

**MONETARY POLICY AND FINANCIAL PERFORMANCE OF COMMERCIAL
BANKS IN KENYA**

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D53/OL/CTY/32429/2015**

**A RESEARCH PROJECT SUBMITTED TO THE SCHOOL OF BUSINESS IN
PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF THE
DEGREE OF MASTER OF BUSINESS ADMINISTRATION (FINANCE OPTION) OF
KENYATTA UNIVERSITY**

JULY, 2018

DECLARATION

Declaration by the Student

I declare that this project is my original work and has not been submitted for an award of a degree in any other University for examination purposes.

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DEDICATION

This research is dedicated to my dear son Marvel Njoroge.

ACKNOWLEDGEMENT

I acknowledge the Almighty God for giving me the strength and energy to do this project despite the various challenges encountered. I thank Kenyatta University, School of Business, for the support accorded to me. Special appreciation goes to my supervisor, Dr. Jeremiah Koori for guiding me throughout this research. In deed he has been of great assistance. My sincere gratitude also goes to my family members who tirelessly accorded me the much needed moral and spiritual support. Lastly but not least, I would like to thank all my classmates, friends and everyone who was of assistance in doing this research proposal. I would not have gathered much information without their help.

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ABBREVIATIONS AND ACRONYMS

CBK	Central Bank of Kenya
CBBR	Central Bank Base Rate
CRR	Cash Reserve Ratio
CPI	Consumer Price Index
ROA	Return on Asset
ROE	Return on Equity

OPERATIONAL DEFINITION OF TERMS

Bank Size	This refers to the total assets of a Bank. Bank asset for this study was measured using logs.
Central Bank Base Rate	This refers to the rate of interest that the Central Bank charges on loans to banks.
Cash Reserve Ratio	This is the portion of deposits that commercial banks are required to keep with the Central Bank.
Financial Performance	This is the ability of a bank to make profit on its assets and or investments. The financial performance indicator for this study is Return on Equity.
Inflation	This refers to the increase in the general price level of goods and services in the economy overtime.
Monetary Policy	Monetary policy is the process by which the government of a country through the central bank, or monetary authority controls the supply, availability and cost of money or rate of interest to attain a set of objectives oriented towards the growth and stability of the economy. The monetary policy tools for this study were Central Bank Base Rate, Money Supply, Cash Reserve Ratio and Inflation.
Money Supply	This is the total stock of money that is circulating in an economy. It includes safe assets, such as cash, coins, and balances held in checking and savings accounts that businesses and individuals can use to make payments or hold as short-term investments.

Return on Equity

This represents the rate of return earned on the funds invested in a bank by its stockholders.

ABSTRACT

Commercial banks play a vital role in the allocation of capital resources and risk sharing of future flows in any given economy or country. An efficient and effective banking industry in any economy facilitates business cycles which bring about increased growth and welfare in that country. Therefore, the financial performance of commercial banks is of great importance to a nation. However, the profitability of commercial banks is affected by the changes in monetary policy. Monetary policy has a direct impact on the banking sector. The financial performance of commercial banks in Kenya has been on the decline and this has raised concerns in all corners of the financial sector. Between the period 2012 and 2016, the profitability of commercial banks in Kenya has been characterized by a decreasing trend. This has caused some banks to cut down their work force in order to cover for the operating costs which they incur. A number of studies have been conducted on monetary policy and financial performances of commercial banks in developed countries. Similarly, a few studies have been carried out on monetary policy and financial performances of commercial banks in Kenya. However, these studies did not consider moderating characteristics and their impacts on the relationship between monetary policy and financial performance of commercial banks. This study sought to address this gap in literature as it focused on the influence of monetary policy on financial performance of commercial banks in Kenya, thus making it the general objective of the study. Consequently, the specific objectives of the study are to determine the influence of Central Bank Base Rate, money supply and inflation on financial performance of Commercial Banks in Kenya. Lastly, to determine the moderating influence of bank size on the relationship between monetary policy and financial performance of Commercial Banks in Kenya. The study made use of annual panel data on the 43 Commercial Banks in Kenya for the period 2012 to 2016. Causal research design was adopted where a census sampling design was used. The study made use of panel data which was analysed within the framework of a panel regression model. Similarly, the study conducted diagnostic test for stationarity, normality, correlation and hausman tests. The findings of the study show that Central Bank Base Rate has a negative and insignificant effect of financial performance of commercial banks in Kenya. Secondly, the findings of the study indicated a positive and significant effect on money supply on financial performance of commercial banks. Thirdly, the findings of the study provide evidence of a negative and significant effect of CRR on financial performance of commercial banks. Furthermore, the findings of the study show that inflation has a negative and insignificant effect on commercial banks in Kenya. Lastly, the findings of the study indicated a significant moderating effect of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya. Therefore, the study recommends that the Central Bank of Kenya should study and incorporate the ever changing operating environment of commercial banks when making changes or adjustments in the money supply. In addition, the Central Bank of Kenya should be cautious when changing the cash reserve ratio especially when increasing the Cash Reserve Ratio as it increase leads to a decrease in the amount of cash available for commercial banks. Furthermore, the management of commercial banks should embark on activities that will lead to high assets volume. These activities include lower interest rate to attract borrowers and better customer relationship to retain customers.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Globally, the banking industry is an important sector charged with the responsibility of allocating capital resources as well as risk distribution of future flows in an economy (Meshak & Nyamute, 2016). In any economy, a well-functioning banking industry facilitates business cycles which bring about increased growth and welfare in that country (Waweru, 2013). The various roles performed by commercial banks make them a suitable framework for the administration of monetary policy (Borio, Gambacorta & Hofmann, 2015). These roles include the provision of services such as money conversion, processing of payments, maturity transformation of assets, enhancing quality as well as managing and controlling risks.

In order to avert predominant economic conditions, most countries globally redesign the structure and function of their monetary policy. The developed and developing countries ratify the changes in their monetary policy in order to suit the economic changes in various countries or regions (Macharia, 2013). Monetary policy is the instrument used by the monetary authority to regulate the economy. These includes promotion of economic growth and development, price level stabilization, realisation of full employment level, maintenance of healthy balance of payment, increase in industrialization, achievement and sustenance of economic stability (Meshak & Nyamute, 2016).

Over the years, commercial banks in developing countries have been characterized by poor performance evidenced by their declining profitability. This decline in profitability has caused a number of banks to collapse, some of which are, the Savannah Bank Plc, Alpha Merchant Bank Ltd, Societe General Bank Ltd (all in Nigeria), while Trust Bank of Kenya, the Continental Bank of Kenya Ltd, Consolidated Bank of Kenya Ltd, the Capital Finance Ltd and Chase Bank among others (all in Kenya) (Akani, Nwanna & Mbachu, 2016). Some of the forces behind the Central Bank of Kenya's realisation of the need to enhance its regulatory and supervisory roles emanated from the emergency of mergers, take-overs and failure of banks in Kenya (Udeh, 2015).

The low performance of commercial banks in developing countries can be linked to their poor monetary policies (Njini, 2017). The formulation of a working operating framework for monetary policy is cumbersome in developing countries. This can be attributed to most developing economies having deep markets in government debt. The lack of autonomy by monetary authorities in many developing countries has led to poor formulation of monetary policy frameworks. However, there have been concerted efforts to reform and make independent the financial market, which is slowly helping in better implementation of monetary policy frameworks by the Central Banks (Waweru, 2013).

The banking industry in Kenya has been faced with numerous challenges which have impacted negatively on their performance. These challenges stem from the changes in the monetary policy environment which directly impact on the banking system and most especially Commercial Banks (Ongore, & Kusa, 2013). The banking industry in Kenya comprises of 43 banks which are regulated by the Central Bank of Kenya (Meshak & Nyamute, 2016). The CBK has been vested

with the legal authority of formulating and implementing monetary and fiscal policies (Central Bank of Kenya, 2015). The Central Bank of Kenya is the lender of last resort and the apex regulatory body of the banking in Kenya (Kimani, 2013). The Central Bank of Kenya key role is to handle liquidity and the solvency of the Kenya shilling as well as oversee that the financial system in Kenya is well-functional (CBK, 2016).

1.1.1 Monetary Policy

Monetary policy is the framework used by the Central Bank to perform its regulatory function which facilitates economic growth and stability (Macharia, 2013). Monetary policy is defined by the relationship between the cost of borrowed money in an economy and the total money available (Ekpong, Udude & Uwalaka, 2015). Monetary policy tools include; Central Bank Base Rate, Money Supply, Cash Reserve Ratio, Inflation, Open Market Operations among others.

Monetary policy is used to control the economy by the monetary authorities. It entails efforts by monetary authorities (the Central Bank of Kenya) to regulate the circulation of money and lending conditions in order to achieve broad economic objectives. It is an important tool in economic management that country authorities can use to direct the performance of the economy. Monetary policy can be used to effectively bring about economic stability, price stability and help check inflation within laid out targets over the medium term (Waweru, 2013).

Monetary policy involves changing the circulation of the total money available and cost of borrowing in order to bring about economic stability at full employment or output level by stimulating the aggregate demand (Adefeso & Mobolaji, 2010). Appropriate monetary tools are used in regulating the circulation of money and reducing the interest rates during unfavourable

economic periods (Meshak & Nyamute, 2016). Monetary policy caters for both short-term and long-term economic objectives. It is used to stabilize the economic output in the short-run while on the long-run, it is used to accomplish the task of full employment, price stability, speedy growth of the economy and balance of payments equilibrium (Waweru, 2013).

The achievement of monetary policy in Kenya, like other developing countries, is hindered by lack of developed capital and money markets and also the seemingly limited range and quantity of financial assets. This leads to limitations in using monetary tools such as open market operations by the Central Banks. The use of money supply in developing countries is also characterised by challenges caused by the openness of economies. This is due to the fact that accumulation of foreign currency is important in making use and developing their domestic financial resources (Meshak & Nyamute, 2016).

1.1.2 Financial Performance of Commercial Banks in Kenya

In Kenya, the banking system consists of 43 commercial banks, some being local and others foreign. Thirteen of the commercial banks are listed at the Nairobi Securities Exchange (NSE). The reinstatement of Chase Bank increased the number of commercial banks to 43 from 42. Similarly, commercial banks in Kenya are classified into tiers with tier 1 comprising of 6 banks, tier 2 comprising of 16 banks and lastly tier 3 comprises of 21 banks (CBK, 2016). These banks offer services ranging from both corporate and retail services while some of them also offer investment banking services.

World Bank (2017) reports a declining trend in the financial performance of commercial banks over the years as expressed in their profitability (ROE). The ROE of commercial banks stood at

21.99% as at 2012 which is a fall compared to the 23.10% of 2011. Furthermore, the declining trend in profitability extended to 2013, 2014 and 2015 as the ROE stood at 20.94%, 20.88% and 17.39% respectively. The ROE of commercial banks in Kenya further declined in 2016 which was largely attributed to the interest rate capping bill of 2016 introduced in Kenya. The interest capping rate is 4 percent above the Central Bank Base rate. This development has however taken commercial banks unawares as it exerts an adverse effect their financial performance, cutting down the excess profits previously enjoyed by banks which have resulted in the downsizing of their workforce in order to cover for the operating cost which they incur (Mbua, 2017). The 2016 financial statements of banks saw prominent banks having a decline in profits. Similarly, August 22, 2017 saw Cooperative Bank of Kenya report a decline in profitability in its 2017 half year report. Its profit after tax fell by 10.4% to Sh 6.64 Billion. Also, a fall by 10.3% which represents Sh 19.26 Billion in total interest income while a further drop by 7.2% representing Sh 13.4 Billion in net interest income (Co-operative Bank of Kenya, 2017).

Commercial banks are the major players in the financial sector of Kenya. Therefore, the growth and stability of the country's economy is greatly dependant on how well these commercial banks perform financially. Similarly, financial performance is seen to be the major determinant of a bank or firm's continuity (Meshak & Nyamute, 2016). Profitability is used to assess how commercial banks perform financially. The profitability of commercial banks are assessed using a number of financial ratios, these includes; the Net Interest Margin (NIM), the Return on Assets (ROA) and the Return on Equity (ROE). However, ROE is regarded as the best measure for profitability as it shows the return on shareholders' wealth (Khrwish, 2011; Macharia, 2012; Macharia, 2013; Otuori, 2013; Udeh, 2015)

The Return on Equity (ROE) refers to how much in terms of returns a bank realises as a proportion of the money shareholders have invested in the bank. ROE is the shareholders' return for money invested by them (Cekrezi, 2015). High returns on equity may be read as an indicator of how well a firm is able to earn cash from its net worth. A higher ROE is therefore a reflector of a company's ability to make a financial gain. In addition, Khrawish (2011) asserts that dividing Net Income by the Total Equity Capital yields ROE. ROE indicates how well the management of a bank is utilising the funds invested by shareholders. According to Macharia (2013), the success of management in using the money invested by the shareholders is indicated by a high ROE.

1.1.3 The Relationship Between Monetary Policy and Financial Performance

Monetary Policy is used to stabilize inflation, promote growth, support long-term sustenance of public debt through steady interest rates and contribute to a reduction in operational costs by enabling financial access within the economy (MPS, 2014). Monetary policy tools include the Central Bank Base Rate, Cash Reserve Ratio, Open Market Operations, and Inflation.

The CBBR is the rate of interest charged on loans advanced to commercial banks by the monetary authority. The Monetary Policy Committee (MPC) determines and makes public the CBBR, the CBBR is set every two months where it could change or remain constant. A positive movement in the CBBR denotes a positive movement in the bank's lending cost thus leading to a reduction in money lending. This consequently brings down the bank's earnings (Mulwa, 2015).

Monetary policy regulates the supply of money and lending rate in order to have a stable economy geared towards full employment or desired production level. During low economic

phases, money supply is increased by the Central Bank which in turn leads to a decline in interest and enhances the circulation of money (Meshak & Nyamute, 2016)

The CRR is the portion of commercial banks deposits that required to be deposited at the CBK. The deposits are kept in the CRR account and do not earn interest. Therefore, the higher the CRR, the less the availability of cash for commercial banks to conduct their financial intermediation role. Conversely, the lower the CRR, the more the availability of cash for commercial banks to perform their financial intermediation role which in turn enhances their performance (Cheruiyot, 2012).

The rate of increase in the operation cost compared to the rate of increase in inflation or conversely, determines the relationship between inflation and bank profitability. Similarly, Aigheyisi & Edore (2014) propounds that the proper forecasting of the relationship between inflation and financial performance of commercial banks influences the direction it takes. In a period where inflation is well anticipated, management of commercial banks quickly adjusts interest rates to cushion the changes in inflation. This adjustment of interest rate could either be to a lower or higher rate, however depending on the direction in which inflation is moving to (Borio *et al.*, 2015).

1.2 Statement of the Problem

Commercial banks are globally considered an avenue for the administration of monetary policy by Central Banks (Ajayi & Atanda, 2012). Just like every other business entity, the survival of financial intermediaries, most especially commercial banks depends highly on their profitability. Therefore, profitability is an important factor for commercial banks as they strive hard to always achieve this objective. High performance of the banking sector is of significance to the economy

as it creates employment and facilitates the transfer of funds from surplus to deficits units, thereby, boosting economic growth (Kimani, 2013).

As a norm, banks do not operate in a vacuum; they are guided by the monetary policies set by the Central Bank. Thus, leaving the commercial banks in a vulnerable situation that is likely to have an effect on their profitability and hence financial performance due to fluctuations in the monetary policy environment (Waweru, 2013). Changes in the monetary policy could either be favourable or unfavourable depending on how well they are anticipated. The link between monetary policy and financial performance in the banking sector came into prominence following the Great Financial Crisis (Borio *et al.*, 2015).

The financial performance of commercial banks in Kenya has been on the decline and this has raised concerns in all corners of the financial sector. Over the last five years, the profitability (ROE) of commercial banks in Kenya has been characterized by a decreasing trend. This has caused some banks to cut down their work force in order to cover for the operating costs which they incur. Furthermore, the poor financial performance of commercial banks especially that of 2016 which extends to the current year 2017 has been attributed to the interest rate capping. The interest rate capping is a monetary policy tool which is 4% above the CBBR. Therefore, changes in the monetary policy environment impacts on commercial banks' performance, this is as a result of the operations of commercial banks being guided within the framework of the monetary policy.

A number of studies have been conducted in respect to monetary policy and financial performances of commercial banks in developed countries. Similarly, a few studies have been

carried out on monetary policy and financial performances of commercial banks in Kenya. However, these studies did not consider moderating characteristics of bank specifics such as bank size and its impact on the relationship between monetary policy and commercial banks' financial performance. According to Karkrah and Ameyaw (2010) bank size is an important bank specific characteristic that ordinarily shows prospective cost advantages and disadvantages owing to the banking sector's operation scale. Therefore, the bank size accounts for economies of scale and thus their market power.

This study sought to address this gap in literature as it focused on the effect of monetary policy on financial performance of commercial banks in Kenya. Furthermore, unlike previous studies, this study considered bank size and its moderating influence on the relationship between monetary policy and commercial bank's performance in Kenya. Thereby, providing policy recommendations for policy makers in Kenya and across the globe.

1.3 Objectives of the Study

1.3.1 General Objective

To determine the effect of monetary policy on financial performance of Commercial Banks in Kenya.

1.3.2 Specific Objectives

The following are the specific objectives of the study:

- i) To determine the effect of Central Bank Base Rate on financial performance of Commercial Banks in Kenya.

- ii) To establish the effect of money supply on financial performance of Commercial Banks in Kenya.
- iii) To determine the effect of Cash Reserve Ratio on financial performance of Commercial Banks in Kenya.
- iv) To establish the effect of inflation on financial performance of Commercial Banks in Kenya.
- v) To determine the moderating effect on the relationship between monetary policy and financial performance of Commercial Banks in Kenya.

1.4 Research Hypotheses

The research hypotheses for the study are:

H₀₁: Central Bank Base Rate has no significant effect on financial performance of Commercial Banks in Kenya.

H₀₂: Money Supply has no significant effect on financial performance of Commercial Banks in Kenya.

H₀₃: Cash Reserve Ratio has no significant effect on financial performance of Commercial Banks in Kenya.

H₀₄: Inflation has no significant effect on financial performance of Commercial Banks in Kenya.

H₀₅: Bank size has no significant moderating effect on the relationship between monetary policy and financial performance of Commercial Banks in Kenya.

1.5 Significance of the Study

The study is of importance to the Government of Kenya as it will assist policy makers in formulation of policies relating to commercial banks and other financial institutions. Secondly,

the bank management will be greatly informed by the findings of the study. It enlightens the bank managers on how monetary policy and size of bank influence the financial performance of banks. Thirdly, the study informs the general public on how commercial banks' performance is influenced by the monetary policy. Lastly, the study will lay foundation for academicians who may want to carry out further research in a similar field.

1.6 Scope of the Study

The study was on Monetary policy and financial performance of commercial banks in Kenya which was anchored on the following variables: - financial performance, being the dependent variable and Central Bank Base Rate, Money Supply, Cash Reserve Ratio and Inflation as the independent variables. The moderating variable was bank size. The study was focused on all commercial banks that have been in existence within the time scope of the study which is 2012 to 2016. Therefore, the study made use of annual panel data on the 43 commercial banks operating in Kenya for the period of five years while employing a panel regression model for the analysis.

1.7 Limitations and Delimitations of the Study

The most common challenges when using secondary data arises from the source of data. Therefore, the researcher ensured that the study data was gotten from authorized sources which include Central Bank of Kenya and Commercial Bank's websites (financial statements). In addition, the researcher proposed the use yearly data, however, not all the data on the study variables were in yearly form. In addressing this, the researcher transformed all non-yearly data to yearly form.

1.8 Organization of the Study

The research proposal is structured as follows: Chapter one provides the research background, research general and specific objectives, significance of the study, scope, limitations and delimitations of the study. Chapter two provides the literature review in terms of theories supporting the study, the empirical review as well as the conceptual framework. Chapter three presents the methodology of the study which gives information on the research design, target population, data collection instruments and data analysis. Chapter four comprise of the data analysis, presentation and interpretation. Chapter five constitute the summary, recommendation and conclusion of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents the literature review of the study; this includes the theoretical review and empirical review.

2.2 Theoretical Review

The study made use of a number of theories to support the study; these theories include; Interest Rate Parity Theory, Deflation Theory, Market Power Theory and Agency Theory.

2.2.1 Interest Rate Parity Theory (IPT)

Interest Rate Parity Theory was proposed by Keynes (1936). The presupposition in this theory is that interest rates variations in countries that are trading partners explain the nominal interest rates volatility. The difference in interest rates between foreign and local countries relates to interest rate parity. Premium or discount for the forward exchange rate on the foreign currency is an indication of difference in interest rate in two different currencies as provided by the parity condition where buying and selling of currency in the financial market does not exist (Bhole & Dash, 2002).

Interest Rate Parity Theory's relevance in this study is that it provides insight on the presence of parity which plays a major role in banking operations. Commercial banks seek to make profits as they carry out their financial intermediation role (Borio *et al.*, 2015). The rate of interest charged

by commercial banks on their loans as well as other financial services rendered determines the profits made (Buigut, 2010). Thus, as the interest rate charged goes higher, so are the profits of these commercial banks and thus, their financial performance.

2.2.2 Deflation Theory

Deflation theory was propounded by Fisher (1933). The theory asserts that a decrease in inflation rates bring about a decline in the general price level, which subsequently brings down the business net worth, reduced profitability and thus, precipitating bankruptcies in institutions. The cycles cause complicated disturbances in interest rates and a decline in the value of money. These complicated disturbances are described as both macro and micro forces (external and internal factors) impacting on the level of over indebtedness which exists among debtors and/or creditors which can result in loan default (Nzuve, 2016).

The theory is relevant to this study as it asserts that high rates of inflation will bring about high commercial banks' revenues, high profitability and thus, better financial performance of banks. Conversely, decrease in rates of inflation, decreases revenues, profitability and thus poor financial performance of banks which can ultimately leads to bankruptcy of commercial banks (Nzuve, 2016). The anticipation of inflation rate determines its effect on the banks' profitability. It is positive when it well anticipated, as management of banks will quickly adjust interest rates to cater for such changes and vice versa.

Opposed to this theory is Paul and Conroy (1998) who assert that high inflation brings about devaluation of currency, thus fall in purchasing power of money and erosion of value. In

addition, it brings about fall in real sales, high costs of operation and interest rates in the economy.

2.2.3 Market Power Theory

Market Power Theory was propounded by Bhagwati (1965). Market power denotes a situation in which by exercising control over its supply and/or demand, a firm can determine the price of an item or service. This is a feature that falls under the concept of imperfect competition where firms in the market have varying market power. Market Power Theory postulates that growing external market forces lead to greater financial performance. Furthermore, according to the theory, in order to strive better than competitors and realise abnormal earnings, a firm has to have large assets and a products' portfolio that is well differentiated. Thus implying that only large banks can affect prices and thereby achieve higher profits (Tregenna, 2009)

Market Power Theory is made up of two hypotheses, that is, the traditional structure-conduct performance and the relative-market power hypotheses. The traditional-structure conduct performance hypothesis suggest that because of diminished competition, higher markets with more firms results in higher loan rates and lower rates of deposits while relative-market power hypothesis advocates that only large brand-identified banks can determine pricing and earn more profits. The variation in the two hypotheses holds depending on whether the market power is generic to a market or specific to market's individual banks (Mirzaei, Liu & Moore, 2011).

Market Power Theory is relevant to this study as it proposes that a bank size can positively impact on its financial performance through various avenues following reasons that larger banks enjoy cost advantages of large operations scale and may take advantage of their powers in the market as it enables them generate abnormal profits and thus, enhances their financial

performance. According to Karkrah and Ameyaw (2010) bank size is often utilized for economies of scale or diseconomies of scale in the banking sector. Generally, and to a certain extent, there is a positive impact of large banks on profitability. Due to bureaucratic reasons, agency costs and inflexible operations, the impact of bank size can be negative for those banks that become extremely large (Goddard, Molyneux & Wilson, 2004). Therefore, the size of banks accounts for economies of scale and thus their market power.

2.3.4 Agency Theory

This theory was propounded by Jensen and Meckling (1976). Agency theory has become popular management and its owners, who are the stockholders, relate (Mulwa, 2015). According to the theory, an agency conflict exists. The organisation's management is regarded as a contracted agent by the people holding stocks for the organisation to uphold the value of stockholders by prudent financial performance (Waweru, 2013). To promote performance of the organisation financially, the management has the responsibility of putting the owner's interests before theirs.

In relevance to this study, agency theory asserts that the commercial banks' financial performance in terms of Return on Equity is dependent on how managers go about the operations of the banks in maximizing shareholders' wealth. The maximization of shareholders return can be seen on the rate of return on equity of shareholders. The theory arises from the fact that managers being the agents, maybe involved in actions that have personal motives which downplays the interests of the owners (shareholders) of the banks (Macharia, 2013). According to this theory when such a situation occurs, it affects the banks' financial performance. To avert this, the shareholders can use a number of measures that will result in high financial performance. These include rewarding management financially which will motivate them to work in the best interest of the company (Waweru, 2013). The owners can also warn

management with acquisition of the bank by another accomplished firm without their consent. Management can also be allowed part ownership of the banks in the form of shareholdings.

2.3 Empirical Review

This section presents empirical review on monetary policy and financial performance. It critically looked at empirical studies conducted both locally and globally.

2.3.1 Central Bank Base Rate and Performance of Commercial Banks

There are a few studies conducted in relation to monetary policy and financial performance of banks. Ajayi and Atanda (2012) carried out a study on the effect of monetary policy instruments on Nigerian banks' performance. The research focused on the period 1980 and 2008 where the Engle-granger two-step co-integration approach was adopted. Bank rate was shown to insignificantly affect the Nigerian banks' performance. However, the study concentrated on Nigeria, therefore the findings of their study cannot be generalised for Kenya.

Macharia (2013) conducted a study on impact of global financial crisis on the financial performance of commercial banks in Kenya. The study focused on commercial banks in Kenya that offer mortgage finance. The research included variables such as interest rate, inflation rate and exchange rate. The findings of the study reveal a negative effect of interest on the financial performance of commercial banks in Kenya that offer mortgage finance services. Notably, the study only focused on commercial banks in Kenya that offer mortgage finance services only. Furthermore, the study did not consider bank size and its moderating influence on the relationship between interest rate and financial performance of commercial banks in Kenya.

Waweru (2013) conducted a study on the effect of monetary policy on commercial banks' financial performance in Kenya. The study focused on Central Bank Base rate and financial performance. The results of the study indicate that; the average base rate of the CBK, that is, CBBR has a significant positive effect on the Kenyan commercial banks' profitability. Similarly, Olatu, Aladesanmi and Olufayo (2014) conducted a study on monetary policy and commercial banks performance in Nigeria: an assessment of Credit Creation Role. Indicators for monetary policy were interest rate, liquidity ratio; cash reserve ratio and money supply while the indicator for performance was measured in terms of total bank credit. The study's findings indicate an insignificant negative interest rate effect on performance of commercial banks in Nigeria.

Borio, Gambacorta & Hofman (2015) conducted a study on the link between monetary policy and bank profitability. The study used a non-linear approach while using data for the period 1995 to 2012 on 109 large international banks with headquarters located in 14 major advanced economies. The study looked at the effect of interest rate changes (short-term rate level and yield curve slope) on all key elements of a profit and loss account such as the net interest income, non-interest income and bank loss provisions. The study also looked at overall profitability which was measured by Return on Assets (ROA). The results of the study provided evidence of a notable positive relationship between interest rate and profitability of banks. Further, the results study show that high interest rates enhance banks profitability. This can be attributed to the notion that interest rate charged by banks determines their profit on a particular loan. However, the study focused on major advanced economies therefore; the findings of their study cannot be applied to Kenya which is a developing economy.

Mulwa (2015) carried out a study on the effect of monetary policy and financial performance of commercial banks in Kenya, it covered a period of five years from 2010 to 2014. The indicators

of monetary policy were Central Bank Base Rate (CBBR), open market operations, and Reserve Ratio Requirement. On the other hand, the indicator of financial performance of Commercial Banks was Net Interest Margin (NIM). The study findings reveal that Central Bank Base Rate had a negative and insignificant effect on the financial performance of commercial banks in Kenya. However, the study by Mulwa focused on Net Interest Margin as a measure for financial performance of banks, this study adopted Return on Equity as a measure of financial performance for commercial banks in Kenya. ROE is an indicator of the return rate that is realised by the stockholders on what they have invested in the bank and it denotes how effective the use of shareholders' funds is by the management of the bank. Notably, Khrawish (2011); Macharia (2013); Otuori (2013); Udeh (2015) assert that ROE is a better measure of profitability and thus financial performance as opposed to NIM.

Ndugbu and Okere (2015) conducted a study on monetary policy and the performance of deposit money banks in Nigeria. The period under focus by the study was between 1993 to 2013. The findings from the OLS (Ordinary Least Squares) show that bank lending rate had an insignificant relationship with the performance of deposit money banks in Nigeria. However, Ndugbu and Okere (2015) focused on Nigeria and did not consider banks size and its moderating effect on the relationship between rate of interest and banks' performance. This study was centered on Kenya and it established the moderating effect of bank size on the relationship between CBBR and financial performance of commercial banks in Kenya.

Meshak and Nyamute (2016) conducted a study on monetary policy and financial performance of commercial banks listed in the Nairobi Securities Exchange, Kenya. The variables considered in the study were CRR, CBBR and OMO. The findings of the study established that Central bank base rate negatively influenced the financial performance of commercial banks listed on the

NSE, Kenya. However, Waweru (2013) and Meshak and Nyamute (2016) provided a conflicting result on the influence of Central bank base rate and financial performance of commercial banks. The result for the latter show a significant positive effect of Central bank base rate on financial performance of commercial banks in Kenya while that of the former show a significant negative effect of Central bank base rate on financial performance of commercial banks in Kenya.

2.3.2 Money Supply and Performance of Commercial Banks

A study was conducted by Al-Qudah and Jaradat (2013) on macroeconomic variables, bank characteristics on the Profitability Jordanian Islamic Banks. The study adopted Return on Equity (ROE) and Return on Assets (ROA) as measures of profitability. The findings of the study reveal that growth in money supply had a positive effect on the profitability of Jordanian Islamic Banks. However, the effect of growth of money supply (GM2) on return on Equity (ROE) is insignificantly positive whereas on the other hand growth in money supply had a positive and significant effect on Return on Asset (ROA). The study opined that banks have higher capacity to lend out money when there is higher supply which subsequently brings about higher banks' profitability. However, Al-Qudah and Jaradat (2013) focused on Jordanian Islamic Banks; the current study was centered on commercial banks in Kenya.

Nasserinia *et al.*, (2014) conducted a study on main factors determining the performance of commercial banks in Japan. The focus of the study was on bank-specific characteristics, market variables and macroeconomic variables covering the period of the global financial crises. The study adopted Net interest margin as a measure of performance. The results of the study reveal that money supply has a negative and significant impact on performance of commercial banks in Japan. Notably, the study was centred on commercial banks in Japan; therefore the findings

cannot be applied to Kenya. The current study sought to address the contextual gap by establishing the influence of money supply on commercial banks in the Kenyan context.

Otalu *et al.*, (2014) conducted a study on monetary policy and commercial banks performance in Nigeria: an assessment of Credit Creation Role. Indicators for monetary policy were interest rate, liquidity ratio, cash reserve ratio and money supply while the indicator for performance was measured in terms of total bank credit. The findings of the study show a significant positive effect of money supply on performance of commercial banks in Nigeria. However, the study was centered on Nigeria and the study made use of total bank credit as a measure of performance. The current study was focused on Kenya as it adopted ROE as a measure of performance of commercial banks.

Kwakwa (2014) conducted a study on the determinants of performance of commercial banks in Ghana. The study considered the effect of bank size, inflation and money supply on performance of commercial banks in Ghana. ROA and ROE were used to measure the banks' performance. The findings of the study show that money supply had a significant negative effect performance of commercial banks in Ghana as measured by on Return on Assets (ROA) and Return on Equity (ROE). However, the study was based on Ghana, therefore the findings from the study cannot be generalized for other countries, in this case the commercial banks in Kenya.

2.3.3 Cash Reserve Ratio and Performance of Commercial Banks

Ajayi and Atanda (2012) carried out a study on the effect of monetary policy instruments on Performance of banks in Nigeria. The research focused on the period 1980 and 2008 where the Engle-granger two-step co-integration approach was adopted. The results of the study show that cash reserve ratio had a significant negative impact on banks' performance in Nigeria. Similarly,

Otalu *et al.*, (2014) conducted a study on monetary policy and commercial banks performance in Nigeria: an assessment of Credit Creation Role. Indicators for monetary policy were interest rate, liquidity ratio, cash reserve ratio and money supply while the indicator for performance was measured in terms of total bank credit. The findings of the study show that cash reserve ratio has a significant negative effect on performance of commercial banks in Nigeria. However, the studies by Ajayi and Atanda (2012); Otalu *et al.*, (2014) were centered on Nigeria. In addition, the two studies did not consider bank size and its moderating influence on the relationship between cash reserve ratio and performance of commercial banks.

Also, Waweru (2013) conducted a study on the effect of monetary policy on commercial banks' financial performance in Kenya. in respect to CRR and financial performance of commercial banks, the results of the study indicate that; amount of funds commercial banks deposit with CBK, that is, CRR has a significant positive effect on commercial banks' profitability in Kenya. However, the research did not feature bank size which accounts for economies of scale and its moderating effect on the relationship between CRR and financial performance of commercial banks in Kenya.

Mulwa (2015) carried out a study on the impact of monetary policy and financial performance of commercial banks in Kenya, the study covered a period of five years from 2010 to 2014. The indicators of monetary policy were Central Bank Base Rate (CBBR), open market operations, and Reserve Ratio Requirement. On the other hand, the indicator of financial performance of Commercial Banks was Net Interest Margin (NIM). The study findings reveal that Cash Reserve Ratio had a negative and insignificant effect on the financial performance of commercial banks in Kenya. The findings imply that higher cash reserve ratio leads to lower bank performance.

This can be attributed to the fact that a higher CRR means that commercial banks have less money available to conduct their intermediation role which leads to lower profits for the banks.

Ndugbu and Okere (2015) conducted a study on monetary policy and the performance of deposit money banks in Nigeria. The study focused on monetary policy on the performance of deposit money banks in Nigerian for the period ranging from 1993 to 2013. The findings from the Ordinary Least Squares show that the relationship between cash reserve ratio and performance of money deposit banks was insignificant. Notably, the findings of Ndugbu and Okere (2015) is in contrast with that of Ajayi and Atanda (2012); Olatu *et al.*, (2014) who found CRR to have a significant negative effect on the performance of commercial banks in Nigeria. In addition, these studies did not consider the moderating effect of bank size on the relationship between CRR and performance of commercial banks.

MacCarthy (2016) conducted a study on the effect of cash reserve ratio on financial performance of commercial banks in Ghana. Performance of commercial banks was measured in terms of Returns on Investment (ROI). The findings of the study showed a significant positive effect on cash reserve ratio on the financial performance of commercial banks in Ghana. The study submits that cash reserve requirement is important in avoiding runs on the banks as it helps reduces chances of commercial banks' bankruptcy. However, the centre of focus in the current study was commercial banks in Kenya and it made use of ROE as an indicator for financial performance.

Meshak and Nyamute (2016) conducted a study on monetary policy and financial performance of commercial banks listed in the Nairobi Securities Exchange, Kenya. The variables considered in the study were CRR, CBR and OMO. The findings of the study established that Cash Reserve Ratio (CRR) negatively influenced the financial performance of commercial banks listed on the

NSE. However, the study did not look at bank size which is an important banks specific variable that accounts for economies of scale.

Furthermore, the review of literature on the influence of Cash reserve ratio on performance shows that most studies were conducted for other countries. Similarly, all the studies did not consider the moderating influence of bank size on the relationship between cash reserve ratio and financial performance of commercial banks. The current study sought to address the contextual and conceptual gaps in literature as it considered bank size and its moderating influence on the relationship between CRR and financial performance of commercial banks in Kenya.

2.3.4 Inflation and Performance of Commercial Banks

A study was conducted by Buyinza (2010) to examine the profitability of commercial banks in Sub-Saharan African countries. The study focused on samples of 23 commercial banks profitability covering the period 1999 to 2006 all in Sub-Saharan African countries. The research made use of panel data regression analysis where the results of the study show that inflation impacts positively on profitability of banks. However, Buyinza (2010) focused on commercial banks in Sub Sahara Africa countries thereby making the study a cross country study. The current study focused on commercial banks thereby providing a country-specific result.

Similarly, Ajayi and Atanda (2012) carried out a study on the effect of monetary policy instruments on performance of banks in Nigeria. The research focused on the period between 1980 and 2008 where the Engle-granger two-step co-integration approach was adopted. The study revealed that inflation rate had a positive and insignificant impact on the performance of banks in Nigeria. However, the study by Ajayi and Atanda (2012) was conducted in the Nigerian context, whereas commercial banks in Kenya was the basis of the current study.

Macharia (2013) conducted a study on impact of global financial crisis on the financial performance of commercial banks in Kenya. The study focused on commercial banks in Kenya that offer mortgage finance. The findings of the study reveal a negative and insignificant effect of inflation on the financial performance of commercial banks in Kenya that offer mortgage finance. However, Macharia (2013) focused on commercial banks that offer mortgage services only. The current study focused on all commercial banks in Kenya that have been in operation from 2012 to 2016.

Frederic (2014) carried out a study on determinants of the local commercial banks' financial performance in Uganda. The study included variables such as inflation, capital, adequacy, management efficiency, interest income and asset quality. The study analysed data of all banks which included foreign and domestic commercial banks where a linear multiple regression analysis was conducted over the period 2000 to 2011. The findings of the study show that inflation significantly influences the performance of domestic commercial banks in Uganda.

Kiganda (2014) conducted a study on macroeconomic factors' effect on profitability of commercial banks in Kenya, a case study of Equity Bank Limited. The variables included in the study were exchange rate, GDP and inflation rate. The study made use of annual data ranging from 2008 to 2012. Analysis of the study was conducted within the framework of a multiple regression model where the study findings reveal inflation to have a positive and insignificant impact on commercial banks (Equity Bank Limited) Profitability in Kenya. However, this study focused only on Equity bank as such the findings cannot be generalized for all the commercial banks in Kenya. The current study was centered on all the commercial banks in Kenya. Thereby, conducting a census study which ensured validity of the data collected.

Kwakwa (2014) conducted a study on the determinants of performance of commercial banks in Ghana. The study considered the effect of bank size, inflation and money supply on performance of commercial banks in Ghana. The banks' performance was estimated in terms of ROA and ROE. The findings of the study show that inflation has an insignificant positive effect performance of banks as measured by Return on Assets (ROA) and Return on Equity (ROE). However, the study was centred on Ghana, therefore, owing to the fact that every country is unique in the sense that it has different sizes in markets and economy; the findings cannot be generalized for Kenya.

2.3.5 Bank Size and Performance of Commercial Banks

A study was conducted by Buyinza (2010) to examine how profitable commercial banks in Sub-Saharan African countries were. The study focused on samples of 23 commercial banks profitability covering the period 1999 to 2006 all in Sub-Saharan African countries. The research made use of panel data regression analysis where the results of the study show that bank size has a significant positive effect on profitability of banks. However, the study conducted a cross country analysis. The current study was focused on Kenya, thereby providing results specific to the country.

Similarly, Pinter, Ali, Akhtar, and Ahmed (2011) conducted a study on bank specifics and performance of commercial banks in Pakistan. The sample of the study was made up of 22 public and private sector commercial banks ranging from the period 2006 to 2009. The study utilized panel data estimation and multiple regression models. The findings of study reveal that bank size had a significant positive impact on performance of banks in Pakistan. A study was conducted by Al-Qudah and Jaradat (2013) on macro-economic variables and bank

characteristics on the profitability of Jordanian Islamic Banks. As a measure of profitability, the study adopted ROE and ROA. The study findings reveal bank size to significantly affect profitability as measured by ROE and ROA.

Nasserinia *et al.* (2014) conducted a study on main elements of commercial banks' performance in Japan. The focus of the study was on bank-specific characteristics, market variables and macroeconomic variables covering the period of the global financial crisis. The study adopted Net interest margin as a measure of performance. The study findings reveal that bank size insignificantly impacts on commercial banks' performance in Japan. Notably, the study was conducted for Japan. In addressing the contextual gap, the current study was centered on commercial banks in Kenya.

Kwakwa (2014) conducted a study on the determinants of performance of commercial banks in Ghana. The study considered the effect of bank size, inflation and money supply on performance of commercial banks in Ghana. Performance of banks was measured in terms of ROA and ROE. For ROA, bank size had a significant positive effect on ROA. However, in respect to ROE, bank size had an insignificant positive effect on ROE. Similarly, the study by Kwakwa (2014) was centred on commercial banks in Ghana; therefore the findings from the study cannot be extended to Kenya. The focus of the current study was on commercial banks in Kenya.

2.4 Summary of Literature Review and Research Gaps

From the review of literature, there exist research gaps which stem from concept, context and methodology.

Table 2.1: Summary of Literature Review and Research gaps

Author	Focus and Context of the study	Key Findings	Research Gaps	Focus of Current Study
Ajayi and Atanda (2012)	Effect of monetary policy instruments on Performance of banks in Nigeria	Bank rate had a positive but insignificant effect on performance of banks in Nigeria	The focus of the study was Nigeria	The current study focused on Kenya
Waweru (2013)	Effect of monetary policy on financial performance of commercial banks in Kenya	Found CBBR to have a significant positive impact on the profitability of commercial banks in Kenya.	The study did not consider bank size	The current study established the moderating effect of bank size on the relationship between CBBR and financial performance of commercial banks in Kenya
Al-Qudah and	Macro-economic	Found the effect	Focus of the	The current study

Jaradat (2013)	variables, bank characteristics on the profitability of Jordanian Islamic Banks	of growth of money supply (GM2) to be positive and insignificant on return on Equity (ROE) while on the other hand growth in money supply had a positive and significant effect on Return on Asset (ROA).	study was on Jordanian Islamic Banks	focused on commercial banks in Kenya
Nasserinia <i>et al.</i> (2014)	Key determinants of performance of commercial banks in Japan	Money supply has a negative and significant impact on performance commercial banks in Japan.	The study was conducted for commercial banks in Japan	The current study was conducted for commercial banks in Kenya
Ndugbu and Okere (2015)	Monetary policy and the performance of	Relationship between cash	The focus of the study was	The focus of the current study was

	deposit money banks in Nigerian.	reserve ratio and performance of deposit money banks was insignificant	Nigeria	Kenya
Mulwa (2015)	Effect of monetary policy and financial performance of commercial banks in Kenya	Cash Reserve Ratio had a negative and insignificant effect on the financial performance of commercial banks in Kenya	The study did not consider the moderating effect of bank size on the relationship between CRR and financial performance of commercial banks in Kenya	The current study considered the moderating effect of bank size on the relationship between CRR and financial performance of commercial banks in Kenya
Buyinza (2010)	Examine the profitability determinants of commercial banks in Sub-Saharan African	Inflation had a significant positive effect on the profitability of banks	The study was based on a cross-country analysis	The current study was based on country specific analysis with focus on Kenya

	countries			
Macharia (2013)	Impact of global financial crisis on the financial performance of commercial banks in Kenya	Found negative effect of inflation on the financial performance of commercial banks in Kenya that offer mortgage finance	The study focused on commercial banks that offer mortgage finance and did not consider bank size	The current study was based on all commercial banks in Kenya, thereby conducting a census study which enhances validity of data/results obtained. Also, the current study considered bank size
Kiganda (2014)	Effect of macroeconomic factors on profitability of commercial banks in Kenya, a case study of Equity bank limited	Found inflation to have a positive and insignificant impact on commercial banks (Equity Bank Limited)	The study focused on Equity Bank Limited, therefore the findings cannot be generalised for commercial banks in	The current study was a census study on commercial banks in Kenya

			Kenya	
Pinter <i>et al.</i> , (2011)	Bank specific and performance of commercial banks in Pakistan	Bank size had a significant positive impact on performance of banks in Pakistan	However, the study was centred on commercial banks in Pakistan	The current study was centred on commercial banks in Kenya
Kwakwa (2014)	Determinants of performance of commercial banks in Ghana.	For ROA, bank size had a significant positive effect on ROA. However, in respect to ROE, bank size had an insignificant positive effect.	However, the study was centred on commercial banks in Ghana. Therefore, the findings cannot be applied to Kenya	The current study focused on commercial banks in Kenya.

Source: Literature Reviewed by Researcher, (2018)

From the review of empirical literature, a number of studies have been done on monetary policy and financial performance of commercial banks. These studies were carried out both locally (in Kenya) and globally. Boyinza (2010), Ajayi and Atanda (2012), Al-Qudah and Jaradat (2013),

Nasserinia *et al.* (2014), Kwakwa (2014), Otalú (2014), Ekpung *et al.* (2015), Ndugbu and Okere (2015) and MacCarthy (2016) conducted a study independently for both developed and developing countries. Though some of these studies were conducted for developing countries, the findings of these studies cannot be generalized for Kenya. According to Tedre, Bangu and Nyagava (2009), no two developing countries are alike; therefore every country has its unique characteristics. This could be as a result of existing variations in market size and economic growth levels of different countries.

In the case of Kenya, Macharia (2013), Waweru (2013), Kiganda (2014), Mulwa (2015) and Meshak and Nyamute (2016) studied monetary policy and financial performance of commercial banks in the Kenyan context. However, Kiganda (2014) focused on Equity Bank, Kenya. Therefore, the findings of a bank-specific study cannot be generalized for all the commercial banks in Kenya. This study was centered on all the commercial banks in Kenya, thereby enhancing validity of findings. Additionally, previous studies did not examine moderating characteristics and their influence on the relationship between monetary policy and financial performance of commercial banks. This study also considered the moderating influence of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya.

2.5 Conceptual Framework

The conceptual framework denotes the visual presentation of the relationship between the variables in the study. The projected relationship of the study variables in the conceptual framework depicts monetary policy tools (Central Bank Base Rate, Money Supply, cash Reserves Ratio and Inflation) as the independent variables. The dependent variable is the

financial performance of commercial banks which was measured in terms of Return on Equity. The changes in monetary policy was proposed to have an influence on the financial performance of commercial banks in Kenya.

Lastly, bank size was proposed to have a moderating influence on the relationship between monetary policy and financial performance. The study sought to examine the influence of monetary policy on financial performance of commercial banks and the moderating influence of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya.

Independent Variables

Dependent Variable

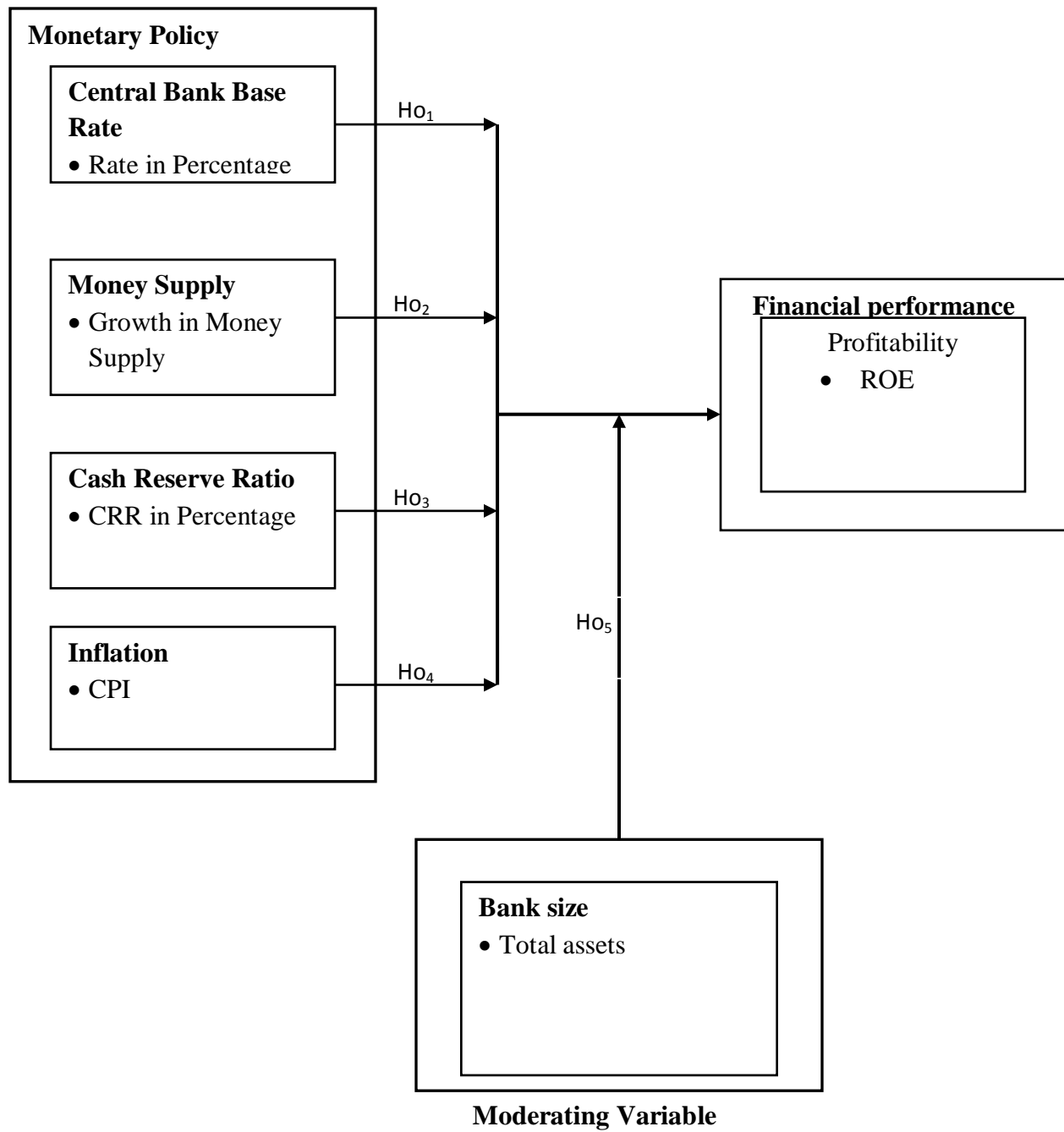


Figure 2.1: Conceptual Framework

Source: *Researcher (2018)*

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides details on the methodology used in the study. It gives information on the research design, target population, data collection instruments and data analysis used in the study.

3.2 Research Design

Cooper and Schindler (2009) defined research design as the blueprint for the data gathering, measurement and its estimation in a research. According to Rajendra (2008) a research design refers to the blueprint which guides on data collection and analysis thereby bringing the importance of the research.

The study adopted causal research design. Causal research design is employed in a research to establish cause and effect on relationships among research variables. Therefore, causal research design was appropriate for this study as the study sought to determine the effect of monetary policy on financial performance of commercial banks and the moderating effect of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya.

3.3 Population

Cooper & Schindler (2009) stated that a population refers to the total collection of objects or elements that are of interest to a researcher which will be used for making inferences. The

study's target population was the 43 commercial banks in Kenya that have been in existence from 2012 to 2016, which was the time scope of the study. Therefore, the published financial statements of these 43 banks constituted the unit of observation of the study.

3.4 Sampling Design

The study focused on the 43 commercial banks in Kenya that have been in existence from 2012 to 2016. Therefore, census sampling technique was adopted for the study. Mugenda and Mugenda (2003) suggest that when the population is small or when it is convenient to include the entire population in the study, census sampling is used. The validity of data is ensured in a census study. The elimination of type I and II errors are ensured in a study where census sampling is employed (Kothari, 2011).

3.5 Empirical Model

The study made use of a panel regression model based on a panel data. Thus, financial performance of Commercial banks in terms of ROE was expressed as a function of Central Bank Base Rate, Money Supply, Cash Reserve Ratio and Inflation.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \epsilon_{it} \dots \dots \dots 3.1$$

Where:

Y_{it} - Financial Performance (ROE) of Commercial banks in Kenya.

β_0 - Constant

X_{1it} – Central Bank Base Rate

X_{2it} – Money Supply

X_{3it} – Cash Reserve Ratio

X_{4it} – Inflation

$\beta_1 - \beta_4$ = Regression coefficients, they measure of sensitivity of a variable Y to changes in variable X

ϵ_{it} = Error term, it captures the omitted variables in the model

Moderating effect of Bank size on the zero-order correlation between monetary policy and financial performance was tested using the two models presented below.

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \epsilon \dots\dots\dots 3.2$$

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 M0_{it} + \beta_3 X_{it} * M0_{it} + \epsilon \dots\dots\dots 3.3$$

Where; Y_{it} = Financial Performance

X_{it} = Monetary Policy

$M0_{it}$ = Moderating Variable (Bank Size)

$X_{it} * M0_{it}$ = Interaction term

$\beta_1, \beta_2,$ and β_3 = Beta coefficients

ϵ = Error term

In the case of moderation of an overall effect, the moderation test effect was specifically focused on assessing whether the interaction term coefficient was statistically different from zero (Whisman and McClelland, 2005).

3.6 Operationalization and measurement of variables

The financial performance of commercial banks depends on monetary policy, hence making it the dependent variable. It was measured in millions of Kenyan shillings. The monetary policy tools, which are Central Bank Base Rate, Money Supply, Cash Reserve Ratio and Inflation rate in Kenya constituted the independent variables. The moderating variable was bank size which is total assets. Bank size was measure as log of total assets. The study variables were operationalized and measured as shown in Table 3.1.

Table 3.1: Operationalization and Measurement of Variables

Variable	Type	Operationalization	Measurement
Financial Performance	Dependent Variable	Return on shareholders' wealth	ROE in millions
Central Bank Base Rate	Independent Variable	Rate charged by CBK on lending to commercial banks	Central Bank Base Rate in Percentage
Money Supply	Independent Variable	Total stock of money in circulation in an economy	Growth in Money Supply
Cash Reserve Ratio	Independent Variable	Proportion of deposits required to be kept at the Central Bank by	CRR in percentage

		commercial banks	
Inflation	Independent Variable	Consumer Price Index	Inflation Rate in percentage
Bank Size	Moderating Variable	Log of Total Assets	Log of total assets

Source: (Researcher, 2018)

3.7 Data Collection

The data utilized in this study was secondary data which was collected from a number of sources such as the audited financial statements of the sample commercial banks; the Central Bank of Kenya and the Kenya National Bureau of Statistics. The data was collected for the duration of five years from 2012 to 2016. This period was considered appropriate for this study because a number of monetary policy changes have been made within this period.

3.7.1 Data Collection Instrument

To collect data, a data collection or review guide was used (see Appendix II). This helped in ensuring that the right data was collected.

3.8 Data Analysis

After the research data has been collected, the next step was the analysis of the data. The data for the study was panel data which was analysed using stata within the framework of a panel regression model. The analysis of the study was conducted largely via descriptive analysis and inferential analysis. Descriptive statistics provided the general description of the study variables.

It shows the mean, minimum and maximum number of observation and standard deviation. The descriptive analysis was presented via the use of tables and graphs.

Inferential analysis is used to make inferences about a population based on the information gotten from its sample. The inferential statistics was used to test the null hypotheses of the study. Thereafter the null hypotheses were either be rejected or not rejected at 5 percent significance level which translates to 95 percent level of confidence. Furthermore, diagnostics tests were conducted before carrying out on the inferential analysis of the study.

3.9 Diagnostic Tests

Diagnostic tests are performed in a study to ensure that the data is adequate for analysis. The study conducted diagnostic test for stationarity, normality, correlation and hausman tests.

3.9.1 Stationarity Test

A time series is said to be stationary if it's mean, variance or pattern doesn't exhibit an upward and downward trend. The null hypothesis is that the series is non-stationary while the alternative hypothesis is that the series is stationary. A non-stationary data set results in false results. If a statistical p value of less than 0.05 is obtained then the null hypothesis is rejected meaning that the data set is stationary.

3.9.2 Test for Correlation

Correlation test is a test that indicates how strongly a pair of variable is correlated. According to Green, (2008), if a pair of variable has a correlation of 0.8 or -0.8 (i.e. r^2 of 64% or more), then the pair is strongly correlated and this means that multicollinearity does not exist. From the table,

none of the pair of association has r of more than 0.8 (64%) hence the data has no multicollinearity problem.

3.9.3 Normality Test

Normality test is conducted in a study to ensure that the data is normality distributed. The non-normal distribution of data could lead to making of wrong inferences. According to Green, (2008), the null hypothesis is that the data is not normally distributed while the alternative hypothesis is that the data is normally distributed. A p value of less than 0.05 shows non normality of the data whereas a p value of more than 0.05 shows that there is normality. This test was carried out using Shapiro Walk test.

3.9.4 Hausman Test

The hausman test is carried out to determine the best model to use in carrying out a panel regression output. The null hypothesis is that the preferred model is random effect while the alternative hypothesis is that the preferred model is fixed. A p value of less than 0.05 rejects the null hypothesis therefore the fixed effect model is used.

3.10 Research Ethics.

Research ethics are rules and norms which are expected to be followed in a research by a researcher. All researches are guided by certain professional standards and ethical principles. Observing ethical norms in a research is vital as it enhances the goal of the research study. The research was guided by ethical rules and standard applicable to Kenyatta University and Kenya at large. The researcher made use of the research permit which was be obtained from NACOSTI

to approach the relevant institutions for data collection. In addition, all ethical standards and considerations regarding research were wholly followed.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter comprises of the findings of the study. The study findings are guided by the specific objectives and null hypotheses of the study.

4.2 Descriptive statistics

The descriptive statistics help in exhibiting the basic features of the data used in the study. It provides the mean, standard deviation, minimum and maximum values. This was carried out and the results shown in the table below.

Table 4.1: Descriptive statistics of the study

Variable	Obs	Mean	Std. Dev.	Min	Max
ROE	200	.1842241	.108086	0	.494
CBBR	200	9.9	1.244081	8.5	11.5
Msupply	200	3.22787	.0912747	3.093457	3.348714
CRR	200	5.312	.0117255	5.299	5.329
Inflation	200	6.98	1.276616	5.7	9.4
BankSize	200	4.542593	.5755715	3.680438	5.808751

Source (Research findings, 2018)

From the results in Table 4.1; ROE had a mean of 0.184 and standard deviation of 0.108. CBBR had a mean of 9.9, standard deviation of 1.244. Money supply had a mean of 3.228, standard deviation of 0.091. CRR had a mean of 5.312, standard deviation of 0.012. Inflation had a mean

of 6.98, standard deviation of 1.277. Lastly, bank size had a mean of 4.543 and standard deviation of 0.576.

4.3 Diagnostic tests

Diagnostic tests are performed in a study to ensure that the data is adequate for analysis. The study conducted diagnostic test for stationarity, normality, correlation and hausman tests.

4.3.1 Stationarity test

Table 4.2: Results of stationarity test

Variable	Test statistic	P-value
ROE	-6.994	0.0000
CBBR	-17.213	0.0000
Money Supply	-13.691	0.0000
CRR	-30.810	0.0000
Inflation	-25.646	0.0000
Bank Size	-4.571	0.0012

Source (Research findings, 2018)

A time series is said to be stationary if it's mean, variance or pattern doesn't exhibit an upward and downward trend. The null hypothesis is that the series is non-stationary while the alternative hypothesis is that the series is stationary. A non-stationary data set results in false results. If a statistical p value of less than 0.05 is obtained then the null hypothesis is rejected meaning that the data set is stationary. From the results in the table above, the ROE, CBBR, Money supply,

CRR, Inflation and Bank size have p values of 0.000, 0.000, 0.000, 0.000, 0.000 and 0.0012 respectively. This means that the data set was stationary.

4.3.2 Test for correlation

Correlation test is a test that indicates how strongly a pair of variable is correlated. This test was carried out using the Pearsons correlation and results presented in the table below.

Table 4.3: Result for Correlation Test

	ROE	CBBR	Msupply	CRR	Inflation	Banksize
ROE	1.0000					
CBBR	-0.0889	1.0000				
	0.2106					
Msupply	0.1704	0.1055	1.0000			
	0.0159	0.1369				
CRR	-0.0255	0.0207	-0.3568	1.0000		
	0.7201	0.7714	0.0000			
Inflation	-0.0383	0.4923	-0.6164	0.6123	1.0000	
	0.5900	0.0000	0.0000	0.0000		
Banksize	0.5067	0.0029	0.0934	-0.0187	-0.0631	1.0000
	0.0000	0.9675	0.1884	0.7924	0.3747	

****Significant at 0.05***

Source (Research findings, 2018)

From table 4.3, there is a non significant association between the CBBR and the Roe ($r=-0.0889$, p value 0.2106). There is a significant relationship between Money supply and ROE($r=-0.1704$, p-value 0.0159). There is a non significant association between the Cash reserve ratio (CRR) and ROE ($r=0.0255$, p value 0.7201). The association between the bank size and the ROE is significant ($r=0.5067$, p-value 0.000). According to Green, (2008), if a pair of variable has a correlation of 0.8 or -0.8 (i.e. r^2 of 64% or more), then the pair is strongly correlated and this means that multicollinearity does not exist. From the table, none of the pair of association has r of more than 0.8 (64%) hence the data has no multicollinearity problem.

4.3.3 Normality test

Normality test is conducted in a study to ensure that the data is normally distributed. The non-normal distribution of data could lead to making of wrong inferences. According to Green, (2008), the null hypothesis is that the data is not normally distributed while the alternative hypothesis is that the data is normally distributed. A p value of less than 0.05 shows non normality of the data whereas a p value of more than 0.05 shows that there is normality. This test was carried out using Shapiro Walk test.

Table 4.4: Results of the Study on Normality Test

Shapiro-Wilk W test for normal data					
Variable	Obs	W	V	Z	Prob>Z
Return On Equity	200	0.97668	1.085	0.988	0.721
Central Bank Base Rate	200	0.96485	0.714	0.861	0.392
MoneySupply	200	0.98773	1.831	1.391	0.082
Cash Reserve Ratio	200	0.93177	1.576	1.043	0.296
Inflation	200	0.82236	1.987	1.491	0.135
Bank Size	200	0.91453	2.751	1.842	0.065

Source (Research findings, 2018)

From table 4.4 above the p values are >0.05 hence the conclusion that the data set was normally distributed.

4.3.4 Hausman test

A hausman test is carried out to determine the best model to use in carrying out a panel regression output. The null hypothesis is that the preferred model is random effect while the alternative hypothesis is that the preferred model is fixed. A p value of less than 0.05 rejects the null hypothesis therefore the fixed effect model is used.

Table 4.5: Results of the Study on Hausman Test

	———— coefficients ————			
	(b) M1	(B) m2	(b-B) Difference	sqrt(diag(v_b-B)) S.E.
CBBR	-.0007575	-.0025728	.0018152	.
Msupply	-.2004014	-.2983144	.0979131	.0214508
CRR	.2544946	-.1337866	.3882811	.
Inflation	-.0104630	-.0057742	-.0046888	.
Banksiz	-.1338299	.0752905	-.2091204	.0579862

b = consistent under Ho and Ha; obtained from xtreg
 B = inconsistent under Ha, efficient under Ho; obtained from xtabond

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B) \ [(v_b-v_B)^(-1)] (b-B)
 = 13.01
 Prob>chi2 = 0.0233

Source (Research findings, 2018)

From the findings in Table 4.5, a p value of less than 0.05 was obtained thus the study used the fixed effect model in carrying out the panel regression.

4.4 Regression Analysis and Hypotheses Testing

Table 4.6: Panel Regression Model Without the Moderating Variable

```

fixed effects (within) regression          Number of obs   =    200
Group variable: bank                      Number of groups =     40

R-sq: within = 0.2023                    Obs per group:  min =     5
      between = 0.2814                      avg   =    5.0
      overall  = 0.2167                      max   =     5

Corr(u_i,xb) = 0.0000                    F(4,156)        =    8.08
                                           Prob > F         =   0.0000
  
```

ROE	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]	
CBBR	-.0019192	.0049386	-0.39	0.698	-.0116743 .0078359	
Msupply	.2630624	.0679712	3.87	0.000*	-1.397325 2.2230624	
CRR	-.0600801	.0306531	-1.96	0.050*	-.9088228 .9208388	
Inflation	-.0074623	.0071715	-1.04	0.300	-.0216281 .0067035	
_cons	1.0725280	2.3776471	0.45	0.653	3.6240070 5.7690630	
Sigma_u	.09690489					
Sigma_e	.05119913					
rho	.78177067	(fraction of variance due to u_i)				

Source (Research findings, 2018)

From Table 4.6, without the inclusion of the predictor variables, the ROE of the banks increase by 1.0723. A unit increase in CBBR results in the decline in the ROE of banks by 0.0019 times. Secondly, a unit increase in money supply results in a significant increase in the ROE by 0.2631 times. Thirdly, a one unit increase in CRR results in a significant decrease in the banks ROE by 0.060 times. Lastly for a unit increase in the inflation rate, there is a 0.0075 times decline in ROE. Among the variables, the results show that money supply and CRR were significant at 0.05 level of significance with p values of 0.000 and 0.050 respectively. An R^2 of 0.2167 was obtained meaning that in the absence of the moderating variable, the predictor variables explain 21.67 % of the change in the ROE of the banks.

The equation thus becomes

$$ROE_{it} = 1.073 - 0.0019 CBBR_{it} + 0.2631 M_{supply_{it}} - 0.0601 CRR_{it} - 0.0075 Inflation_{it} + 0.7818 \epsilon_{it}$$

4.5 Effect of Monetary Policy on Financial Performance of Commercial Banks in Kenya

In determining the effect of monetary policy on financial performance of commercial banks in Kenya, the specific objectives were utilized. The specific objectives of the study were used. The specific objectives of the study were to determine the effect of Central Bank Base Rate on financial performance of Commercial Banks in Kenya. Secondly, to establish the effect of money supply on financial performance of Commercial Banks in Kenya. Thirdly, to determine the effect of Cash Reserve Ratio on financial performance of Commercial Banks in Kenya. Fourthly, to establish the effect of inflation on financial performance of Commercial Banks in Kenya. Lastly, to determine the moderating effect on the relationship between monetary policy and financial performance of Commercial Banks in Kenya.

4.5.1 Effect of Central Bank Base Rate on Financial Performance of Commercial Banks in Kenya.

The first objective of the study was to determine the effect of Central Bank Base Rate on financial performance of Commercial Banks in Kenya. The coefficient of CBBR (-0.0019) has a probability value of 0.698 which is greater than 0.5. The null hypothesis stated that CBBR has no significant effect on financial performance of commercial banks in Kenya. Therefore, the null hypothesis is not rejected at 5% significance level. Thus, a unit increase in CBBR results in the decline in the ROE of banks by 0.0019 times. Therefore, the findings of the study show that CBBR has a negative and insignificant effect of financial performance of commercial banks.

The findings of the study in respect to CBBR and financial performance is consistent with that of Ajayi and Atanda (2012) and Otalú *et al.*, (2014) who indicated a negative and insignificant effect of CBBR on financial performance of commercial banks in Nigeria. Similarly, the findings of the study are consistent with Meshak and Nyamute (2016) who provided evidence of a negative and insignificant effect of CBBR on financial performance of commercial banks listed in the Nairobi Securities Exchange, Kenya. However, the findings of the study is at variance with the findings of Waweru (2013) indicated that CBBR has a significant positive effect on the Kenyan commercial banks' profitability. The variations in the findings can be attributed to the type of methodology used, the analysis of Waweru was conducted within the framework of a multiple regression model while the analysis of the current study was conducted within the framework of a panel regression model.

4.5.2 Effect of Money Supply on Financial Performance of Commercial Banks in Kenya

The second objective of the study was to determine the effect of money supply on financial performance of Commercial Banks in Kenya. The coefficient of money supply (0.2631) has a probability value of 0.000. The null hypothesis stated that money supply has no significant effect on financial performance of commercial banks in Kenya. Therefore, the null hypothesis was rejected at 5% significance level. Therefore, money supply has a positive and significant effect on financial performance of commercial banks in Kenya as measured by ROE. The findings of the study imply that a unit increase in money supply results in an increase in the ROE by 0.2631 times.

The findings of the study in respect to the effect of money supply and financial performance of commercial banks is consistent with the findings of Al-Qudah and Jaradat (2013) and Otalú *et*

al., (2014) who found a significant positive effect of money supply on financial performance of commercial banks in Jordan and Nigeria respectively. However, the findings of the study regarding the effect of money supply and financial performance of commercial banks is at variance with the findings of Kwakwa (2014) and Nasserinia *et al.*, (2014) who found a negative effect of money supply on financial performance of commercial banks in Ghana and Japan respectively

The inconsistency in the findings of the current study and that of Kwakwa (2014) and Nasserinia *et al.*, (2014) can be attributed to the context which the studies were conducted. The current study was conducted on commercial banks in Kenya while that of Kwakwa and Nasserinia *et al.*, were conducted on commercial banks in Ghana and Japan respectively.

4.5.3 Effect of Cash Reserve Ratio on Financial Performance of Commercial Banks in Kenya.

The third objective of the study was to determine the effect of cash reserve ratio on financial performance of commercial banks in Kenya. The coefficient of CRR (-0.06008) has a probability value of 0.050. The null hypothesis stated that CRR has no significant effect on financial performance of commercial banks in Kenya. Therefore, the null hypothesis was rejected at 5% significance level. Therefore, CRR has a negative and significant effect on performance of commercial banks in Kenya. The findings of the study imply that a one unit increase in CRR results in a decrease in the banks ROE by 0.06008 times.

The findings of the study in respect to the effect CRR and financial performance of commercial banks is consistent with the findings of Ajayi and Atanda (2012), Otalú *et al.*, (2014) who indicated that CRR has a negative and significant effect on commercial banks. However, the

findings of the study vary with the findings of Waweru (2013) who indicated that CRR has a significant positive effect on profitability of commercial banks in Kenya. However, the variation in the findings can be attributed to the type of methodology used in both studies. This study employed a panel regression model while Waweru employed multiple regression model.

Furthermore, the findings of the study vary with that of Meshak and Nyamute (2016) and Mulwa (2015) who indicated a negative and insignificant effect of CRR on financial performance. However, the study by Mulwa; Meshak and Nyamute were carried out using multiple regression models. In addition, the study by Meshak and Nyamute was conducted for commercial banks listed on the Nairobi Securities Exchange, Kenya and hence the variations in findings.

4.5.4 Effect of Inflation on Financial Performance of Commercial Banks in Kenya.

The fourth objective of the study was to determine the effect of inflation on financial performance of commercial banks in Kenya. The coefficient of inflation (-0.0075) has a probability value of 0.300 which is greater than 0.5. The null hypothesis stated that inflation has no significant effect on financial performance of commercial banks in Kenya. Therefore, the null hypothesis was not rejected at 5% significance level. Thus, for a unit increase in the inflation rate, there is a 0.0075 times decline in financial performance as measured by ROE.

The findings of the study in respect to the effect of inflation on financial performance of commercial banks are consistent with that of Macharia (2013) who found inflation to have a negative and insignificant effect of inflation on the financial performance of commercial banks in Kenya. However, the findings of the study are not consistent with the findings of Kiganda (2014), Kwakwa (2014), Fredric (2014) and Ajayi and Atanda (2012). The variations in the findings of these studies can be attributed to the contexts in which the studies were conducted.

Kiganda focused on a single bank that is Equity Bank of Kenya Ltd. While Ajayi and Standa; Kwakwa; and Fedric focused on Nigeria, Ghana and Uganda respectively.

4.5.5 The Moderating Effect of Bank Size on the Relationship Between Monetary Policy (CBBR, Money Supply, CRR and Inflation) and Financial Performance of Commercial Banks in Kenya.

In determining the moderating effect of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya the second model was used. The second model represents the panel regression with the inclusion of the moderating variable. The inclusion of the variable was done using the composite to moderate the changes of the effect of the predictor variables on the dependent variables.

Table 4.7: Results of Panel Regression in the Presence of a Moderating Variable (Bank Size).

```

fixed effects (within) regression          Number of obs   =   200
Group variable: bank                     Number of groups =    40

R-sq: within = 0.4960                    Obs per group:  min =    5
      between = 0.5427                      avg   =   5.0
      overall  = 0.5086                      max   =    5

Corr(u_i,xb) = -0.8341                    F(5,155)        =   7.96
                                           Prob > F         =  0.0000

```

ROE	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]	
CBBR	-.0025728	.0050319	-0.51	0.609	-.0124352 .0072896	
Msupply	.2983144	.0699166	-4.27	0.000*	-1.661686 2.2583144	
CRR	-.1337866	.0597262	-2.24	0.029*	-2.093786 1.8262134	
Inflation	-.0057742	.0073177	-0.79	0.430	-.0201165 .0085681	
BankSize	.7529051	.0211761	3.56	0.000*	.0337862 .1167949	
_cons	1.5815790	2.4252420	0.65	0.514	-3.1718081 6.3349652	
Sigma_u	.01896904					
Sigma_e	.02751199					
rho	.32211195	(fraction of variance due to u_i)				

Source (Research findings, 2018)

The second model represents the panel regression with the inclusion of the moderating variable. The inclusion of the variable was done using the composite to moderate the changes of the effect of the predictor variables on the dependent variables. The results are presented in the Table 4.6.

Upon the introduction of a moderating variable, a unit increase in the CBBR results in a decline in ROE by 0.0026. Secondly, a unit increase in the money supply results in an increase in the ROE of the banks by 0.2983. The decline is statistically significant with a p value of 0.000 at 0.05 level of significance. Thirdly, a unit increase in CRR results in the decline of the banks' ROE by 0.1338. This decline is also statistically significant at 0.05 significance level. Fourthly, with a unit rise in the inflation rate, the ROE declines by 0.0058.

$$ROE_{it} = 1.5816 - 0.0026CBBR_{it} + 0.2983Msupply_{it} - 0.1338CRR_{it} - 0.0058Inflation_{it} + 0.0752Banksiz_{it} + 0.3221\epsilon_t$$

The fifth objective was to determine the moderating effect of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya. From the model the introduction of the moderating variable significantly affects the relationship between the independent and the dependent variable; R^2 increases from the previous 0.2167 to 0.5086. This means the predictor variables can explain up to 50.86% of the changes in ROE of the banks. The null hypothesis stated that bank size has no significant moderating effect on the relationship between monetary policy and financial performance of commercial banks in Kenya. A p value of 0.000 is obtained which is a manifest of the statistical significance of the bank size as a moderating variable. Therefore, the null hypothesis was rejected at 5% significance level.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

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

5.2 Summary of the Study

The study sought to determine the effect of monetary policy on financial performance of commercial banks in Kenya. The specific objectives of the study were to determine the effect of Central Bank Base Rate on financial performance of Commercial Banks in Kenya. Secondly, to establish the effect of money supply on financial performance of Commercial Banks in Kenya.

Thirdly, to determine the effect of Cash Reserve Ratio on financial performance of Commercial Banks in Kenya. Fourthly, to establish the effect of inflation on financial performance of Commercial Banks in Kenya. Lastly, to determine the moderating effect on the relationship between monetary policy and financial performance of Commercial Banks in Kenya. The study adopted Interest Rate Parity Theory, Deflation Theory, Market Power Theory and Agency Theory. Causal research design was adopted for the study where the target population of the study comprised of all the 43 commercial banks in Kenya. Panel regression analysis was employed in the study.

The findings of the study are based on the hypotheses and objectives of the study. The findings of the study show that CBBR has a negative and insignificant effect of financial performance of commercial banks in Kenya. Therefore, the null hypothesis was not rejected. Secondly, the findings of the study indicated a positive and significant effect on money supply on financial

performance of commercial banks, therefore, the null hypothesis was rejected. Thirdly, the findings of the study provide evidence of a negative and significant effect of CRR on financial performance of commercial banks. Thus, the null hypothesis was rejected.

Furthermore, the findings of the study show that inflation has a negative and insignificant effect on commercial banks in Kenya, therefore, the null hypothesis was not rejected. Lastly, the findings of the study indicated a significant moderating effect of bank size on the relationship between monetary policy and financial performance of commercial banks in Kenya, therefore, the null hypothesis was rejected. The hypotheses of the study were tested at 5 percent significance level.

5.3 Conclusion

Commercial banks operate within the framework of a monetary policy which is set and determined by the Central Bank. The external environment of commercial banks is characterized by monetary policy which affects the financial performance of banks. Therefore, the changes in the monetary policy as indicated by the monetary policy tools influences the performance of commercial banks both positively and negatively.

The conclusion of the study is based on the findings of the study. The study concludes that CBBR has a negative and insignificant effect on the financial performance of commercial banks in Kenya. Also, the study concluded that money supply has a positive and significant effect on the financial performance of commercial banks in Kenya. Therefore, the increase in money supply makes money available for commercial banks to lend to customers for productive use. This subsequently impacts on the profitability positively and thus financial performance.

Furthermore, the study concluded that CRR has a negative and significant effect on the financial performance of commercial banks in Kenya. Therefore, the higher the CRR, the less the availability of cash for commercial banks to conduct their financial intermediation role and lower their level of performance. Also, the study concluded that inflation has a negative and insignificant effect on the financial performance of commercial banks in Kenya.

Lastly, the study concluded that bank size has a significant moderating effect on the relationship between monetary policy and financial performance of commercial banks in Kenya. Bank size is a bank specific characteristic with the control of bank management. Therefore, it is capable of economies of scale as bigger banks lead to larger market share and hence greater performance of these banks.

5.4 Policy Recommendations

The policy recommendations of the study are based on the variables with significant effect on the financial performance of commercial banks in Kenya. The study concluded that money supply has a positive and significant effect on the financial performance of commercial banks in Kenya. Therefore, the Central Bank of Kenya should study and incorporate the ever changing operating environment of commercial banks when making changes or adjustments in the money supply.

Furthermore, the study concluded that CRR has a negative and significant effect on the financial performance of commercial banks in Kenya. Therefore, the Central Bank of Kenya should be cautious when changing the cash reserve ratio especially when increasing the CRR as the increase in CRR leads to a decrease in the amount of cash available for commercial banks. Lastly, the study concluded that bank size has a significant moderating effect on the relationship between monetary policy and financial performance of commercial banks in Kenya. Therefore,

the management of commercial banks should embark on activities that will lead to high assets volume. These activities include lower interest rate to attract borrowers and better customer relationship to retain customers.

5.5 Suggestions for Further Research

The suggestion for further research is based on the limitation of the study. The inability of the study to consider the newly introduced interest rate cap leads to the adoption of CBBR. This is attributed to the fact that the newly interest rate capping in Kenya is barely one financial year since it was introduced in September 2016. However, the CBBR has been in existence for so many years and hence the choice of CBBR. The study suggests that further studies in the similar field of study should consider the interest rate capping and its effect on the financial performance of commercial banks in Kenya.

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Appendix I: Work Plan of Research Study.

Month	Activity
July	Proposal Writing.
August	
September	Proposal defence.
September	Research amendments, Data Collection and Processing of data.
October	Data Analysis and Interpretation.
November	Report Writing and submission of report.

Appendix II: Data Collection Guide

Bank	Year	ROE	CBBR	Money Supply	CRR	Inflation Rate	Bank Size
1	2012						
1	2013						
1	2014....2016						
2	2012						
2	2013						
2	2014....2016						
3	2012						
3	2013						
3....40	2014....2016						

Appendix III: List of Commercial Banks in Kenya

1. African Banking Corporation Limited.
2. Bank of Africa Kenya Limited
3. Bank of Baroda (K) Limited
4. Bank of India
5. Barclays Bank of Kenya Limited
6. Stanbic Bank Limited
7. Charterhouse Bank Limited
8. Chase Bank (K) Limited
9. Citibank N.A Kenya
10. Commercial Bank of Africa Limited
11. Consolidated Bank of Kenya Limited
12. Co-operative Bank of Kenya Limited
13. Credit Bank Limited
14. Development Bank of Kenya Limited
15. Diamond Trust Bank Kenya Limited
16. Dubai Bank Kenya Limited
17. Ecobank Kenya Limited
18. Equatorial Commercial Bank Limited
19. Equity Bank Limited
20. Family Bank Limited
21. Fidelity Bank Limited
22. Guaranty Trust Bank (K) Limited (Formerly Fina Bank Limited)
23. First Community Bank Limited
24. Giro Commercial Bank Limited
25. Guardian Bank Limited
26. Gulf African Bank Limited
27. Habib Bank A.G Zurich
28. Habib Bank Limited
29. Imperial Bank Limited

30. I & M Bank Limited
31. Jamii Bora Bank Limited
32. Kenya Commercial Bank Limited
33. K-Rep Bank Limited
34. Middle East Bank (K) Limited
35. National Bank of Kenya Limited
36. NIC Bank Limited
37. Oriental Commercial Bank Limited
38. Paramount Universal Bank Limited
39. Prime Bank Limited
40. Standard Chartered Bank Kenya Limited
41. Trans- National Bank Limited
42. UBA Kenya Bank Limited
43. Victoria Commercial Bank Limited.