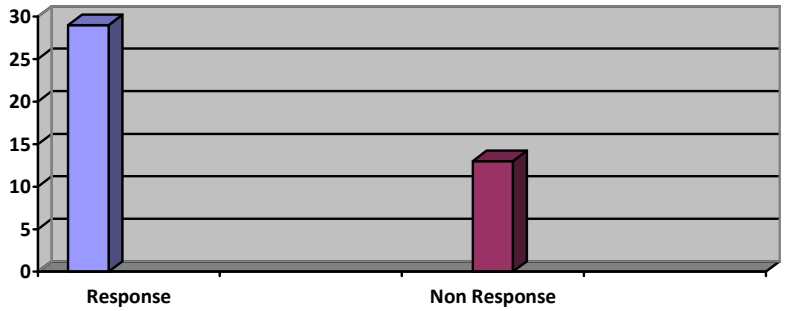
The table 4.1 presents the response rate of the questionnaires administered by the researcher in various commercial banks.

Table 4.1 Response Rate

	Frequency	**Percentage**
Response	29	69.01
Non-Response	13	30.90
Total	**42**	**100**

Source; Author (2017)

Graph containing the Questionnaires response rate



Out of the sample of 38 heads of the departments 29 responded to questionnaire while 13 failed to respond which gave a response rate of 69.01 %. The responses collected from questionnaire were adequate. According to (Mugenda and Mugenda, 2003) a response rate of more than 50% is enough to make informed conclusion, reporting a response rate of 60% and above is good. A response rate of 69.01% therefore was sufficient to proceed to analysis. As shown in table 4.2.

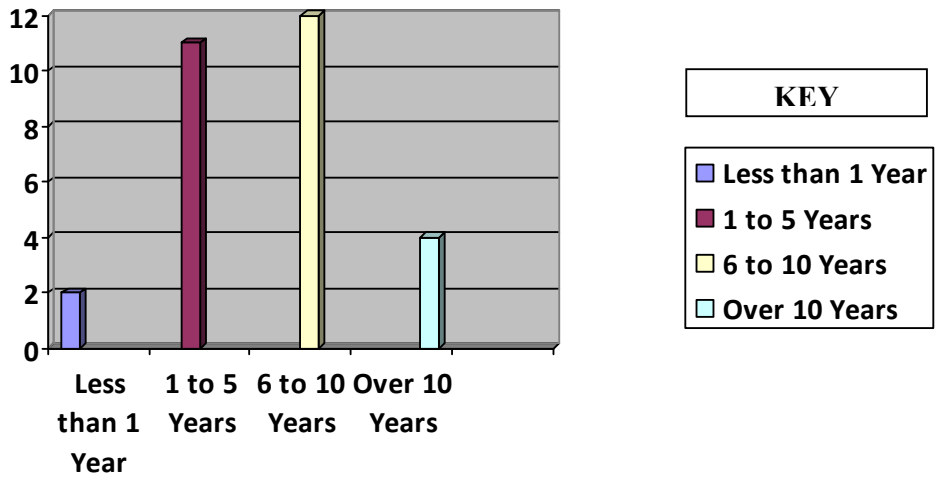
4.2.2 The rate of response on the respondents' experience.

Table 4.2 The number of year's respondent has worked in the bank.

	Frequency	**Percentage**
Less than 1 year	2	6.9%
1 to 5 years	11	37.93$
6- 10 years	12	41.39%
Over 10 years	4	13.79
TOTAL	**29**	**100%**

Source; Author (2017)

Graph containing the number of year's respondent has worked in the bank.



From the table above, majority of the 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.

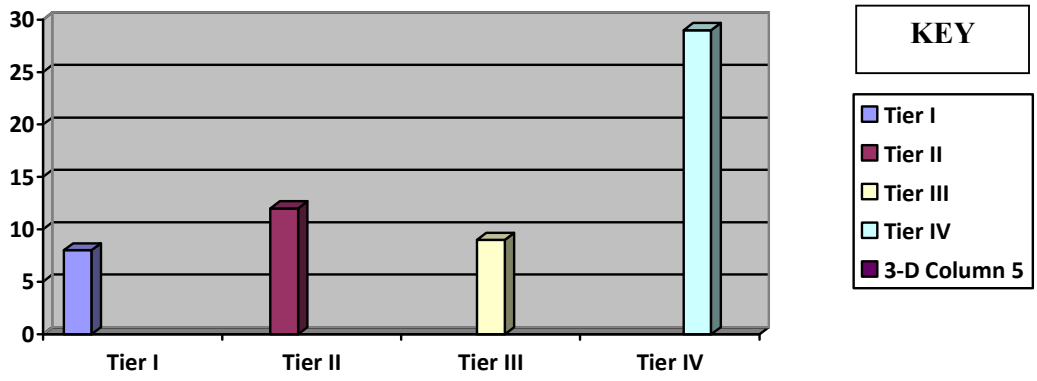
The study sought respondents to indicate the category of the bank as to whether tier I, II or III and the data findings presented in the table 4.3.

Table 4.3 Respondents' category of the bank

	Frequency	**Percentage**
Tier I	8	27.58%
Tier II	12	41.37%
Tier III	9	31.05%
TOTAL	**29**	**100%**

Source; Author (2017)

Graph Containing the Respondents' category of the bank

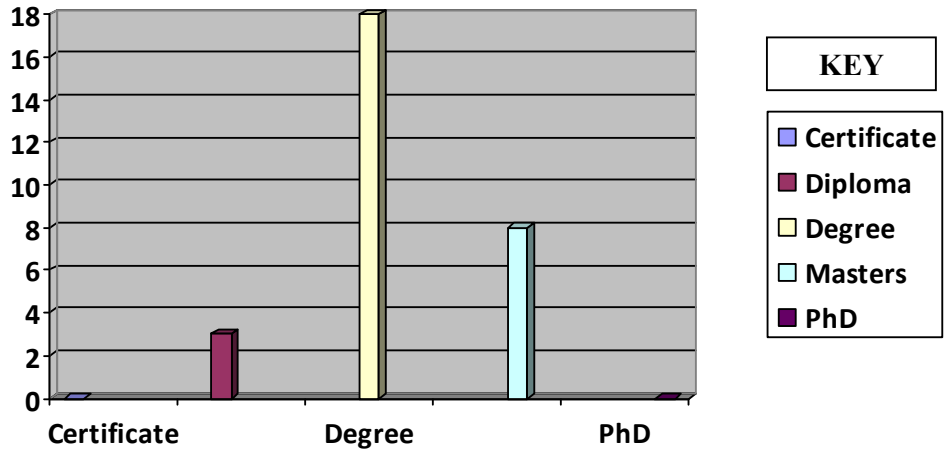


From the table above 4.3 out of the filled and returned questionnaires, 31.05% were from the tier 3 banks, 41.37 % were from tier 2 banks while 27.58% were from tier 1 banks.

4.2.4 Qualifications of respondent

Table 4.4 qualification of the respondent

Qualifications	**Frequency**	**Percentage**
Certificate	0	0%
Diploma	3	10.34%
Degree	18	62.07%
Masters	8	27.59%
PhD	0	0%
TOTAL	**26**	**100%**



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

The study aimed at establishing the relationship between interest rate and performance of commercial banks in Kenya. It therefore obtained data regarding the trend of interest rate and performance of commercial banks. The descriptive statistics was conducted and revealed that the bank performance had a mean of 4.424 with a standard deviation of 0.344 while central bank rate had a mean of 10.62 with a standard deviation of 2.67.

4.4.1.1 Model summary

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.059[a]	.004	-.329	.39609

a. Predictors: (Constant), Central bank rate

Source; Author (2017)

The coefficient of multiple determination, R^2 value of 0.004 indicates that only 0.4% of the variation in performance of commercial banks in Kenya can be explained 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)

Table 4.6 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.002	1	.002	.011	.025[a]
	Residual	.471	18	.157		
	Total	.472	19			

a. Predictors: (Constant), Central bank rate

b. Dependent Variable: Performance

An important statistical test conducted was in analysis of variance was the *F*-test. The correlation coefficient was 0.059 which showed that there was a weak and

positive relationship between the central bank rate and performance of commercial banks in Kenya.

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 of commercial banks in Kenya. The hypothesis testing was conducted to test the relationship between the independent variables and dependent variable. Where the p-value was less than the critical value of 0.05, the null hypothesis was rejected. The null hypothesis indicated that there is no significant relationship between the central bank rate and performance of commercial bank in Kenya. 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 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	4.344	.800		5.431	.012
	Central bank rate	.008	.073	.059	.103	.025

a. Dependent Variable: Performance

Source; Author (2017)

With 95% level of confidence, holding central bank rate constant, the performance of commercial banks would be 4.344 and a unit increase in central bank rate would lead

to 0.008 increase in performance of commercial banks as shown in table 4.7. The regression equation would therefore become Performance (Y) = 4.344 + 0.008X_1 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. A unit increase in central bank rate would lead to 0.008 units increase in performance of commercial banks. This was in support to Otuori (2013) conclusion that there is a positive direct relationship between interest rate and performance. Otuori 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

The study aimed at establishing the relationship between of cash reserve ratio and the performance of commercial banks in Kenya. The descriptive statistics were conducted to reveal the means of performance and cash reserve ratio. The performance had a mean of 4.424 with 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 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.710[a]	.503	.338	.27959

a. Predictors: (Constant), Cash reserve ratio

The coefficient of multiple determination, R^2 value of 0.503 indicates that only 50.3% of the variation in performance of commercial banks in Kenya can be explained 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 also established that there is a strong and negative relationship between cash reserve ratio and performance with a correlation coefficient of -0.710.

4.4.2.2 Analysis of Variance (ANOVA)

Table 4.9 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.238	1	.238	3.042	.019[a]
	Residual	.235	18	.078		
	Total	.472	19			

a. Predictors: (Constant), Cash reserve ratio

b. Dependent Variable: Performance

Source; Author (2017)

Analysis of variance (ANOVA) is a statistical procedure for dividing the total variability of variable into components that can be attributed to difference sources. In regression analysis, the researcher used ANOVA to determine the usefulness of the independent variables in explaining the dependent variable. An important statistical test conducted 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 to explain the relationship between central bank rate and performance of commercial banks in Kenya and since the *p*-value was greater than the critical value (α) of 0.05 the relationship between cash reserve ratio was not by chance. The hypothesis testing was conducted to test the relationship between the independent variables and

dependent variable. Where the p-value was less than the critical value of 0.05, the null hypothesis was rejected. The null hypothesis indicated that there is no significant relationship between cash reserve ratio and performance of commercial bank in Kenya. The *p*-value was 0.019 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 cash reserve ration and performance.

4.4.2.3 Regression analysis

Regression analysis was conducted to establish the relationship between cash reserve ratio and performance of commercial banks in Kenya and findings presented in table 4.10.

Table 4.10 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	7.134	1.559		4.576	.020
	Cash reserve ratio	-.583	.334	-.710	-1.744	.019

Source; Author (2017)

The regression analysis was conducted to show the effect of 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 (significance level) of 0.019 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_2. 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 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.

4.4.3 Open market operation

The study aimed at studying the relationship between the open market operation and performance of commercial banks in Kenya. The descriptive statistics were performed to show 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 4.11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.834[a]	.696	.594	.21891

a. Predictors: (Constant), Open market operation

Source; Author (2017)

The coefficient of multiple determination, R^2 value of 0.696 indicates that only 69.6% of the variation in performance of commercial banks in Kenya can be explained 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 study also established 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)

Table 4.12 ANOVA

Model		**Sum of Squares**	**Df**	**Mean Square**	**F**	**Sig.**
1	Regression	.329	1	.329	6.856	.000[a]
	Residual	.144	18	.048		
	Total	**.472**	**19**			

a. Predictors: (Constant), Open market operation

b. Dependent Variable: Performance

Source; Author (2017)

Analysis of variance (ANOVA) is a statistical procedure for dividing the total variability of variable into components that can be attributed to difference sources. In regression analysis, the researcher used ANOVA to determine the usefulness of the independent variables in explaining 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 explain the relationship between open market operation and performance of commercial banks in Kenya and since the *p*-value was less than the critical value (α) of 0.05 the relationship between open market operation was not by chance. The hypothesis testing was conducted to test the relationship between the independent variables and dependent variable. Where the p-value was less than the critical value of 0.05, the null hypothesis was rejected. 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 of commercial banks in Kenya. Findings as presented in table 12.

4.4.3.3 Regression analysis

Table 4.13 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	6.826	.923		7.399	.005
	Open market operation	-.292	.112	-.834	-2.618	.000

a. Dependent Variable: Performance

Source; Author (2017)

The regression analysis was conduct to depict the relationship between open market operation and performance of commercial banks in Kenya. 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 of commercial banks would be 6.826. With a unit increase in open market operation, the performance of commercial banks would increase by 0.292 as shown in table 4.13. The regression equation between performance and open market operation would become Performance (Y) = 6.826 – $0.292X_3$. 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 according to (Kimani, 2013). The findings of this study therefore disagree with Kimani's finding and therefore there is a negative correlation between open market operation and performance.

4.4.4 Discount Window Operation

The study aimed at analysing the relationship between the discount window operation and performance of commercial banks in Kenya**.** The 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 had a mean of 4.424 with standard deviation of 0.344 while the performance had a mean of 17.06 with standard deviation of 2.089.

4.4.4.1 Model summary.

Table 4.14 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.173[a]	.030	-.293	.39080

a. Predictors: (Constant), Discount window operation

The coefficient of multiple determination, (the percentage variation in the dependent variable being explained by the changes in independent variables), R^2 value of 0.030 indicates that only 3.0% of the variation in performance of commercial banks in Kenya can be explained 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)

Table 4.15 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.014	1	.014	2.093	.011[a]
	Residual	.458	18	.153		
	Total	**.472**	**19**			

a. Predictors: (Constant), Discount window operation

b. Dependent Variable: Performance

Analysis of variance (ANOVA) is a statistical procedure for dividing the total variability of variable into components that can be attributed to difference sources. In regression analysis, the researcher used ANOVA to determine the usefulness of the independent variables in explaining the dependent variable findings are presented in table 4.15

An important statistical test conducted was in analysis of variance was the *F*-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 of commercial banks in Kenya and since the *p*-value was greater than the critical value (α) of 0.05 the relationship between discount window operation was not by chance. The hypothesis testing was conducted to test the relationship between the independent variables and dependent variable. Where the p-value was less than 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 of commercial banks in Kenya.

4.4.4.3 Regression analysis

The regression was conducted to show the relationship between the independent variable, discount window operation and the dependent variable, performance of commercial banks.

Table 4.16 Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	T	Sig.
1 (Constant)	3.938	1.605		2.453	.001
Discount window operation	.028	.094	.173	.304	.011

a. Dependent Variable: Performance

Source; Author (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 increase in performance of commercial banks in Kenya. As shown in table 4.16. The regression equation between performance and open market operation would become Performance (Y) = $3.938 + 0.028X_4$. This model was therefore significant at 95% level of confidence.

It was found that a unit increase in discount window operation leads 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. 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 has a positive relationship with performance of commercial banks.

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. The findings are presented in table 4.17

Table 4.17 Correlation matrix

Pearson Correlation	Performance	Central bank rate	Cash reserve ratio	Open market operation	Discount window operation
Performance	1.000				
Central bank rate	.059	1.000			
Cash reserve ratio	-.710	.162	1.000		
Open market operation	-.834	-.070	.901	1.000	
Discount window operation	.173	.607	-.284	-.412	1.000

Source: Author (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 to ascertain multi-collinearity of variables and avoid development of spurious regression mode. The independent variables considered in the regression model; Central bank rate, cash reserve ratio, open market operation and discount window operation and return on assets and return on equity as the measure of performance of commercial banks in Kenya. 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-collinearity 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 predict the value of dependent variable using independent variables. The study independent variables were the central bank rate, cash reserve ratio., open market operation and discount window operation while the dependent variable was the performance of commercial banks in Kenya. R square (coefficient of determination) is a commonly used statistic to evaluate model fit. R square is 1 minus the ratio of residual variability. The adjusted R square also called the coefficient of multiple determination is the percent of the variance in the dependent variable that is explained by the independent variables.

Table 4.18 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.850[a]	.722	.648	.31900

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

Source; Author (2017)

The coefficient of multiple determination (the percentage variation in the dependent variable being explained by the independent variables), R square value of 0.722 indicates that only 72.2% of the variation in performance of commercial banks in Kenya can be explained by the variation in the independent variables herein studied. The other portion of 27.8% of the variation in 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

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

Table 4.19 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.829	1	4	6.454	.003
	Residual	1.063	18	15		
	Total	2.892	19			

a. Predictors. (Constant), Central bank rate, cash reserve ratio,
open market operation, discount window operation.

b. dependent variable: Performance

4.6 Regression analysis of all variables

The researcher conducted multiple regression analysis to establish the relationship that exist between monetary policy (independent variable of the study) and performance (dependent variable of the study) of commercial banks. The study used

the statistical package for social sciences (SPSS version 16) to code, enter and

Table 4.20 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	10.365	1.538		3.843	.002
	Central bank rate	.025	.032	.414	2.945	.010
	Cash reserve ratio	-1.053	.378	-1.162	-.260	.009
	Open market operation	-.057	.034	-.417	-.641	.000
	Discount window operation	-.061	.053	-1.138	-.660	.001

a. Dependent Variable: Performance

Source; Author(2017)

compute the measurement of regression analysis.

Multiple regression analysis was conducted to determine the relationship between monetary policy and performance of commercial banks.

As the SPSS generated table 4.20, regression equation (Y) = $\beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4$ becomes; Performance (Y) = $10.365 + 0.025X_1 - 1.053X_2 - 057X_3 - 0.61X_4$

The positive beta of central bank rate shows that there is 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.

With 95% level of confidence the p- value for central bank rate was 0.010 which was less the critical value (α= 0.05) hence central bank rate was significant in determining the performance of commercial banks in Kenya. Taking all other independent variables constant at zero, a unit increase in CBR will lead to a 0.025 increase in performance commercial bank. These findings supported Otuori's (2013) conclusion that there is a positive direct relationship between interest rate and performance. Otuori 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 (α= 0.05) hence cash reserve ratio was significant in determining the performance of commercial banks in Kenya. A unit increase in cash reserve ratio will lead 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 (α= 0.05) hence open market operation was

significant in determining the performance of commercial banks in Kenya. A unit increase in open market operation will lead 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 of commercial banks in Kenya. 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 from chapter four, and it also gives the conclusions from the summary and recommendations of the study based on the objectives of the study.

5.2 Summary of findings

The objectives of this study were to examine the relationship between central bank rate and performance; to examine the relationship between cash reserve ratio and performance; to examine the relationship between open market operation and to examine the relationship between discount window operation and performance of commercial banks in Kenya. The study concluded that central bank rate had a very weak positive relationship with performance of commercial banks in Kenya. As interest rate rises the performance of commercial bank also rise since the lending rate is also raised leading to higher 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. These findings supported (Otuori, 2013) conclusion that there is a positive direct relationship between interest rate and performance. The study showed that central bank rate was a significant determinant of performance of commercial banks in Kenya which implies 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 significant effect on the performance of commercial banks. 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 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.

It was established that, there was a negative correlation between open market operation and performance of commercial banks in Kenya. The model was significant in explaining 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 concluded that, there was a negative correlation between discount window operation and performance of commercial banks in Kenya. It was found that an in increase in discount window operation led a drop in performance of commercial banks. This is in support to (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 of commercial banks in Kenya 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+ $0.025X_1$- $1.053X_2$ - $057X_3$- $0.61X_4$

5.4 Recommendations

Due to the role that commercial banks play in the economy, central bank of Kenya should employ monetary policy interventions that seeks the improvement of performance of commercial banks.

To improve the performance of commercial banks, central bank of Kenya should consider raising the central banks rate since it was found to be the only variable from monetary policy that is improving commercial banks profitability. Cash reserve ratio has been negating the performance of commercial banks in Kenya, central bank of

Kenya should select a low and suitable rate the commercial banks are required to maintain in the cash tills.

Monetary policy offers a good investment opportunity through the provision of open market operation. It was found that, open market operation had a negative relationship with performance of commercial banks since the individuals have been allow to invest in this facility and forego depositing their funds with commercial banks. Therefore, individual customers should be discouraged from investing in open market operation to enable them deposit their funds with commercial banks hence providing enough funds to lend.

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 of the performance of commercial banks. This helps the commercial banks get alternative ways of sourcing finance instead of opting to discount window operation which makes commercial banks' performance drop. Facilities such as interbank borrowing should be made cheap. The study recommends that banks should put more effort on internal factors to enable them attain good performance. 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 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 influenced by many factors apart from monetary policy, from the study it was found out that monetary policy account only for 72.2% on performance of commercial banks in Kenya while 27.8% is determined 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 determine the effects of monetary policy and balance of payment. Moderator variable can be introduced so as to determine how the relationship may behave in the subsequent study more so government policy.

The 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.

REFERENCES

Adeusi, S. O., Kolapo, F., & Aluko, A. O. (2014). Determinants of commercial banks profitability panel evidence from Nigeria, International Journal of Economics, Commerce and Mnagement. 10-24.

Adrian, T., & Shin, H. (2009). *Financial Intermaediation and Monetary Economics.* Staff Reports, Federal Reserve Bank of New York, New York.

Albertazzi, U., & Gambacorta, L. (2006). *Bank Profitability and Business Cycle.* Bank of Greece.

Bibow, J. (2000). *The Loan-able Funds Fallacy in Retrospect, History of Political Economy.* New York: McGraw Hill.

Biefang, F., & Howells, P. (2002). *Cenral Banks and Market Interest Rate, Journal of Post Keynesian Economics.*

Central Bank of Kenya. (2009). *Banks Supervision Report.* Central Bank of Kenya. Nairobi: Central Bank of Kenya.

Central Bank of Kenya. (2016). *The Kenya Financial Stability Report.* Nairobi: Central Bank of Kenya.

Cheng, K. C. (2006). *An analysis of Kenya's Monetary Policy Transmission mechanism.* Nairobi: International Monetary Fund.

Clews, R. (2005). *Implementing monetary policy: reforms to the Bank of England's operations in the money market.*

Cooper, D., & Schindler, P. (2001). *Business Research Methods.* New York: McGrawHill.

Crotty, M. (1998). *The Foundations of Social Research*. London: Sage

Cytonn Investment. (2015). *Kenya listed commercial banks.* Nairobi: Cytonn Investment.

Gavin, A. (2010). *The spread on Germany interest rates.* Cambridge: National Bureau of Economic Research.

International Monetary Fund. (2014). Economic Development. *International Monetary Fund Working Paper* , 17-20.

Irungu, P. (2013). *The effects of interest rate spread on financial performance of commercial banks in Kenya.* Nairobi: Unpublished thesis.

Kamau, A. W. (2009). An empirical investigation of commercial banks in Kenya. *Efficiency in Banking sector* , 37-41.

Kashyap, A. K., & Stein, J. C. (2001). Monetary policy and Bank Lending. *Studies In business Cycle* , 65-70.

Keynes, J. M. (1936). *Alternative theories of rate of interest.* London: MacMillan Press.

Kiganda, E. O. (2014). Effects of Macroeconomic Factors on Commercial Banks Profitability in Kenya. *Journal of Economics and Sustainable Development* , 46-54.

Kimani, J. (2013). *Assessment of effect of Monetary Policies on Lending Behaviour of Commercial Banks in Kenya.* KU: Unpublished Research project.

Kirui, E., Wawire, H., & Onono, P. (2014). Macroeconomic Variables; Volatility and Stock market Returns. 35-37.

Klayshyap, L. &. (2012). The Reserve Requirment and Inflation in Developin countries. 27-29.

Kothari, C. (2004). *Research Methods and Techniques.* New Delhi: New Age International.

Macionis, J. J. and Gerber, L. M., (2010). *Sociology, Seventh Canadian Edition*, Pearson Education, Canada.

Mbotu, M. M. (2010). The impact of central Bank of Kenya Rate CBR on Commercial Banks Lending rate.

Mishra, P. M., P, M., & Spilimbergo, A. (2010). Monetary Transmission in Low Income Countries. *IMF journal* .

Mohanty. (2010). *Evidence on Interest Rate channel of Monetary Policy Transmission in India.* 2010: Unpublishe Phd Thesis.

Mudida, R. (2015). *Modern Economics.* (R. edition, Ed.) Nairobi, Kenya: Focus Publishers.

Mugenda, O. M., & Mugenda, A. G. (2003). *Research Method.* Nairobi: Act press.

Mulwa, G. K. (2015). *Monetary policy and financial performance of commercial banks in Kenya.* Nairobi: Unpublished.

Nairobi Stock Exchage. (2013). Stock Market Development in Sub Saharan Africa. *Economic Review Journal* , 18.

Ngari, M. B. (2013). *The Relationship Between Interest Rate Spread and the Financial Perfomance of Commercial Banks In Kenya.* Unpublished Research Project UON.

Njoki, N. J. (2014). *Monetary Policy and Commercial Banks Lending Rate in Kenya.* Unpublished Research Project, UON.

Otuori, O. H. (2013). Influences of exchange rate determination on the performance of commercial banks in Kenya. *European Journal of Management Science and Economics* , 76-89.

PriceWaterCoopers. (2011). *Banking profitability and Mananagement.* Nairobi.

Satija, K. (2009). *Textbook on law for Economics Students.* Universal law publishing co.

Scott, J. C., & Arias, J. (2011). Banking profitability determinants. *Business Intelligence Journal* , 62-68.

Uchendu, O. A. (2008). *Monetary Policy and The Performance of Commercial Banking in Nigeria.* Lagos: CBN.

APPENDICES

APPENDIX I : QUESTIONNAIRE

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. What is your level education (Tick where appropriate)

   Certificate [ ] Diploma [ ]

   Degree [ ] Masters [ ]

   PhD [ ]

6. To what extent does central banks' monetary policy affects the performance of commercial banks in Kenya.

   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,

This is the rate at which commercial banks lend to borrowers and it is determined by the central bank of Kenya.

7. What was the rate of interest and interest rate spread in the following years?

Year	**Lending rate**	**Interest rate spread**
2011		
2012		
2013		
2014		
2015		

8. To which level do you agree with the following statements regarding interest rate? Tick where appropriate Using a scale of 1 to 5 where 1=strongly disagree 2= Disagree 3=neutral 4= Agree 5=Agree.

	5	4	3	2	1
Monetary policy works mainly through interest rate					
Low interest rate raises performance by raising demand for loan					
Changes of interest by central bank eventually leads to bank changing lending rate					
Interest rate spread affect performance of the bank					

9. In your own opinion, 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

This is a percentage of total deposits that commercial banks are required to hold in there vaults and not to utilize it in business operations.

10. How was the rate of cash reserve ratio maintained by your bank in the following years? Tick where appropriate Using a scale of 1 to 5 where 1= Very low 2= Low 3= Moderate 4=High5= Very high.

Year	**1**	**2**	**3**	**4**	**5**
2012					
2013					
2014					
2015					
2016					

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

……

12. To which level do you agree with the following statements relating to cash reserve ratio. Tick where appropriate, using a scale of 1 to 5 where 1= Strongly disagree2= Disagree 3= Neutral 4= Agree 5= Strongly agree.

	1	2	3	4	5
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 has any effect on the performance of your bank? If yes please describe the effect briefly

…….....

……...

14. **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.

15. How was the rate of adoption of the following instruments of open market operation in the following years? Tick where appropriate Using a scale of 1 to 5 where 1= Very low 2=Low 3=Moderate 2= High 1= Very high.

Year	Instrument	1	2	3	4	5
2012	Treasury bills					
	Treasury bonds					
	REPOs and Reverse REPOs					
2013	Treasury bills					
	Treasury bonds					
	REPOs and Reverse REPOs					
2014	Treasury bills					
	Treasury bonds					
	REPOs and Reverse REPOs					
2015	Treasury bills					
	Treasury bonds					
	REPOs and Reverse					

	REPOs					
2016	Treasury bills					
	Treasury bonds					
	REPOs and Reverse REPOs					

16. To which level do you agree with the following statements 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.

	1	2	3	4	5
Open Market Operation investment provide bank with certainty in pay off					
Banks can boost their performance by timing the purchase and sale of securities and they can relied upon to improve the bank's performance					
Open Market Operation has influence on the short term interest rate and hence indirectly controls money supply					

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 enable smooth flow of banking business as a 'lender of last resort',

17. 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.

Year	1	2	3	4	5
2012					
2013					
2014					
2015					
2016					

18. To extent did your bank relied on discount window in the following years? Tick where appropriate using a scale of 1 to 5 where 1= Lowest extent2= Low extent 3=Moderate 4= Greatest extent 5= Greatest extent

Year	1	2	3	4	5
2012					
2013					
2014					
2015					
2016					

19. How do you agree with the following statement regarding 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.

	1	2	3	4	5
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 constraint the performance of banks than it raise.					
Discount Window brings more losses to your bank than benefits					

20. 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

……

……

SECTION C; **BANKS' CHARACTERISTICS**

21. How was the position of the following items in your bank in the following years? Tick where appropriate using a scale of 1-5. Where 1 = very low, 2 = Low, 3 = moderate, 4 = Very High, 5= very High.

Year	Item	1	2	3	4	5
2012	Operating Expenses					
	Ratio of Non-performing loan to total outstanding loan					
	Customers' deposit to loan ratio					
2013	Operating Expenses					
	Ratio of Non-performing loan to total outstanding loan					
	Customers' deposit to loan ratio					
2014	Operating Expenses					
	Ratio of Non-performing loan to total outstanding loan					
	Customers' deposit to loan ratio					

2015	Operating Expenses					
	Ratio of Non-performing loan to total outstanding loan					
	Customers' deposit to loan ratio					
2016	Operating Expenses					
	Ratio of Non-performing loan to total outstanding loan					
	Customers' deposit to loan ratio					

22. To what extend do you think the following has effect on the performance of your bank. Tick where appropriate using a scale of 1-5. 1 to 5 where 1= Lowest extent 2= Low extent 3=Moderate 4= Great extent 5= Greatest extent

	1	2	3	4	5
Operating expense					
Non-performing loan					
Customer deposit					

END

APPENDIX II: LIST OF COMMERCIAL BANKS IN KENYA

No.	Name of Bank	Date Licensed
1	ABC Bank	8th Dec 1994
2	Bank of Africa	30th Apr 2004
3	Bank of Baroda	1st July 1953
4	Bank of India	8th June 1953
5	Barclays Bank of Kenya	1916-No date
6	CFC Stanbic Bank	1st June 2008
7	Charterhouse Bank Limited	1st August 1998
8	Chase Bank Limited	1st April 1996
9	Citibank	1st July 1974
10	Commercial Bank of Africa	1st January 1967
11	Consolidated Bank of Kenya	8th December 1989
12	Co-operative Bank of Kenya	1st July 1968
13	Credit Bank,	30th November 1994
14	Development Bank of Kenya	20t September 1996
15	Diamond Trust Bank	15th November 1994
16	Eco-bank	16th June 2008
17	Equity bank	28th December 2004
18	Family Bank	1st May 2007
19	Fidelity Bank	1st April 1996
20	First Commercial Bank Limited	29th April 2008
21	Giro Bank	17th December 1992
22	Guaranty Trust Bank	13th January 1995
23	Guardian Bank	20th December 1995
24	Gulf African Bank	1st November 2007
25	Habib A.G Zurich Bank	1st July 1978
26	Habib Bank	2nd March 1956
27	I&M Bank	27th March 1996
28	Imperial Bank	8th January 1996
29	Jamii Bora Bank	2nd March 2010
30	Kenya Commercial Bank	1st January 1896

31	Middle East Bank	28th November 1980
32	National Bank	1st January 1968
33	NIC Bank	28th September 1995
34	Oriental Commercial Bank	8th February 1991
35	Paramount Universal bank	5th July 1995
36	Prime Bank	3rd September 1992
37	Sidian (Formerly Faulu)Bank	23rd March 1999
38	Spire Bank	23rd June 1995
39	Standard Chartered Bank	1910-no date
40	Trans-National Bank,	8th January 1985
41	United Bank of Africa	25th September 2009
42	Victoria Bank	11th January 1996

Source; Central bank of Kenya, 2009

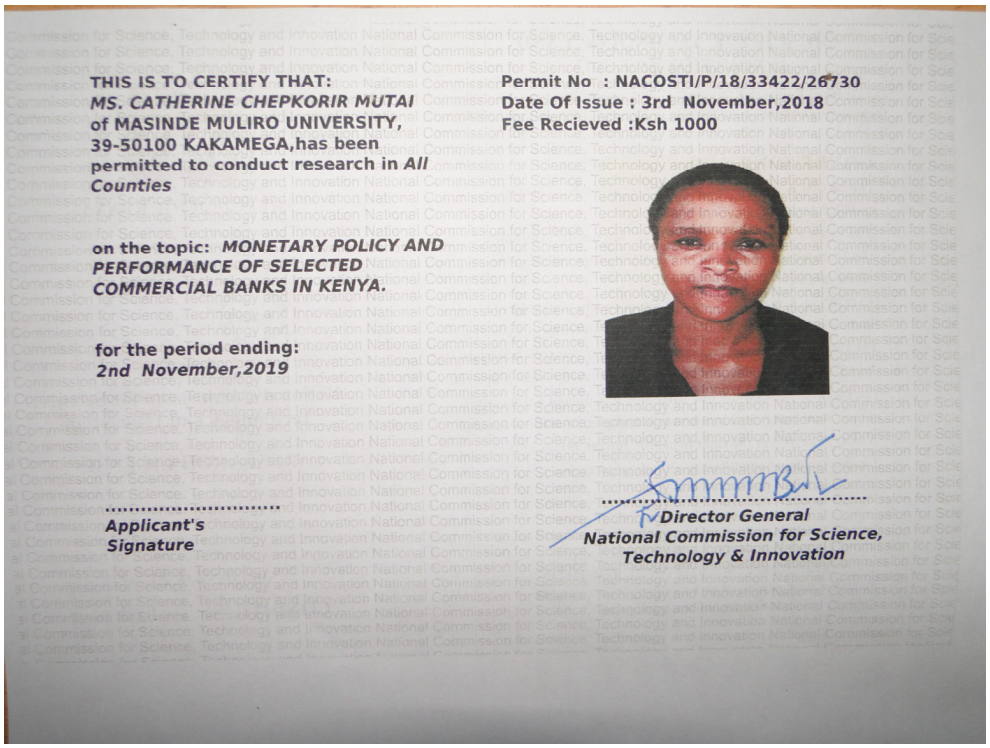
APPENDIX III: SECONDARY DATA COLLECTION SCHEDULE VARIOUS YEARS BANKS PERFORMANCE

Name of Bank	**2012**	**2013**	**2014**	**2015**	**2016**
	Profits	profits	profits	Profits	Profits
ABC Bank					
Bank of Africa					
Bank of Baroda					
Bank of India					
Barclays Bank of Kenya					
CFC Stanbic Bank					
Charterhouse Bank Limited					
Chase Bank Limited					
Citibank					
Commercial Bank of Africa					
Consolidated Bank of Kenya					
Co-operative Bank of Kenya					
Credit Bank,					
Development Bank of Kenya					
Diamond Trust Bank					

Eco-bank					
Equity bank					
Family Bank					
Fidelity Bank					
First Commercial Bank Limited					
Giro Bank					
Guaranty Trust Bank					
Guardian Bank					
Gulf African Bank					
Habib A.G Zurich Bank					
Habib Bank					
I&M Bank					
Imperial Bank					
Jamii Bora Bank					
Kenya Commercial Bank					
Middle East Bank					
National Bank					
NIC Bank					

Oriental Commercial Bank					
Paramount Universal bank					
Prime Bank					
Sidian Bank					
Spire Bank					
Standard Chartered Bank					
Trans-National Bank,					
United Bank of Africa					
Victoria Bank					

APPENDIX IV: RESEARCH PERMIT



THIS IS TO CERTIFY THAT:
MS. CATHERINE CHEPKORIR MUTAI
of MASINDE MULIRO UNIVERSITY,
39-50100 KAKAMEGA,has been
permitted to conduct research in *All Counties*

on the topic: *MONETARY POLICY AND PERFORMANCE OF SELECTED COMMERCIAL BANKS IN KENYA.*

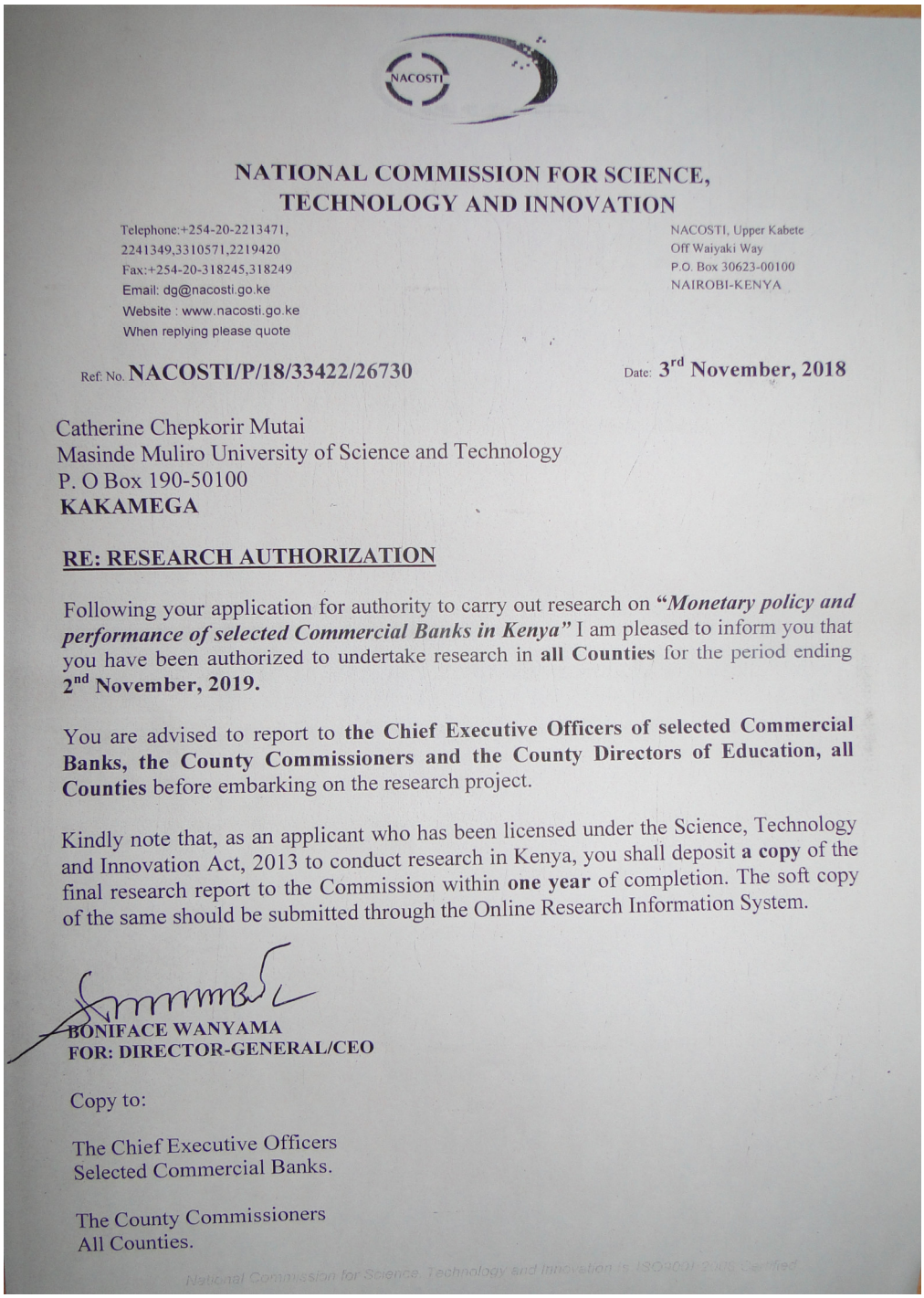
for the period ending:
2nd November,2019

Permit No : NACOSTI/P/18/33422/26730
Date Of Issue : 3rd November,2018
Fee Recieved :Ksh 1000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation

APPENDIX IV: RESEARCH APPROVAL



NACOSTI

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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Ref: No. **NACOSTI/P/18/33422/26730**

Date: **3rd November, 2018**

Catherine Chepkorir Mutai
Masinde Muliro University of Science and Technology
P. O Box 190-50100
KAKAMEGA

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Monetary policy and performance of selected Commercial Banks in Kenya"*** I am pleased to inform you that you have been authorized to undertake research in **all Counties** for the period ending **2nd November, 2019.**

You are advised to report to **the Chief Executive Officers of selected Commercial Banks, the County Commissioners and the County Directors of Education, all Counties** before embarking on the research project.

Kindly note that, as an applicant who has been licensed under the Science, Technology and Innovation Act, 2013 to conduct research in Kenya, you shall deposit **a copy** of the final research report to the Commission within **one year** of completion. The soft copy of the same should be submitted through the Online Research Information System.

BONIFACE WANYAMA
FOR: DIRECTOR-GENERAL/CEO

Copy to:

The Chief Executive Officers
Selected Commercial Banks.

The County Commissioners
All Counties.

National Commission for Science, Technology and Innovation is ISO9001:2008 Certified