EFFECTS OF CENTRAL BANK BASE RATE ON MORTGAGE RATES OF COMMERCIAL BANKS IN KENYA

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION, UNIVERSITY OF NAIROBI

2013
DECLARATION

This Research Project is my original work and has not been submitted to any other University for academic award.

Sign………………………… Date…………………………
Kevin Loye Wadeya
D61/60432/2011

This Research Project has been submitted for examination with my approval as the University supervisor.

Sign………………………… Date…………………………
Dr. Josiah Aduda
DEDICATION

To my mother who sacrificed greatly to start me out in life with an education that did lay the foundation and the desire in my heart to achieve what she never had.
ACKNOWLEDGEMENTS

This project would not have been successful without the invaluable contributions and support of people who I owe gratitude. Though I will not be able to list all those who were of help to me during the process of my studies and research, I would like to acknowledge with appreciation, the following people who made this research possible, but above all, I thank the Almighty God for His favour and blessings throughout my studies and my entire life. Thank you Lord.

My sincere thanks go to my supervisor, Dr. J. Aduda, Head of Department Accounting and Finance and my research supervisor whose invaluable contribution and guidance helped develop the simple idea I had into a researchable topic and finally to this completed project. It was a great learning experience.

Above all I owe a lot to my classmates, Grace, Edwin, Raymond, Teresia and Morris. They deserve special recognition. We burnt the midnight oil together; they nursed my frustrations and offered company on weekends and holidays as we struggled to beat deadlines.

I am indebted to my Mother Mary Okaka. You taught me that I have to be a master of my destiny. Thank you for your love and prayers.

I acknowledge those words of support from my colleagues at Davis & Shirtliff, Kevin, Ken, Dorothy, Pamela, Prilona, Elizabeth, Doreen and my cousin Zein.

God bless you all.
ABSTRACT

The factors that determine the mortgage rates of commercial banks are of important concern to the general public, the banking industry and the policy makers at large. The market for mortgage loans is competitive and rates on these loans have tended to respond to changes in Central Bank of Kenya Base Rate. This study was conducted with an aim to determine the effects of Central bank Base Rate on Mortgage Rates of commercial banks in Kenya.

The population of this study consisted of all the commercial banks offering mortgage loans to their clients. The study used secondary data in its analysis. This was done by collecting data of various mortgage rates for the period under study and various Central Base Rates for the same period. The data was analyzed by SPSS and regression results interpreted. This represented in tables and line graphs for analysis.

The results revealed a there is a positive correlation between Central Bank Base Rate and the average Mortgage Rate in the market and only 7% of the total variations of the data used remained unexplained. The research was a success as we managed to meet the objectives. The results of the regression show that even if the CBK Base Rate was zero, the banks would still charge a 10.802% on the mortgage rates. The slope of the gradient is 0.654 showing the sensitivity a unit change in CBK Base Rate has on average mortgage rate.
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CHAPTER ONE

INTRODUCTION

1.1 Background

1.1.1 The Central Bank Rate

The Central Bank objective is the formulation and implementation of the monetary policy directed at achieving and maintaining stability in the financial market. The aim is to achieve low inflation and to sustain the value of the Kenyan shilling. A low and stable inflation rate together with adequate liquidity facilitates higher levels of domestic savings and private investments therefore leading to economic growth. However the Central Bank cannot influence inflation directly but can do this by use of tools such as interest rate adjustments (Central Bank Rate), open market operations, standing facilities (as a lender of the last resort), foreign market operations, required reserves, supervision and licensing of commercial banks and communication of bank decisions.

Central Bank Rate is meant to change the cost of the money and hence influence the commercial bank interest rates in the market. Interest rates will influence the target variables through other intermediate targets including credit (loans), exchange rates and inflation forecasts. Though Central Bank of Kenya supports the determination of interest rates by market forces, it expects the interest spread to be narrowed by market discipline especially given the relative macroeconomic stability since 2000, drop in level of nonperforming loans and reduced cash reserve requirement has also been reduced. With
these improvements, institutions are expected to respond by reducing their interest rate spreads; but the spreads remain relatively high.

1.1.2 Interest Spreads

Since the liberalization of interest rates charged by banks in 1990’s, huge spreads have been witnessed in several instances. Banks explained that the huge spread was due to macroeconomic instability characterized by high inflation, unstable foreign exchange rates; high cash reserve requirement and slow economic growth leading to high incidences of nonperforming loans. Even though there were attempts at controlling the interest rates through an act of parliament, according to the initiator of the amendment bill, Honorable Joe Donde, it was a mistake on the part of the government to liberalize the economy.

Gwartseney (2000) describe market driven interest rates as the equilibrium interest rate that results from the matching of demand for funds and the supply of these funds (that is the demand and supply of money in the market) all other factors held constant. According to them, people demand money for three reasons i.e. speculation, precaution and transactional balances. Money supply on the other hand is dependent on government monetary policies that results in either expansion or contraction of money supply. From national income accounting, equilibrium interest rate would be the point at which net investments equal savings (that is money for investment increase with increase in savings from the investing public.)

The increased volatility of interest rates in the year 2010, 2011 and 2012 had effects upon the housing market and financial institutions. The high rates of 2011 made most projects
to come nearly at a standstill. Those who bought houses to let were losing and so does those who bought houses to live in. Kenya has a growing mortgage market, which together with other initiatives will be instrumental in providing some of the housing investment that will be needed in the coming years as the population continues to grow and Kenya’s economic center shifts towards its urban settlements. This will help in the realization of vision 2030 of affordable and adequate housing but the mortgage rates seem to be on the high end.

1.1.3 The Mortgage Rate

A mortgage is a secured loan you apply for that covers the amount you wish to borrow in order to pay for the house you wish to buy. Like all loans a mortgage has a repayment term, interest rate and monthly repayments to be met and paid for. You can also remortgage your property without moving home if you want to change lenders or move to another product. The high mortgage rates stifle new entrants in the housing market and makes those already in to get more loses as the cost rises due to high rates. This in effect widens the gap between the rich and poor. Even though the Central Bank reduced its base lending rate to 8.5 percent in May 2013, most banks were offering mortgage rates of 19 percent or higher amounting to over 100 percent margins near unprecedented in global finance. Mortgage rates are running at far higher levels than the norm, with the central bank base lending rate at 8.5 percent we expect to see a spread of 4 percent meaning rates between 12 to 13 percent and yet the average is still next to 18 percent. Despite appeals from various quarters, the current mortgage rates remain stubbornly high with average lending currently marginally below 18 percent compared with only 14 percent in 2008 the last time the Central Bank Rate was at 9 percent. It was interesting to see how fast
banks took up their mortgage rates when Central Bank Rate was on the rise versus the
deafening silence when the rates have come down over the last two announcements.
However, with mortgage rates now static in a range of between 15 and 20 percent, the
cuts of May 2013 to 8.5 percent has stimulated a revival in project finance and this has
seen many investors and project developers return to construction hence commencement
of new projects.

The study sought to evaluate the effects of Central bank base rate on average mortgage
rates in Kenya. The focus is to find out how the Central bank base lending rate affects the
mortgage rates of commercial banks. Even with the expected norm of mortgage rates to
increase with increase in Central bank base rate and to decrease with a decrease in
Central bank base rate, this has not been the case as banks are reluctant to decrease their
mortgage rates even after the Central bank decreasing their rate.

1.2  Statement of the Problem

Saving and loan institutions have experienced extremely difficult times in the last four or
five years largely because of the term structure of their assets and liabilities. Most of
these institutions hold relatively long term fixed yield mortgage assets, while their
liabilities are fairly short term savings accounts. Both long and short term interest rates
rose in the year 2010—2012 period above their level in the preceding period. This
depressed the value of the saving and loans mortgage assets, causing the net worth of
many of these institutions to become negative. This fact, however, was somewhat
disguised by standard accounting conventions which do not mark assets to their market
value. In addition to the negative net worth situation, the institutions faced severe cash
flow problems caused by the higher interest rates on liabilities and the reduced prepayment experience on mortgages. Some mortgage takers have been really suffering through holding mortgage with some of the country’s most expensive suppliers e.g. In 2012, some banks were offering mortgage products with rates of 28 percent while others with rates of 19 percent hence making mortgage takers with the expensive banks to pay more in hundred thousand shillings in extra interest payments at the end of the year meanwhile the Central Bank Rate was at 13 percent.

Central Bank Rate is meant to change the cost of the money and hence influence the commercial bank interest rates in the market. Since the liberalization of interest rates charged by banks in 1990’s, huge spreads have been witnessed in several instances. Banks explained that the huge spread was due to macroeconomic instability characterized by high inflation, unstable foreign exchange rates; high cash reserve requirement and slow economic growth leading to high incidences of nonperforming loans. Though Central Bank of Kenya supports the determination of interest rates by market forces, it expects the interest spread to be narrowed by market discipline especially given the relative macroeconomic stability since 2000, drop in level of nonperforming loans and reduced cash reserve requirement has also been reduced. With these improvements, institutions are expected to respond by reducing their interest rate spreads; but the spreads remain relatively high.

Fridah (2011) noted that a majority of commercial banks had their lending rates varying. Prudential regulation, bank supervision and better contract enforcement were the most influencing factors of commercial banks lending rates. She went further to state that interbank rate, competition among interbank rate, credit risk premium due to various
risks, (including interest risk, credit risk, foreign exchange risk and legal risk) demand and supply as well as industry trend also influenced determination of lending rate of commercial banks. She finally said that the cost of loans increases non-performing loans in Kenya as high cost of loans influenced commercial banks raising the lending rates to the customers making the loan to be expensive and difficult to repay for a period of three months resulting to non performing loans.

Ngugi (2001) analyzed the interest rates spreads in Kenya from 1970 to 1999 and found that interest spread increased because of yet-to-be gained efficiency and high intermediate costs. He noted that the increase in spread during the post liberalization periods was attributed to the failure to meet the pre-requisites for successful financial reforms, the lag in adopting indirect monetary policy tools and reforming the legal system and bank’s efforts to maintain threatened profit margins from increasing credit risk as the proportion of non-performing loans. According to her findings, fiscal policy actions saw an increase in treasury bills rates and high inflationary pressure that called for tightening of monetary policy. As a result banks increased their lending rates but were reluctant to reduce the lending rate when the Treasury bill rate came down because of the declining income from loans. He found out that for Kenya, rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediate costs explained interest rate spreads.

The Central Bank of Kenya through baseline survey conducted in June 2010 on mortgage finance in Kenya found out that, the size of the mortgage had been increasing from 19.5 Million in 2006 to 61.4 Million as at May 2010 and the number of mortgage loan accounts also increased. They found out that the increased mortgage size was attributed
to the expensive housing market, predominance of high-income mortgage borrowers and housing finance market yet to move downstream. The average mortgage rates charged were high and most of the mortgage loans were on variable interest rates and this had a huge risk component. For the mortgage market to expand they had to minimize the fees charged on mortgages i.e. legal fees, valuation fees, arrangement fees, stamp duty and mortgage policy protection premium. Even though there were ongoing initiatives to reduce some of the obstacles in the mortgage market the key challenge was how to solve the variable component of the interest rate and its effects on mortgage rates.

The above studies conducted by Fridah (2011), Ngugi (2001) and the Central Bank survey did not look at the effects of interest fluctuations on mortgage products. Even though they touched substantially on the interest rate, they did not clearly show the effects of its variability on mortgage rates. As the Central Bank Base Rate increase, it is usually a trend for the mortgage rates to also increase and vice versa is also true. My study is to fill in the gap still left so as to add to the body of knowledge on the effects of variability of central bank interest rates on mortgage rates.

1.3 Objective of the Study

The objective of the study is to establish the effects of central bank base rate on mortgage rates of commercial banks in Kenya.
1.4 Significance of the Study

The study will be found useful by various groups of people as follows:

a) Academicians

The study is expected to contribute to the existing body of knowledge in relation to interest rates and mortgage rates. This will help them understand more why mortgage rates vary with fluctuations of the central bank base lending rate and also make recommendations arising from its findings for further research on it and other related areas of study. The study is also likely to benefit scholars who may wish to pursue further studies in this area.

b) Individual home buyers

The individual home buyers will find this report useful in evaluating mortgage products in the market. This comes at a time when some home owners are really suffering by holding mortgages with some of the country’s most expensive suppliers and in some cases paying several hundred thousand shillings in extra interest payments a year due to lack of information of the mortgage rates in the market.

c) Construction companies

Most construction companies that build houses are the largest takers of mortgages in the Kenyan market. This report will help them understand more on mortgage rates and what makes them volatile in the market as this affects them directly during mortgage repayment.
d) Commercial banks and financial institutions

Commercial banks and other financial institutions can use this report to analyze the changing environment and come up with solutions and ideas that are unique to it i.e. financial innovation. This will help much in coming with new innovative mortgage products in the market.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews the theories of Interest rates. This consist of the theories that try to explain the term structure of interest rates such as the expectation theory, liquidity preference theory, the market segment theory and the preference habit theory. Literature review is the analysis of the existing knowledge on a particular line of study. It focuses on the existing studies done by other researchers and scholars and provides some basic knowledge of the research topic. The empirical studies have been reviewed and the Interest rate studied the chapter finalized by a conclusion.

2.2 Theoretical Frame Work

This consists of theories like the following:

2.2.1 The Expectation Theory

This theory is based on expectation that people will have in regard to future conditions. Investors will prefer to hold a long-term security if they expect future interest rates to be high and vice-versa is true for short-term securities. Other expectations that will influence securities demand are political expectations and expectations on inflation level. Expectation theory is used by investors to make predictions about future performance of interest rates. Essentially, the expectations theory states that by evaluating current long-term interest rates, it is possible to determine the course of short-term interest rates.
While there are a number of theories, many investors and financial experts believe the logic behind the theory of expectations is flawed and does not serve as an accurate indicator of future short-term rates. (Jayaraman, Sharma and Rajesh, 2003).

For those that believe the expectation theory has merit, it is often noted that many investment strategies rely on evaluating past movements in order to predict future performance. Since this method has proven successfully in helping to choose wise investments such as stocks and commodities, the same approach can also be used in predicting the movement of short term interest rates. (Ramakrishnan and Thakor, 2000)

The logic underlying the theory, that expectations of future short interest rates shape the term structure of longer interest rates is intuitive, appealing and a common assumption in macroeconomic modeling. However, the predictability of excess returns shown by Fama and Bliss (1987), Campbell and Shiller (1991) and more recently by Conchrane and Piazzesi (2005) undermines the premise that long interest rates are rational expectations of future short rates up to a constant term premium.

One of the dangers with the expectation theory is that it can be very simple to overstate the estimate on the future short-term rates. Since the theory relies only on analyzing past performance of long-term interest rates, this approach can omit data that would possibly temper the amount of change in short-term interest rates. Factors such as political shift, disaster situations or sudden changes in consumer tastes and demand can easily impact on the direction of interest rates and throw the projections developed through the use of this theory out of line (Njoka, 2003)
2.2.2 The Preferred Habitat Theory

The preferred habitat theory states that investors and borrowers may stay away from desired maturity segments if there are relatively better rates to compensate them. If the supply and demand conditions do not match, the preferred habit theory asserts that investors and borrowers will do without their perfect hedges and shift out of the preferred maturity.

Consider an economic world in which, on the demand side, investors in corporate securities, on average prefer short-term to long term instruments, while on the supply side, corporations have a greater need to finance long-term assets than short-term and therefore prefer to issue more long-term bonds than short-term. Combined, these relative preferences would cause an excess demand for the short-term bonds and an excess supply for long-term claims and an equilibrium adjustment would have to occur. The excess supply in the long-term market would have to force borrowers to lower their bond prices thus increasing the bond yield, while the excess demand in the short term market would cause bond prices to increase and rates to fall inducing some corporations to finance their long-term assets by selling short-term claims. Ultimately, equilibrium in both markets would be reached with long-term rates higher than short-term rates, a premium necessary to compensate investors and borrowers for the risk they’ve assumed.

As an explanation of term structure, the preference habit theory would suggest that yield curves are positively sloped if investors on the average, prefer short-term to long-term investment and borrower prefer long to short investment.
2.2.3 Liquidity Preference Theory

According to this theory investors will always prefer short-term securities to long term securities. To encourage them hold long term bonds, long term bonds should yield higher interest than short term bonds. The yield curve therefore will always be upward sloping. Long term bonds normally yields more than short-term bonds for two reasons; Investors generally prefer to hold short term securities because such securities are more liquid since they can be converted into cash with little danger of loss of principal hence other things constant, investors will accept lower yields on short-term securities; At the same time borrowers react in the opposite way, they generally prefer long term debts to short-term debts because short-term debt exposes them to the risk of having to repay the debt under adverse condition.

A hypothesis about the term structure of interest rates (the relationship between interest rates and term to maturity) holds that investors demand a premium for bearing interest rate risk and the extend of the premium increases with term to maturity but at a decreasing rate. The two reasons behind the decreasing rate of interest are that duration, a measure of bonds price sensitivity to interest rate changes, increases at a decreasing rate with term to maturity and that long term interest rates are typically less volatile than short-term interest rates (Tennant, 2006)

Commercial banks determine the interest rate in the credit market by marking up the banks base rate and then supply credit at this rate to those borrowers whom they consider to be credit worthy. Banks are therefore price makers and quantity takers within the limits given by credit worthiness. The commercial banks mark-up on the base rate is determined
by their risk and liquidity considerations and also by the degree of competition in the commercial banking sector. In this approach, liquidity preference determines the structure of interest rates and not the level of interest rates. The commercial bank’s liquidity preference is a determinant of the mark-up and hence the spread between the base rate and the market rate of interest. If the liquidity preference and risk considerations of commercial banks and hence, their mark-ups remain constant, the Central Bank interest rate setting in the base money market also determines the market rate of interest in the credit market (Smith, 2003)

Under these conditions, changes in the base rate and in the credit market rate of interest are due to changes in the monetary policy stance. Changes in the central bank base rate will therefore also shift the credit supply curve and affect credit demand and hence real economic activity finance by credit. However if commercial bank liquidity and risk considerations or the degree of competition and hence their mark-ups change in the face of a changing base rate of interest, monetary policy may not be able to determine the credit market rate of interest directly. An increasing base rate of interest will always trigger an increasing credit market rate, because commercial banks have to recover costs of refinancing and have to gain (minimum) profits, but a decreasing base rate may not be followed immediately by a falling credit market rate, if commercial banks liquidity and risk premium increase due to rising uncertainty or if banks profit aspirations increase.

2.2.4 Market Segmentation Theory

Market segmentation theory states that investors and borrowers have strong maturity preferences that they try to attain when they invest in or issue fixed income securities. As
a result of these preferences, the financial markets, according to market segmentation theory, are segmented into a number of smaller markets, with supply and demand forces unique to each segment determining the equilibrium yields for each segment. Thus according to market segmentation theory, the major factors that determine the interest rate for a maturity segment are supply and demand conditions unique to the maturity segment. For example, the yield curve for high quality corporate bonds could be segmented into three markets: short-term, intermediate-term, and long-term.

The supply of short-term corporate bonds, such as commercial paper, would depend on business demand for short-term assets such as inventories, accounts receivables, and the like, while the demand for short-term corporate bonds would emanate from investors looking to invest their excess cash for short periods. The demand for short-term bonds by investors and the supply of such bonds by corporations would ultimately determine the rate on short-term corporate bonds. Similarly, the supplies of intermediate and long-term bonds would come from corporations trying to finance their intermediate and long-term assets (plant expansion, equipment purchases, acquisitions, etc.), while the demand for such bonds would come from investors, either directly or indirectly through institutions (e.g., pension funds, mutual funds, insurance companies, etc.), who have long-term liabilities. The supply and demand for intermediate funds would, in turn, determine the equilibrium rates on such bonds, while the supply and demand for long-term bonds would determine the equilibrium rates on long-term debt securities.

Important to market segmentation theory is the idea of unique or independent markets. According to market segmentation theory, the short-term bond market is unaffected by rates determined in the intermediate or long-term markets, and vice versa. This
independence assumption is based on the premise that investors and borrowers have a strong need to match the maturities of their assets and liabilities. Moreover, according to market segmentation theory, the desire by investors and borrowers to avoid market risk leads to hedging practices that tend to segment the markets for bonds of different maturities.

2.3 Empirical Review

Fridah (2011) states that majority of commercial banks had their lending rates varying. Prudential regulation, bank supervision and better contract enforcement are the most influencing factors of commercial banks lending rates. She also states that interbank rate, competition among interbank rate, credit risk premium due to various risks, (including interest risk, credit risk, foreign exchange risk and legal risk) demand and supply as well as industry trend also influenced determination of lending rate of commercial banks. Finally the cost of loans increases non-performing loans in Kenya as high cost of loans influenced commercial banks raising the lending rates to the customers making the loan to be expensive and difficult to repay for a period of three months resulting to non-performing loans.

Ngugi (2001) analyzed the interest rates spreads in Kenya from 1970 to 1999 and found that interest spread increased because of yet-to-be gained efficiency and high intermediate costs. Increase in spreading in the post liberalization periods was attributed to the failure to meet the prerequisites for successful financial reforms, the lag in adopting indirect monetary policy tools and reforming the legal system and bank’s efforts to maintain threatened profit margins from increasing credit risk as the proportion of non-
performing loans. She attributed the high non-performing loans to poor business environment and distress borrowing, owing to the lack of alternative sourcing for credit when banks increased the lending rate and the legal system in enforcement of financial contracts. According to her findings, fiscal policy actions saw an increase in Treasury bills rates and high inflationary pressure that called for tightening of monetary policy. As a result banks increased their lending rates but were reluctant to reduce the lending rate when the Treasury bill rate came down because of the declining income from loans. He found out that for Kenya, rising inflation resulting from expansionary fiscal policy, tightening of monetary policy, yet-to-be realized efficiency of banks and high intermediate costs explained interest rate spreads.

Kibe (2003) in his research to find out the relationship between interest rate spread and profitability of commercial banks in Kenya found out that interest spreads account for 40 percent of the total variations in profitability of commercial banks and hence banks should not focus more on large spreads as this is not the major income earner as per the results. Interest rate spread is defined by market micro-structure characteristics of the banking sector and the policy environment. Ho and Saunders (1998) differentiate between pure spread and the actual spread and observe that pure spread is a microstructure phenomenon, influenced by the degree of bank risk management, the size of the bank transactions, interest rate elasticity and interest rate variability. Actual spread, which incorporates the pure spread, is in addition influenced by macro-economic variables including monetary and fiscal policy activities.

Commercial banks determine the interest rate in the credit market by marking up the banks base rate and then supply credit at this rate to those borrowers whom they consider
to be credit worthy. Banks are therefore price makers and quantity takers within the limits given by credit worthiness. The commercial banks mark-up on the base rate is determined by their risk and liquidity considerations and also by the degree of competition in the commercial banking sector. In this approach, liquidity preference determines the structure of interest rates and not the level of interest rates. The commercial bank’s liquidity preference is a determinant of the mark-up and hence the spread between the base rate and the market rate of interest. If the liquidity preference and risk considerations of commercial banks and hence, their mark-ups remain constant, the Central Bank interest rate setting in the base money market also determines the market rate of interest in the credit market (Smith 2003).

Green (1986) in their study of effects of interest on mortgage prepayments found out that market interest rate are a significant determinant of prepayment probabilities. They found out that where the due-on—sale clause was applicable (meaning that the lender could claim the face value of the mortgage if the borrower sells the residence. If interest rates are lower than the contracted rate of the mortgage at the time of the sale, the option of the lender will not be enforced. However, if the prevailing rate is higher than the contracted rate, the homeowner is forced to give up a below—market loan should he sell the house. This sacrifice or "lock—in" presumably affects the likelihood of selling and therefore the effective expected maturity of the mortgage asset and its value.) their information indicated that a ten percent lock—in reduces prepayment probabilities 35 percent. If the clause cannot be enforced, the reduction in probability becomes 63 percent. Both of these effects would be eliminated if mortgages had floating interest rates. Their analysis indicates that the rules regarding due—on—sale clauses significantly affect the value of
mortgage portfolios, possibly enough in some circumstances to wipe out the net worth of savings and loan institutions. They also found that the average age to prepayment is highly dependent on interest rates.

Bernanke (2010) through his report on monetary policy and the housing bubble said that the most important source of lower initial monthly payments, which allowed more people to enter the housing market and bid for properties, was not the general level of short-term interest rates, but the increasing use of more exotic types of mortgages and the associated decline of underwriting standards. That conclusion suggested that the best response to the housing bubble would have been regulatory, not monetary. He recommended stronger regulation and supervision aimed at problems with underwriting practices and lenders’ risk management would have been a more effective and surgical approach to constraining the housing bubble than a general increase in interest rates. He also noted that economists have pointed out the practical problems with using monetary policy to pop asset price bubbles. Although the house price bubble appeared obvious in retrospect—as all bubbles appear obvious in retrospect—in their earlier stages, economists differed considerably about whether the increase in house prices was sustainable; or, if it was a bubble, whether the bubble was national or confined to a few local markets. Finally he stated that monetary policy is also a blunt tool, and interest rate increases in 2003 or 2004 sufficient to constrain the bubble could have seriously weakened the economy at just the time when the recovery from the previous recession was becoming established.

The Central Bank of Kenya through baseline survey conducted in June 2010 on mortgage finance in Kenya found out that the size of the mortgage had been increasing from 19.5 Million in 2006 to 61.4 Million as at May 2010. The number of mortgage loan accounts
also increased from 7,257 in 2006 to 15,049 as at May 2010. The average mortgage loan increased from 2.5 Million in 2006 to 4 Million as at May 2010. They also found out that the increased mortgage size was attributed to the expensive housing market, predominance of high-income mortgage borrowers and housing finance market yet to move downstream. The average mortgage rates charged were high and most of the mortgage loans were on variable interest rates (over 70 percent) and this had a huge risk component. For them to expand the mortgage market they had to minimize the following fees charged on mortgages i.e. legal fees, valuation fees, arrangement fees, stamp duty and mortgage policy protection premium. Even though there were ongoing initiatives to reduce some of the obstacles in the mortgage market as access to long term fund, high credit risk due to absence of credit history, financial education and enhanced disclosures the key challenge was how to solve the variable component of the interest rate.

2.4 Central Bank Base Rate

Interest rate is the rate of return on investment and the cost of borrowing funds. The interest rate is the price one pays for using borrowed money (loans). Money creates claims because it is an asset, a store of value as well as a medium of exchange. Therefore those who lend money expect to be compensated for handling over their claims for the period of the loans to those who borrow the money. This interest rate also covers exposure to credit risk by the lenders. Therefore interest rate can be defined as the price lenders expect (and borrowers pay) for exchanging current claims to goods and services. The supply and demand for money in the market determines the interest rate. In Kenya the short-term interest are indicated by the rate on treasury bills while the long term interest rate are indicated by the interest rate on long term bonds. The short-term rates are
averaged lower than long-term rates but have higher fluctuations. According to Darryl (1969), interest rates are a price for the use of funds and if rapid monetary expansion contributes to excessive demand and inflation, it also contributes to rising interest rates.

Central Bank’s role under the interest rate instrument is to set a short-term official rate of interest, which indicates the price at which it will make liquidity available to the banking system as a lender of last resort and this rate is called the Central Bank Rate. Section 36 (4) of the Central Bank of Kenya Act stipulates that the Central Bank shall publish the lowest rate of interest it charges on loans to banks and that shall be known as the Central Bank Rate (CBR). The level of the CBR is reviewed and announced by the Monetary Policy committee (MPC) at least every two months and its movements, both in direction and magnitude, signals the monetary policy stance.

The CBR is the base for all monetary policy operations in order to enhance clarity and certainty in monetary policy implementation. Usually, the central bank benchmark interest rate is the overnight rate at which central banks make loans to the commercial banks under their jurisdiction. Moving the benchmark interest rate, the central bank is able to make an impact on interest rates of commercial banks, inflation level of the country and national currency exchange rate. Reduction of interest rates should bring increase in business activity, a rise in inflation rate and weakening of national currency. In case of increase in interest rates the level of business activity is likely to drop, inflation declines and national currency strengthens. Inflation stabilization can be implemented by interest rate adjustment in response to output and inflation and this is done by the Central Bank setting a target inflation rate and then the interest rate are steered to move inflation to its targeted level. A reduction in the rate encourages commercial banks to borrow more
from Central Bank and hence increasing money supply in the market while an increase in the rate will discourage commercial banks from borrowing hence reducing money supply in the market and this puts inflation at check.

2.5 Mortgage Rate

A mortgage is a secured loan you apply for that covers the amount you wish to borrow in order to pay for the house you wish to buy. Like all loans a mortgage has a repayment term, interest rate and monthly repayments to be met and paid for. You can also remortgage your property without moving home if you want to change lenders or move to another product. The interest rate on a mortgage loan is the mortgage rate. There two basic types of mortgage rates are the fixed and variable rates. In the fixed rate mortgage, the interest rate and the periodic payments remains constant for the life of the loan. In a variable rate mortgage, the interest rate is generally fixed for a period of time after which it will periodically adjust up or down to the market index. This study investigates the variable mortgage rate against the central bank of Kenya rate.

2.6 Conclusion

Studies on Interest rates have been conducted in developed and developing countries. However, the majority of the studies concentrated on effects of interest rates and financial performance of commercial banks and the risks associated with large loan defaults when interest rates rise. The literature also indicates that the average mortgage rates charged were high and most of the mortgage loans were on variable interest rates (over 70 percent) and this had a huge risk component. However, even though there were ongoing initiatives to reduce some of the obstacles in the mortgage market as access to long term
fund, high credit risk due to absence of credit history, financial education and enhanced disclosures the key challenge was how to solve the variable component of the interest rate and its effects on the mortgage. This study pursues to establish the effects of the Central Bank of Kenya base rate fluctuations on average mortgage rates.
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the general methodology to be used to conduct the study. It specifies the research design, target population, data collection method, data analysis, data viability and data validity.

3.2 Research Design

A research design is a plan, structure and strategy conceived so as to obtain answers to research questions. It provides a framework for planning and conducting a study. The descriptive research methodology was adopted in this study. The methodology is most preferred because the study used quantitative statistical data to describe the effects of interest rate variations on mortgage rates.

3.3 The Population

Cooper and Emory (1995) define population as the total collection of elements about which the researcher wishes to make some inferences. Element is the subject on which the measurement is being taken and is the unit of study according to Cooper and Shindler (2003). The population of interest in the study consisted of all commercial banks registered and licensed under the banking act and were in existence as at 31st Dec 2012. This was because the average mortgage rate has to be found by getting an average from
all the banks offering mortgage in the financial market. The period of study was between 2012 to 2013.

3.4 Data Collection Method

The study was based wholly on secondary data available in form of published bulletins and other publications from the Central Bank of Kenya for the period under study and from the various commercial banks record, The Mortgage Company (TMC) and the Kenya Bankers Association (KBA).

3.5 Data Analysis

The data was analyzed through coding in a spreadsheet where the researcher used descriptive statistics to present the rates of independent variables in tables and charts. A regression was run to determine the coefficients of the independent variables in relation to the dependent variable. This was done with the aid of the Statistical Package for Social Sciences (SPSS). This helped the researcher to establish the impact of the independent variable to the dependent variable. The results of the findings were later presented in the form of tables for easy interpretation and understanding.

A simple regression model was used:

\[ Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i \]

Where:

\( Y_i \) – Represents the Average Mortgage Rate in the market

\( \beta_0 \) – the \( Y \) intercept
\( \beta_1 \) – Represents the slope of the population

\( X_i \) – Represents The Central Bank of Kenya Base Rate

\( \varepsilon_i \) – Random error in Y observations

\( Y_i \) (Average Mortgage Rate) will be determined by adding all the mortgage rates in the market and then dividing with the number of banks offering the mortgage rates to get the average.

\( X_i \) (Central Bank of Kenya Base Rate) will be got by taking the monthly values of the CBR as released by the Central Bank of Kenya.

### 3.6 Data Validity and Viability

The data was valid for the study as we will able to get a regression to determine the coefficients of the independent variables in relation to the dependent variable. This has been done with the aid of the Statistical Package for Social Sciences (SPSS). Also the data has helped in the determination of the correlation of central bank interest rate and average mortgage rate. The sources are legitimate.

The data was also viable as it was possible to collect the data from the various sources hence making the study practicable and feasible.
CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

The data analysis was guided by the research objectives presented in chapter one. The body of the report only contains information that directly relates to the study. The main method used for data analysis is regression analysis.

This study heavily relies on the Statistical Package for Social Sciences (SPSS). The package has been used for regressing Average Mortgage Rate in the market (Y) as the dependent variable and The Central Bank of Kenya Base Rate as the independent variable. Correlation tests were carried out between dependent variable (Y) and the independent variable (X) to determine the relevance of each of the variables. The analysis further carries out analysis of variance of the data presented.

4.2 Data Presentation

4.2.1 Mortgage Rates

The Mortgage rates for the period under study was got from The Mortgage Company (TMC). Banks normally do change the mortgage rates based on various factors after some specified period of time hence the mortgage rates taken were quarterly values as opposed to monthly values as the quarterly values do show rates that have stabilized in the market for some period of time. Fifteen commercial banks and one licensed mortgage finance company were taken in the study as they represent the more than 60% of the Mortgage loan givers in the market. The raw data is represented as in the below table.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BARCLAYS BANK</td>
<td>21.9</td>
<td>21.9</td>
<td>15.5</td>
<td>15.5</td>
<td>15.5</td>
<td>15.5</td>
</tr>
<tr>
<td>CO-OPERATIVE BANK</td>
<td>23.25</td>
<td>23.25</td>
<td>19.25</td>
<td>19.25</td>
<td>15.75</td>
<td>15.75</td>
</tr>
<tr>
<td>STANDARD CHARTERED</td>
<td>19.9</td>
<td>19.9</td>
<td>16.9</td>
<td>15.9</td>
<td>15.9</td>
<td>12.9</td>
</tr>
<tr>
<td>BANK</td>
<td>24</td>
<td>24</td>
<td>18</td>
<td>16</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>I&amp;M BANK</td>
<td>19</td>
<td>19</td>
<td>18</td>
<td>17.5</td>
<td>16.5</td>
<td>16.5</td>
</tr>
<tr>
<td>CFC STANBIC BANK</td>
<td>24</td>
<td>24</td>
<td>18.5</td>
<td>17</td>
<td>17</td>
<td>13.5</td>
</tr>
<tr>
<td>BANK OF AFRICA</td>
<td>22</td>
<td>22</td>
<td>19</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>CBA</td>
<td>24</td>
<td>24</td>
<td>19</td>
<td>17</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>FAMILY BANK</td>
<td>24.5</td>
<td>24.5</td>
<td>19.5</td>
<td>17.5</td>
<td>17.5</td>
<td>18</td>
</tr>
<tr>
<td>HFCK</td>
<td>23</td>
<td>23</td>
<td>18</td>
<td>18</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>NATIONAL BANK</td>
<td>22</td>
<td>22</td>
<td>22</td>
<td>18</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>CONSOLIDATED BANK</td>
<td>25</td>
<td>25</td>
<td>20</td>
<td>20</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>DIAMOND TRUST BANK</td>
<td>24</td>
<td>24</td>
<td>19</td>
<td>19</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>NIC BANK</td>
<td>24</td>
<td>24</td>
<td>19.5</td>
<td>19.5</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>EQUITY BANK</td>
<td>24</td>
<td>24</td>
<td>21</td>
<td>18</td>
<td>20</td>
<td>18</td>
</tr>
<tr>
<td>CHASE BANK</td>
<td>24</td>
<td>24</td>
<td>22</td>
<td>18</td>
<td>22</td>
<td>18</td>
</tr>
</tbody>
</table>

Table 1.0: Showing the various Mortgage Rates in the market

### 4.2.2 Central Bank of Kenya Base Rate

The Central Bank of Kenya Base Rate rates for the period under study was got from Central Bank of Kenya. The rates are normally changed by CBK after an interval of time based on factors like controlling inflation in the country to either increase or decrease money circulation in the market. The raw data is presented in the table next page.
<table>
<thead>
<tr>
<th>CBK Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month, Year</td>
</tr>
<tr>
<td>Sep, 2013</td>
</tr>
<tr>
<td>Jul, 2013</td>
</tr>
<tr>
<td>May, 2013</td>
</tr>
<tr>
<td>Mar, 2013</td>
</tr>
<tr>
<td>Jan, 2013</td>
</tr>
<tr>
<td>Nov, 2012</td>
</tr>
<tr>
<td>Sep, 2012</td>
</tr>
<tr>
<td>Jul, 2012</td>
</tr>
<tr>
<td>Jun, 2012</td>
</tr>
<tr>
<td>May, 2012</td>
</tr>
<tr>
<td>Apr, 2012</td>
</tr>
<tr>
<td>Mar, 2012</td>
</tr>
<tr>
<td>Feb, 2012</td>
</tr>
<tr>
<td>Jan, 2012</td>
</tr>
</tbody>
</table>

Table 2.0: Showing the various Central Bank of Kenya Base Rates

4.2.3 Regression Results

The Average Mortgage rate was found by adding the quarterly results and then dividing by the number of institutions sampled. The Central Bank of Kenya Base Rate was also found for each quarter as the rates were already presented in quarters.

<table>
<thead>
<tr>
<th>Avg. Mortgage Rate</th>
<th>CBK</th>
</tr>
</thead>
<tbody>
<tr>
<td>23.034375</td>
<td>18</td>
</tr>
<tr>
<td>23.034375</td>
<td>18</td>
</tr>
<tr>
<td>19.071875</td>
<td>14.75</td>
</tr>
<tr>
<td>17.696875</td>
<td>11</td>
</tr>
<tr>
<td>17.696875</td>
<td>9.5</td>
</tr>
<tr>
<td>16.446875</td>
<td>8.5</td>
</tr>
</tbody>
</table>

Table 3.0: Average Mortgage Rate in the market with corresponding CBK Base rate
The regression output is summarized as follows:

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>N</td>
</tr>
<tr>
<td>AVG. Mort. Rate</td>
<td>19.49683</td>
<td>2.863001</td>
<td>6</td>
</tr>
<tr>
<td>CBR</td>
<td>13.2917</td>
<td>4.22024</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 4.0: Mean Base Lending Rate for both Avg. Mortgage Rate & CBK Base Rate.

From the data collected the Mean Base Lending Rate from the Central Bank of Kenya for the period under review was 13.29 with a Standard Deviation of 4.22 while the Mean Mortgage Rate in the market as applied by Commercial banks for the same period was 19.49683 with a standard deviation of 2.86.

<table>
<thead>
<tr>
<th>Correlations</th>
<th>AVG. Mort. Rate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson Correlation</td>
<td>AVG. Mort. Rate</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>CBR</td>
<td>.964</td>
</tr>
<tr>
<td>Sig. (1-tailed)</td>
<td>AVG. Mort. Rate</td>
<td>.</td>
</tr>
<tr>
<td></td>
<td>CBR</td>
<td>.001</td>
</tr>
<tr>
<td>N</td>
<td>AVG. Mort. Rate</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>CBR</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 5.0: Correlation coefficient table

With the analysis having established a Coefficient of 0.964; we can confidently conclude that there is a strong relationship between the Central Bank Base Rate and the Mortgage rates. This is also depicted in the below line graph.
NB: CBR-Central Bank Base Rate; CBMR-Commercial Banks Average Mortgage Rate.

Table 6.0: Line graph depicting the relationship between Commercial Banks Average Mortgage Rate and Central Bank Base Rate

The line graph above depicts the relationship between the CBR Base Rate and Mortgage rate. Whenever the CBR Base rate increases the Mortgage rate also increase and vice versa is also true.

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
<th>Change Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>.964*</td>
<td>.930</td>
<td>.912</td>
<td>.848505</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* a. Predictors: (Constant), CBR

Table 7.0: Coefficient of Determination table

From the Model Summary, analysis has shown approximately 93% (Coefficient of Determination of 0.93) of the data is closest to the line of best fit. This implies that 93%
of the total variation in Commercial Bank Mortgage Rates follow the linear relationship

\[ Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i. \]

7% of the total variations remain unexplained.

\[
\begin{array}{|c|c|c|c|c|c|c|}
\hline
\text{Model} & \text{Unstandardized Coefficients} & \text{Standardized}
\hline
\text{B} & \text{Std. Error} & \text{Coefficients} & \text{t} & \text{Sig.} & \text{95.0% Confidence Interval for B} & \text{Lower Bound} & \text{Upper Bound} \\
\hline
1 & \text{(Constant)} & 10.802 & 1.244 & & 8.681 & .001 & 7.348 & 14.257 \\
CBK & .654 & .090 & .964 & 7.275 & .002 & .404 & .904 \\
\hline
\end{array}
\]

Table 8.0: Table of Coefficients.

From the analysis of coefficients \( \beta_0 = 10.802; \beta_1 = 0.654; \varepsilon = 1.244. \) Thus the linear relationship \( Y_i = \beta_0 + \beta_1 X_i + \varepsilon_i \) becomes \( Y_i = 10.802 + 0.654X_i + \varepsilon_i. \) This would mean that even if the Central Bank Base Lending rate were to be set at zero, Commercial Banks would apply a Mortgage Rate not less than 10.802.

4.3 Summary and Interpretation of findings

From the data collected, and analyzed as in Table 4, the Mean Base Rate from the Central Bank of Kenya for the period under review was 13.29 with a standard deviation of 4.22 while the mean Mortgage Rate in the Market as applied by Commercial banks for the same period was 19.49683 with a standard deviation of 2.86.

As per Table 5, the analysis having established a Coefficient of Correlation of 0.964, we can confidently conclude that there is a strong relationship between the Central Bank Base Rate and The Average Mortgage Rate offered by commercial banks. This implies that whenever there is an increase in CBK Base rate, Mortgage offering commercial banks are more likely to increase their rates too and vice versa is true.
With a 93% Coefficient of Determination, this implies that 93% of the data analyzed is closest to the line of best fit. This implies that 93% of the total variation in Commercial Bank Mortgage Rates follow the linear relationship $Y_i=\beta_0+\beta_1X_i+\varepsilon_i$. 7% of the total variations remain unexplained hence can be representing the commercial banks that overcharging their mortgage rates. This can be seen by the fact that even though the Central Bank Base rate was 8.5% in Quarter 2:2013, some banks were still charging Mortgage rates as high as 19% while the best mortgage rate in the market at time were 12.9%. The 7% variation can also be explained by the other factors that were not considered in the study.

Finally, from Table 8, the analysis of coefficients $\beta_0 = 10.802$, $\beta_1 = 0.654$ and $\varepsilon_i = 1.244$. Thus the linear relationship $Y_i=\beta_0+\beta_1X_i+\varepsilon_i$ Becomes $Y= 10.802 + 0.654X_i + 1.244$. This would mean that even if the Central Bank Base Rate were to be set at Zero, the average mortgage rate that commercial banks would offer would not be less than 10.802%. This can be due to interbank rates, credit risk premium, industry trend and other internal costs. It also finds that the slope of the gradient is 0.654 showing that a unit change in the Central Base Rate above the 10.802% would cause a corresponding increase in the average mortgage rate in the market by coefficient of 0.654; this should be considered by the Central Bank every time they are adjusting the base rate. Finally, banks should ensure that their mortgage rates are within the range of positive or negative 1.244 the average industry mortgage rates as any value below or above that would mean that they are either over charging or under charging and may lead to effects like clients ignoring them when they overcharge or it may also mean that they are likely to make loses if they undercharge.
The above findings do compare with the industry norm as depicted by Quarter 1 in 2013 where the average mortgage rate was calculated to be 17.69688\%. As per the model, the most desirable range to operate would have been (16.45288\% – 18.94088\%). This was true as 11 banks of the 16 sampled had their interest rates between 16\% and 19\%. Only 3 banks had their mortgage rates below 16\% and two banks had their mortgage rates above 19\% among the sampled banks.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The principal focus of this study was to determine the effects of Central Bank Base Rate on Mortgage Rates of Commercial Banks in Kenya. These objectives were achieved through regression analysis. The target population of this study was all commercial banks offering mortgage loans to clients. 16 institutions were sampled and the study used secondary data. Secondary data was taken from articles, commercial banks, Central Bank of Kenya and the Mortgage Company. The study utilized the SPSS software to do the analysis as this involved quantitative analysis. A regression analysis was also performed on the variables to determine the coefficients of the research model.

Overall, the results of the analysis discussed in the preceding chapter revealed that the average mortgage rate in the market is greatly affected by the changes in the Central Bank Base rate. For a unit increase in the Central Bank Rate, there is a corresponding increase in the average Mortgage Rate by a factor of 0.654 above the 10.802% an error term of 1.244 on the results.

The analysis gave a high coefficient of correlation of 0.964 showing a strong relationship between Central Bank Base Rate and The Average Mortgage Rate in the market. A 93% Coefficient of Determination was got from the data implying that 93% of the total variations in Average Mortgage Rates follow the linear relationship.
5.2 Conclusions

Though the Central Bank of Kenya supports the determination of interest rates by market forces, it expects the interest spread to be narrowed by market disciplines but the spreads remain relatively high. Since the liberalization of interest rates charged by banks in 1990’s, huge spreads have been witnessed in several instances. The increased volatility of the Central Bank Base rate in the year 2012 had huge effects upon the average mortgage rate in the market and by extension the housing industry and financial institutions.

The research was conducted with an aim to determine the effects of Central bank Base Rate on Mortgage Rates of commercial banks in Kenya. This was done by collecting data of various mortgage rates for the period under study and various Central Base Rates for the same period. The data was analyzed and results found. The objectives were met as were able to determine the effects of Central Bank Base Rate on Mortgage rates of commercial banks.

In the regression model specified, the average mortgage rate in the market offered by commercial banks is clearly a function of the Central Bank Base Rate. Even though there may be other factors that have not been considered in the study, but form the results we can clearly see that the objectives were met. Banks should always try to make their mortgage rate be within the liner relationship found from the analysis or else they will lose customers if they over charge their mortgage rates as the clients will be moving to other banks that offer lower rates. If banks under charge, they will be risking as they may not be able to sustain the low rate for a considerable period of time as market forces will push their rates to be within the equation.
5.3 Policy Recommendations

The findings of the research paper have implications on all stakeholders in the banking industry and the housing industry. The Central Bank consider the trickledown effect of their actions when they increase or decrease the Central Bank Base Rate as this will have a direct impact on the Average Mortgage Rate in the market. They may make owning of houses to be out of reach of many citizens as they will be afraid to take mortgage when the rates are too high and will take more mortgages when the rates are too low. This will help in the realization of Vision 2030 of affordable cheap housing to Kenyan citizens when the mortgage rates are low.

Banks should also consider the mortgage rates that they offer to the market if they conform to the regression model analyzed above. If they peg their mortgage rate at a mark that is too high, they risk losing clients as they will move to other banks that are offering mortgage rates that are within the acceptable range as per the regression model. If the banks offer mortgage rates that are too low as compared to the regression model then they will not be able to sustain it longer as market forces will make them change their rates to the acceptable range.

Home buyers and property owners should consider the regression model when they are applying for loans as this may give them a guide of the current average mortgage rate in the market hence making them get informed so as not to be exploited by commercial banks that want to rip them off their money.
5.4 Limitations of the study

Most of the commercial banks started offering mortgage towards the end of 1990’s as they were offering normal loans to their clients who needed money to buy houses. This made data for the previous year’s not to be available.

Availability of the mortgage rates of the banks that offered mortgages for the previous years was difficult to get as there is no place that they are usually recorded for the public to get them easily. This made the period under study to be reduce to just a couple of years due to availability of data. The study would have been more comprehensive if a longer period was covered.

The study was conducted within the constraint of time and resources and therefore, other issues inherent in such a broad study could not be addressed adequately.

The Mortgage rates of various commercial banks do change at different times of the year and this may overlap from one quarter to another or may change two to three times in a quarter therefore the issues that arise to use of such data was also a limiting factor of the study.

5.5 Suggestions for further studies

A study of other factors that influence the Mortgage Rates in the market other than the Central Bank Base Rate remains a largely unexplored territory. In the course of this study, several gaps were identified for further research.
A researcher can conduct the same study using monthly data of Mortgage Rates. This will enable the behavior of the effects of the Central Bank Base Rate on Mortgage Rate to be understood further.

The study can also be done by including more parameters in the model so as to try and see the effects that would cause on the final regression model.

The same research can also be done using the lending rates of commercial banks as opposed to mortgage rates to try to compare the results.
REFERENCES


APPENDICES

LICENSED COMMERCIAL BANKS IN KENYA

1. African Banking Corporation Ltd.
2. Bank of Africa Kenya Ltd
3. Bank of Baroda (K) Ltd
4. Bank of India
5. Barclays Bank
6. CFC Stanbic Bank
7. Charterhouse Bank Ltd
8. Chase Bank (Kenya) Ltd
9. Citibank N.A Kenya
10. Commercial Bank of Africa Ltd
11. Consolidated Bank of Kenya Ltd
12. Cooperative Bank of Kenya Ltd
13. Credit Bank Ltd
15. Diamond Trust Bank Kenya Ltd
16. Dubai Bank Kenya Ltd
17. Ecobank Kenya Ltd
18. Equatorial Commercial Bank Ltd
19. Equity Bank Ltd
20. Family Bank Limited
21. Fidelity Commercial Bank Ltd
22. Fina Bank Ltd
23. First Community Bank Ltd
24. Giro Commercial Bank Ltd
25. Guardian Bank Ltd
26. Gulf African Bank Ltd
27. Habib Bank A.G Zurich
28. Habib Bank Ltd
29. I&M Bank Ltd
30. Imperial Bank Kenya Ltd
31. Jamii Bora Bank Ltd
32. Kenya Commercial Bank Ltd
33. K-Rep Bank Ltd
34. Middle East Bank Kenya Ltd
35. National Bank of Kenya Ltd
36. NIC Bank Ltd
37. Oriental Commercial Bank Ltd
38. Paramount Universal Bank Ltd
39. Prime Bank (Kenya) Ltd
40. Standard Chartered Kenya Ltd
41. Trans National Bank Ltd
42. United Bank for Africa Ltd
43. Victoria Commercial Bank Ltd

**LICENCED MORTGAGE FINANCE COMPANIES**

1. Housing Finance Ltd

(Source: Central Bank of Kenya, 2013)