THE EFFECT OF MONETARY AND FISCAL POLICY ON INTEREST RATES

IN KENYA

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DECLARATION

I, the undersigned, declare that this research project is my original work and that it has not been presented in any other institution for academic purposes.

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DEDICATION

This research project is dedicated to my dear wife, Sylvia Nyamache for unending love and support, my sons Michael, Mark and Austin and my entire family.

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LIST OF ABBREVIATIONS

CBK-Central Bank of Kenya

CBR- Central Bank Rate

FSR- Finance Sector Reforms

FIPOD- Fiscal Policy Division

GDP- Gross Domestic Product

MPAC- Monetary Policy Advisory Committee

MPC- Monetary Policy Committee

OMO- Open Market Operations

ABSTRACT

Implementation of monetary policy and fiscal policy are both functions of the government to influence the economy, usually by varying demand and supply of money through interest rates. The two are done by different agents of the government with monetary policy being implemented by the Central Bank of Kenya (CBK) and the fiscal policy is implemented by the treasury. This study set out to evaluate the effect monetary and fiscal policy have on interest rates and since they are both functions of the existing government. To achieve this, the study made use of secondary data obtained from Central Bank of Kenya and the National Treasury for 40 periods between July 2004 and June 2014 on a quarterly basis. Monetary policy was measured by the Central Bank Rate and the Cash Reserve ratio while monetary policy was measured by the ratio of incremental public debt to the national expenditure for each period. The study found that monetary policy has a higher influence on interest rates than the fiscal policy with the central Bank rate being a significant determinant of interest rates. It is therefore recommended that monetary policy be used to influence rates of interest as opposed to fiscal policy.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

The proposed research study aims at gaining a better understanding on how the monetary policy and the fiscal policy affect the interest rates in Kenya. Monetary policies are a function of the Central Banks of most countries. The Central Bank of Kenya (CBK)'s principal objective is formulation and implementation of monetary policy directed at achieving and maintaining stability in the general level of prices (CBK 2010). CBK formulates and conducts monetary policy with the aim of keeping overall inflation at the Government target of 5 percent (CBK 2010). Achieving and maintaining a low and stable inflation rate together with adequate liquidity in the market facilitates higher levels of domestic savings and private investment and therefore leads to improved economic growth, higher real incomes and increased employment opportunities. CBK's monetary policy is therefore designed to support the Government's desired economic activity and growth as well as employment creation through achieving and maintaining a low and stable inflation (CBK 2010).

Fiscal policy is the use of government's revenue collection and expenditures to influence the economy. A government's main source of revenue is through tax collection and therefore the tax structure a government adopts has an effect on its economy mainly through varying interest rates. The relationship between a government's fiscal position and long-term interest rates is potentially of great importance to economic policy-makers.

Blinder and Solow (1973) explain that if the government runs a budget deficit, it competes with the private sector for funds. In turn, this drives up real interest rates and leads to a decline in interest-sensitive components of private spending like investment.

Both monetary policies and fiscal policies are influenced by the existing government together to achieve a financial target of a government. The two are generally believed to have an effect on average interest rates that are charged by commercial banks and other financial institutions. The level of interest rates inturn has an effect on the general direction of economy of a country. A paper by D'Adda and Scorcu (1997) looked at data on 20 industrialized countries over the period 1965-94. They used average interest rates on long term government bonds whenever possible. They found that there is a negative relationship between real rates of return and economic growth.

In Kenya, Financial Sector Reform (FSR) has become a major component of the structural adjustment program to the previously deregulated rates of interest. Central banks have a great role in regulating the financial sector to achieve accelerated economic growth. The principle objectives of the Central Bank of Kenya (CBK) is to formulate and implement monetary policy directed to achieving and maintaining stability in the general level of prices in the economy. To achieve these objectives monetary policy must directly affect bank lending and borrowing. Recent evidence shows that banks in the emerging and developing economies are reluctant to extend credit to private businesses. Some factors influencing this reluctance are the unstable local government economic policies, the individual country legal risk, monetary policies and the riskiness and capacity of business borrowers in these countries. Bank loans are one of the most important long-term financing

sources in many economies and in many private activities Freixas and Rochet, (2008). Adedoyin and Sobodun (1991), explain that lending is undoubtedly the heart of banking business. Therefore, its administration requires considerable skill and carefulness onthe part of the bank management.

1.1.1 Monetary Policy

Monetary policy is a process or mechanism by which a country's regulatory body or authority influences the supply of money which in turn influences the interest rates. This is aimed at creating stability and promoting economic growth. Monetary policies can be contractionary, aimed at decreasing the supply of money, or expansionary, aimed at increasing the amount of money.Expansionary policies are aimed at stimulating economic growth during recession by lowering interest rates thereby inticing businesses to take cheaper credit and expand. Contractionary policies are mainly intended at slowing inflation to avoid deterioration of asset values. There are several instruments or tools used by Central Banks to implement the monetary policy of choice. The three major instruments used across many countries are the base lending rate also called the discount rate, Open Market Operations (OMO) and using reserve requirements.

The base lending rate is the rate that central banks charge financial institutions for short-term loans. This rate is considered by financial institutions before they advance loans to borrowers since it will be part of their cost obtaining loanable funds. OMO involves the buying and selling the government securities in an open market meaning it does not chose specific dealers to do business with. Through open market operations, Central Banks buy or sells securities in the secondary market in order to achieve a desired level of Bank

reserves. Alternatively, the Bank injects money into the economy through buying securities in exchange for money stock. As the law of supply and demand takes effect to determine the cost of credit (interest rates) in the money market, money stock adjusts itself to the desired level. This process influences availability of money in the economy.Central banks also effect monetary policy by varying the amount of reserve funds that banks keep with them as deposits. This has the effect of influencing the supply of money to the economy and by extension varying the interest rates due to force of demand and supply. According to Aziza (2010), Monetary policy works through the effects of the cost and availability of loans on real activity, and through this on inflation, and on international capital movements and thus on the exchange rate. This is achieved through the Central Bank of every country as it is the agency which formulates and implements monetary policy on behalf of the government in an attempt to achieve a set of objectives that are expressed in terms of macroeconomic variables such as the achievement of a desired level or rate of growth in real activity, the exchange rate, the price level or inflation, the balance of payment, real output and employment

1.1.2 Fiscal Policy
Fiscal policy is the use of government's revenue collection and expenditures to influence the economy. A government main source of revenue is through tax collection and therefore the tax structure a government adopts has an effect on its economy mainly through varying interest rates.

The relationship between a government's fiscal position and long-term interest rates is potentially of great importance to economic policy-makers. Blinder and Solow (1973) explain that if the government runs a budget deficit, it competes with the private sector for

funds. In turn, this drives up real interest rates and leads to a decline in interest-sensitive components of private spending like investment. According to Sola (2011), among domestic fiscal variables, the level of expected public debt maintains a positive correlation with interest rates, while among the global factors, the aggregate monetary and fiscal stance play a quantitatively sizeable role.

Fiscal policy has been used where all other mechanisms including monetary policy have failed. The industrialized world suffered over the last few years a number of large negative shocks, initially driven by sharp declines in house and stock prices and by a tightening of credit and financial conditions. The collapse in output and the increase in unemployment produced a loss of confidence that considerably intensified the recessionary pressures. Policy institutions responded with measures that dealt with the solvency of financial institutions. Central banks, on the other hand, reduced interest rates to unprecedented low levels to support aggregate demand and used non-conventional quantitative or credit easing measures and to provide liquidity to the financial sector. Despite all efforts, credit remained tight and aggregate demand weakened rapidly. Given that nominal interest rates approached or hit the zero lower bound and that the room for maneuvering credit was limited by the inability of the banking system to properly function, the scope for further monetary stimulus was limited and attention turned to fiscal policy, Canova and Pappa (2011). The United States for example approved 787 billion dollars of additional spending, transfers and tax reductions with the 2009 American Recovery and Reinvestment Act and the European Union initiated the European Economic Recovery Plan.

There are three possible stances of fiscal policy which are neutral, expansionary and contractionary. A neutral stance of fiscal policy implies a balanced economy. This results in large tax revenue. Government spending is fully funded by tax revenue and overall the budget outcome has a neutral effect on the level of economic activity. An expansionary stance of fiscal policy involves government spending exceeding tax revenue. A contractionary fiscal policy occurs when government spending is lower than tax revenue.

1.1.3 Interest Rates

An interest rate is a proportion of borrowed funds that is paid by a borrower for the use of money that they borrow from a lender for a specified period of time. Specifically, the interest rate is a percentage of principal paid a certain number of times per period, usually quoted per year.

Interest-rate targets are a vital tool of monetary policy and are taken into account when dealing with variables like investment, inflation, and unemployment. The central banks of countries generally tend to reduce interest rates when they wish to increase investment and consumption in the country's economy. However, a low interest rate as a macro-economic policy can be risky and may lead to the creation of an economic bubble, in which large amounts of investments are poured into the real-estate market and stock market.

According to McKinnon (1973), financial repression arises when a country imposes a ceiling on deposit. They conclude that alleviating financial restrictions and letting market forces determine real interest rates leads to higher real interest rates. The higher real rates of return lead to higher levels of savings, which in turn spur economic growth. Hence, the

prediction from their framework is that real interest rates and growth rates are positively related.

1.1.4 The Effect of Monetary and Fiscal Policies on Interest Rates

It is generally believed that monetary policy actions are transmitted to the economy through their effect on market interest rates. According to this standard view, a restrictive monetary policy by the central bank pushes up both short-term and long-term interest rates, leading to less spending by interest-sensitive sectors of the economy such as housing, consumer durable goods, and business fixed investment. Conversely, an easier policy results in lower interest rates that stimulate economic activity. Changes in the stance of monetary policy take place in the market for reserves held by depository institutions. The money reserve can alter the supply of reserves either by using OMO to buy or sell government securities or by altering the amount of reserves borrowed through the discount window. Providing fewer reserves than desired by depository institutions puts upward pressure on the price of reserves the central banks rate while supplying more reserves than institutions desire puts downward pressure on the interest rate, Roley and Sellon (1995).

The standard view of the monetary transmission mechanism relies on a simple version of the expectations theory of the term structure of interest rates. In this theory, long term rates are an average of current short-term rates and expected future short-term rates. Monetary policy affects long-term rates to the extent that it influences current and expected short-term rates.

According to Inman and Rubinfeld (1997), governments use fiscal policy to influence the level of aggregate demand in the economy, in an effort to achieve economic objectives of

price stability, full employment, and economic growth. Keynesian theory suggests that increasing government spending and decreasing tax rates are the best ways to stimulate aggregate demand, and decreasing spending & increasing taxes after the economic boom begins. Keynesian argue this method be used in times of recession or low economic activity as an essential tool for building the framework for strong economic growth and working towards full employment. In theory, the resulting deficits would be paid for by an expanded economy during the boom that would follow.

Governments can use a budget surplus to slow the pace of strong economic growth, and to stabilize prices when inflation is too high. Keynesian theory posits that removing spending from the economy will reduce levels of aggregate demand and contract the economy, thus stabilizing prices. Economists however still debate the effectiveness of fiscal policies. The argument mostly centers on crowding out: whether government borrowing leads to higher interest rates that may offset the stimulative impact of spending Hemming and Mahfouz (2002). When the government runs a budget deficit, funds will need to come from public borrowing (the issue of government bonds), overseas borrowing, or monetizing the debt. When governments fund a deficit with the issuing of government bonds, interest rates can increase across the market, because government borrowing creates higher demand for credit in the financial markets. This causes a lower aggregate demand for goods and services, contrary to the objective of a fiscal stimulus. Neoclassical economists generally emphasize crowding out while Keynesians argue that fiscal policy can still be effective especially in a liquidity trap where, they argue, crowding out is minimal.

In the standard view of the monetary transmission mechanism, monetary policy actions are expected to have a strong, positive effect on long-term rates. In contrast to this theory, the actual relationship between policy actions and long-term rates appears weaker and more variable. Empirical analysis of the relationship between policy actions and interest rates also casts doubt on the standard view. For example, studies by Cook and Hahn (1989b) and by Radecki and Reinhart(1994) examined the response of short-term and long-term rates to changes in a measure of the funds rate target in the days surrounding policy actions. Using a similar approach. Although these studies found that policy actions have a significant positive effect on interest rates of all maturities, these effects decline as maturity lengthens. Indeed, the estimated response of long-term rates to policy actions in these studies is extremely small.

There is a vast empirical literature on the effects of fiscal policy on long-term interest rates and sovereign spreads but, despite the large production, the results are still mixed. In spite of the mixed results, we can identify few areas of consensus; Studies that employ measures of expected rather than actual budget deficits as explanatory variables tend to find a significant effect of fiscal policy on long-term interest rates (Feldstein, 1986; Reinhart and Sack, 2000; Canzoneri et al. 2002; Studies on the effect of public debt appears to be non-linear Faini, (2006); Ardagna et al. 2007); studies on the effects of public debt are quantitatively smaller than those of public deficit Faini, (2006).

1.1.5 Monetary and Fiscal Policies and Interest Rates in Kenya

The Monetary Policy Committee is the organ of the Central Bank of Kenya responsible for formulating monetary policy. The Committee was formed vide Gazette Notice 3771 on 30th April 2008 replacing the hitherto Monetary Policy Advisory Committee (MPAC).

The early years of independence did not invoke the need for monetary controls since the inflation rates of 2% and a growth of GDP by 8% were favourable (Kinyua, 2001). The 1990s brought about the liberalization of the economy where interest rate controls were removed and exchange rate made flexible, ushering in a new era in monetary policy where open market operations (OMO) was the main tool. This was a period characterized by high interest rates and widening interest spread, which inhibited the benefits of flexible interest rate policy such as increasing financial savings and reducing cost of capital. Competing against double digit inflation rate spurred on by excessive money supply and accommodation of troubled banks, CBK used indirect tools to tame inflation in an atmosphere of instability and extreme uncertainty.

Monetary policy by CBK is achieved through three major instruments; changing the Central Bank Rate (CBR) which is the lowest rate of interest it charges on loans to banks and therefore the financial institutions have to considers these rate as they set the interest rates for its borrowers, varying the amount of money banks need to keep as reserves known as reserve requirement which CBK is empowered by law to do and finally through open Market Operations (OMO).

In Kenya, the Fiscal Policy Division (FIPOD) of the National Treasury is responsible for short-and medium-term projection of revenues, expenditures and deficit financing. It is also responsible for budget monitoring and tax policy of the government.

According to Ngugi (2001) Kenya's experience shows a rise in interest rate spread during the financial reform and subsequent financial liberalization process, which suggests the failure to meet the prerequisites for successful financial liberalization. Interest rates were liberalized amidst inflationary pressure, declining economic growth, financial instability, the failure to sustain fiscal discipline and lack of proper sequencing of the shift to use monetary policy tools.

1.2 Research Problem

As the liberalization of interest rates deepens have financial institutions are enjoying more and more independence in determining interest rates. At present, although the benchmark interest rates of commercial banks are determined by the central bank, there still exists large independence in setting lending rates. Some especially Microfinance Institutions can choose suitable interest rate based on its own property conditions as well as the customer credit status in order to increase profit. While the necessity of charging interest on credit has been widely accepted, there seems to be plenty of disagreement over the level of interest rate charged by market players because the factors that go into these calculations are not well known Fernando (2006). We often hear about high transaction costs and cost of funds in FIs as justifications of high interest rates, but there is more to it than that. There are several internal factors that determine the rate of interest charged by institutions. Such include cost of funds, operating expenses, risk of default and profitability (Waruiru, 2011).

The high interest rate among FIs in Kenya cannot be over emphasized. It has faced a lot of criticism for a long time from especially the borrowers. The interest rates has remained high amidst efforts to fix them through the famous Donde bill and Finance Bill 2011 and the current finance bill 2014. Previously there has been aprovision that no interest rate should exceed four per cent of the base lending rate of the Central Bank (Finance Bill 2011). This however, cannot be applicable if institution is making losses. The rates can be justified by high transaction costsand risks associated with lending, it is often difficult to differentiate between sustainability, profitability and greed Fernando (2006).

Previous studies have examined the effect of monetary and fiscal policies separately even though they are both actions of the government. A government may choose to use a monetary policy instrument through the central bank as its agent thereby relaxing its use of fiscal policy instruments since it expects that they will have the same effect and vice versa. Considering only one of the two mechanisms available to the government can be significantly erroneous in conclusions since the government is at liberty to use either of its two major macro-economic policies and use the other only as a supplement. There is therefore a research gap in that the overall action of the government through uses both monetary and fiscal policies. Even if such studies have been done, there is no study addressing this situation in Kenya. This research therefore will try to address this through answering the question; what is the effect of Monetary and Fiscal Policies on interest rates in Kenya?

1.3 Objective of the Study.

To determine the effect of monetary and fiscal policies on interest rates in Kenya

1.4 Value of the Study.

The study was to enable current investors in understanding the effect the government actions have in influencing interest rates and therefore be able to plan their activities since they will be in a better position to predict the cost of investments and use it to make investment decisions. Potential foreign investors will use the findings of the study to know the right time to enter the Kenyan market given the general direction the government wants to take regarding economy- either expansionary or contractionary.

Financial institutions will benefit from the study in assisting them obtain a comparable point for setting their rates of interest. The underlying effects of the two variables will be of great significance on these interest rates.

New players in the borrowing and lending industry will also find the study important. They will have a bench marking point of view to set their own interest rates given the underlying factors prevailing in the market. The study was to assist the researcher qualify for an award of MBA (Finance) and thus put him on a competitive edge in the business world. The study was also to elicit more interest in the study of the subject and expose areas that need more research and exploration. Future research, students may fill up the gap in the areas not covered and thereby contribute to the frontier of knowledge in this area of issuance of loans by financial institutions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This study was an investigation into the effect of monetary policy and fiscal policy on the rates of interest in Kenya. Chapter two aims at reviewing past studies on the subject with an analysis on the relevant literature in this area. It takes the form of a theoretical and empirical study, which critiques the fundamentals of rates of interest. This chapter has the following sections; section 2.1.theoretical review of rates of interest, section 2.2 and its subsections examines the empirical review of both the monetary and fiscal policy section 2.3 outlines the summary of literature review which seeks to find out any gap in the subject which the theories have not addressed.

2.2 Theoretical Review

We can apply the existing macroeconomic theories to study the relationship between interest rate and inflation rate. In Keynesian context of analysis, decreased real money supply distorts whole economy. This means disequilibrium. In the next phase, the supply of bonds is increased. The final result is a lower price for bonds and higher interest rate. So there is a positive causal relationship from inflation rate to nominal interest rate. In other words, increased inflation rate provides some increases in interest rate. The influence mechanism of interest rate on inflation can be explained in various ways. One method is to apply user cost of capital. The increased interest rate raises the user cost of capital (Branson, 1979) that results in higher production costs. Several theories have been put forward to explain the concept of interest rates. These are discussed as follows:

2.2.1 Keynesian Theory

This theory was developed by Keynes (1937). The theory states that some microeconomic-level actions if taken collectively by a large proportion of individuals and firms can lead to inefficient aggregate macroeconomic outcomes, where the economy operates below its potential output and growth rate. Most Keynesians advocate an active stabilization policy to reduce the amplitude of the business cycle, which they rank among the most serious of economic problems. Keynes argued that the solution to the Great Depression was to stimulate the economy ("inducement to invest") through some combination of two approaches: a reduction in interest rates and government investment in infrastructure. Investment by government injects income, which results in more spending in the general economy, which in turn stimulates more production and investment involving still more income and spending.

The initial stimulation starts a cascade of events, whose total increase in economic activity is a multiple of the original investment. A central conclusion of Keynesian economics is that, in some situations, no strong automatic mechanism moves output and employment towards full employment levels. More broadly, Keynes saw his theory as a general theory, in which utilization of resources could be high or low, whereas previous economics focused on the particular case of full utilization. Monetary policy transmission through the interest rate channel is based on the traditional Keynesian interpretation of the role of money for real interest rate movements. A change in interest rates affects firm's investment spending, consumer spending on housing and personal consumption of durable goods. A problematic observation noted by Mishkin (1995) and Bernanke and Gertler (1995) is that interest rates

cannot be identified as the most quantitatively important cost-of-capital variable for aggregate spending. The shortcomings in the traditional interest rate channel are explained with financial market imperfections and the credit view of the transmission mechanism.

Mishkin (1995) spells out the differences in the manifestation of the credit channel. A monetary contraction leads to a reduction in bank lending due to a drop in bank deposits, and due to a deterioration of borrowing firms' balance sheets and a decline in collateral value. A decline in aggregate credit reduces output. Mishkin (1995) points out the reduction in firms'cash flow and a drop in equity prices following periods of tight money as putting a downward pressure on aggregate lending. Mishkin (1995) mentions consumer liquidity preferences as well, for example consumers would rather hold more liquid assets after a drop in the stock market following a monetary contraction, thus decreasing spending on illiquid assets such as real estate and on durable goods.

2.2.2 Loanable Funds Theory

This theory was developed by Wicksell in 1968. Under the loanable Funds theory of interest, the rate of interest is calculated on the basis of demand and supply of loanable funds present in the capital market. The loanable funds theory of interest advocates that both savings and investments are responsible for the determination of the rates of interest in the long run while short-term interest rates are calculated on the basis of the financial conditions prevailing in an economy. The determination of the interest rates in case of the loanable funds theory of the rate of interest depends on the availability of loan amounts. The availability of such loan amounts is based on factors like the net increase in currency

deposits, the amount of savings made, willingness to enhance cash balances and opportunities for the formation of fresh capitals Bibow (2000).

The nominal rate of interest is determined by the interaction between the demand and supply of loanable funds. Keeping the same level of supply, an increase in the demand for loanable funds would lead to an increase in the interest rate and the vice versa. An increase in the supply of loanable funds would result in fall in the rate of interest. If both the demand and supply of the loanable funds change, the resultant interest rate would depend much on the magnitude and direction of movement of the demand and supply of the loanable funds. The demand for loanable funds is derived from the demand from the final goods and services which are again generated from the use of capital that is financed by the loanable funds. The demand for loanable funds is also generated from the government Bernake (2000).

The Loanable Funds Theory of the Rate of Interest has similarity with the Liquidity-Preference Theory of Interest in the sense that both of them identify the significance of the cash balance preferences and the role played by the banking sector to ensure security of the investment funds. Wray (1992) in his work titled alternative theories of the Rate of Interest criticizes the liquidity preference theory by pointing out that the rate of interest is not purely a monetary phenomenon. Real forces like productivity of capital and thriftiness or saving by the people also play an important role in the determination of the rate of interest which is ignored by the Keynes liquidity preference theory. Wray adds that liquidity preference is not the only factor governing the rate of interest.

There are several other factors which influence the rate of interest by affecting the demand for and supply of investible funds. The liquidity preference theory does not explain the existence of different rates of interest prevailing in the market at the same time. He further notes that Keynes ignores saving or waiting as a means or source of investible fund. To part with liquidity without there being any saving is meaningless. The Keynesian theory only explains interest in the short-run and gives no clue to the rates of interest in the long run. He finally says that Keynes theory of interest, like the classical and loanable funds theories, is indeterminate as one cannot know how much money will be available for the speculative demand for money unless they know how much the transaction demand for money.

2.2.3 Loan Pricing Theory

Banks cannot always set high interest rates by trying to earn maximum interest income. Banks should consider the problems of adverse selection and moral hazard since it is very difficult to forecast the borrower type at the start of the banking relationship Stiglitz (1981). If banks set interest rates too high, they may induce adverse selection problems because high-risk borrowers are willing to accept these high rates. From the reasoning of Stiglitz and Weiss, it is usual that in some cases we may not find that the interest rate set by banks is commensurate with the risk of the borrowers.

The Loanable Funds Theory of Interest advocates that both savings and investments are responsible for the determination of the rates of interest in the long run. On the other hand, short-term interest rates are calculated on the basis of the financial conditions of a particular economy. The determination of the interest rates in case of the loanable funds theory of the

rate of interest depends essentially on the availability of loan amounts. The availability of such loan amounts is based on certain factors like the net increase in currency deposits, the amount of savings made, willingness to enhance cash balances and opportunities for the formation of fresh capitals.

This theory of interest explains that the nominal rate of interest is determined by the interaction between the demand and supply of loanable funds. Keeping the same level of supply, an increase in the demand for loanable funds would lead to an increase in the interest rate and the vice versa is true. Conversely an increase in the supply of loanable funds would result in fall in the rate of interest. If both the demand and supply of the loanable funds change, the resultant interest rate would depend much on the magnitude and direction of movement of the demand and supply of the loanable funds.

Now, the demand for loanable funds is basically derived from the demand from the final goods and services. These final goods and services are again generated from the use of capital that is financed by the loanable funds. The demand for loanable funds is also generated from the government. The Loanable Funds Theory of the Rate of Interest has similarity with the Liquidity-Preference Theory of Interest in the sense that both of them identify the significance of the cash balance preferences and the role played by the banking sector to ensure security of the investment funds.

2.2.4 Credit Market Theory

Fisher (1907) theory of appreciation and interest was based on the crucial distinction between periods of full equilibrium and those of transition, or disequilibrium. He explained

that in steady state equilibrium, nominal interest will be bid up by exactly the rate of inflation, and real interest will remain unchanged. But the overwhelming impact of inflation during the transition period is on real variables: real interest, real profit, real investment and real income. The peculiar behavior of the rate of interest during transition periods is largely responsible for the crises and depressions in which price movements end'. When prices are rising, the nominal interest rate rises but not sufficiently, and when prices are falling, the nominal interest rate falls, but not sufficiently. If collateral and other restrictions remain constant, the interest rate is the only price mechanism. With an increasing demand for credit and a given customer supply, the interest rate rises, and vice versa. It is thus believed that the higher the failure risks of the borrower, the higher the interest premium. The increase in demand for credit brought about by low interest rates eventually may lead to depreciation of currency. Central bank therefore must adjust the interest rate to increase the cost of borrowing. Commercial banks in their turn must increase their rates and therefore lending is lowered as credit becomes expensive.

2.3 Determinants of Interest Rates

Interest rates have empirically evolved based on many studies on different economic conditions in different economies. Ngugi and Kabubo (1998) applying the traditional theory shows that positive real interest rate are achieved when inflation is moving down and when they move up the prospects of keeping them are narrow, their study further argues that the spread between lending and deposit rates widened with liberalization, while the short-term rates increases at a faster rate compared with long term rates resulting in a negatively sloped yield curve.

2.3.1 Monetary Policy

Monetary policy refers to the combination of measures designed to regulate the value, supply and cost of money in an economy. It can be described as the art of controlling the direction and movement of credit facilities in pursuance of stable price and economy growth in an economy Chowdhury et al.(2006). Monetary policy refers to the actions of the Central Bank to regulate the money supply which could be through discretional monetary policy instruments such as the open market operation(OMO), discount rate, reserve requirement, moral suasion, direct control of banking system credit, and direct regulation of interest rate Loayza, and Schmidt (2002).

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

The effectiveness of monetary policy and its relative importance as a tool of economic stabilization varies from one economy to another, due to differences among economic structures, divergence in degrees of development in money and capital markets resulting in differing degree of economic progress, and differences in prevailing economic

conditions Faure (2007). To achieve the desired stabilization in an economy, central banks use various monetary policy instruments which may differ from one country to another according to differences in political systems, economic structures, statutory and institutional procedures, development of money and capital markets and other considerations.

Some of the commonly used monetary policies include: changes in the legal reserve ratio, changes in the discount rate or the official key bank rate (Central bank Rate), exchange rates and open market operations. Monetary transmission mechanism is the mechanism through which changes in money supply affects the decisions of firms, households, financial intermediaries, investors and ultimately alters the level of economic activities and prices it can be thought of as encompassing the various ways in which monetary policy shocks propagate through the economy Kuttner and Mosser (2002).

2.3.2 Fiscal Policy

The role of the government in terms of intervention in the economy has been increasing since independence. It has been strongly argued that the low living standard of some groups in the country makes it imperative for the government to play a vital role in the economy Burgess and Stern (1993). This is also because of market failure including missing markets and the government's comparative advantages in certain areas of the economy such as infrastructure and the social sector. Although the public sector provides growth promoting goods and may design appropriate taxes to narrow the gap between social and private costs, government may equally waste national resources.

This wastage may include carrying out projects that do not encourage growth, imposing distortionary taxes and regulations Levine and Renelt (1992), and creating situations of policy failure. Based on macroeconomic schools theory, the debates are between the economists who are the advocate of government action as counter cyclical fiscal policy and the others who believe that the fiscal policy must be limited to have its main counter cyclical impact only throw the automatic stabilizers. Taking into consideration the traditional Keynesian framework, for the short term objective, the fiscal policy is responsible for the stabilization of the business cycle. In the European countries, especial in the European Monetary Union (EMU), the fiscal policy has also an important role in smoothing the idiosyncratic demand shock and short term stabilization efforts

2.3.3 Exchange Rate

According to the Mundell-Flemming model, higher interest differential would attract capitalinflows and result in exchange rate appreciation. On the other hand, monetarists believe that higher interest rate reduces the demand for money which leads to depreciation of currency due tohigh inflation. But the nexus between the interest rates and exchange rate can be explained via the expected change in exchange rate. Assuming the world interest rate (i*) to be exogenously determined, the relationship between domestic interest rate and exchange rate depends on how expected exchange rate responds to changes in interest rates. For example, in Dornbusch's over shooting model, expected exchange rate appreciates more than the spot rate that prevails before raising interest rates to equalize the return of domestic assets with the foreign assets. Therefore, there is a negative relationship between interest rate and exchange rate. i.e., a high interest rate policy is associatedwith exchange

rate appreciation. The spot exchange rate might be affected positively by the high interest rate policy when the expected exchange rate becomes an increasing function of the domestic interest rates.

According to Sargent and Wallace (1981) a high interest rate policy may lead to a reduction in demand for money and increase in price level because an increase in interest rate implies an increase in government debt which, in turn, would be financed by seniorage. As a result there will be exchange rate depreciation. Similarly an increase in interest rate may adversely affect the future export performance which would reduce the future flow of foreign exchange reserves and thereby, leads to depreciation of currency Furman and Stiglitz, (1998). Furman and Stiglitz (1998) argue that there are two important channels through which exchange rates are likely to be affected by the increase in interest rates. One of them is the risk of default and another oneis the risk premium. Since the uncovered interest parity theory assumes no role for both these channels, the interest rate represents the promised return on domestic assets, i.e., actual interest receipts is equal to promised interest receipts. But in a post crisis situation, high interest rate policy may decrease the probability of repayment and increase the risk premium on domestic assets because of its adverse effect on domestic economic activity by reducing the profitability of domestic firms and increasing the borrowing costs. Therefore an increase in interest rate may lead to exchange rate depreciation. This could be stronger when the financial position of firms and banks is fragile.

2.3.4 Inflation

Inflation rate is considered to be one of the basic macroeconomic variables related with interest rates. Based on theory and empirical studies, there seems to be a bi-directional relationship between interest rate and inflation rate implying that there is a causality between the two but this has not been without criticism from some researchers. The proponents of bi-directional relationship between inflation and interest rates argue that high interest rates causes inflation by increasing the cost of production and subsequently the prices thus causing inflation rates to be high Branson (1979). One the other hand the difference between the nominal interest rates and the nominal interest rates is the inflation rate as per Fisher's equation: Real Interest Rate = Nominal Interest Rate – Inflation rate.

It would be expected that financial institutions would factor in inflation while determining the interest rate to charge to shield against loss of purchasing power of interest amounts and principal amounts received in the future. It is for this reason inflation will be considered as a causing factor of interest rates for financial institutions in Kenya and the study will evaluate the effect it has on the interest rates charged.

If inflation is rising the central bank raises the interest rate, meaning that the cost of borrowing increases so the amount of money borrowed by individuals and companies decreases which in turn decreases the amount of money in the economy(money supply) resulting in decreased inflation. The effect of inflation on interest rate is simply caused by the bank's attempt to reduce it. On the other hand, increase inflation causes the central bank to increase interest rate. Businesses then borrow at higher cost; this cost is

pass on to consumers which increases consumer price index which in effect increases inflation

2.4 Empirical Review

The monetary policies in use by most central banks affect interest rates in most economies. Gambacorta and Mistrulli (2004) study in Italian banks during the period 1992 to 2001 using short-term interest rates and found that well capitalized banks can shield their lending from monetary policy shocks as they have easier access to non-deposit fund raising.

Studies by Cook and Hahn (1989b) and by Radecki and Reinhart(1994) examined the response of short-term and long-term rates to changes in a measure of the funds rate target in the days surrounding policy actions in the United States and found that policy actions have a significant positive effect on interest rates of all maturities.

A study by Kelilume (2014) set out to analyze the effect of monetary policy rate on interest rates in Nigeria over the sampling periods 2007-2012. The study utilized monthly time series data obtained from the Central bank of Nigerian Statistical Bulletin over the period (2007:M1-2012:M9). The study found that evidence of the effectiveness of monetary policy can be seen only in the relationship between monetary policy rate and interbank rates. According to the study, the weak link between monetary policy rate and savings deposit rate can be explained with the low savings incentives and that continuous use of monetary policy rate by the Central Bank of Nigeria as the benchmark rate for tracking the movement of other market rates of interest.

A study by Faini (2006) shows is that for the US and European Monetary Union (EMU), an expansionary fiscal policy in one EMU member will have a twofold effect, first on its spreads, and second on the overall level of interest rates for the currency union as a whole. What these results suggest is that the latter effect is much more significant, indicating that there are indeed substantial spillovers, through the interest rate channel, among member countries' fiscal policies. A further finding is that for high debt countries sustainability is a relevant issue. Both the level and the dynamics of public debt stock have a strong influence on their domestic spreads.

Ardagna et al. (2007) used a panel of 16 OECD countries over several decades to investigate the effects of government debts and deficits on long-term interest rates. They used cross-country empirical analysis to establish that fiscal deficits and the accumulated public debt affect interest rates. The found that the effects are both statistically and economically significant, and they are robust to a variety of specifications. These effects are non-linear, becoming stronger as a country's debt grows and its fiscal balance becomes weaker. The dynamic analysis presented also shows that the long-run effects of sustained deficits are much larger than the immediate impact of a one-time deficit.

2.5 Summary of Literature Review

From the above literature, much of the research done can be attributed to either monetary or fiscal policies independently. They also assume that fiscal and monetary factors of interest rates are independent and unrelated. In most countries, the government controls both ends of decision making at Central bank level and also the treasury. In Kenya, the appointees of these two institutions are regulated by the government. This relates both the

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fiscal and monetary factors that are in operational in the Kenyan economy and financial institutions regulations. This research will combine the two policies and provide an assessment of their effect on the aggregate interest rates.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the method that was used for the research. The chapter therefore outlines data collection instruments and data collection procedures as well as data analysis. Additionally, the chapter explains how the researcher carried out the study to achieve the study objectives.

3.2 Research Design

The research study adopted a descriptive research design. A descriptive research design is a scientific method which involves observing and describing the behavior of a subject without influencing it in any way. For the purpose of this study, the variables which were investigated are the monetary policy and the fiscal policy and the study will describe what effect they have on interest rates.

3.3 Data Collection Methods

The data that was used in this study was quantitative in nature. It included secondary data obtained from annual publications by the Central Bank of Kenya and the National Treasury showing trends in the interest rates for 40 periods between July 2004 and June 2014. The information was obtained from publication and finance bills and the annual publications by the Central Bank and the National Treasury.

3.4 Data Analysis

After the data was collected the researcher intends to use tabulations, graphs and pie-charts to represent and explain the results of the study. These was used to determine how the monetary policies by CBK and fiscal policies by GOK affect the rates of interest in Kenya. These information was used to determine the effect of monetary policies and fiscal policies on interest rates. After determining the monetary and fiscal policies in use for the periods in question the relationship between these variables was obtained. This involved regressing the monetary policies and fiscal policies with the rates of interest of the institutions for entire period of the study. The independent variables are monetary policies and fiscal policies and the dependent variable is the rate of interest.

3.4.1 Analytical Model

$$y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$$

Where,

Y = Interest rates as measured by the weighted average rates of interest for financial institutions

X_1= Monetary Policy as measured by Central Bank Rate

X_2= Monetary Policy as measured by Central Bank Cash Reserve Ratio

X_3= Fiscal Policy as measured by incremental public debt as a percentage of national expenditure for the corresponding period

X_4= Inflation rates

X_5=Exchange rates as measured by exchange rates of KES to the US Dollar ($) using first period as the base year

α = Is a constant or the intercept

$\beta_1......\beta_5$= the regression coefficients of the independent variables

3.4.2 Test of Significance

Analysis of variance (ANOVA) was used to test the significance of the model. **R2** was used to indicate the measure of variability in the interest rates that is accounted for by the predictor variables.

CHAPTER FOUR

DATA ANALYSIS RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents analysis of the data found on the effect of monetary and fiscal policy on interest rates in Kenya. The study collected secondary data on monetary and fiscal policy from CBK and the Treasury for a 10 year period, 2004 to 2014 for a total of 40 3 months periods. The variables representing the monetary and fiscal policies were then regressed to show their influence on the rates of interest prevailing on the period of time under investigations by the study.

4.2 Regression Analysis

Linear regression analysis was done to determine the relationship between the independent (monetary and fiscal policy) and dependent variables (interest rates)

Figure 4.1- Graphical representation of linear regression
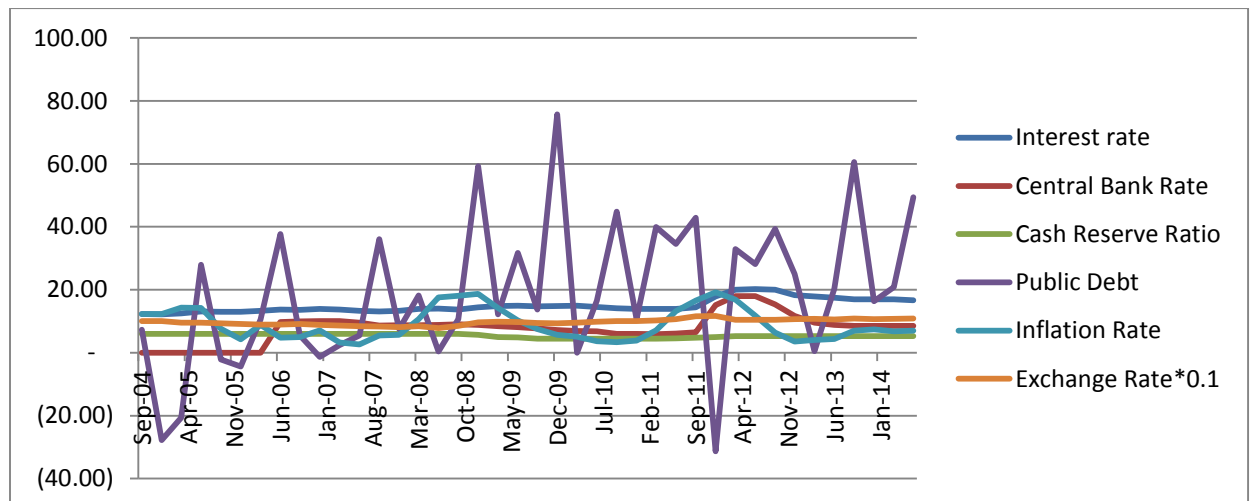
Source: Research Findings

The independent variables regressed against the dependent variable show the extent to which each of them influences the interest rates.

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.905[a]	.820	.793	.9957

Source: Research Findings

a. Predictors: (Constant), Exchange Rate, Inflation Rate, Central Bank Rate, Public Debt, Cash Reserve Ratio

This table provides the R and R^2 values. The R value represents the simple correlation and is 0.905 (the "**R**" Column), which indicates a high degree of correlation. The R^2 value (the "**R Square**" column) indicates how much of the total variation in the dependent variable, can be explained by the independent variables. In this case, 82% can be explained, which is very large.

Table 4.2 Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	153.403	5	30.681	30.944	.000[b]
	Residual	33.710	34	.991		
	Total	187.114	39			

a. Dependent Variable: Interest rate

b. Predictors: (Constant), Exchange Rate, Inflation Rate, Central Bank Rate, Public Debt, Cash Reserve Ratio

Source: Research Findings

This table indicates that the regression model predicts the dependent variable significantly well. Looking at the "**Regression**" row and the "**Sig.**" column. This indicates the statistical significance of the regression model that was run. Here, $p < 0.0005$, which is less than 0.05, and indicates that, overall, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data).

Table 4.3 Regression Co-efficients

Model	Unstandardized Coefficients		t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error			Lower Bound	Upper Bound
(Constant)	-1.807	3.638	-.497	.623	-9.200	5.586
Central Bank Rate	.330	.037	8.992	.000	.255	.404
Cash Reserve Ratio	.414	.365	1.135	.264	-.327	1.155
Public Debt	.003	.008	.372	.712	-.012	.018
Inflation Rate	-.046	.033	-1.380	.176	-.114	.022
Exchange Rate	.127	.022	5.788	.000	.082	.172
a. Dependent Variable: Interest rate						

Source: Research Findings

The **Coefficients** table provides us with the necessary information to predict interest from the predictor variables, as well as determine whether these variables contribute statistically significantly to the model (by looking at the "**Sig.**" column). Furthermore, we can use the values in the **B** column under the **Unstandardized Coefficients** column, as shown below;

Interest rate = -1.807 + 0.330(Central Bank Rate) + 0.414(Cash Reserve Ratio) + 0.003(Public Debt) - 0.046(Inflation Rate) + 0.127(Exchange Rate)

4.3 Interpretation of the Findings

The findings revealed that the central bank rate a high effect on the prevailing rates of interest in the period under study. The central bank rate had a t-value 8.8992. This suggests a strong co-relation between the two and the variable therefore had greatest effect on the dependent variable. Cash reserve ratio has a t-value of 1.135 which suggests a weak co-relation with the interest rates. Public debt had the lowest t-value at 0.372. The variability on the graphical table from the interest rates is very high. This explains a weak relationship between this independent variable and interest rates. The rate of inflation had a t-value at -1.380 indicating negative correlation between inflationary rates and interest rates for the period under study. The rate of exchange had a t-value of 5.788, a relatively high correlation. Graphically, this independent variable had a high correlation with the rates of interest under the period of study.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents discussions of the key findings presented in chapter four, conclusions drawn based on such findings and recommendations. This chapter will thus be structured into discussions, conclusion, recommendations and areas for further research.

5.2 Summary

The study reveals that the central bank rate has the highest effect on the prevailing rates of interest in the period under study due to a high correlation between the two variables. This is one of the two variables representing the monetary policy and it has a positive correlation with the interest rate. The second variable representing the monetary policy is the Cash reserve ratio which and the research suggest a weak relationship between this variable and the rates of interest for the period. However the cash reserve ratio is positively correlated with the rates of interest for the period. The only variable representing the fiscal policy which is the ratio of public debt to national spending seems to have the weakest correlation with the rates of interest for the period under study. There seems to be absolutely no relationship between the two variables. For the control variables, the exchange rates seems to have a strong correlation with the rates of interest while the inflation rates seems to have a negative but weak correlation with the rates of interest

5.3 Conclusion

Based on the findings, the study concluded central bank rates has the highest positive effect on rates of interest followed by the rate of exchange, followed by, followed by cash reserve

ratio and finally public debt. The rate of inflation showed a negative relationship with rates of interest under the period of study. Overall, monetary policy (central bank rate and cash reserve ratio) had a higher effect on the rates of interest than the fiscal policy (public debt) under the period of study.

5.4 Recommendations for policy

Monetary policy should be the lead tool to influence the rates of interest by central bank. Fiscal policy has little effect on the rates of interest and therefore should be employed by the government as the second resort from the monetary policy. The policy to be used should be based on the impact which is expected after its employment especially on whether the government aims at employment creation, price levels, and control investments among others.

5.5 Limitations of the Study

The researcher faced a problem with accessing financial data from the Central Bank of Kenya and treasury for a longer period of time and therefore the researcher had to use shorter period of study. There was no data for the central bank rate for the first 7 periods and the researcher had to estimate the rate to be the same as that for the eighth period. There was also the limitation of time since the data obtained had to be source within working hours yet the employees were also busy with their normal tasks

5.6 Areas for further Studies

This study focused on both monetary and fiscal policies and their effect they have on rates of interest. It would be helpful to determine among the two policies, which would be more

effective if used independently so that the government doesn't face the risk of offsetting effects when the two are used simultaneously. The scope of the current study was limited to the secondary data. A research that would use primary data collected from decision makers on rates of interest could give more insight on what they interpret monetary and fiscal policy changes. A research could be done for all the financial institutions to give a more accurate weighted average rate of interest as opposed to using the weighted average rate for commercial banks only.

REFERENCES

Abor, J. (2004). Internationalisation and financing options of Ghanaian SMEs.*Acta Commercii*, *4*, 60-72.

Adedoyin and Sobodun (1996), "Commercial Banks Lending Activities in Nigeria", *Nigerian Financial Review*, 9(3), pp. 36 – 37.

Ardagna, S., Caselli, F., & Lane, T. (2007). Fiscal discipline and the cost of public debt service: some estimates for OECD countries. *The BE Journal of Macroeconomics*, *7*(1).

Amidu, M. (2006). The link between monetary policy and banks' lending behaviour: the Ghanaian case. *Banks and Bank Systems*, *1*(1), 38-48.

Aziza, F. O. (2010). The Effects of Monetary Policy on Stock Market Performance: A Cross-Country Analysis

Bernanke, B. S., & Gertler, M. (1995). *Inside the black box: the credit channel of monetary policy transmission* (No. w5146). National bureau of economic research.

Bernanke, B., & Gertler, M. (2000). *Monetary policy and asset price volatility*(No. w7559). National bureau of economic research.

Bibow, J. (2000). The loanable funds fallacy in retrospect. *History of Political Economy*, *32*(4), 789-831.

Blinder, Alan and Robert M. Solow (1973) Does fiscal policy matter? Journal of Public Economics2(4), 319–337.

Branson, W.H. (1979).*Macroeconomic Theory and Policy*. Princeton University.

Burgess, R., & Stern, N. (1993). Taxation and development. *Journal of economic literature*, 762-830.

Sola, S. (2011). *Expected fiscal policy and interest rates in open economy* (No. 07-2011). Economics Section, The Graduate Institute of International Studies.

Campion, A., Rashmi, K., Wenner, M. (2010). 'Interest Rates and Implications for Microfinance in Latin America and the Caribbean'. IDB Working Paper No. 77

Canova, F., & Pappa, E. (2011). Fiscal policy, pricing frictions and monetary accommodation. *Economic Policy*, *26*(68), 555-598.

Canzoneri, M. B., Cumby, R. E., & Diba, B. T. (2005). The need for international policy coordination: what's old, what's new, what's yet to come?. *Journal of International Economics*, *66*(2), 363-384.

Chowdhury, I., Hoffmann, M., & Schabert, A. (2006). Inflation dynamics and the cost channel of monetary transmission. *European Economic Review*, *50*(4), 995-1016.

Cotler, P. (2010), What drives lending interest rate in microfinance sector: microfinance institution in Africa, Asia and America. Microfinance Workshop Groningen

D'Adda, C., & Scorcu, A. E. (1997). Real interest rate and growth: an empirical note.

CBK (2010), Monetary Policy Statement, Central Bank of Kenya, December 2010, Nairobi.

Cook, Timothy, and Thomas Hahn. 1989a. "The Effect of Changes in the Federal Funds Target on Market Interest Rates in the 1970s," *Journal of Monetary Economics*, 24,November, pp. 331-51.

Faini, R. (2006). Fiscal policy and interest rates in Europe. *Economic Policy*, *21*(47), 443-489.

Faure, P., (2007). *Getting to grips with the equity market.* Cape Town: Quoin Institute (Pty) Limited.

Fehmeen K. (2006), "How has Micro Finance Changed" International Seminar on Attacking Poverty with Microcredit, Dhaka, Bangladesh

Feldstein, M. (1995). The effect of marginal tax rates on taxable income: a panel study of the 1986 Tax Reform Act. *Journal of Political Economy*, 551-572.

Fernando, Nimal A. (2006) 'Understanding and Dealing with High Interest Rates on Microcredit: A Note to Policy Makers in the Asia and Pacific Region Asian Development Bank

Freixas X, Rochet J. 2008.*The Microeconomics of Banking*. Cambridge, MA: MIT Press. 2nd ed.

Furman, J., Stiglitz, J. E., Bosworth, B. P., & Radelet, S. (1998). Economic crises: evidence and insights from East Asia. *Brookings papers on economic activity*, 1-135.

Gambacorta, L., & Mistrulli, P. E. (2004). Does bank capital affect lending behavior?. *Journal of Financial intermediation*, *13*(4), 436-457.

Hemming, R., Kell, M., & Mahfouz, S. (2002). *The effectiveness of fiscal policy in stimulating economic activity: A review of the literature* (Vol. 2). International Monetary Fund.

Inman, R. P., & Rubinfeld, D. L. (1997). Rethinking federalism. *The Journal of Economic Perspectives*, 43-64.

Kamau, J. (2008) 'Determinants of Profitability of Microfinance Institutions in Kenya' Unpublished MBA Project, University of Nairobi

Kelilume, I. (2014). Effects of the Monetary Policy Rate on Interest Rates in Nigeria. *The International Journal of Business and Finance Research*, *8*(1), 45-55.

Kuttner. K. and Mosser. P. (2002) *The Monetary Transmission Mechanism: Some Answers and Further Questions*. U.S: FRBNY Economic Policy Review

Lafourcade, A., Jennifer, I., Mwangi, P., Matthew, B. (2005), Overview of the Outreach and Financial Performance of Microfinance Institutions in Africa

Levine Ross and Renelt, David. 1992. A sensitivity analysis of cross-country growth regressions. *AmericanEconomic Review*,

Loayza, N. and Schmidt-hebbel K., (2002). *Monetary Policy functions and transmission mechanisms: an overview*. Central Bank of Chile.

McKinnon, R. I. (1973). *Money and capital in economic development*. Brookings Institution Press.

Mishkin A.K. (1995); *"The Economics of Money, Banking and Financial Markets"* Addition – Wesley 5th Edition.

Ngugi, R. W. (2001). *An empirical analysis of interest rate spread in Kenya* (No. RP_106).

Ngugi, R and Kabubo, J. (1998*)"Financial sector reforms and interest rate liberalization: the Kenya experience"* AERC Research paper 72; African Economic Research Consortium, Nairobi

Roley, V. V., & Sellon, G. H. (1995). Monetary policy actions and long-term interest rates. *Federal Reserve Bank of Kansas City Economic Quarterly*, *80*(4), 77-89.

Radecki, L. J., & Reinhart, V. (1994). The financial linkages in the transmission of monetary policy in the United States. *National Differences in Interest Rate Transmission*, 291-337.

Sargent, T. J., & Wallace, N. (1981). Some unpleasant monetarist arithmetic. *Federal reserve bank of minneapolis quarterly review*, *5*(3), 1-17.

Stiglitz, J. E., and Weiss, A. (1981). Credit Rationing in Markets with Imperfect Information, *American Economic Review*, June, 393-410. Usman,

Waruiru, J. M. (2012). *Determinants of interest rates in micro finance Institutions in Kenya* (Doctoral dissertation).

Wray, L. R. (1992). Alternative Theories of the Rate of Interest, *Cambridge Journal of Economics,* 16(l)

Wright, D. and Alamgir, D. (2004). "Microcredit Interest Rate in Bangladesh: Capping vs. Competition."

APPENDIX

APPENDIX I: SECONDARY DATA

Period Ending	Interest rate %	Central Bank Rate %	Cash Reserve Ratio %	Public Debt	Inflation Rate %	Exchange Rate %
Sep-04	12.26	-	6.00	7.27	12.27	100.00
Dec-04	12.20	-	6.00	(27.80)	12.27	100.27
Mar-05	12.44	-	6.00	(20.67)	14.32	95.09
Jun-05	13.11	-	6.00	27.95	14.24	94.90
Sep-05	12.98	-	6.00	(2.18)	7.63	93.63
Dec-05	13.02	-	6.00	(4.40)	4.27	91.73
Mar-06	13.27	-	6.00	10.55	8.88	89.55
Jun-06	13.75	9.75	6.00	37.72	4.73	89.62
Sep-06	13.63	9.92	6.00	5.47	5.00	90.83
Dec-06	13.89	10.00	6.00	(1.36)	7.06	88.20
Mar-07	13.66	10.00	6.00	2.43	3.28	86.44
Jun-07	13.28	9.50	6.00	5.43	2.63	83.77
Sep-07	13.07	8.67	6.00	36.10	5.44	83.23
Dec-07	13.32	8.75	6.00	7.46	5.72	81.00
Mar-08	13.89	8.75	6.00	18.18	10.63	84.31
Jun-08	13.99	8.83	6.00	0.43	17.53	77.81
Sep-08	13.74	9.00	6.00	10.64	18.06	85.20
Dec-08	14.44	8.83	5.67	59.27	18.70	96.41

Mar-09	14.77	8.42	5.00	12.17	14.17	98.84
Jun-09	14.88	8.08	4.83	31.69	10.21	97.43
Sep-09	14.76	7.75	4.50	13.73	7.51	94.70
Dec-09	14.80	7.25	4.50	75.71	5.65	93.32
Mar-10	14.92	6.92	4.50	(0.03)	5.03	95.00
Jun-10	14.48	6.75	4.50	16.58	3.68	98.04
Sep-10	14.15	6.00	4.50	44.78	3.33	100.51
Dec-10	13.89	6.00	4.50	10.62	3.84	100.08
Mar-11	13.96	5.83	4.50	39.90	7.05	102.14
Jun-11	13.90	6.08	4.58	34.51	13.16	106.97
Sep-11	14.42	6.50	4.75	42.87	16.51	115.53
Dec-11	17.92	15.17	4.92	(31.29)	19.19	116.59
Mar-12	20.05	18.00	5.25	32.90	16.87	104.50
Jun-12	20.21	18.00	5.25	28.15	11.78	104.48
Sep-12	20.00	15.33	5.25	39.29	6.38	104.67
Dec-12	18.32	11.67	5.25	25.02	3.53	106.29
Mar-13	17.90	9.50	5.25	0.51	4.08	107.71
Jun-13	17.43	8.83	5.25	20.35	4.37	105.09
Sep-13	16.95	8.50	5.25	60.53	7.00	108.37
Dec-13	16.96	8.50	5.25	16.33	7.42	106.70
Mar-14	17.00	8.50	5.25	20.80	6.78	107.22
Jun-14	16.68	8.50	5.25	49.39	7.03	108.36