THE RELATIONSHIP BETWEEN INTEREST RATES AND NON PERFORMING LOANS IN COMMERCIAL BANKS IN KENYA

BY

Tireito, James Kibet

D61/75345/2009

A Research Project Submitted in Partial Fulfillment of the Requirements for the Award of the Degree of Master in Business Administration, School of Business, University of Nairobi

NOVEMBER 2012

DECLARATION

I declare that this is my original work and has not been submitted in any University for the award of any degree.

Student **Tireito James Kibet** **Date ……**

This research project has been submitted for examination with my approval as the University supervisor.

Supervisor **Mr. Herick . Ondigo** **Date ……...**

Lecturer, Department of Finance and Accounting

School of Business

University of Nairobi

DEDICATION

I dedicate this project to my dear wife Daisy and my lovely daughters Millie and Michelle for the patience, love and encouragement as I pursued the project.

ACKNOWLEDGEMENT

First and foremost I wish to acknowledge my supervisor Mr. Herick Ondigo for his patience as he guided me through the whole project. I am certain that this research could not have been possible had he not worked harder to guide me.

I also wish to acknowledge the various bank managers and officials who offered me their time and provided me with the necessary data that I required. By extension I wish to acknowledge the various Financial Institutions whose data have been used in the project. I am deeply indebted to all of you.

My further acknowledgement goes to my employer for providing me with the ample time to work on my project. I know quite well that it's not easy to always take even a day off to pursue a personal endeavor.

Finally to all the lecturers at the University of Nairobi who contributed in one way or another in my success throughout this course – I am most grateful

ABSTRACT

Kenya has experienced a rising interest rate regime over the past few years. As a results, commercial banks have continued to increase the rate of interest charge on facilities taken with them .Those taking new facilities together with those already having a facility have had to content with additional funds demanded by banks inform of increased monthly installments .The public outcry has been loud and the government have been urged to intervene in many instances. The aim of this research therefore was to determine if there exists a relationship between interest rate and the level of non-performing loans as reflected in the books of the various commercial banks in Kenya. The researcher wanted to find out how the loanees had been affected by the increased installments arising from the interest rate change.

The study involved collecting financial statements for the various banks and analyzing them to determine if there is any relationship between interest rates and non-performing loans. As a consequent, data for the past five years (2007-2011) was analyzed with the help of SPSS statistical software and the results presented in form of correlations, regression and coefficients. Test of significance were further carried out.

The results showed that there was no significant relationship between interest rate and non-performing loans in commercial banks in Kenya. For academia, the researcher recommends a research which takes into account all variables that affects Non-Performing loans and determines which one among them is the most significant.

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LIST OF ABBREVIATIONS

CBK-Central Bank of Kenya

CB-Central Bank

MPC-Monetary Policy Committee

CBR-Central Bank Rate

NPL-Non -Performing Loans

GDP-Gross Domestic Products

NSE-Nairobi Security Exchange

IPO-Initial Public Offer

US-United States

KNBS-Kenya National Bureau of Statistics

MBA-Master in Business Administration

UON-University of Nairobi

KCB-Kenya Commercial Bank

IAS-International Accounting Standards

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

The high interest rates in Kenya are distressing. If the situation persists, the economy will be hit hard in the long run. Recent volatility in the interest rates, inflation, and currency exchange rates poses a real danger to economy stability and growth. Inflation rose from 4.51 percent in January 2011 to about 18.7 percent by December 2011.The CBK had to intervene by raising the CBR to 11 percent in October 2011.In November, the rate was to 16.6 percent and eventually settled at 18 percent by year end. As expected, the reaction from commercial banks was fast-the base lending rates were increased to between 20 and 25 percent. Depending on the risk assessment of the borrowers, this rate may reach 30 percent at the moment. High interest rates discourage borrowing and spending almost in equal measure. The net effect is a slowdown of the economic growth. Such scenarios hurt investments, innovations, consumption, and savings. High interest rates also increase loan default and slow down credit update.

1.1.1 Interest Rates

Interest rate spread constitutes a bank profit. For instance there is a spread between the rate which banks are prepared to lend (offer rate) and the rate at which they are willing to pay to attract deposits (bid rate). According to Lasher (2008), high interest rates tend to stifle economic activities, while low interest rates tend to promote it. This, he alleges is

because majority of people and business alike do most of their activities on credit. He explained interest rates as being determined by the forces of supply and demand in a perfect market, whereby in the financial institutional context, supply represents lenders of funds and demand borrowers of fund. Accordingly, the prices at which the lenders are willing to lend their money and borrowers borrow constitute the interest rate. Lasher (2008) observes interest as having two components ,base rate which is the rate at which people lend money when there is no risk involved in the loan and risk premium which is the extra interest demanded by lenders for making risky loans.

1.1.2 Non-performing Loans

Reilly (1997) defines a non-performing loan as a financial portfolio that has been advanced for which the borrower is experiencing difficulties in repayment in line with the agreed terms.

Ochola (2009) defines non-performing loans as loans which for a relatively long period of time do not generate income. Casu, Giradone and Molyneux (2011) defines Non- performing Loans as loans which debtors have failed to make contractual payment for a predetermined time. CBK defines non-performing loans as loans which the principle and interest has not been paid over three months from the due date specified in the contract (CBK website).

Non-performing loans can be treated as undesirable output or cost to a loaning bank, which decreases the banks performance (Gaitho, 2010).According to Gaitho (2010), the risks of non-performing loans normally arise as external environment becomes worse off such as economic depression. He advises that controlling non-performing loans is very

important for both the performance of an individual bank and economy's environment. The nature of business of commercial banks exposes them to the risk of default by borrowers (Gaitho, 2010).

Since there is no specific definition of what constitute a non-performing loans we shall, for the purpose of this research use the definition from the CBK which defines non-performing loans as loans which has not been repaid for over three months from the due date specified in the contract.

1.1.3 Relationship between Interest rates and Non-performing loans

Howells (2008) examines the impact on the economy of changes in the official rate of interest-the interest that CB does use. Accordingly, Howells (2008) concludes that an increase in interest rates; makes savings from current income more attractive; increases repayment of existing floating- rate debt and thus lowers disposable income ,with possible loan default; increases the cost of goods obtained on credit; lowers the prices of financial assets and hence influence estimates of private sectors wealth and lowers house prices.

1.1.4 Commercial Banks in Kenya

Commercial Bank is a bank which accepts deposits, offers loans and other related services. According to information available in the Central Banks website, Kenya had 43 licensed commercial banks and 1 mortgage financial institution as at 13th December 2011, Full list in Appendix 2.

Commercial banks charge interest on loans and advances and similarly pay interest on deposits received. The net, interest rate spread constitute their profit. They are does in-

termediaries. According to Cecchetti (2008), interest rate is rental fee that borrowers must pay to lenders to compensate for lost opportunities. Interest rates are quoted as a percentage of money borrowed.

Central bank (CB) of a country is responsible for determining the interest rates that commercial banks charge. According to Kidwell (2008), the CBR is one of the most closed watched interest rates in the economy. The market for CB funds, according to Kidwell (2008) consists of the borrowing and lending of overnight reserves among large banks and financial institutions on an unsecured basis. It is interbank lending rate and represents the primary role of short-term loanable funds. Accordingly, CBR is of particular interest because it measures the return on the most liquid of all financial assets (bank reserves), it is closely related to monetary policy and it directly measures the available reserves in the banking system, which in turn influences commercial banks decision on making loans to consumers, business or other borrowers. Cecchetti (2008) identifies a simple formula, *Taylor rule,* used by Central Banks to estimate the interest rates. Target CBR=2 ½+current inlation+1/2(inflation gap) +1/2(output), Where the expression assumes a long term real interest rate of 2 ½ percent, which is added to current inflation, inflation gap, add output gap. The inflation gap is current inflation minus an inflation target, both measured as percentage; output gap is current GDP minus potential level-what the economy is capable of producing at normal rates.

1.2 Research Problem

High interest rate changes have impacted negatively in the growth of the economy. Apart from negating the growth, there is also a high chance of default among the borrowers due

to apparent increase in the interest payable from their loans. Despite all the models and controls put in place by financial institutions in measuring credit risk, the level of non-performing loans has continued to increase, thus posing a great danger to the financial system in Kenya (Omagwa, 2005).

Over time, the monetary policy have undertaken a gradual tightening of the monetary policy to reign in on inflationary pressures and stabilize the exchange rate by raising the CBR from 6.25 percent in May 2011 to 18 percent in December 2011.The upward adjustments of the CBR prompted the commercial banks to raise interest rates thereby reducing liquidity in the market. Performance of the stock also slowed down during the year as reflected by the NSE 20 share index that dropped by 1228 points to stand at 3205 points as at December 2011. On the global scene, the high international oil prices and uncertainties in Europe associated with the potential Greek debt default affected the Kenya shillings which depreciated to an all-time low. The general effect of this is a depressed economy and reduction in the real value of disposable income. The researcher therefore hopes to find out the relationship between interest rates and non-performing loans. The research is informed by the fact that with the level of income remaining the same and the cost of living rising, there is bound to be default in loan repayment amongst many individuals as they try to balance their survival needs and the harsh external environment as reflected by the rising cost of living. It is against this backdrop that the researcher decided to carry out the research. Lot of changes took place in the Kenyan economy and the world at large over the past few years that its effect can only be seen with actual research being carried out. As shown in the appendix 1, the average rate of interest, as determined by the CBK rose from5.75% in January 2011 to 18% at the end of the year (December

2011).This is more than 300%.The situation is exasperated by the euro crisis and the Arab uprisings.

Ongweso (2005) carried out a study on the relationship between interest rates and non-performing loans. The study covered the period 2000-2004.The findings indicated a declining trend of average interest rates ranging from 12.00% in 2000 to 2.96% in 2004, does indicating improved macro-economic variables over the period. Further the level of non-performing loans on average declined for all the commercial banks for the period under review. Although the study found out a positive relationship between the level of interest and non-performing loans, whereby an increase in interest rates increased non-performing loans, a test of significance however revealed a weak relationship between the two. Since then there has been a lot of changes in the economic environment, thus pointing to a research gap.

The financial crisis of 2007-2009, the 2011 political uprisings in the Arab countries which affected market for most exports and caused scarcity in the Energy sectors leading to a rise in the petroleum products, the bad weather which affected agriculture resulting in unprecedented rise on commodity prices and the most recent, emergence of Alshabap and other criminal gangs which affected the tourism sector, only to mention a few. As a consequent to the mentioned changes in the environment the researcher hopes to fill the gap by examining the relationship between interest rates and non-performing loans .This decision is further informed by the fact that more recent research like that of Ochola (2009) who carried out a research on the relationship between risk management and non-performing loans, Musya (2009) who examined the impact of non-performing loans on the performance of commercial banks in Kenya ,Akahege (2011) who examined the de-

terminants of NPL among commercial banks in Kenya, Gaitho (2010) who carried out a survey on the main causes of non-preforming loans in commercial banks in Kenya and Kiptoo (2011), who carried out a research on the strategic response adopted by KCB to cope with challenges of NPL did not focus on the actual relationship between interest rates and non-performing loans. This leads us to the question; what is the nature and strength of the relationship between interest rate and non-performing loans in Kenya, given the massive change in the economic environment. Is the relationship very strong to warrant the public outcry witnessed over the past few years calling upon banks to review their interest rates?

1.3 Objective and scope of the Study

To establish the relationship between interest rates and non-performing loans in Commercial banks Kenya.

1.4 Value of the Study

The study will be significant in many ways to different groups with diverse interests. The study will assist the CBK in increasing the efficiency of its regulatory role. The conclusions made will inform CBK of prudent policies to adopt in balancing its role of monetary policy which aims at ensuring the stability of the Kenyan currency on one hand and of accelerating economic growth through provision of affordable credit facilities on the other hand. The policies regarding the rates of interest charged on overnight lending to commercial banks can therefore be formulated taking into account their effects on lending to the public.

The study will also encourage bank managers to take proactive approach in advising CBK on the interest rate. They, being stakeholders, should not take blindly what is given to them by the CBK. They should further diversify their investments portfolios and not over rely on interest loan income.

Finally the study will be useful for Academician and researchers in equal measures. They will have reference materials for further research and offer useful knowledge to academicians.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is concerned with the review of literature related to the study. The chapter covers interest rates, the theoretical review of interest rates, assessing risk of default, causes of non-preforming loans, relationship between interest rates and non-performing loans, and empirical studies.

2.2 Theoretical review

The theories explain how interest rates are determined in the market. The general aim is to try and explain how interest rates are determined in the market. Interest rate determination is very important because it's what ultimately determines the price charge by banks to its customers who borrow loans. If for example a government issues a 10 year bond at 8% interest. This forms a benchmark for which the interests on loans are pecked by commercial banks. To this rate, commercial banks add profit margin and some other costs and risk allowance depending on the assessment of the individual borrower.

There are diverse writers and scholars who try to explain how interest rates are determined by the forces of demand and supply of funds in the market. Most importantly is the fact that most policy makers in the government through Central banks of their respective countries determines the rates with some predetermined objectives which may not necessarily result from the forces of demand and supply.

2.2.1 Loanable Fund Theory

This model is used to explain interest rates and interest rate movement. The loanable fund theory of interest rate determination views the level of interest in the financial markets as resulting from factors that affect the supply and demand of loanable fund (Saunders, 2010). According to Saunder (2010), interest rate in this theory is determined just like the demand and supply of goods is determined. Accordingly, the supply of loanable funds increases as interest rates increases-other factors remaining constant. This means more funds are supplied as interest rates increase (reward for supplying funds is higher). Saunders (2010) goes further to explain the demand of loanable funds as being higher as interest rates fall. Other factors being constant, more funds are demanded as interest rates decrease (cost of borrowing funds is lower).This points out that the supply and demand of funds and consequently interest rates depends on whether you are a supplier of funds, in which case demands a higher interest rate or you are a borrower/consumer in which case you require a lower interest rate.

Factors that cause supply and demand curves for loanable funds to shift: This is further explained by Saunders (2010) as a shift in demand or supply curves for loanable funds when quantity of a financial security supplied or demanded changes at every given interest rate in response to a change in another factor besides the interest rates. In either case, a change in the demand or supply curve for loanable funds causes interest rate to move. Accordingly, Saunders (2010) identifies two factors among others that cause the demand for curves for loanable funds to shift; economic conditions and monetary expansion. As the underlying economic conditions (inflation rate, unemployment rate, and economic growth) improve in a country relative to other countries, the flow of funds to that country

increases. This reflects a lower risk level and as a consequence increases capital inflow from other countries. This increases the supply of loanable funds at every rate of interest and supply curve shifts down to the right. The converse is when funds are moved out of the economy. In this case the supply of funds decreases and the equilibrium interest rate rises, while the equilibrium quantity of funds traded decreases.

2.2.2 Liquidity Preference Theory

According to Saunders (2010), investors prefers to hold short-term securities because they can be converted into cash with little risk of capital loss i.e. a fall in the price of the security below its original purchase price. Thus, investors must be offered a liquidity premium to buy longer term securities which have a higher risk of capital loss. This theory was advanced by Keyne's. He argued that people's ability to save depended upon their level of income. He argued further that the rate of interest played a secondary role in influencing how decided to save. Keynes' chose to explain interest as the result of an interaction between the supply of money and the demand of money. Howels and Bain (2008) defines liquidity preference as the preference for holding financial wealth in the form of short term liquid assets rather than long-term illiquid assets based principally on the fear that long-term asset will lose capital value over time. As a result therefore there is a shift towards greater liquidity wherever confidence in financial markets falls.

The general idea of liquidity preference theory was developed by JM Keynes' within a simplified model in which there is only two types of financial assets-money, the liquid and bonds with no maturity, the illiquid asset. According to JM Keynes' an increased preference for liquidity in the model is equivalent to increased demand for money. Thus

the demand for money increases wherever more people think interest rates are likely to rise than believes they are likely to fall (Howels & Bain, 2008).

2.2.3 Market Segmentation Theory

This theory, as expounded by Saunders (2010), argues that individual investors and Financial Institutions have specific maturity preferences and to get them to hold securities with maturities other than their most preferred requires a higher interest rate –maturity premium. Lasher (2008) asserts that when people are borrowing money they have a definite term in mind that is based on the use they intend to make of the funds. For example, a company interested in building a factory wouldn't want to fund it by borrowing for a few days or months, rather for long term. Lenders too would want to commit their funds for a definite period of time at a known yield. This results in a debt market that's segmented by term. Each segment has its own supply and demand picture with independent set of forces pushing the curves back and forth. That means the market interest rate in each segment is independently determined and not related to the market rate in other segments.

Market segmentation theory is based on institutional practices being followed by the commercial banks, insurance companies and investment trusts (Kinyura ,2011).While the commercial banks mostly deal in short term securities, Insurance companies and investments trusts mostly deal in long term securities. According to kinyura (2011), market segmentation theory overlooks the fact that there is overlapping between markets.

2.2.4 Monetary policy

The Central Bank of Kenya has the special responsibility of ensuring price stability by preventing inflation, creating monetary policy and supervising other commercial banks. The CBK also is responsible for managing Kenya's foreign external debt, which it accomplishes by working closely with the International Monetary Fund (IMF). The CBK's principal objective is the formulation of monetary policy directed to achieve and maintaining stability in the general level of prices. The aim is to achieve stable prices, and to sustain the value of the Kenya shilling. There are three ways CBK uses to implement monetary policy; Open market operations, discount window and reserve requirement. Through open market operations, the Bank buys or sells securities in the secondary market in order to achieve a desired level of Bank reserves. Alternatively, the Bank injects money into the economy through buying securities in exchange market for money stock, as the law of supply and demand takes effect to determine the cost of credit (interest rates) in the money market. A money stock adjusts itself to the desired level. This process influences the availability of the money in the economy.

The Bank, as lender of last resort, may provide secured short-term loans (discount window) to commercial banks on overnight basis at punitive rates, thus restricting banks to seek funding in the market resorting to CB funds only as a last solution. The discount rate is set by the CB to reflect monetary policy objective. By changing the discount rate, that is the interest rate that CBK /Monetary authorities are prepared to lend to the banking system, the CBK can control the supply of money in the system. If for example the CBK is increasing the discount rate, it will be more expensive for banks to borrow from CBK so they will borrow less thus causing the money supply to decline. Vice versa if CBK is

decreasing the discount rate, it will be cheaper for banks to borrow more money (Casu, Claudia. & Molyneux, 2006).

Also the CBK is empowered by the law to retain a certain proportion of commercial banks' deposits to be held as non-interest bearing reserves at CBK. An increase in reserve requirements restricts commercial banks' ability to expand bank credit and the reverse is regarded as credit easing.

2.3 Non-performing Loans

CBK defines NPL as loans which the principle and interest has not been paid over three months from the due date specified in the contract (CBK website). According to Saunder & Cornett (2010), the recession in the U.S. economy in the early 2000 led to an increase in the rate of NPL particularly the commercial and industrial loans .As the U.S economy improved the rate of NPL fell.

2.3.1 Causes of Non-performing loans

Mbote (2006) identifies the following as possible sources of non –performing loans in Commercial banks in Kenya

Poor Credit evaluation

The author sites lack of scientific methodology in assessment of credit coupled with lack with lack of relevant training in identification of good credit.

Poor governance

The author sited poor governance in most commercial banks whereby there are no check and balances to ensure that the credit officers adhere to the stipulated rules and policies of lending.

Insider Lending

According to Mbote(2006),this practice mostly affects banks' lending to its staff ,directors and managers where by the borrowers in most cases, being insiders to not comply with the laid down policies and can further influence the credit rules.

Changing economic condition

Mbote (2006) observed that the prevailing economic condition may affect the ability of borrower to pay.

Incomplete and inadequate credit information

Lack of adequate information about the borrower may affect proper decision being made about the borrower

Causes of Non-perming loans in China

Lawrence (2004) identified four factors responsible for non-performing loans in China. To begin, China's high level of non-performing loans was due to manager's inability to select appropriate projects and monitors borrowers behavior, Lack of adequate skills and the general culture prevailing in the country which encouraged a social system rather than capitalism. He argues that lenders do not expect their loans to be repaid and borrowers too do not expect to repay. This gave banks little incentives to monitors loans.

Other cause for high non-performing loans in China according to Lawrence (2004) is political inference, moral hazards due to low capital, principal-agent relationship and soft budget constraint. Gaitho (2010) while investigating the causes of non-performing loans in Kenya identified the following as the main causes; the national economic downturn which lead to depression for business in general; reduced buying ability of consumers; insider lending; and owner concentration; inadequate procedures of credit risk assessment and credit management; misuse of loans; and legal delays.

2.3.2 Assessing the Risk of Default

Saunders and Cornett (2010) identify models for assessing the default risk of individual loan holders' .They categorizes them under qualitative and quantitative models. According to Saunders and Cornett (2010), the qualitative models are used in the absence of publicly available information on the quality of the borrower. The qualitative model is further divided into two; borrowers specific factors and market specific factors, whereby borrower specific factors includes; reputation, leverage, volatility of earnings and collateral. The borrower's reputation involves the borrowing-lending history of the applicant. Leverage is the ratio of debt to equity.it affects the probability of its default because large amount of debt increases borrower's interest charges and pose a significant claim on its cash flows. As with leverage, a volatile earning stream increases the probability that the borrower cannot meet fixed interest and principle charges .collateral on the other hand is required to back up the loan.

A quantitative model on the other hand uses credit scoring models. Credit scoring models are quantitative models that uses observed borrower characteristic either to calculate a

score representing the applicant probability of default or sort borrowers into different risk classes (Saunders &Cornett, 2010).

2.4 Empirical Studies

Several related studies have been carried out-some published and others unpublished. Jimenez and Saurian (2005) examined the Spanish banking sector between 1984-2003.They provide evidence that NPLs were determined by GDP growth, high interest rates and lenient credit policy. Sinky and Walt (1991) carried out a research in the US to investigate loan-loss rate experience of the leading commercial banks in the US. The authors found out a significant positive relationship between the loan-loss rate and internal factors such as high interest rates, excessive lending and volatile funds. Khemraj and Sukrishnalall (2005) carried out an econometric case study on the determinants of non-performing loans and they found out that the real effective exchange rate had significant impact on non-performing loans. They also found that improvement in the economy as reflected in the growth in GDP resulted in the reduction in NPLs .Also their research further showed that banks which charge high interest rates and lend excessively were likely to incur higher levels of NPLs.

Siddigui, Malik &Shah, (2012) carried out a study on the impact of interest rate volatility on non –performing loans in Pakistan. The research covered the period between 1996 and 2012.The researchers used weighed average lending interest rate as published quarterly by the state bank of Pakistan. The study focused on twenty one commercial banks and the weighted average NPL was obtained from their financial statement. The study concluded that rising NPLs in Pakistan are significantly but not solely impacted by the volatility in

the cost of borrowings. Ongweso (2005) carried out a study on the relationship between interest rates and non-performing loans in commercial banks in Kenya. The study covered the period 2000-2004.Her findings first revealed that the general economic condition improved significantly in the country since the market interest rates reduced from 12.02 in 2000 to 2.96 in 2004.Secondly the study revealed that there was a positive relationship between interest rates and non-performing loans whereby an increase in the interest rates resulted in a high non-performing loans.

Gaitho (2010) carried out an investigation on the 'causes of non-performing loans in Kenya'. She found out that the main causes of non-performing loans in Kenya were; the national economic downturn which lead to depression for business in general; reduced buying ability of consumers; insider lending; and owner concentration; inadequate procedures of credit risk assessment and credit management; misuse of loans; and legal delays. Akahege (2011) carried out a research on the determinants of NPL among commercial banks in Kenya. His study found out that poor credit analysis by banks, sources of income, interest rates charged by banks, loan repayment period, staff turnover and other behavioral aspect like morality of individual were the major causes of loan default which resulted in NPLs in banks.

Kiptoo (2011) carried out a case study on strategic responses adopted by KCB to cope with the challenge of NPL. The researcher collected data by interviewing all the bank managers of KCB. The study concluded by identifying the following strategies as applied by KCB; the bank equipped itself with the latest softwares for analysis, the bank had set up regional portfolio offices to ease decision making, and the bank had trained its staff on sound credit management policies and had also undertaken measures to promote a will-

ingness to work in the organization. Kinyura (2011) carried out a research on the determinants of lending rates of commercial banks in Kenya. She found out that cost of funds (loans) was determined by taxation policies, core liquid asset requirement, transaction cost, CBK and its regulatory role, management fees and staff costs. The research further revealed that interest rates were majorly influenced by inflation, demand for loans, foreign exchange rates and other macro and micro economic environment factors.

2.5 Conclusion

In conclusion, the above empirical studies points to a gap that needs be filled through a further research. To begin with the studies by Jimenez and Saurian (2005), Sinky and Walt (1991), Khemraj and Sukrishnalall (2005), Siddigui et al (2012) were foreign having been carried out in Spain, US and Pakistan respectively. On the local scene, Ongweso (2005) carried out a similar research covering the period 2000-2004.The general economic environment have since changed drastically calling for a fresh research as a result. Her research was carried out when the economy was booming.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the method used in the study and adopts the following structure: research design, population, population description, data collection methods, and data analysis and methods. The purpose of the study was to establish the relationship between interest rates and non-performing loans in Kenya.

3.2 Research Design

The researcher used descriptive research. Descriptive research is used to obtain information concerning the current status of the phenomena to describe "what exists" with respect to variables or conditions in a situation. The methods involved range from the survey which describes the status quo, the correlation study which investigates the relationship between variables, to developmental studies which seek to determine changes over time (Key, 1997). The results concluded that there is weak relationship between Interest rates and Non-performing loans

3.3 Population

The population of this research was all the licensed Commercial Banks in Kenya. . According to information available in the Central Banks website, Kenya had 43 licensed commercial banks and 1 mortgage financial institution as at 13th December 2011, (Ap-

pendix 2). Commercial Banks and mortgage finance companies are regulated under the banking Act, Cap 488 and prudential regulations issued there under.

3.4 Sampling

A census survey was carried out. The focus was all commercial banks located within Nairobi and targeted their headquarters of the target commercial banks. The researcher supplemented the research data with the data publicly available in the CBK website and also those available from the KNBS.

3.5 Data Collection

The study used secondary data collected from the financial statements of the commercial Banks in Kenya .The annual report and accounts as published by the respective banks were used .The study further supplemented this data with those available in the economic survey and bank supervision report as issued by Kenya National bureau of statistics (KNBS) and CBK respectively.

3.6 Data Analysis

Multiple regression Analysis was done to examine the relationship between interest rates and non-performing loans in commercial banks in Kenya. In multiple regressions two or more independent variables are applied to explain/predict the dependent variable (Ghauv, 2005). The purpose, according to Ghauv (2005), is to make the model more realistic, control for other variables and explain more of the variance in the dependent variables.

The regression model to be used will be of the functional form below, since the researcher excluded the effect of other variables like credit analysis in the research.

$Y = B_0 + B_1 X_1$

Where:

Y is the dependent variable – Non Performing loans

B_0 is the constant

B_1 is the regression coefficient

X1 is the interest charged by commercial banks in Kenya

The Pearson's product moment coefficient(r) will be used. This will be used to estimate the association between the variables (NPL and Interest rates) based on the sampling data. A coefficient of determinations (R2) will be performed to determine how much of the dependent variable comes about as a result of the independent variable being tested.

The data will be analyzed using Statistical Package for Social Sciences (SPSS) version 17

Measurement of NPL

According to Mbote (2006) there are three common ratios used to by commercial banks to measure NPL; NPL provision to operating income which measure how much of the banks operating income has been swallowed by the provision set aside for NPL; Net NPL to Total loans which measure how much of the Total loans portfolio is non-performing and Total provision for NPL to Total NPL which measures how far the banks operating income cover the provision.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSIONS

3.2 Introduction

The research objective was to establish the relationship between Interest rates and Non-performing Loans in commercial banks in Kenya. This chapter presents the analysis and findings with regard to the objective and discussion of the same. The findings are presented in correlation and regression.

3.3 Characteristics of the Respondents

The secondary data obtained was for the individual banks and where group data are reported alongside those of the local banks, the local bank's data was used. This was meant to ensure consistency in reporting and hence allow useful comparison. Full analysis was done for data from 10 financial institutions. This comprised one mortgage finance company, two public financial institutions and seven private financial institutions. The data for the other financial institutions were omitted in the analysis since they were not complete and could mislead the findings.

3.4 Findings

Interest rate vs NPL	
Pearson Correlation	-.464
Sigma 2-tail	.470
t	1.434
F change	1.292

Table 4.31: Correlations

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	7267192.308	5491134.783		1.434	.441	-10208049.294	24742433.910
	INTEREST	-510115.385	634061.629	-.085	-.298	.470	-2527982.473	1507751.704

Table 4.32: Coefficients

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.441	0.3067	-0.018		0.2365	1.292	1	3	.649

Table 4.33: Regression

3.5 Interpretation of findings

The above findings show that the relationship between interest rate and non-performing loans is insignificant. The F value of 1.292 from the model is lower than the critical value at 1% significance level of 4.51 and 2.92 at 5% significance level. This implies that with a null hypothesis that the dependent variable is influenced by the independent variables; the null hypothesis can be rejected. With the rejection of the null hypothesis, it means that the accuracy of the model is high.

Also since we are testing one independent variable, at 95% confidence level, the critical t is 2.132.From the findings above, the t test -.208 meaning the relationship between interest rates and non-performing loans is not very significant. Similarly the adjusted R is 0.018 meaning that interest rates effect on non-performing loans was only 1%.This means that other factors was responsible for the non-performing loans in commercial banks in Kenya.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This section covers the summary, conclusions and recommendations

5.2 Summary

The purpose of the study was to examine the relationship between interest rates charged by the banks between the year 2007 and 2011 and the non-performing loans for the same banks.

Data was collected from different commercial banks operating in Kenya. The data was obtained from the financial statements of the respective banks for five years period-2007 to 2011.Data for 2012 were omitted since the available data was only interim results and did not follow the format used in the actual audited financial statements. The data was analyzed using SPSS software where the results showed insignificant relationship between interest rates and non-performing loans.

The implications of the findings are that other factors are responsible for non-performing loans in the commercial banks in Kenya.

5.3 Conclusion

In conclusion there is no significant relationship between interest rates and non-performing loans. However due to limitations of the 2012 data, the study suggest a fur-

ther research since the interest rates in the year 2012 was by far above the rest of the years.

5.4 Recommendations for policy

For policy matters, it appears that interest rate as a tool of monetary policy is not enough. A combination of monetary tools may be preferred. Similarly banks should know that any change in interest rate that they charge on customers loans may not be the main cause for them to default. Other cause such as proper customer screening should be employed.

5.5 Limitations of the study

Most of the banks are not quoted at the NSE. It was therefore difficult to obtain the data required for the study .Even where the researcher visited the premises; it was still difficult to obtain the data.

There were cases where different financial institutions attached different meanings to the same item .For example; a word like non-performing loans was used interchangeably with the word impaired loans. In other instances loan loss provision was used to mean allowance for impairment.

The financial statements reports are prepared on the basis of the accounting records. Therefore any error in the financial or accounting records could be automatically been passed to the financial statements and reports.

In many cases, IAS body has issued new standards on the treatment of some items. This requires restatement of prior year's financial statements. Some financial institutions have not effected the changes thus making comparison difficult.

The researcher also experienced some data in cases where there has been merger between two or more financial institutions. Such cases were not many and were omitted in the analysis.

5.6 Suggestions for further Research

Further research is recommended to examine the relationship between non-performing loans and the cost of living as measured by the consumer price index (CPI). This is because the consumer price index measures the general changes in prices of goods and services purchased by households. Therefore finding out a relationship between this index and Non-performing loans could reflect a reality rather than finding the effect of interest rates alone.

Further research is required for the year 2012.This is because the researcher was not able to get most of the data for the 2012 and hence the decision to omit the whole year of 2012 from the analysis. The researcher notes that this is the year when the interest rates surged to a high rate of 18%, which is the highest in the history of the banking industry.

Further research is also recommended to examine use of CBR by the CBK and the basis of determination of such rate.

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Appendix 1:

CBR CHANGES

Sunday, June 08, 2008	9.00%
Monday, September 29, 2008	9.00%
Wednesday, October 01, 2008	9.00%
Monday, December 01, 2008	8.50%
Friday, March 20, 2009	8.25%
Thursday, May 21, 2009	8.00%
Wednesday, July 22, 2009	7.75%
Tuesday, November 24, 2009	7.00%
Tuesday, January 26, 2010	7.00%
Thursday, March 25, 2010	6.75%
Wednesday, July 28, 2010	6.00%
Thursday, September 23, 2010	6.75%
Thursday, November 25, 2010	6.00%
Thursday, January 27, 2011	5.75%
Tuesday, March 22, 2011	6.00%
Tuesday, May 31, 2011	6.25%
Wednesday, September 14, 2011	7.00%
Wednesday, October 05, 2011	11.00%
Tuesday, November 01, 2011	16.50%

Saturday, December 01, 2012	18.00%
Wednesday, February 01, 2012	18.00%

Source: www.centralbank.go.ke

Appendix 11

LIST OF COMMERCIAL BANKS IN KENYA AS AT 31ST DECEMBER 2011

Kenya Commercial Bank

National Bank of Kenya

Equity Bank Ltd

Eco Bank of Kenya Ltd

Bank of Africa

Commercial Bank of Africa Ltd

Equatorial Commercial Bank Ltd

Fina Bank Ltd

Standard Chartered Bank

Barclays bank of Kenya Ltd

NIC Bank Ltd

Consolidated Bank of Kenya Ltd

Bank of India

African Banking Corporations Ltd

Bank of Baroda (k) Ltd

CFC Stanbic Bank Ltd

Charterhouse Bank Ltd

Chase Bank (k) Ltd

Citi Bank N.A Kenya

Co-operative Bank of Kenya Ltd

Credit Bank ltd

Development Bank of Kenya Ltd

Dubai Bank Kenya Ltd

Diamond Trust Bank Kenya Ltd

Family Bank ltd

Fidelity commercial bank ltd

First community bank ltd

Giro commercial bank ltd

Guardian Bank Ltd

Gulf African Bank Ltd

Habib Bank Ltd

Habib Bank A.G Zurich

Imperial bank ltd

I&M Bank Ltd

Jamii Bora Bank Ltd

K-rep Bank Ltd

Middle East Bank (k) Ltd

Oriental Commercial Bank Ltd

Paramount Universal bank Ltd

Prime Bank Ltd

Trans-national Bank Ltd

UBA Kenya Bank Ltd

Victoria Commercial Bank Ltd

Mortgage finance company

Housing Finance Company of Kenya Ltd

Source: www.centralbank.go.ke (CBK Bank supervision report-2011)

Appendix 111

Private Financial Institutions

Correlations

		INTEREST	NPL
INTEREST	Pearson Correlation	1	-.421
	Sig. (2-tailed)	.	.480
	N	5	5
NPL	Pearson Correlation	-.421	1
	Sig. (2-tailed)	.480	.
	N	5	5

Model Summary-NPL vs. IINTEREST RATES

Mode	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.421(a)	.177	-.097	1445882.9	.177	.647	1	3	.480

				75					

Equity bank

Correlations

		INTEREST	NPL
INTEREST	Pearson Correlation	1	-.770
	Sig. (2-tailed)	.	.127
	N	5	5
NPL	Pearson Correlation	-.770	1
	Sig. (2-tailed)	.127	.
	N	5	5

Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.770(a)	.593	.458	215768.944	.593	4.378	1	3	.127

Fina Bank

Public Financial Institutions

Correlations

		INTEREST	NPL
INTEREST	Pearson Correlation	1	.343
	Sig. (2-tailed)	.	.572
	N	5	5
NPL	Pearson Correlation	.343	1
	Sig. (2-tailed)	.572	.
	N	5	5

Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.343(a)	.117	-.177	95938.419	.117	.399	1	3	.572

Consolidated Bank of Kenya

Correlations

		INTEREST	NPL
INTEREST	Pearson Correlation	1	.279
	Sig. (2-tailed)	.	.649
	N	5	5
NPL	Pearson Correlation	.279	1
	Sig. (2-tailed)	.649	.
	N	5	5

Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.279(a)	.078	-.229	2021294.588	.078	.254	1	3	.649

National Bank of Kenya

Mortgage financial institution

Correlations

		INTEREST	NPL
INTEREST	Pearson Correlation	1	.316
	Sig. (2-tailed)	.	.605
	N	5	5
NPL	Pearson Correlation	.316	1
	Sig. (2-tailed)	.605	.
	N	5	5

Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.316(a)	.100	-.201	494756.838	.100	.332	1	3	.605

HFCK