THE RELATIONSHIP OF KENYA BANK'S REFERENCE RATE ON LENDING INTEREST RATES OF COMMERCIAL BANKS IN KENYA

SUBMITTED BY

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D63/74884/2014

A RESEARCH REPORT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT OF THE DEGREE OF MASTER OF SCIENCE IN FINANCE OF THE UNIVERSITY OF NAIROBI

2016

DECLARATION

This project is original work of the researcher and has not been submitted for examination in any other university.

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This research has been submitted for examination with my approval as the candidate's university supervisor.

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ACKNOLEDGEMENT

DEDICATION

I dedicate this study to my Lovely wife Lucianah olewa for here moral and spiritual support. To Lavender Masakhwe Passaris,Wright Wisdom Wanzala and Goodluck Johnathan Olewa I say thank you for your love for me. You missed me while on my course of search for Knowledge. Thanks you and May the Almighty God bless you.

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LIST OF ABBREVIATIONS

CBK   Central Bank of Kenya

KBRR   Kenya Bank's Reference rate

K   Additional Premium

KBA   Kenya Bankers Association

LFT   Loanable Funds Theory

MPC   Monetary Policy Committee

CBR   Central Bank Rate

APR   Annual Percentage Ratio

IMF   International Monetary Fund

CSME   Caribbean Single Market and Economy

BIS   Bank of International Settlement

CRR   Cash Reserve Rate

TAR   Threshold Autoregressive Model

MTR   Momentum Autoregressive Model

EG-ECM   Engele-granger and error correlation Modelling

ECM   Error Correction Model

T.BILL   Treasury bill

G-CAR   Granger Co-Integration and Autoregressive Lag

CAEMIC   Central African Economic & Monetary Committee

ABSTRACT

The research sought to determine the relationship of KBRR on lending interest rates of commercial banks in Kenya. Research used a descriptive research design to achieve the research objectives. Multiple regression analysis was used to determine the relationship of KBRR on Lending interest rates of commercial banks in Kenya. The study used Lending rate as the dependent variable while K, KBRR, Deposit Rate, 91-Day T-bill and CBR were the independent variables. The study found that there was a significant relationship of (Beta=0.421, Sig=.0000) of KBRR on Lending rate. 'K' was found to have significant relationship of (Beta=.611, Sig 0.000) to the lending interest rate. CBR is not significant to lending rate. Generally the lending rates have been increasing despite the introduction of KBRR in 2014.Lending rates have gone as high as 18.3%.Lending rates apt to react in proportion to the increase on KBRR and slowly to the decrease of KBRR by Monetary Policy Committee of the CBK. It is also clear from the findings that lending rate is not pegged on KBRR. The results show that KBRR doesn't significantly affect the lending rate of commercial Banks' as determined by individual Bank is significant in determining the lending rates. The increased lending rates have brought about the capping of interest rates through Banking (Amendment) Bill 2016 into Law. The Banking Amendment Act,2016 is however silent on the base rate to be used by banks to price their products i.e. whether KBRR or CBR .It is also not clear on the type of loans to be capped and whether the law affects only Banks and, or also affects deposit taking SACCO's and micro finances..The coefficient of determination R-squared is substantial (0.948); therefore predictor variables explain about 94.8% of the lending rate by banks. The prediction model appears to be helpful for making decision since the F- value is 0.000.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Monetary policy as determined by CBK is used for stabilization of inflation and economic growth. Pass-through speed is used as a measure of monetary policy effectiveness (Becker, Osbon, & Yildirim, 2012).Xu, & Chen, 2012, says that what measures monetary policy effectiveness is the rate of transmission of the policy changes in policy rates to the lending rates which then affects aggregate domestic demand, investment and out-put

KBRR is the base lending rate for commercial banks and microfinance banks as well as for pricing mortgage products (CBK, 2014).The Kenya Bank's Reference Rate was introduced in July, 2014 following a discussion between institutions, CBK, KBA, and The National Treasury. BIS made these recommendations to increase private lending to sector and also enhance mortgage financing. For banks to participate in credit lending, KBRR should be the base rate according to CBK, 2014.

"K" is the additional cost or premium added on the base rate. "K" should be broken to allow loanees to understand its composition. This allows government to make policy interventions. Loanee will be charged a lending rate of KBRR+"k".

CBR is the lowest interest rate CBK charges on the loans it gives to banks according to section 36 (4) of CBK Act.CBR level is reviewed after every two months both in movement , magnitude and direction which signals the stance of monetary

policy.CBR is used in all monetary policy transmissions to enhance certainty and clarity in monetary policy implementations.

Lending rate is a percentage charged for the use of borrowed money. It is the opportunity cost of money. Howels (2008),defines the lending rate as a payment from borrowers (deficit units) to lenders(surplus units) which compensates the savers cum lenders for parting with their funds for a defined period of time more often than not expressed in days, months or years and at some risk. Interest rates paid for deposits (deposit rate) and the rates applied on loans to deficit units (lending rate) for a given period of time. Lending rates comprise of rates charged on overdrafts (overnight borrowing) and term loans otherwise known as long-term borrowings (Ngugi & Wambua, 2004).

This study is relied on the following theories: the cost of funds theory, lending price theory, collusive pricing arrangement theory, monetary policy theory and Keynesian Liquidity Preference theory.

Interest rates in Kenya are extremely very high making banks to make lots of profits. Lending rates went up in 2011 to reflect increased inflation and default risk. Even after the situation improved, lending rates have reduced rather slower than expected. According to Economic affairs 2014, banks in preceding years used to price their products using their own base lending rates. Every bank had its own base rate. A common preference rate was prescribed by CBK, KBRR whose intention is to make sure that all banks transparently price their products.

IMF working paper, 1995, "Lending interest rates in Kenya are rigidly downwards in spite of introduction of KBRR in July 2014.This is a clear indication that Kenyan banks are not willing to revise lending rates downwards to reflect KBRR stance. In a free financial system, lending rates are indirectly controlled by central banks.

Theoretically the relationship between KBRR and the lending rates is positive. This means that when the KBRR is raised, lending rates should also proportionately rise and vice versa. This study argues that the divergence of lending rates from the KBRR is attributed to market inefficiency.

1.1.1 Kenya Bank's Reference Rate

According CBK 2014, "KBRR came to the market in Kenya on July, 2014 following deliberations with commercial and microfinance banks, mortgage finance institutions, CBK, KBA, and The National Treasury. It is part of BIS recommendations to find ways of growing lending to private sector and financing mortgage in Kenya. The primary function of KBRR is to ensure clearness in costing and setting loan prices. This is made possible through KBRR framework that requires banks to open up to customers and explain to them KBRR and any additional premium,"k". This premium is to be broken down to enable clients to comprehend its components. This also allows government to make targeted policy interventions to lower premium."

CBK 2014, "KBRR is arrived at as (i) Central Bank Rate and (ii) the 2-month weighted moving average of the 91-day T-bill rate. The 91-day T-bill reflects risk free rate, Rf whereas CBR reflects monetary policy stance. Customers should look forward to be charged a lending rate of KBRR+ "k". The KBRR should be seen as a minimum price for banks to take part in the credit market. Therefore, the value of

"K" above KBRR will depend on various factors such as lender's perceived customer risk profile, efficiency of security at the lands ministry, and due diligence process cost."

Banks should promote complete charges disclosure for informed public banking decisions (market discipline), Kenya Bankers association (KBA) introduced Annual Percentage rate (APR) for loans by the banking sector on August, 2014. Stractures of banks and operations differs, nevertheless, interest on loans charged by banks is determined by two things i.e. bank specific and customer specific characteristics. Banks cost and price their products based on their cost of funds. Both retail and wholesale deposits influence the costs. What influence loan interest rate to a great extent are the wholesale deposit rates. Organizations essentially require a high return on the deposits they keep with the banks. The banks in turn charges their products based on wholesale deposits and put a margin that covers their cost of operation costs, risk and return for shareholders or profit.

When banks lend, they evaluate customers based on their ability to pay back their loans. This is known as customer risk profile. There is a price associated with either payment or default of loan. Banks usually make use of credit reports from CRB to determine the profile of the customers. CRB provides credit history of the customers, liabilities and repayment records. Based on the type of the products, there would be associated cost and risk the bank will incur by selling the product.

1.1.2   Lending Interest Rate

Lending rate is a percentage charged for the use of borrowed money. It is the opportunity cost of money .Howels (2008),defines the rate of interest as a payment from borrowers(deficit units) to lenders(surplus units) which compensates the savers cum lenders for parting with their funds for some time usually expressed in days, month or years and at some risk. Ngugi and Kabubo (1998), states that the purpose of interest rate is to assist in the mobilization of finances and ensure proper and efficient use of resources.

Lending rate includes the rates paid for deposit (deposit rate) and the rates applied on loans to deficit units (lending rate) for a given period of time. Deposit rates include call, savings and time deposit rates whereas lending rates comprise of rates charged on overdrafts(overnight borrowings) and the term loans otherwise known as long-term borrowings(Ngugi &Wambua,2004).

Lending rates play a critical role in a financial system through allocation of resources in an economy. The rates have the capacity to play intermediary role between potential lenders and borrowers (Kinyua, 1997).A high lending interest rate for borrowers translates to high borrowing costs which discourages potential borrowers due to the fact that it leads to high cost of production which has a negative effect on returns (Kinyua, 1997).Therefore, lending rate has to be favorably low so as to attract borrowing for investment (Kinyua, 1997).

The rate of interest that is is attached on the loan is dependent, to some extent by the risk of default. Borrowers that appear equally risky in the opinion of the bank have a

higher chance of suffering from rising interest rates. This phenomenon is due to the fact that banks tend to incorporate risk factor in the portfolio of loans that normally carries a higher rate of interest (Funkor, 2000).

Real interest rate is the rate harmonized with either realized or expected inflation rate is the relative price of consuming now rather than later. It is a key variable in vital theoretical models employed in finance as well as microeconomics-such as the consumption based asset pricing model (Lucas, 1978).According to Keynes (1936), lending rate represents the cost of borrowing capital for a specified time period. The determination of positive interest rate (lending in excess of inflation) is viewed as a prerequisite for successful and sustainable finance (Buckler, 1999).

1.1.3   KBRR and Lending interest rates in Kenya

Interest rates in Kenya are really very high making banks to make lots of profits. Lending rates went up in 2011 to reflect increased inflation and default risk. Even after the conditions improved, lending rates have reduced quite slower than expected. According to Economic affairs 2014, banks in previous years used to price their products using their own base lending rates. Every bank had its own base rate. A common preference rate was prescribed by CBK, KBRR whose purpose is to make sure that all banks transparently price their products.

According to International Monetary Fund, "lack of downward responsiveness of retail rates to changes in KBRR is a policy issue."It is widely acknowledged that an effective monetary policy relies on a well-functioning transmission mechanism. If a change in monetary policy rate is done, impact is felt in retail rates, and then later

has a faster impact on domestic demand and therefore inflation (Mishkin, 1995; Becker et al.2012).

IMF working paper, 1995, "Lending interest rates in Kenya are inflexibly downwards regardless of introduction of KBRR in July 2014.This is a clear indication that Kenyan banks are not willing or ready to lower their lending rates downwards to reflect KBRR stance. In a free financial system, lending rates are indirectly controlled by central banks.

1.1.4 Commercial Banks in Kenya

In Kenya according to CBK, all banks and mortgage institutions are licensed and regulated pursuant to Banking Act and the Regulations and prudential Guidelines issued their under

According to CBK, "Currently there are 42 licensed commercial banks and 1 mortgage finance company. Out of the 43 institutions,39 commercial banks and the mortgage finance institution are privately owned while the Kenya Government holds controlling stakes in the remaining 3 commercial banks.25 of the 39 privately owned banks and the 1 mortgage finance institution are locally owned (i.e their controlling shareholders are domicile in Kenya) while 14 foreign owned."

Banks ownership structure and Mortgage financial institutions in Kenya 2015

Figure 1
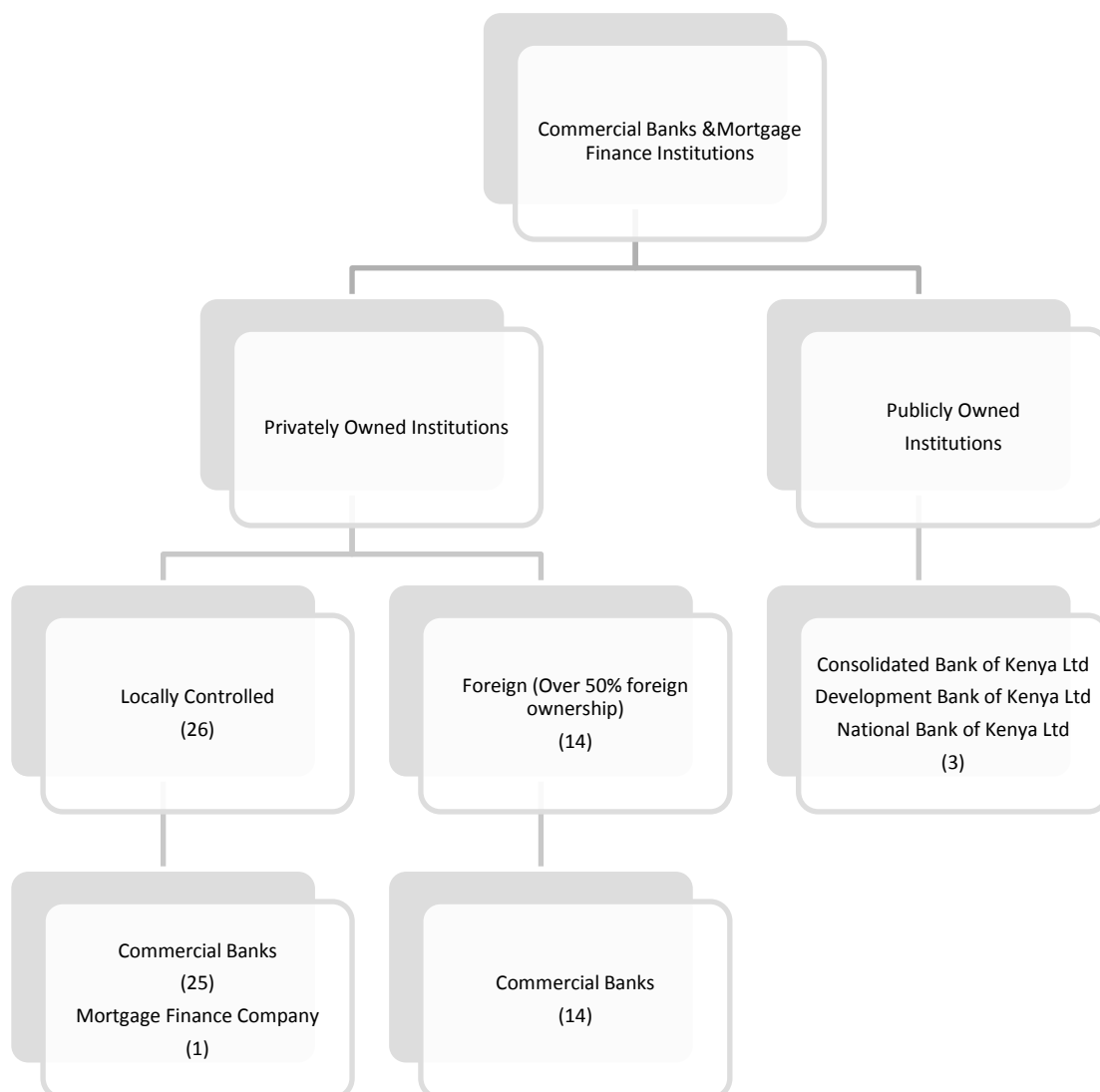
a. < 50% - Government and/of State Corporations

b. Of the 25 private locally controlled commercial banks, one is under statutory management and one in receivership.

Source: CBK

1.2 Statement of the Problem

The monetary policy was inactive in 1960-70s, with the Kenyan government determining the minimum interest rate to be charged by the financial sector. The government switched from setting minimum interest rates to setting maximum

interest rates in 1981.Liberization of financial sector became imperative to satisfy the requirements of Structural Adjustment Programmes. In 1991, the Kenyan financial sector was fully deregulated. Earlier before introduction of KBRR, commercial banks in Kenya used unique and individual rates to price their products. The framework they applied in determination of the base rates was not transparent. Similarly, some level of asymmetry (irregularity) was observed in the response by banks to reductions or increases in CBR. Consequently, monetary policy signals were transmitted to the bank lending interest rates in asymmetric manner.

"In CAEMC using ADL model, results indicated that there was low and partial pass through from the policy- rate to deposit rate but also an overshooting effect on the lending rates, which led to interest rate asymmetry," according to Samba & Yan.

In South Africa, Aziakpono and Wilson (2010) applied asymmetric ECM and found out that speed of adjustment from monetary policy rate was highest in lending rates, followed by T-bill rate, and the money market rate, deposit rates and bond yield rates which had the lowest speed of adjustment. A similar study was done in Rwanda where it was found that policy rates affected commercial bank retail rates with a time lag, an evidence of a slow and sluggish interest rate pass through (Rutayisire, 2014)

Sheefeni (2013) uses a two-phase analysis to establish the effect of monetary policy effect banks in Namibia using an ADL model, an ECM and MAL model. The pass-through was found to be partial, while short run lending rates had a high pass

through than long run lending rates. The deposit stickiness was found to be higher in the short run than in the long run."

In Kenya, study on lending interest rate pass- through was done by Makambi et al., (2013) and Misati et al., (2011) where they studied the degree of interest rate pass - through and the adjustment speed of commercial bank lending rate and deposit rates from the CBR respectively. Both studies agree on anpartial interest rate pass-through of policy rates in the short-run and long- run to the commercial bank deposit rates in Misati et al., (2011) and lending rates in Makambi et al., (2013).However, the speed of adjustment differs in both studies with Makambi et al., (2013) finding a full speed of adjustment after 11-22 months whereas Misati et al.,(2011) found a full speed of adjustment after 18-24 months. Both Misati et al.,(2011) and Makambi et al.,(2013) used profit maximization model and the ECN to estimate the degree of pass through.

Using Kenyan commercial banks' data the effect of the CBR on deposit rates (Njiru, 2014) and lending rates (Makambi,Wawire,& Omollo,2013) were examined. These researchers found that lending and deposit rates respectively had a slow degree of adjustment and a rigid interest rate pass-through from CBR. Related literature shows that studies on Kenya's financial sector and specifically KBRR are still scanty and limited. Even those done point to the need for further investigation into the factors which have continued to cause high lending interest rates in Kenya, notwithstanding the reforms. Most of the evidence in regard to the lending interest rates largely focuses on developed economies and conclusions may not be relevant to developing economies like Kenya.

Betancourt et al., (2008) used ECM and VAR(X) in Colombia and found incomplete (short- term) and complete (long- term) interest rate pass through on deposit rate.Sheefani,2013 using ADL,ECM and MAL found incomplete and low pass through in long-run in Namibia. Fadiran, (2014) using MAL and ECM in BRICS found complete lending interest rate pass-through (short-term) in SA & Brazil and incomplete lending rate (long run) in India. Aziakpono & Wilson, 2010 using ECM in South Africa found sluggish and rigid interest rate pass- through.

Misati et al., (2013) used ADL reperametrized as ECM in Kenya and found incomplete interest rate pass-through both in short-term and in long term. Neither of the studies used regression analysis methodology. The studies done in Kenya have used CBR to investigate interest rate pass-through; none of them has used KBRR in the conceptual framework to establish its relationship with lending rates. Therefore, this study answers the following question: what is the relationship of KBRR on lending interest in Kenya.

1.3 Objective of the study

To analyze the relationship of the Kenya Bank's Reference Rate, (KBRR) on the lending rates of commercial banks in Kenya.

1.4 Importance of the study

The study is important to various stakeholders with interest in Kenya's economy including the government, citizens, the banks, foreign investors and academicians.
The government and macroeconomic policy makers like Central Bank of Kenya will find the study necessary for they will be able to understand the relationship of KBRR to lending interest rates. They will be able to formulate better monetary

policies that transmit monetary policy signals to the lending interest rates. This will help in increasing private sector credit and mortgage finance.

The Kenyan citizens who are loan customers will benefit from the implementations of the study findings by comparing loan costs from different banks and make rational decisions. This will increase competition among banks hence offering competitive lending rates. Private sector credit and mortgage finance will improve living standards and create more jobs.

The bank will be able to plan and establish their product prices based on a common platform and hence increase their loan book. To academicians, this work will add to existing literature body of knowledge on the lending interest rates and form basis for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to Journal of Developing Areas, June 2016 Issue, "work on policy interest rate pass-through is wide and research from mid-1990 shows how pass-through from policy rate to retail rates is slow and not complete." Section 2.2 discusses theoretical literature, section 2.3 presents empirical literature, section 2.4 reviews local literature and section 2.5 is the summary of the literature review.

2.2 Theoretical Literature Review

As per Dhofer University student paper, "Monetary policy tool is used for stabilizing prices and promoting economic growth. The main mechanism of monetary policy transmission in macroeconomic models like IS-LM model is interest rate channel. It says, monetary policy works on the credit side of the bank's financial position statement. Price stickiness being constant, any change in money supply to real economy impacts on the cost of capital and consumption." The credit channel of monetary transmission is divided into balance sheet channel and the bank lending channel. The bank lending channel is base on important intermediation function of banks in the financial system.

2.2.1 Lending Pricing Theory

According to Stiglilz and weiss, 1998, "Isn't sensible for banks to increase lending rates to earn high profits from loans.They should worry of the problems of adverse

selection and moral hazard because it is not easy to foretell the type of loan customer on the first encounter in banking relationship."Customer behavior (Adverse Selection) hypothesis, highly sophisticated customers and well-users of financial services influences the ability of banks to raise or lower interest rates. Lending rates will reflect rigid upward adjustment to monetary policy rates while there is a down-ward rigidity adjustment in deposit rates given low switching costs and higher bargaining power of customers. At the same time, banks are wary of attracting riskier borrowers in the event that lending rates increases, thus reflecting an upward rigidity in interest rates

2.2.2 The Cost of Funds Theory

The cost of funds theory as advanced by Rousseas (1983) dwells on the " price-setting decision" where banks produce loans using deposits as their main input and therefore price loans as a mark-up above the cost of deposit funds. According to Kapwil and Scharter (2006), "lending rate reflects opportunity cost of issued loans and the financing cost for a bank that receives deposits."

"Lending rate under this theory is the price for taking loans. Lending rates is got by adding a mark-up on the funds cost which depends on the extent of monopoly or banks profit margin. The substitute for the cost of funds is the equivalent of Central Bank Rate," Acoording to Rousseas, 1985. The connectivity to lending rate is through KBRR impact on the lending rates. Nearly all banks in Kenya depend on deposits to raise funds for loans. Thus the theory is relevant in partly explaining how lending rate is determined in banking sector.

2.2.3 Collusive Pricing Arrangements Theory

This theory states that banks are not likely to reduce lending rates because they wish to avoid interfering with the collusive arrangement equilibrium. "Collusive pricing behavior by banks is one of the most important factors that explain rigidity of lending rate. Banks are not willing to reduce lending rates for fear of breaking collusion behavior arrangements. Collusive pricing behavior implies rigidity in lowering lending interest rates," as per Rousseas, 1985.It would also bring about menu costs associated with changing price. In South Africa, deposit rates show an upward rigidity in response to an increase in policy rates and therefore have the lowest speed of adjustment (Aziakpono & Wilson, 2010).

The customer Reaction hypothesis links the behavior of borrowers to changes in policy rates. Price changes may also bring about negative customer reactions. "An adverse customer reaction hypotheses is when lenders are not willing to lower deposit rates and raise lending rates to maintain customers," as per John and pokhariyal, 2013; Misati, Nyamongo and kamau,2010. Banks operating in imperfectly competitive markets will be reluctant to increase the lending rate for fear of customer reprisals and because of low switching costs. In Euro area for example, lending rates will show a rigidity upward speed of adjustment when the monetary policy rate is increased (De Bondt, 2005).

2.2.5 The monetary Policy Theory

According to Rousseas (1960), monetary theory is the contrast of the cost of funds theory which is concerned with the monetary policy effect on the retail rates and other variables and how close retail rates follow policy rate. It dwells on the question of how closely retail rates follow policy rates.According to John and pokhariyal, 2013;

Misati, Nyamongo and kamau, 2010, "Monetary policy affects yield curve, such that if the term structure of interest rate remains constant for some time, the pass-through from base rates to market rates is proportionate. Any change in the yield curve changes size and magnitude of the pass-through."

"Monetary policy committee (MPC) set policy rates which then affect money market rates in short term all the way through the interest rate channel, which afterward affect medium to long- term bank retail rates etc. "Borio and fritz (1995)," "bank lending rates are a key pointer of the marginal cost of short-term external financial support in an economy". The lending rate is a key in the determining of need for finances and hence inflation in the country,"The monetary policy approach is meant to regulate money supply in the economy and its stance gives direction for lending rates; which will either raise or lower lending rates and promote or discourage private sector credit.

2.2.4 Liquidity Preference Theory

Keynes (1936) postulates that the lending rate is reached by at the meeting point of supply-schedule and demand-schedule of the money (liquidity preference schedule).The theory states that interest rate is reached at a point of inter-section of liquidity preference curve and money-supply curve. If the money supply shifts upwards, liquidity preference curve remaining the same, there will be a fall in interest rate. Conversely, money-demand shifts upwards given money supply,interest rate goes up.

This theory is an application of supply and demand analysis. Keynes, "Lending rate is the return for the use of liquidity for a given time period.He held that money supply may be endogenously driven by lending rate but it can also be fixed by monetary

authorities in the short run. Short term interest rate is arrived at when demand for money equals supply for money.

Increase in expected prices increases inflation and consequently reduces real interest rates. Reduction in real interest rates increase the incentive to increase investment speeding thereby increasing aggregate demand which in turn increases production, lowers unemployment and ultimately increases output (Mishkin, 2010).This theory basically explains how lending rate is arrived at and any increase in the lending rate will discourage private sector lending.

2.3 Determinants of Lending Interest Rate

Howels (2008),defines the rate of interest as a payment from borrowers(deficit units) to lenders(surplus units) which compensates the savers cum lenders for parting with their funds for a definite some time usually expressed in days, months and or years and at some risk. This study looked at the stickiness of lending rate since we are investigating the relationship of KBRR on Lending interest in Kenya.

2.3.1 Deposit Rate

Commercial banks rely on funds from other commercial banks or from Central Bank. Deposited funds are another source of funds. The higher the deposit rate the higher the deposit funds.

2.3.2 Credit Risk

According to CBK 2005, Credit risk is when the loanee fails in honoring loan contract terms therein in." Demirguc-Kunt and Huizinga (1999), using loans to total asset ratio to measure risk, got a positive relationship between credit risk and interest loan margin in 80 developed and developing countries.

2.3.3 Minimum Reserve Requirements

Central bank of Kenya requires commercial banks to maintain a certain percentage of total deposits and similar liabilities as determined by MPC from time to time. Minimum reserve requirement is used as a monetary policy instrument to ensure safety and soundness of banking sector. The reserve are non-interest bearing but impose tax implications and reduce commercial bank reserves. "Higher reserve requirement could be expected to result in higher lending rates, moreso when minimum reserves are not compensated, will charge high rates to cover costs of holding reserves according to Gelos, 2006.

2.3.4 Operating costs

Rotke and Gentgen, 2008, "transaction cost is a cost of participating in the open market and is associated to division of labor. Transaction costs are not directly measured by banks and include information searching and collecting costs. Transaction costs of lending include, administrative costs, coordinating costs and costs of risk default," according to Pessali, 2006

Saito and Villanuera (1981), "administrative costs are those that are honestly attributed to loans processing, loans delivering and administration of loans whereas coordinating costs is the one banks assign to ensure that clients stick to the terms and conditions of loans contract." Fernando 2006, "interest rate charged on the loan is the main source of income for banks and because they incur huge costs, the rates are correspondingly high."

2.3.5 Economic Activities GDP

Increased economic activities push demand for loans high hence increasing lending interest rate and hence the margins are based on the law of demand and supply. Cleassens,Demirgus-Kunt and Huizinga,2001, The relationship between economic activities and lending rates is positive.

2.4 Empirical Literature

Numerous studies have been carried out regarding monetary policy pass-through from base rates to lending rates. Although not anonymous in conclusions, there is clear evidence supporting the opinion that interest rate pass-through is slow, partial, or asymmetric.

Charoenseang and Manakit (2007), "In Thailand, there was no major asymmetric adjustment. Downward rigidity was seen in deposit rates and short-term lending rates when asymmetric error correction modeling reported a low and incomplete pass through in all rates a part from inter-bank rates which show full pass through."

"Wang and Lee (2009), "employing asymmetric co-integration test in their study, there are differences in nature and extent of interest rates pass-through between deposits rates and bank lending rates in the U.S and 9 countries in Asian." They discover an asymmetric adjustment in lending rates for three out of ten countries. Findings show evidence of full pass-through in the United States deposit rates, and Hong Kong, Philippines, and Taiwan lending rates are rigid downward.

Liu et al. (2008), "applying G-CAR in New Zealand, documented weak evidence of interest rate pass-through and short-run rate show the highest degree of pass-through as well as faster adjustment degree than long-run rates".

Mishra, Montiel, and Spilimbergo (2010). "The rapidity and completeness of interest rate pass through differs even in deep and well established economies like U.S and European common currency area. Kwapil and Scharler (2010), "in comparative analysis of the interest rate pass-through from money- market rate to bank lending-rates in the Euro area and the U.S using monthly data and Engele Granger co integration as well as ARDL method, found that interest rate pass-through to be faster in the United States compared to the European countries."

Tai et al. (2012), "When examining the effectiveness of pass-through from the money market rates to the retail interest rates in Asian countries, found no significant differences between the money market pass-through rate to deposit and lending rates, the money market rate pass-through to deposit rate is a bit high than that of the bank lending rate. After 1997 financial crisis, most Asian Countries have a slower adjustment of interest rates."

Jankee, (2004) used TAR and M-TAR with monthly data in Mauritius, their outcomes show presence of asymmetric adjustment in bank lending rates. Slow adjustment of lending rates is seen when money market rates goes up and faster adjustment when money market rates goes down.

"De Angelis, Aziakpono, & Faure (2005)," "using E-GEC model to examine the interest rates pass-through in South Africa, but give attention to on the relationship between wholesale interest rate and money market rate, and did not sight prospect of asymmetric adjustment in bank lending rates." However, in South Africa, Aziakpono and Wilson (2010) applied symmetric and asymmetric ECM and found out that speed

of adjustment from the monetary policy rate was highest in lending rates, followed by the T- bill rate, the money market rate, deposit rates and bond yield rates, which had the lowest speed of adjustment.

Sheefeni (2013), " carrying out a two-phase analysis t of monetary policy effect on banks interest rates and retail rates in Namibia using an ADL Model, an ECM and MAL model, pass-through of interest rate was partial, while short run lending rates had a higher pass-through than long run lending rates. The stickiness of deposit rate was found to be higher in short-run than in long run."

2.4 .1 Local Empirical Literature

While the empirical literature for advanced and emerging economies is vast, the evidence for Kenya remains limited. From local studies, Kilonzo (2003);Ongweso (2005);Sichei & Njenga (2010);Makambi et al.,(2011); Misati et al.,(2013) and Were et al.(2014) all studies the relationship between interest rate and credit.

Sichei and Njenga (2010), "by means of thirty seven banks data in Kenya from 2001-2008 to establish if monetary policy has any effect on banks of different sizes and ownership structure and if the credit-channel is more operational through demand of loans or supply of loans.They thus found demand for credit is not responding to monetary tightening, indicating presence of credit rationing." Hence, in Kenya monetary policy works through credit channel.

Makambi et al., (2013) and Misati et al.,(2011), " carrying out a study on the degree of pass-through of interest rate and the adjustment speed of commercial bank lending and deposit rates from the CBR respectively." Both studies got partial interest rate

pass-through of policy rates in the short and long run to commercial bank deposit rates in Misati et al., (2011) and lending rates in Makambi et al., (2013) finding a full speed of adjustment differs in both studies, with Makambi et al., (2013) finding a full speed of adjustment to take effect at 11-22 months, whereas Misati et al.,(2011) found a full speed of adjustment after 18-24 months. Both Misati et al., (2011) and Makambi et al., (2013) used the profit maximization model and the ECM to estimate the degree of pass-through.

Were et al. (2014), "looking into monetary policy effectiveness simulating from a structural macro-economic model, outcomes show that a change in policy rate influences short term rates but long term rates respond marginally to CBR and CRR i.e interest rate channel and lending rate channel. Found minimal overall impact on inflation. Outcomes give a weak pass through but short term rates give high pass-through degree and faster adjustment than long- term rates.

2.5 Summary of the Literature Review

The literature supports the view that interest rate pass-through is asymmetric, partial and slow. The flexibility of rates in any economy is dependent on how developed is the financial market, the level of completion in the banking system and bank ownership structures. Central banks of free economies control commercial banks lending rates just indirectly according to Agenor & Montiel, 2008..

IMF, "lack of down-ward responsiveness in interest rates to KBRR is the policy issue in Kenya." From local studies, Kilonzo (2003); Ongweso (2005); Sichei & Njenga (2010);Makambi et al.,(2011); Misati et al.,(2013) and Were et al.(2014) all studies the relationship between interest rate and credit. Related literature shows that

studies on Kenya's financial sector and specifically KBRR are still scanty and limited. Neither of the studies used regression analysis methodology. The studies done in Kenya have used CBR to investigate interest rate pass- through, none of them has used KBRR in the conceptual framework to establish its relationship with lending rates. Even those done point to the need for further investigation into the factors which have continued to cause high lending interest rates in Kenya, notwithstanding the reforms.

 Most of the evidence in regard to the lending interest rates largely focuses on developed economies and conclusions may not be relevant to developing economies like Kenya. The study therefore, examines the relationship of KBRR onLending rates of Kenyan commercial banks.

Conceptual Framework

Figure 2

KBRR
CBR
K (PREMIUM)
91-DAY T.B

LENDING INTEREST RATE
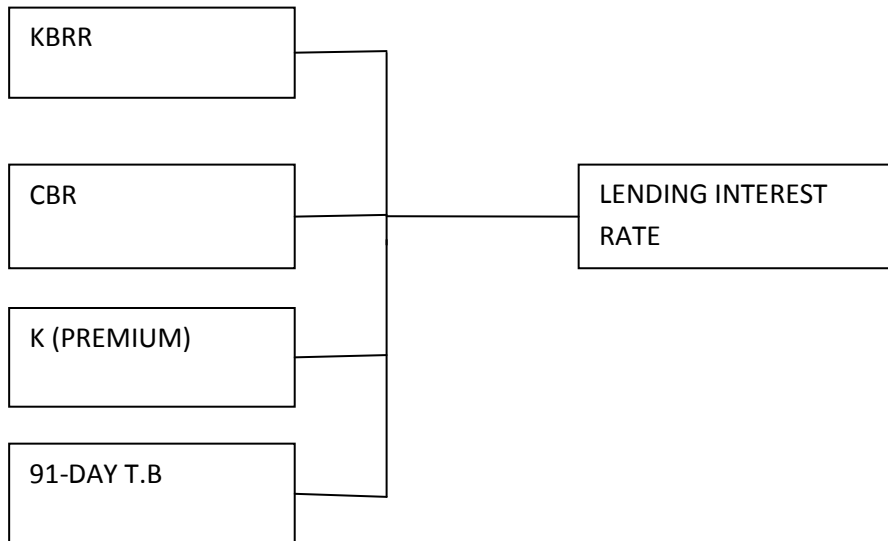
VARIABLE	NOTATION	PURPOSE	MEASURE
Kenya Bank's Reference Rate	KBRR	Base rate for lending In Kenya.	Average of CBR plus Two-months weighted Moving average of 91-D T-Bill.
Central Bank Rate	CBR	Base rate for monetary transactions	Determined by MPC
Premium	"K"	"Additional cost on base rate	Bank specific
91-Day Treasury bill	T-Bill	Regulates money supply in the Economy through OMO.	Determined by Central Bank

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter gives the study methodology which was used. It comprises of research methodology, research design, population of the study, techniques used in collection of data, sources of data, selection procedures and data analysis. This chapter gives the procedure and data collection methods that were used.

3.2 Research Design

The research used descriptive research design which is used in gathering information about the existing condition of the phenomena in order to describe what exists in respect of variables. This method was used so as to address the object of study by investigating the relationship of KBRR on Lending interest rates.

The design considered the size of the population, the study variables, research approach, and data collection methods. Correlation method was used to establish the relationship between KBRR and lending interest rates of commercial banks. The study used time series to look at the relationship between lending rates by establishing correlation coefficients between KBRR and lending rates as published on CBK website.

3.3 Population of the Study

The study population considered all banks in Kenyan financial market. The study incorporated all banks registered and licensed by CBK in CBK Act.The 43 commercial banks constituted study population (CBK, 2016).According to CBK 2015

25 banks are locally owned, 14 are foreign owned and 3 are owned by government. The study was carried between the July 2014 and June 2016.

3.4 Data Validity and Reliability

Before conducting the main survey, a pretesting was administered to Equity bank Kangemi Branch (Phelan and Wren, 2005).In the pretest the respondents were asked to commend on; general understanding of words employed, wording of scales, format and length of the instrument. The feedback was used to adjust the data collection tool accordingly. The adjusted tool was then administered one week later to judge the level at which the respondents were able to interact with it.

The scores from time one and time two after one week was then correlated in order to evaluate the test for stability over time. The data that was collected was then entered into SPSS where Cronbachs alpha was used to perform the reliability test. For comparison, reliability was accepted when alpha (α) is at 0.8 in case of deviation (Tavakol and Dennick, 2011).Ones the preset was complete; it was administered to all 43 commercial banks data.

3.5 Data Collection

The data on KBRR and the lending interest rates was obtained from Central Bank website and published financial statements of commercial banks in Kenya. Monthly data used range from July, 2014 to June 2016.

Validity is how well a test measures what is supposed to measures.The type of validity test employed is the construct validity which is used to measure that the tool actually measured what it is intended to measure (i.e. construct), and no other

variables. The researcher used a panel of "experts" (individuals with expertise in ICT and Commercial banking) to assess validity. The experts examined the items and decide on specific items to be measured (Colin and Julie, 2006).

The collected data related to predictor variable which is the lending rates as reflected in the CBK monthly reports and the independent variables which include KBRR, from CBK website, "K" from CBK website but determined by commercial banks based on risk aversion of the customer and CBR from CBK website.

3.6 Data Analysis

Kothari, 2008, "Data was inspected, transformed, and modeled with the view of getting useful information, conclusions, and supporting decision making. The study used Quantitative method to determine the relationship from the data obtained. Data was summarized using descriptive statistics. "Descriptive studies are more often than not the best way of collecting information that will demonstrate relationships, describe the world as it is and suggest that descriptive studies can answer questions such as "what is" or "what was." Bickman & Rog (1998).

Data was analyzed using (SPSS) version 21 to generate percentages, tabulations and mean as a measure of central tendency. On analyzing the effect of the independent variables on demand for credit, the study used correlation and regression analysis. Multiple regressions were used to determine the relationship between lending rate and various policy rates.

3.6.1 Conceptual Model

This model of analysis examines the simultaneous effects of con-comitant variables on predicted variable. The following function shows the mathematical relationship between the dependent and independent variable.

L = f (KBRR,"K" and CBR)

KBRR = Kenya Banks' Reference Rate

L   = Lending of commercial banks in Kenya

K   = Interest rate above KBRR paid by commercial banks borrowers

CBR   =Central Bank Rate

3.6.2 Analytical Model

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots (3.1)$$

α = Unique factors in commercial banks' Lending rates

$\beta_1 \ldots \beta_2$ = coefficients of variables X on X1....X3

X_1 = KBRR measured in percentage

X_2 = "K" measured in percentage

X_3 = CBR measured in percentage

$\varepsilon = \varepsilon \sim N(0, \sigma^2)$ or Noise

Y = Lending rate measured in percentage.

3.6.3 Diagnostic Tests

To determine the relationship of KBRR on Lending interest rates of commercial banks in Kenya, the following tests were done.

3.6.3.1 Normality Test

Shipiro-Wilks is used for small samples of n=3 to 2000 while Kolmogorov-Smirnov is used for large samples of n>2000.

3.6.3.2 Multicollinearity Test

According to S.D.Silvey, 1968 "Multicollinearity is the presence of linear relationships or "near linear relationships" among explanatory (Indipendent,Con-

comitant) variables in linear regression. There is 'extreme' multicollinearity when $\chi<\kappa$ and beta (β) is un identifiable or cannot be estimated at all.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

The chapter shows the outcome of secondary data that was used in research work. The research used both inferential and descriptive statistics and then used regression to establish the relationship of KBRR on the lending interest of commercial banks in Kenya. Section 4.2 discusses Descriptive statistics, section 4.3 presents Lending interest rates, section 4.4 discuses lending interest rates of commercial Banks in Kenya and section 4.5 is the results of diagnostic tests.

4.2 Descriptive Statistics

This part summarized population characteristics of Lending interest rates of commercial banks in Kenya and KBRR as the reference rate. The results show the maximum, minimum, means, standard deviations, skewness and kurtosis of lending interest rates, Deposit rate, KBRR,'K'(premium),Central Bank Rate, and 91-Day T.Bill

Table 4.1

Descriptive statistics of variables and lending rates of commercial banks in

N		Minimum	Maximum	Mean	Std.Deviation	Skewness	Std. Error	Kurtosis	Std. Error
22	KBRR	0.0	9.9	4.575	4.5378	-.028	.361	-2.068	.709
22	K	6.7	9.8	7.599	.8522	1.207	.491	.952	.953
22	CBR	8.5	11.5	9.932	1.4984	.098	.491	-2.139	.953
22	Deposit	6.3	8.0	6.920	.4435	.976	.491	.110	.953
22	Lending Rate	15.3	18.3	16.481	.9626	.645	.491	-.962	.953
22	91-T.Bill	8.3	21.7	10.141	3.0538	2.891	.491	9.694	.953

Source: Author

Table 4.1 shows mean standard deviation, skewness and kurtosis statistics as well as minimum, maximum of all predictors used. KBRR is determined by MPC after every six months. The results show that KBRR showed mean of 4.575% with a Std.deviation of 4.5378% during the period under review. 'K' which is the premium charged by banks above KBRR showed mean of 7.599% and a std. deviation of 0.8522%.Every bank has its own unique of determining 'K'. CBR as determined by Monetary Policy Committee is common to every bank. Results showed CBR Mean as 9.932% and a Standard Deviation of 1.4984%.Deposit rate showed mean of 6.920% and a std.deviation of 0.4435%.Lending rate showed mean of 16.481% and a std. deviation of 0.9626%.91-Day Treasury Bills showed mean of 10.141% and a std.deviation of 3.0538%

4.3 Lending Interest Rates Table 4.2

Trends in interest rates 2015

YEAR	91-Tbill	Average Deposit Rate	Average Lending Rate	CBR	Interest Rate Spread
Dec-14	8.58	6.81	15.99	8.50	9.18
Jan-15	8.59	6.65	15.93	8.50	9.28
Feb-15	8.59	6.68	15.47	8.50	8.78
Mar-15	8.49	6.63	15.46	8.50	8.82
Apr-15	8.42	6.60	15.40	8.50	8.80
May-15	8.26	6.55	15.26	8.50	8.70
Jun-15	8.26	6.64	15.48	10.00	8.85
Jul-15	10.57	6.31	15.75	11.50	9.44
Aug-15	11.54	6.91	15.68	11.50	8.77
Sep-15	14.61	7.28	16.57	11.50	9.29
Oct-15	21.65	7.54	16.58	11.50	
Nov-15	12.34	7.56	17.16	11.50	
Dec-15	9.81	7.92	17.45	11.50	

Source: CBK 2015 Annual Report

Rates interest on most of the financial instruments on average, increased in 2015 compared to 2014. This follows the MPC decision of raising CBR by 150 Basis Points from 8.50 % to 10.00 % cent in June 2015 and a further 150 Basis Point to 11.5 % in July 2015, in order to anchor inflationary expectations arising from steady weakening of the Kenya shilling against the US dollar and the high volatility in the foreign exchange market.

Chart 2: Short Term Interest Rates
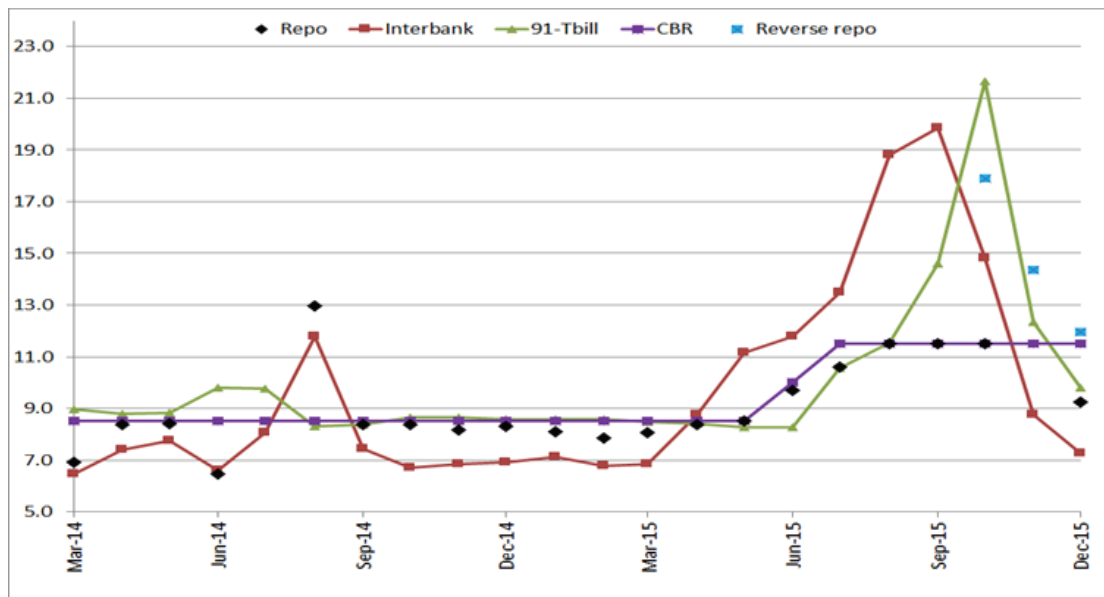
Source: Central Bank of Kenya

The 91-day T-bill rate increased by 122 Basis Points from 8.59 % in January 2015 to 9.81 % in December 2015 and averaged 10.93 per cent for the year 2015. In the first and second quarters of 2015, the 91-day Treasury bill rate was stable, but commenced an upward trend in July, peaking in October, before declining in November.

In line with the tight stance monetary policy, retail commercial banks' rates rose in 2015. The average lending rate rose from 15.93 % in January 2015 to 17.45 % in December 2015.Deposits interest increased from 6.65 % to 7.92 % over the same period. Consequently, interest rate spread widened to 9.53 % in December, 2015 from 9.28 % in January 2015.
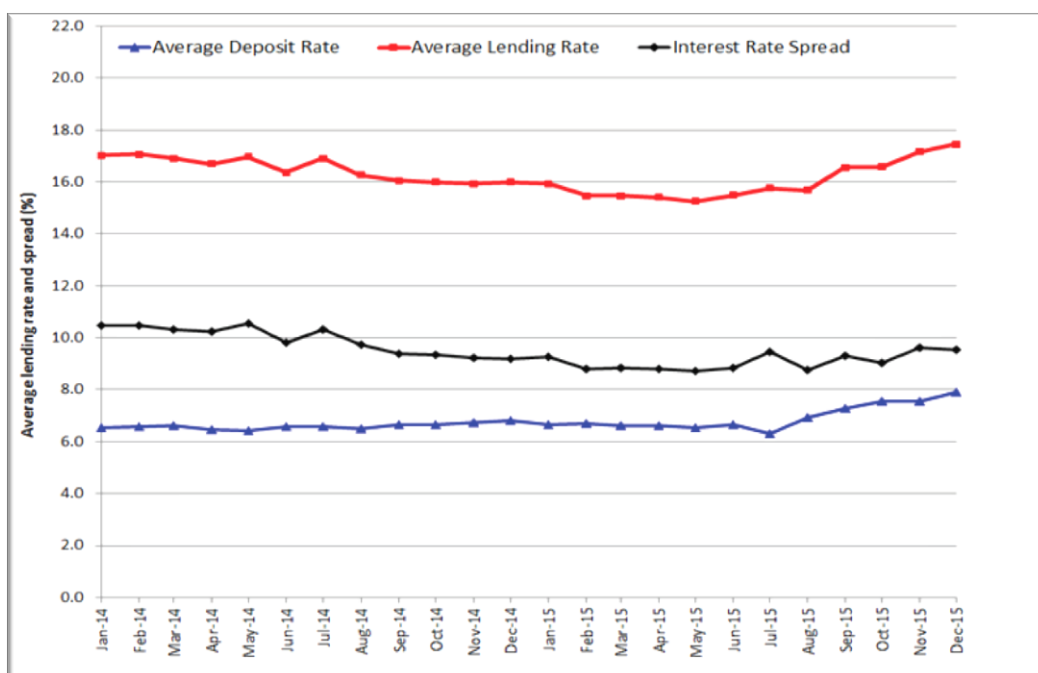
Source: Central Bank of Kenya

The 91-day T-bill rate fell to 8.72% in March 2016 from 9.81 percent recorded in December 2015.The decline is due to too much liquidity in the inter-bank market. The retail rates declined in the first quarter of 2016 compared to December 2015, with the average commercial banks' lending rate being slightly lower at 17.79 percent in March 2016 from 18.30 percent in December 2015. The decline was notable in all the loan portfolio (overdraft, 1-5 years and over 5 years). The average deposit rate also declined less rapidly to 7.17 percent in March 2016 from 8.02 percent recorded in December 2015. Consequently, the interest rate spread widened to stand at 10.62 percent in March 2016 from 10.28 percent in December 2015.

4.4 Lending interest of Commercial Banks in Kenya 2015-2016

Chart 4: Bank lending rate (%)

KENYA BANK LENDING RATE
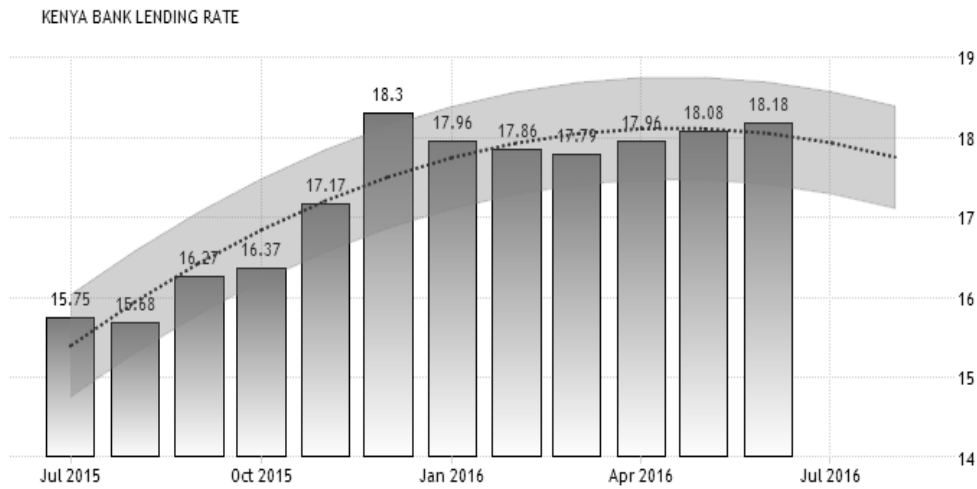
SOURCE: WWW.TRADINGECONOMICS.COM | IMF

The average lending rate was as high as 17%in July, 2014 when KBRR was introduced. Average lending rates reduced to 16.0% in December 2014.The average lending rate also reduced to as low as 15.68% in march 2015 when MPC reviewed KBRR downwards. However the average lending rate has since increased to as high as 18.3% in December, 2015

Chart 5: Bank lending rate (%)

KENYA BANK LENDING RATE
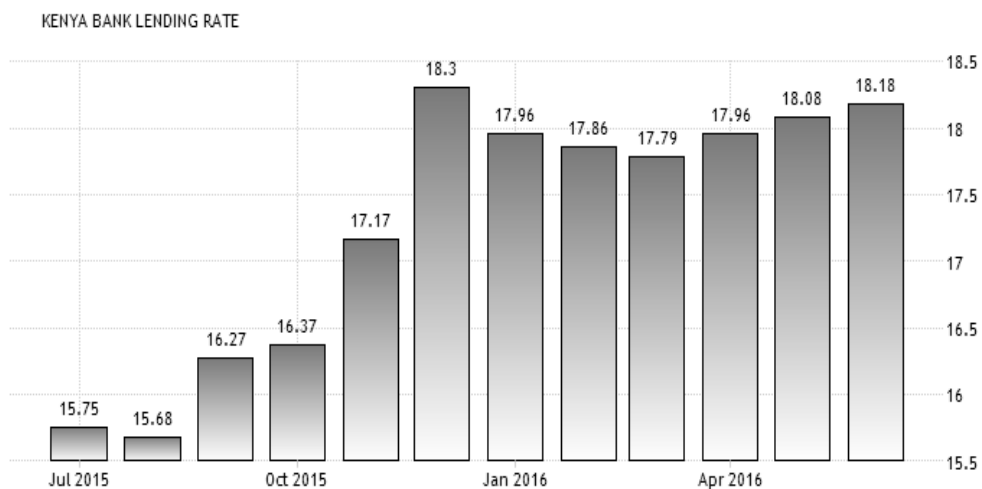
SOURCE: WWW.TRADINGECONOMICS.COM | IMF

.In march 2016 the average lending rate was 17.79% when KBRR was reviewed the third time, however it increased to 18.18%. Lack of clearness in pricing of credit by the lenders can subject borrowers to high lending rates.

Chart 6: Bank lending rates (%)
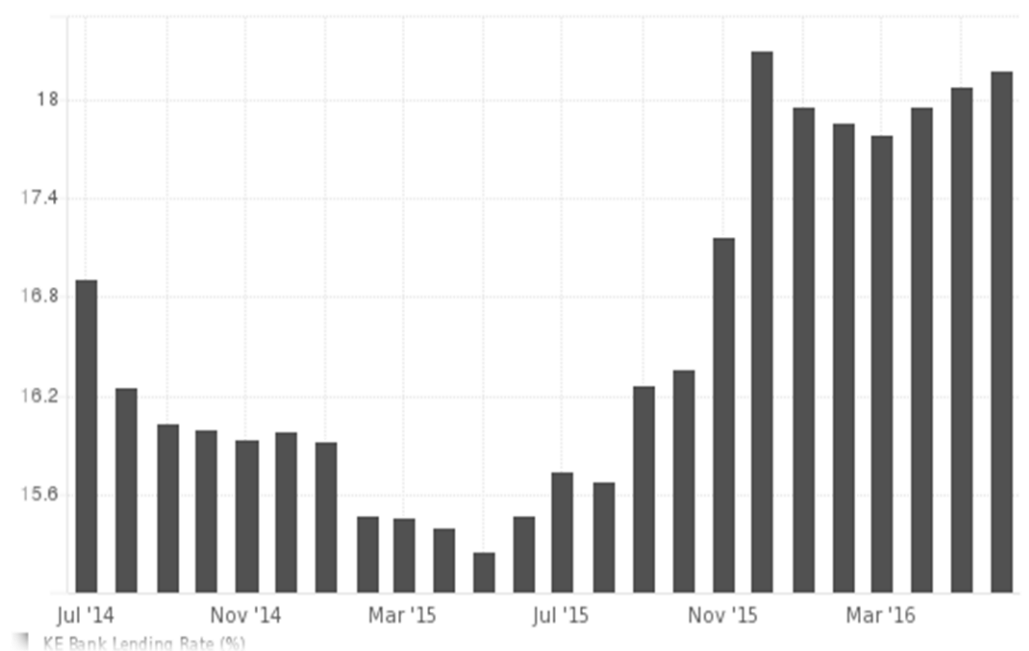
Average lending rate has since increased to as high as 18.3% in December,2015 which has prompted the intervention of the government to pass Amendment Bill into law on capping of interest rates. The CBK issued directives to the banks to share with their customers the lending interest rates of their various loan products. This is to make banks to be transparent in their loan pricing. They are also required to make it known to customers the basis for lending and also what constitutes lending rate. This will make borrowers to make informed decisions.

4.5 Diagnostic Statistics

Table 4.3 Results of multicollenearity test

Normality Tests						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
kbrr	.328	22	.000	.730	22	.000
Lending	.101	43	.200[*]	.966	43	.223
a. Lilliefors Significance Correction						

The study sought to determine normality of the data used for analysis. The study used Shapiro Wilks. The data was accepted for normality in 'k' and Lending rates since significance for the test p > 0.05.However significance on 91-Day T.Bills, KBRR, CBR and Deposit rate showed p<.05 on data used.

Table 4.4

Coefficients [a]

		Collinearity Stat.	
		Tolerance	VIF
1	Deposit	.534	1.872
	Central Bank Rate	.529	1.890
	91-Day T-bill	.701	1.426
	kbrr	.017	59.735
	k(L-KBRR)	.016	64.450

Tolerance greater than 0.2 indicates that predictors are no malticollinearity (Menard, 1995).VIFs lower than 10 indicates no multicollenearity (Myers, 1990).Is the VIF not substantially greater than 1? A VIF>10 is unsatisfactory. In this study KBRR and 'K' had a VIF>10 are unsatisfactory. KBRR and 'K' VIF.>10 and tests of small samples

n<20 may be misleading .KBRR could not be removed from the analysis because it is the predictor under review and the population of Kenyan banks under the study is small

Table 4.5

4.5 Correlation analysis

Lending	Pearson Correlation	1					
	Sig. (2-tailed)						
	N	22					
Deposit	Pearson Correlation	.779[**]	1				
	Sig. (2-tailed)	.000					
	N	22	22				
Central Bank Rate	Pearson Correlation	.678[**]	.698[**]	1			
	Sig. (2-tailed)	.001	.000				
	N	22	22	22			
91-Day Tbill	Pearson Correlation	.215	.532[*]	.556[**]	1		
	Sig. (2-tailed)	.336	.011	.007			
	N	22	22	22	22		
kbrr	Pearson Correlation	.621[**]	.205	.202	-.189	1	
	Sig. (2-tailed)	.002	.359	.368	.399		
	N	22	22	22	22	22	
k(L-KBRR)	Pearson Correlation	.868[**]	.860[**]	.721[**]	.388	.229	1
	Sig. (2-tailed)	.000	.000	.000	.075	.305	
*. Correlation is significant at the 0.05 level (2-tailed).							

Source: Author

The table shows Collinearity diagnostic test conducted on all variables, the VIF values were all less than 3 indicating there was no problem with multicollinearity.

Table 4.7: Results of Model Goodness of Fit Tes

t

Model Summary[b]									
R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
				R Square Change	F Change	df1	df2	Sig. F Change	
.974[a]	.948	.932	.2514	.948	58.366	5	16	.000	1.966
a. Predictors: (Constant), k(L-KBRR), kbrr, 91-Day Tbill, Central Bank Rate, Deposit									
b. Dependent Variable: Lending									

Source: Author

4.6 Results of ANOVA

ANOVA[a]						
Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	18.446	5	3.689	58.366	.000[b]
	Residual	1.011	16	.063		
	Total	19.458	21			
a. Dependent Variable: Lending						
b. Predictors: (Constant), k(L-KBRR), kbrr, 91-Day Tbill, Central Bank Rate, Deposit						

Source: Author

ANOVA (F= 58.366, ρ =.000) is significant therefore R-squared is high at 0.948 hence low S.E of 0.2214 of the estimates in the model.

Table 4.3: Results of Estimated Model

Coefficients[a]								
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% C.I for B	
	B	Std. Error	β			Lower Bound	Upper Bound
(Constant)	1.757	1.317		1.334	.201	-1.036	4.550
Deposit	.300	.271	.138	1.106	.285	-.275	.875
CBK	.059	.060	.093	.989	.337	-.068	.187
91-Day Tbill	-.021	.025	-.067	-.829	.419	-.075	.033
kbrr	.785	.119	.421	6.581	.000	.532	1.038
k(L-KBRR)	.691	.140	.611	4.940	.000	.394	.987
a. Dependent Variable: Lending							

Source: Author

4.7 Discussion of the results

Model summary showing lending rate as explained by predictor variable KBRR (β= .421, ρ = .000) is indicating that KBRR is not significant in determining Lending rate. K (β=.611, ρ = .000) is significant and has more effect on lending rate than KBRR while CBR (β= .093, ρ = .337) has low coefficient indicating that it contribute less to Lending rate of Commercial banks. Deposit rate with (β= .138, ρ = .285) and 91-day T.bills (β= -.067, ρ = .419) is not significant.

4.8 Summary of the chapter

Generally the lending rates have been increasing despite the introduction of KBRR in 2014.Lending rates have gone as high as 18.3%.Lending rates apt to react in proportion to the increase on KBRR and slowly to the decrease of KBRR by Monetary Policy Committee of the CBK. It is also clear from the findings that lending

rate is not pegged on KBRR. The results show that KBRR doesn't significantly affect the lending rate of commercial Banks' as determined by individual Bank is significant in determining the lending rates. The increased lending rates have brought about the capping of interest rates through Banking (Amendment) Bill 2016 into Law. The Banking Amendment Act,2016 is however silent on the base rate to be used by banks to price their products i.e. whether KBRR or CBR .It is also not clear on the type of loans to be capped and whether the law affects only Banks and, or also affects deposit taking SACCO's and micro finances..

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter summarizes the findings of the study, conclusions and recommendations from the outcomes of the findings. This chapter outlines the limitations that were encountered in the study with suggestions for further research. It is divided into section 5.2 on summary of the findings, section 5.3 on conclusion, section 5.4 on policy recommendation, section 5.5 on limitations of the study and section 5.6 on recommendation for further research.

5.2 Summary of the Findings

This work sought to determine the relationship of KBRR on lending interest rates of commercial banks in Kenya. Researcher used a descriptive research design to achieve the research objectives. The researcher also used Multiple regression analysis to determine the relationship of KBRR on Lending interest rates of commercial banks in Kenya. The study used Lending rate as the dependent variable while K, KBRR, Deposit Rate,91-Day T.Bill and CBR were the independent variables.

The study found a positive relationship of (42.1%) of KBRR on Lending rate and thus no significant relationship. 'K' was found to have a higher relationship of (61.1%) to the lending interest rate. CBR has a very low relationship of 9.3% to lending rate. Study findings show minimum, maximum, mean, standard deviation, skewness and kurtosis statistics of all variables used. KBRR is determined by MPC after every six months. The results show that KBRR showed mean of 4.575% and a std. deviation of 4.5378% during the period under review. 'K' which is the premium charged by banks

above KBRR showed mean of 7.599% and a std. deviation of 0.8522%.Every bank has its own unique of determining 'K'. CBR as determined by Monetary Policy Committee is common to every bank. Results showed CBR Mean as 9.932% and a Std. Deviation of 1.4984%.Deposit rate showed mean of 6.920% and a std. deviation of 0.4435%.Lending rate showed   mean of 16.481% and a std. deviation of 0.9626%.91-Day Treasury Bills showed mean of 10.141% and a standard deviation of 3.0538%

R (squared) coefficient of determination is substantial (0.948); therefore about 94.8% of the lending rate by banks is contributed by predictor variables. The analytical model used in this work can be relied upon to make predictions as F- value is 0.000.

5.3 Conclusions

The main aim of this project was to find out the relationship of KBRR on Lending rates of commercial banks in Kenya. From our findings, the research concludes that there is a positive relationship of KBRR on Lending interest rates of commercial banks. From the regression analysis, KBRR is insignificant determining lending rates .'K' is significant hence the study concludes that banks will always charge a higher premium "K" no matter what the KBBR is

The main objective of introducing KBRR in July 2014 was to lower interest rates as borrowing is still expensive and not readily available to the private sector. Since KBRR is just the base rate, commercial banks have the freedom to charge the amount of premium ''K'' they want without violating any law. .Interest rate capping as provided for in the Banking Amendment Act 2016 will help regulate 'K' however it is not yet clear whether base rate is KBRR or CBR.

5.4 Recommendations

BIS recommended to CBK to introduce a base rate to be used to price loans, the study therefore recommends that central bank should use KBRR as base rate to price loans .The study recommends that banks should stop charging high and unaffordable interest rates as this discourages borrowing hence limiting capital available to potential inventors and private sector lending.

Central banks should together with Kenya Bankers association uphold the use of Banking Amendment Act 2016.Commercial banks to be barred from charging and 1reclassifying rates.

The private sector should be involved more in coming up with policies which would limit the commercial banks in charging very high interest rates. Affordable interest rates would open new opportunities in the private sector as economy would expand as a result of readily available capital.

5.5 Limitations of the study

The research faced a number of shortcomings. Data that was used in the research was secondary from CBK website. The data was used without any adjustments and therefore the validity of the data was not verified. It is for this reason that findings from this work can't be projected to other economies.

KBRR was only introduced in the market in July, 2014 after BIS recommendations to CBK to come up with a base rate. Its application is still not sufficient in banking sector. Banks are not even certain on whether to base their lending on the KBRR or CBR.CBK is also not very clear on the base rate banks should peg their lending. The period under review was only 22 months which is not sufficient enough to take care of the fluctuation of variables and major events in the financial sector.

At the time the study was conducted, the Bank Amendment Bill was on the floor of parliament and whose objective was to cap lending rates of commercial banks in Kenya. This bill was subsequently ascended by the president and litigations arose in High court making it difficult to get enough information as the matter was being considered sensitive by CBK and commercial banks.

5.6 Suggestions for further study

More research should be done in future in different economies whose base rates are set by their central banks. It should also be carried out for a considerable long time period to generalize the findings.

A similar research on the relationship of KBRR on Lending rates of banks in Kenya should consider the effect of interest rate capping as Amended in the Banking Act 2016.This study considered majorly three variables under different macroeconomic conditions, therefore, another research should be carried out to factor in the prevailing interest rate capping.

Most studies done on interest rate pass- through from policy rates to market rates and the extent of responsiveness, few looked at the relationship of KBRR on lending rates in Kenya. New studies should be carried out to establish the effect of the Banking Amendment Act 2016 on the lending interest rates and its effect on performance of commercial Banks and microfinance and Sacco's.

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APPENDIX 1

Commercial Banks in Kenya

1. Victoria Commercial Bank

2. United Bank of Africa

3. Trans National Bank Kenya

4. Standard chartered Kenya

5. Spire Bank

6. Sidian Bank

7. Prime Bank (Kenya)

8. Paramount Universal Bank

9. Oriental Commercial Bank

10. NIC Bank

11. National Bank of Kenya

12. Middle East Bank Kenya

13. Kenya Commercial Bank

14. Jamii Bora Bank

15. Imperial Bank Kenya (in Receivership)

16. I & M Bank

17. Housing Finance Company of Kenya

18. Habib Bank AG Zurich

19. Habib bank

20. Gulf African Bank

21. Guardian Bank

22. Guaranty Trust Bank Kenya

23. Giro Commercial Bank

24. First Community Bank

25. Fidelity Commercial Bank Limited

26. Family Bank

27. Equity Bank

28. Ecobank Kenya

29. Diamond Trust Bank

30. Development Bank of Kenya

31. Credit bank

32. Cooperative Bank of Kenya

33. Consolidated Bank of Kenya

34. Commercial Bank of Africa

35. Citibank

36. Chase bank Kenya (in Receivership)

37. CFC Stanbic holdings

38. Barclays Bank of Kenya

39. Bank of India

40. Bank of Baroda

41. Bank of Africa

42. ABC Bank (Kenya)

Data obtained from (CBK, 2013)