DETERMINANTS OF INTEREST RATE VOLATILITY IN THE KENYAN FINANCIAL MARKET:

A CASE STUDY OF KENYAN COMMERCIAL BANKS

BY

WILFRED KAMUYU

UNITED STATES INTERNATIONAL UNIVERSITY

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A Project Report Submitted to the Chandaria School of Business in Partial Fulfillment of the Requirement for the Degree of Global Executive Master of Business Administration (GeMBA)

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STUDENT’S DECLARATION

I, the undersigned, declare that this is my original work and has not been submitted to any other college, institution or university other than the United States International University in Nairobi for academic credit.

Signed: __________________________   Date: __________________________

Wilfred Ngaruiya Kamuyu (ID No. 637672)

This project has been presented for examination with my approval as the appointed supervisor.

Signed: __________________________   Date: __________________________

Prof. Francis Wambalaba

Signed: __________________________   Date: __________________________

Dr. George Achoki,

For Dean, Chandaria School of Business
ABSTRACT

The main objective of this study was to investigate the determinants of commercial banks interest rate volatilities in the Kenyan financial market using the case of Kenya Commercial banks. The study was guided by the following specific objectives: To determine the effect of government regulations on commercial banks’ interest rate volatility in Kenya, to assess the effect of customer attributes on commercial banks’ interest rate volatility in Kenya, and to evaluate the effect of banks’ policies on the interest rate volatility in Kenya.

The study adopted a descriptive research design. The total population for this study was 42 Kenya commercial banks minus the Islamic banks as they do not charge interests. Using a non-probabilistic stratified sampling, the study obtained data from 22 banks, mostly by way of questionnaire. The data was analyzed through Statistical Package for Social Sciences (SPSS) software. The analyzed data was presented using bar graphs, pie charts and simple tables. For easy viewing and understandability, and comparability, most of the data was shown in percentage fractions.

In determining the effect of government regulations on commercial bank interest rate volatility, the findings revealed that Central Bank Rate (CBR) is key influencer of commercial bank lending rates. The higher it is, the higher the interest rate charged. Monetary, fiscal and legal regulatory frameworks were also mentioned. Other factors such as greater commercial bank negotiation power, strength of financial services infrastructure, credit contract enforcements, broad money growth and increased fiscal deficits were also mentioned. The interest rate uncertainty proxied by inter-bank interest rate volatility was ranked highest as it influences interest rate volatility to a great extent.

In assessing the effect of customer attributes on interest rate volatility, the findings revealed that most Kenyan banks prefer corporate clients, high income individuals and middle class earners for credit extensions. Further, the banks use the 5Cs for purposes of credit clients’ categorizations, risk rankings and discrimination as to how much credit to be offered. Amongst the 5Cs, capacity to pay (sufficiency of cash flows) and collateral to secure the loan were given slightly higher weighting than the other factors in determining the interest rate chargeable to a client and amount of credit to offer.
In evaluating the effect of bank’s policies on interest rate volatility, the findings revealed that banks consider experience of the staff for their inclusion into the team involved in the credit policy execution. Most banks have a credit department and a credit committee at the core of credit policy determination and execution. Some banks have the manager or managing director as the core personality in credit policy development. Of the banks with credit committee, the respondents rated their credit policies as very effective. Notably, such banks reviewed their credit policy continuously.

The main conclusion is that government regulations are key ingredients of interest rate stability. Reasonable tightening of regulations can foster economic well-being of a nation. Corporate clients are considered less risky especially in credit facility extension. The capacity to pay and the possession of collateral to secure the credit are of major importance to the banks in their endeavor to extend the credit.

Since CBR was found to highly determine the interest rate volatility, it is recommended that CBK ought to carefully manage CBR and monetary policies to mitigate interest rate volatility risks in the economy. Further, the Kenya commercial banks with a credit committee should empower it and facilitate its effectiveness while the banks without credit committee should consider establishing one. The customers should carefully manage their cash flows, and their assets. It is also recommended that further studies on the specific elements impacting interest rate volatility rather than the three elements focused into in this study.
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My family for enduring all the many days I was away, my research assistants Levis, Michael & Janet for their time and invaluable input. My instructors and supervisors, Prof. George Achoki, Prof. Francis Wambalaba and Dr. Kiriri; your advice was truly timely. Special thanks to the entire GeMBA 6 class for their wonderful contributions that made learning easier and relevant. Most importantly, I thank God for seeing me through this process.
DEDICATION

This project is dedicated to my mum, Veronica Nyokabi and my two daughters Michelle Wambui and Noreen Nyokabi; for all the love.
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CHAPTER ONE

1.0 INTRODUCTION

1.1 Background of the Study

Business firms are established with the object of creating value for the owners in form of increased share prices or a sustained stream of high dividends (Brock & Rojas-Suárez, 2008). To achieve this, firms undertake investment projects that are geared towards generating high returns for the firm. More often, these projects are costly for firms to undertake and hence firms have to seek for funding to meet the investment demands.

Financial institutions play the role of linking net savers and net borrowers in the financial markets (Chirwa & Mlachila, 2004). These institutions receive deposits from the savers and use the same to lend to the borrowers hence creating the role of financial maturity intermediation. The role of the financial institutions is to use the savers short-term deposits and create credit to loan to long-term borrowers in what is referred to as the maturity intermediation. Financial institutions must therefore keep their balance sheet fairly balanced in order to be able to meet the depositors demand for their funds while still lending to borrowers.

Securing investment finance has been named as a leading constraint to entrepreneurs who want to start or expand their businesses in the East African Region (Wagacha, 2001). Access to business credit is always ranked highest among the factors hampering investment in most developing countries and the usual reasons cited are inadequate collateral, veracity of financial information produced by firms and high costs of finance. Most firms in East Africa, report that the cost of and access to finance are major or severe constraints to business development (Isaksson, 2001).

Firms’ management is usually faced with two sets of decisions in their day to day operations; namely financing and capital decisions (DeBondt, 2002). Financing decision entails the determination of the source of business funds at low cost for the firm to finance its investment projects. Investment decisions involve the choice of the most profitable project to invest in and hence increase the firm’s profitability. Managers of business firms therefore must balance the role of sourcing investment funds and also employ these fund in the most profitable projects.
However, these finds are acquired at a cost which must be exceeded by the return on the investment for projects to be profitable.

Interest rate can be defined as the cost of borrowing money or the price that a borrower of funds should be willing to pay for obtaining money from a lender or a financial institution. It can also be described as the fee paid to a lender on borrowed financial assets (Barnea & Kim, 2007). The lender receives a compensation for foregoing other uses of their funds, including deferring their own consumption. The original amount lent is called the principal and the percentage of the principal which is paid or payable over a period of time is the interest rate or the coupon (Thygersa, 1995). According to Saunders (1999), interest rate like other prices is a price paid for a commodity (funds) by the borrower to the lender.

This special type of transaction is a loan, credit transaction or deposit, involving a supplier of surplus funds, that is, a lender or saver, and a demander of surplus funds, that is, a borrower (Bikbov & Chernov, 2004). Interest rates help have a double-barreled function in that they cover the costs of loans and act as an impetus that induce savers to make deposits so that they can earn a return. There are various reasons that justify the need for investors (savors) to charge interest rates. First, when money is loaned, the lender delays spending the money on consumption goods. The time preference theory posits that people prefer to enjoy the utility of a good as opposed to later and also assumes a free market that has a positive interest rate (Bordo, 2008). Hence, interest rates are charged as a trade-off for deferred consumption. Second, due to inflationary expectations, given amount of money buys fewer goods in the future than it does now, borrower needs to compensate the lender for the risk of losing the purchasing power in the future (Flannery, 1981).

Third, while the lender has a choice between using the money in different investments, they choose lending and forgo the returns from all the others. Hence, interest rate can be viewed as the opportunity cost or the cost of alternative investment (Weth, 2002). Fourth, interest rate compensates for the risk that the borrower may go bankrupt or abscond, or otherwise default on the loan implying that the lender will incur financial losses.
Fifthly, interest rate compensates the lender for having their funds in a more illiquid form inform of loaning to the borrower. This can be explained by the people’s liquidity preference in which people prefer to have their resources available in a form that can immediately be converted into cash or that is easy to realize in monetary terms (Ndung’u & Ngugi, 2005). Lastly, since some of the gains from interest may be subject to taxes, the lender may insist on a higher rate to make up for tax expenses (Buiter, 2009).

Interest rates charge on money in the financial markets is also indicative of many market aspects. First, interest rate as a price of money reflects the market information regarding expected change in the purchasing power of money or future inflation (Brock & Franken, 2005). It also reflects the risks of rising and falling economic activity, and credit rating changes. Interest rates can also indicate the expected changes in the maturity preferences of bondholders and the changing preference for other classes of investments, notably stocks or commodities (DeBondt, 2002). Often, investors are willing to receive a higher return for funds invested over a longer period to compensate for risk of default by the borrower and the uncertainties in the economic climate.

Interest rates change in response to a variety of economic events including changes in government policy, crises in domestic and international financial markets and changes in the prospects for long-term economic growth and inflation. Economic events such as change in government policies and crises in the financial markets are irregular and unprecedented. Hence, the effect of such events on the interest rates is only reactive rather than predictive. However, more regular events such as the business cycles, expansion and contraction experienced by the economy over time determine the volatility of the interest rates (Bikbov & Chernov, 2004).

Financial institutions play a very pivotal role in the financial markets. First, they help in linking fund suppliers and the borrowers. Commercial banks are a part of financial institutions that help in minimization of credit risks through mitigating adverse selection and moral hazard problems, which are prevalent in direct financial transactions. Through maturity and liquidity transformation, commercial banks specialize in sorting and evaluating information. As such, commercial banks are better positioned to properly evaluate loans that cannot be priced accurately by the market participants (DeBondt, 2002).
Financial institutions facilitate mobilization of savings, diversification and pooling of risks and allocation of resources. However, since the receipts for deposits and loans are not synchronized, intermediaries like banks incur certain costs. They charge a price for the intermediation services offered under uncertainty, and set the interest rate levels for deposits and loans. The difference between the gross costs of borrowing and the net return on lending defines the intermediary costs which include: information costs, transaction costs which consist of administration and default costs, and operational costs (Ghazali & Ali, 2002).

Commercial banks are among the most exposed institutions in the financial markets industry in regard to interest rate changes. A shift in the direction of the interest rate in the financial markets is often reflected in the commercial banks’ lending rate and interests on deposits. For instance, when interest rates increase, borrowing becomes more expensive, dampening consumer demand for mortgages and other loan products. Else, rising interest rates can also lead to increased loan default rates as holders of adjustable rate debt find themselves faced with higher payments (Ghazali & Ali, 2002). Flannery, (1981) explains that banks are exposed to fluctuations in market interest rates in two ways. First, the imbalanced borrowing and lending practices of commercial banks (borrowing short and lending long) subjects them to a non-synchronized refunding schedule, which is expensive during a high interest rate environment.

Second, high interest rates cause inflation which increases the cost of production or costs of goods sold. Such cost escalation can reduce earnings before interest and taxes (EBIT) for firms that are servicing loans. At times, interest expense may not be covered by the EBIT which means that nothing is left for loan repayments. As such, high interest rates may put the borrowing firm in a position that the liability level is very high or where the liabilities are greater than assets implying that they will not be able to repay loans and hence increasing the chances of default (Weller & Chaurushiya, 2004). Though inflation can increase both nominal and market value of assets, such increase may be insufficient to offset the rising cost of interest. Default occurs if EBIT is not sufficient to generate any net profit (after paying interest and taxes) (Hoque & Hossain, 2008).

Lower interest rates on the other hand, make it easier for people to borrow as consumers spend less on interest costs. However, low interest rates disfavor savings as those with surplus find
spending their money or engaging in short-term investments more rewarding economically. That is, future returns from investments are worth more today when rates are low than when rates are high which is an incentive for consumers and businesses to invest when rates are low (Weth, 2002).

Interest rate prevailing in different countries differs depending on the efficiency of their financial markets. Efficiency can be reflected by various parameters such as the ability of financial instruments’ prices to reflect market information (Chan, et al., 2005). As such, banks are likely to charge high interest rates in developing countries where financial markets are imperfect due to the prevailing information asymmetry between borrowers and lenders. Besides, credit-worthiness of borrowers is doubtful, value of collaterals is overstated and inefficiency is common at institutional level. Thus, most banks in these countries are addicted to the policy of high interest rates (Chirwa & Mlachila, 2004). This is however counter-productive as high interest rates may contribute high rate of defaults (Bikbov & Chernov, 2004) loan. This portion has exclusively focused on interest rates.

In Uganda, in the last decade, controls on interest rates and credit have been gradually abolished so as to improve on the efficiency of mobilization and allocation of financial resources. In 1994 commercial banks were allowed to set their own interest rates based on market conditions and delinked from discount (bank) rates. The objective of this move was to promote economic growth and financial development through increased efficiency in savings mobilization, credit allocation and investment.

These reforms coupled with stricter enforcement of banking regulations and law, by the Bank of Uganda saw several banks suffering financial distress and facing closures in the period 1999/2000, as a result of insolvency, liquidity shortages, violation of legal provisions and poor loan portfolios. This move, on the other hand, lent credence to the financial system and encouraged the growth of commercial bank lending. Despite this, the access to credit is still very limited.

In Kenya, in a survey of enterprise attitudes, Wagacha (2001), found that firms seemed to increase their borrowing after listing. For large listed firms the debt to equity ratios seemed to rise, while for the small firms they fell, indicating that market development favored large listed
firms. Kenya has had a similar trend of events to Uganda in the financial sector over the last decade.

The financial sector reform started in January 1988 and the policy and institutional measures employed, included interest rate liberalization, development of money and capital markets, improvement of efficiency of financial intermediation, development of more flexible monetary policy instruments, removal of credit ceilings and reduction of both governments excessive reliance on domestic borrowing and reduction of its budget deficit. The institutional reforms were aimed at setting up a regulatory policy and ensuring prudential regulation and supervision of the financial system. Furthermore, there was emphasis on the need to restructure the troubled financial institutions, including privatization and improvement of technical expertise at the Central Bank of Kenya (Isaksson, 2001).

In Kenya, the banking sector is composed of the Central Bank of Kenya (CBK), as the regulatory authority and the regulated; commercial banks, non-bank financial institutions and foreign exchange bureaus. By 2011 the banking sector comprised 44 institutions, 43 of which were licensed commercial banks and 1 mortgage finance company. Out of the 44 commercial bank institutions, 31 were locally owned and 13 were foreign owned. The locally owned financial institutions comprised 3 banks with significant government shareholding, 27 privately owned commercial banks and 1 mortgage finance companies (MFCs). The foreign owned financial institutions comprised 8 locally incorporated foreign banks and 4 branches of foreign incorporated banks (Central Bank of Kenya, 2012).

In Kenya, CBK lends money to commercial banks as a lender of last resort and as such is a key determinant of the final interest rates on loans and mortgages. Interest rates decisions are taken by Monetary Policy Committee (MPC) of the CBK (Kiragu, 2012). The Kenyan government has reformed banking to make it internationally competitive from a repressive control policy regime to a liberated sector in 1991 and comprehensive reforms in 2003. In 2007, the government raised bank capital from Sh250 million ($3.1 million) to Sh1 billion ($12.5 million) by 2010. Besides, two Sharia-compliant commercial banks, First Community and Gulf African, were licensed in 2007. Historically, from 1991 until 2012, interest rate averaged 15.1% reaching an all-time high of 84.7% in July of 1993 and a record low of 0.8% in September of 2003 (CBK, 2012).
The Kenyan economy has endured steep inflationary pressures and exchange depreciation for about 9 months in 2011. This was triggered by buildup in inflationary pressures in 2011, then the onset of exchange rate depreciation in April 2011 and rise in interest rates. Inflation rose from 4.51% in January to 19.7% by November 2011. Kenya’s shilling depreciated from about Kshs. 81 to Kshs. 107 to the US dollar in October 2011. To address these problems the CBK increased the Central Bank Rate (CBR) to 11% in October 2011 and further to 16.5% in December. Banks increased their lending to between 20 and 25% which set interest rate on a ‘roller coaster’ (Parliamentary Service Commission, 2011).

1.2 Statement of the Problem

Efficient financial intermediation is an important factor in economic development process as it has implication on effective mobilization of investible resources (Bordo, 2008). A repressed financial system, characterized by set credit controls and distorted price indicators, is viewed as a hindrance to economic growth as it promotes inefficiency in the allocation of resources. It also curtails domestic resource mobilization when the interest rates are set at low levels. Thus, it makes the economy dependent on foreign savings and supports fiscal indiscipline as the government obtains almost zero-interest-denominated resources to finance its deficit. As such, financial liberalization is a reprieve in the financial markets industry due to its ability to enhance greater efficiency in the financial sector through stimulating savings. This therefore stimulates economic growth and enhances commercial bank lending (Ghazali & Ali, 2002).

However, financial liberation brings with it interest rate spread and volatility which indicates the underlying weak institutional and policy set-up of the financial sector (Kiragu, 2012). When there are no ceilings on lending rates it is easier for banks to charge a higher risk premium and hence make projects more risky as borrowers have to pay more for their loans without the guarantee of projects being able to pay back. Consequently, this increases the rate of bank insolvency as non-performing assets increase (Weth, 2002). Banks are therefore forced to charge high interest rates on the performing loans in an attempt to defend their profit margins (Bordo, 2008). While interest rate level volatility’s impact on economic growth has been investigated, very few studies have sought to establish what factors influence this volatility.
Kenya has had one of the erratic increases in the interest rates in the recent past. In 2011, CBK increased its base lending rates from 5% in January to 11% in October and 16.5% in December; effectively increasing banks’ lending rates to between 20-25%. While this was meant to curb the inflation, which increased to 19.7% in November from 4.51% in January, it had implications on the consumer and company borrowing and savings (Parliamentary Service Commission, 2011; Okoth, 2011). Nonetheless, interest rate is an important monetary policy tool in modern economies. Their roles in savings mobilization and investment expansion are robustly documented especially in developed world (Weth, 2002).

However, the dearth of studies on the determinants of interest rate volatility in Kenya provides the justification for this study. Ndung’u & Ngugi (2005) conducted a study on the impact of interest rate spread on non-performing loans and established positive relationship between the two. Okoth (2011) conducted a study on the impact of interest rate volatility on credit borrowing and established that the former does adversely affect borrowing. However, no study has been done, in Kenya, to determine the determinants of interest rates volatility in commercial banks. This study sought to fill-in this knowledge gap by investigating the determinants of interest rate volatility in the Kenyan financial market with a special focus on commercial banks.

1.3 General Objective

The study sought to investigate the determinants of interest rate volatility in the Kenyan financial market with a special emphasis on commercial banks in Kenya

1.4 Specific Objectives

The specific objectives of the study were:

1.4.1 To determine the effect of government regulations on commercial banks’ interest rate volatility in Kenya
1.4.2 To assess the effect of customer attributes on commercial banks’ interest rate volatility in Kenya
1.4.3 To evaluate the effect of banks’ policies on their interest rate volatility in Kenya

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1.5 Importance of the Study

The study will have a trickledown effect on the general public and specifically commercial banks’ customers as the study seeks to illuminate causes of interest rate volatility, thus, recommend on ways of ensuring that such fluctuation do not come at the expense of consumers nor have adverse effect on the country’s economic performance. Stable interest rates would also change the negative perception that the public have on commercial banks thus lead to financial deepening and access to financial services. Interest rate is the main revenue sector for commercial banks.

1.5.1 Researchers and Academicians

The results of the study will be important to the students and researchers by contributing to the existing body of knowledge in the area of finance especially interest rate volatility. Academicians may use findings for further research as a reference point and for literature and empirical purposes. As such, the study will provide a platform for further research in the area of commercial banks’ interest rate volatility.

1.5.2 Policy Makers

The study will be of help to commercial banks’ management in Kenya and elsewhere as it will assist them in pointing out what influences the fluctuations of interest rate. By extension, the study’s findings might help the management in formulating interest rates policies and in dealing with external or exogenous factors affecting interest rates. The study will be invaluable to the government (CBK) in setting up their central bank rate (CBR) and other macro-economic policies (both fiscal and monetary) that would help stabilize interest rates and spur macroeconomic growth. This would help foster commercial banks’ performance.

1.6 Scope of the Study

The study investigated the determinants of interest rate volatility in the Kenyan financial market with a focus on the commercial banks in Kenya. The study focused on government regulations, customer factors and banks’ policies and how they are employed to influence the interest rate. The study targeted all the 42 conventional commercial banks in Kenya and did not include the2
Islamic commercial banks, First Community and Gulf African Bank. The study targeted the middle management staff preferably financial officers from both locally and foreign owned commercial banks. Data was collected from the commercial banks head offices in each of the bank involved in the study sample.

1.7 Definition of Terms

1.7.1 Interest Rate Volatility

It is the extent to which the interest rate changes over time. High volatility implies rapid and large upward and downward movements over a relatively short period of time; low volatility implies much smaller and less frequent changes in value (Bester, 2004).

1.7.2 Loan Default

It is the failure by a borrower, either willingly or otherwise, to pay back a loan on a timely basis or to comply with other conditions of the contract (Ghazali & Ali, 2002).

1.7.3 Monetary Policy

It is the process by which the monetary authority of a country controls the supply of money, often targeting a rate of interest for the purpose of promoting economic growth and stability (Bordo, 2008).

1.8 Chapter Summary

The level of the interest rate in any economy has great impact on the economic activities of these economies. High interest rates discourage investors from borrowing to finance their projects which imply that they might be forced to forego profitable projects. Finance providers on the other hand seek to ensure that the risk of lending their funds is surpassed by the expected investment returns to avoid making losses.

Interest rate volatility thus poses a challenge to both the investors and the fund borrowers due to the inherent uncertainties. A good understanding of the factors that influence the interest rate volatility in the financial sector cannot be overemphasized in a firm. This chapter seeks to
provide a foundation on how the determinants of the interest rate volatility can be investigated through the research questions and problem definition.

The next chapter, Chapter 2, provides an analysis of leading academic literature in relation to interests’ rate volatility in Kenyan commercial banks. The chapter will also develop the essential theoretical, conceptual and operational framework necessary to answer the research questions.

Chapter 3 will present the researchers approach in conducting the study. It will discuss the research design to be adopted by the study; target population and sample; data collection instrument and procedure; and, data analysis techniques.

Chapter 4 will provide the analysis of the data collected through the questionnaire from the commercial bank managers. The chapter will also present both qualitative and quantitative methods to analyze data in order to answer the research questions. The chapter will also represent the data analysis inform of visual display diagrams such as graphs for better understanding of the result.

Chapter 5 will present the review of the study. This will include a revisiting of the research questions and relate them with the research findings generated by data analysis in chapter 4. The chapter will also present a summary of the research findings by using data analysis to answer research questions. Finally, the chapter will present the major limitations of the study and the recommendations for both the research and for the policy and practice.
CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Introduction

This chapter presents literatures collected from a series of secondary sources based on the interest rate volatility in the commercial banking sector of Kenya. The chapter also develops theoretical, operational and conceptual frameworks which are deemed essential with respect to the research questions. The literature will therefore cover the role of government in the commercial bank interest regulations, effects of consumers’ attributes on commercial banks’ interest rate volatility, and how the banking policies and regulations affect the interest rate volatility in the commercial banking sectors of Kenya.

2.2 Government Regulations and Commercial Interest Rate Volatility

Regulation in the financial sector is aimed at reducing imprudent actions of banks with regards to charging high interest rates, insider lending and reducing asset defaults. The central banks have achieved this through interest rate ceilings and other monetary policies. Demirguc-Kunt & Huizinga (2008) found that better contract enforcement, efficiency of the legal system and lack of corruption are associated with lower realized interest margins and asset non-performance. This is because they reduce the default risk attached to the bank lending rate. However, it is noted that in developing countries regulations tend to be on paper but in practice are not enforced consistently and effectively. Thus, leading to default on loans lent to clients.

According to Gelos, 2006; Saunders, 1999; Crowley (2007) interest rate spread in the commercial banks are usually determined by ownership structure, bank size, capital adequacy, the quality and quantity of the loan portfolio, and the operating expenses of the commercial bank. It is further noted that frauds, the survival rate of bad credits risks due to diligence and the corporate governance in the banking and financial institutions affects the operational costs and financial asset management which ultimately results into widening of the commercial bank interest rate spread (Quaden, 2004). These earlier studies indicate that bank-specific variables enlisted herein significantly impacts on the interest rate margin in the commercial banking sector.
Brock & Franken (2005) asserts that individual bank characters has little correlation with the interest rate volatility in the commercial banking sector, but are mainly determinants of individual profitability and financial stability. This study suggests that the commercial banks’ interest rate spread is an industrial factor with little individual banking influence. An argument made to explain the reasons for the differences of interest rates in the developing economies and the developed economies even after large financial liberalization stipulates that these higher interest rate volatility in the commercial banking sectors of the developing economies continues if the financial reforms ‘do not significantly alter the structure within which banks operate’ (Chirwa & Mlachila, 2004).

Commercial banks like any other financial institutions play the role of mobilizing savings, diversification and pooling of risks and the allocation of resources (Ng’etich & Wanjau, 2011). Commercial banks incur intermediation due to the fact that savers deposits are not synchronized with the borrowers loans. Interest rate is thus a charge on both the deposits and the loans factoring the intermediation services costs under uncertainty. Intermediary costs can be defined as the difference between the gross borrowing cost and the return on lending and represents the information costs, transactional costs, administration and default costs, and operational costs.

Interest rate spread is influenced by the microstructure characteristics of the commercial banking sector and the policy environment. Commercial banks depict different risk preferences with some being risk averse or risk neutral. Risk-averse commercial banks prefer smaller spreads as compared to the risk neutral which has the impact of reducing the credit offered while increasing the optimal bank’s interest rate. Actual spread, which incorporates the pure spread, is in addition influenced by macroeconomic variables including monetary and fiscal policy activities.

Reports by CBK indicate that CBK regulates interest rates charged by banks through interest rate ceiling (81.5%), (Central Bank of Kenya, 2012). The banks’ interest rates policies are enforced by board of directors, managing directors and credit risk management committees. The CBK develops interest rate policies and regulations there-to be relevant in mitigating interest rates, moral hazards and loan defaults. Demirguc-Kunt, Laeven, & Levine (2003) argues that stringent regulations enforced by central banks lower realized interest margins (spread) and subsequently loan non-performance.
2.2.1 Institutional and Legal Factors

Interest rate spread in the banking sector only tends to decline with an improvement on the institutional factors: contract enforcement, legal system efficiency, and increase degree of transparency in the banking industry. As pointed out by Hoque & Hossain (2008), the development of basic infrastructures which are essential in supporting banking and financial institutions in Kenya is founded on the level of integrity and transparency. Corruption and lack of transparency increases the cost of borrowing and hence, widening interest rate spread.

Studies on Small Island Developing States (SIDS) note that bank interest rate volatilities are made wider by the degree of diseconomies of scale attributed to the limited size of the banking and financial markets (Moore & Craigwell, 2009; Jayaraman & Sharma, 2003; Chirwa & Mlachila, 2004). Research has established that commercial bank interest spreads are widened by: greater market power and dominance of commercial banks (Barnea & Kim, 2007); inadequately developed banking sectors (Demirguc-Kunt & Huizinga, 2008); high reserve ration requirements (Brock & Rojas-Suárez, 2008); and legal system inefficiencies and high corruption (Demirguc-Kunt, et al., 2003).

Commercial banking sector of Kenya experiences high interest rate volatility due to both macro and micro-economic factors. As quoted by economic experts, Brock and Franken (2003), ‘macro-economic factors are certainly among the most influential sources for variations in credit spreads.’ The same position is taken by Chirwa & Mlachila (2004) who assert that “macroeconomic instability and the policy environment have important impacts on the pricing behavior of commercial banks.” They identify the macro-economic variable with the potential of determining interest rate spread as inflation, real interest rate (as determined by the money market), and output growth. In addition to these macro-factors, Brock and Franken (2002) include exchange rate volatility and interest rate uncertainty as being other macro-variables.

The government policies on fiscal and monetary policies which affect money growth and fiscal balances are other determinants of interest rate spread. Crowley (2007) attributes interest rate spread increase to the following macro-economic variables: broad money growth, interest rate uncertainty, higher fiscal deficits, high real interest and inflation rates, and a higher proportion of
commercial banks public sector credits. Other potential interest rate determinants include window discount rates, T-Bill rates, and domestic borrowing capacities (Drzik, 1995).

### 2.2.2 Monetary and Fiscal Policies in Kenya

Monetary policy entails the role of the central banks in regulating the amount of money supply in the economy. The Central banks hence apply various mechanisms with the ultimate goal of achieving price stability in the economy. Isaksson (2001) posits that monetary policy affects prices with a lag hence necessitates a variable anchor policy decisions and expectations of the economic agents.

Monetary and fiscal policies, albeit using different policy instruments, are closely related in terms of achieving certain goals by affecting the levels of output in the economy. As such, this close relationship often presents a possibility of conflict and sub-optimal policies when their implementation is at cross purposes. This is usually countered by policy mix which entails a combination of restrictive and expansionary policies with a fiscal stance being either supportive or non-supportive of monetary policy.

Fiscal policy refers to government discretionary measures to influence the direction of the economy through changes in the level and composition of public expenditure and funding (Bordo, 2008). It contributes to the economy by delivering on the three principal functions of government namely, efficient allocation of resources, fair distribution of incomes and stabilization of economic activity (Brock & Franken, 2003). These functions can be achieved via the effects of fiscal stabilizers, discretionary fiscal fine tuning, or through a combination of both.

Fiscal policy in Kenya has been enshrined in the two long-term policies and several 5-year National Development plans that guided planning and investment: Sessional paper No.10 of 1965 on African Socialism and Its application to Kenya and the Sessional Paper No.1 of 1986 on Economic Management for Renewed Growth. From 2003 the government adopted the Economic Recovery Strategy (ERS) and currently Vision 2030. Several initiatives that had a direct bearing on fiscal policy have been implemented in Kenya. These include, among others, the introduction of the Medium Term Expenditure Framework (MTEF) in 2000/2001, the Poverty Reduction Strategy Paper (PRSP) and the Poverty Reduction Growth Facility (PRGF).
A shift in the monetary policy from direct to indirect largely affected the commercial bank interest rates. The first auction of the governments’ treasury bills was made public in 1991 (Central Bank of Kenya, 2012). This move into primary market was perceived as fundamental step in exerting authority and control over the financial reserves through Open Market Operations (OMO). In expanding the roles of T-Bills, auction techniques and tendering policy were revised in January 1993. The volume of the T-Bills for auction in the primary markets is determined by the central bank, which acts as the sales representative of the government. Central banks work closely with financial institutions to regulate the financial dealings of these institutions.

In a bid to control interest rate volatility in the commercial sector, the central bank enacts monetary and fiscal policies aimed at governing commercial financial institutions. During inflation, the government tends to regulate the activities of commercial banks through contractionary monetary policy (Forster & Shaffer, 2005). For instance, in 1993, amid rapid inflation, the cash ratio was re-examined and reactivated to 8%. It was further raised to 20% by February 1994 before falling back to 5% by 1996. As explained by Brock and Franken (2002), lending rate is a monetary policy used by the government in an attempt to trigger or discourage credit creation in the economy. In order to create borrowing incentive, commercial banks lower the window interest rates.

The government therefore regulates the financial activities of commercial banks through cash ratio and minimum reverse ratio (Casassus, et al., 2005). Though tightening the monetary policies reduces money supply, the effectiveness of monetary policy mechanisms remains elusive especially when accompanied with expansionary fiscal policy. As explains Crowley (2007), tighter monetary policies only widens the interest rate spreads in the commercial banking sector.

Khemraj (2007) is the postulation that commercial banks set the loan rate exogenously via a mark-up over the marginal transaction costs and the exogenous safe rate of interest2. It there-
2.3 Interest Rate Volatility and Borrowers’ Attitude

2.3.1 Investment Decision and Risk Factors

Borrowers are interest sensitive to the extent that a unit change in the rate of interest charged by commercial banks would result in a more than proportionate change in the borrowing characteristics of potential investors (Ito, 2007). According to Thygersa (1995), when the lending rate declines by 1%, at least 12% investors get attracted and would consider investing by acquiring loans from financial institutions. This shows how sensitive investors are to changes in commercial cost of capital.

Therefore, it is important that interest rates be consistent and predictable (Marshall & Ho, 2006). To an investor, real interest which take into account the rate of inflation is very critical when making any financial decision on whether to invest, borrow or not. Weller & Chaurushiya (2004) posit that interest rates cluster at different sectors depend on risk factors, size, maturity, financial market imperfections, and taxability.

The degree of uncertainty in the banking sector with respect to interest rate charge is reflected on the response of the borrowers. Borrowers are categorized as being risk lovers, neutral, or risk-averse (Ataullah & Lee, 2006). These categories of investors place different values to capital investment with respect to bank interest rates. The degree of riskiness involved in the capital investment is influenced by interest rate volatility. As suggested by (Barnea & Kim, 2007), when the interest rates of the banking sector is unstable, risk averse investors are locked from acquiring credits and hence limiting their ability to undertake intensive investments using borrowed resources.

Investors evaluate the effective market rate of interest before spending their resources, which depends on the level of interest rate spread in the commercial banking sector. Interest rate volatility affects the investment decisions made by fund borrower. As discussed by Bester (2004), “loans are highly sensitive to the level of interest rates. As a result; the demand for loans is importantly affected when interest rates increase since this implies higher interest payments. Consequently; the cost of capital is seen to be more expensive.” Interest rates are identified as the premium offered or required in the commercial or capital markets to aid in allocating
investment resources in the most optimal, productive and profitable manner between lenders and borrowers with their future outcomes being unpredictable ex-ante (Brock & Franken, 2005).

Capital Asset Pricing Model (CAPM) describes investment as being a risk taking behavior whose returns are perceived to be the rewards for assuming a given level of risk (Flannery, 1981). Therefore, expected returns from any investment should increase with an increase in the risk factors involved in order to serve as compensation to the investors for bearing such as excessive risk. Higher degree of interest rate spread drives away risk averse potential investors as the return on investment cannot be determined by precision (Lucchetti, Papi, & Zazzaro, 2010).

The maturity period a financial instrument is crucial in diverse ways. Maturity plays an important role in determining the commercial bank interest rate by determining the loan duration, which also depends on the volatility of the interest rate (Bester, 2004). Loans with longer maturity periods pose higher interest rates as compared to short-term loans which attracts lower interest rates. This is because long-term maturities are characterized by more risks and uncertainties about the outcomes of the expected returns (Demirguc-Kunt & Huizinga, Determinants of Commercial Bank Interest Margins and Profitability: Some International Evidence, 2008).

2.3.2 Interest Rate Volatility and Default Rate

Loan defaults occur when borrowers are not willing and or able to repay loans (Hoque & Hossain, 2008). Among the many factors, high interest rate is the most important factor which influences the borrowers’ ability to repay loans. Barnea & Kim (2007) reports that escalating interest rates charged by commercial banks limit investment and growth of an economy, though Brock & Franken (2005) underscored that the importance of higher real interest rates during inflationary pressure to promote savings and investment in financially repressed economies. Poya & Matthews (2004) found that too high interest rate was detrimental to investment and growth.

Despite the application of a number of remedial measures, such as supplying fresh loans, loan rescheduling, imposition of penal interest rates, denial of additional credit to repeat defaulters, management takeover of problem projects, and legal actions, loan default problems continue to
reign the credit markets in developing countries (Barnea & Kim, 2007). Hoque & Hossain (2008) suggest that loan default occurs when borrowers are not able and/or willing to repay loans implying that there are borrowers who are willing but not able to repay loans and there are borrowers who are able but not willing to repay loans.

Keynesian economists recommended that interest rates should be kept low in order to speed the growth of investment and economy at large (Gelbard & Pereira Leite, 2009). The virtues of low interest rates include the ability to increase borrowing, reduce inflation, increase job opportunities and stimulate national economy (Saunders, 1999). High interest rates cause inflation which increases the cost of production or costs of goods sold. Such cost escalation can reduce earnings before interest and taxes (EBIT). At times, interest expense may not be covered by the EBIT which means that nothing is left for loan repayments. That is, high interest rates may end up with higher liabilities and if liabilities are greater than assets, borrowers will not be able to repay loans and hence, debt default occurs (Ndung’u & Ngugi, 2005).

Though inflation can increase both nominal and market value of assets, such increase may be insufficient to offset the rising cost of interest (D’Amato & Pistlesi, 2001). Default occurs if EBIT is not sufficient to generate any net profit (after paying interest and taxes). These suggest that loan default can be associated with high interest rates. The question therefore is: how ‘high’ or ‘low’ should interest rates be? Generally, banks do charge high interest rates in developing countries where financial markets are imperfect as information asymmetry between borrower and lender prevails, credit-worthiness of borrowers is doubtful (Chan, et al., 2005).

Crowley (2007) also adds that in developing economies, the value of collaterals is overstated and that the financial markets are inefficient hence high interest rates. He argues that nobody precisely knows the degree of such imperfections of financial markets and asserts that all banks are addicted to the policy of high interest rates. This is counter-productive as high interest rates may contribute to loan default. This indicates that banks should determine appropriate lending rates on the basis of proven, not hypothetical, degree of market imperfection (Crowley, 2007).

Lending rates should be lowered or adjusted very frequently with the level of real-world imperfection which decreases with pace of economic development and growth of an economy (Bordo , 2008). Priebe (2010) suggested that real rate of interest must be lower than real return
on capital. This implies that as the financial market becomes more and more efficient with the process of development, lending rates should be lowered than before which may contribute towards reduced level of-loan defaults. Failure to do this may result in persistent loan defaults in developing countries.

Quaden (2004) has identical findings that high interest rates can be detrimental to investment and growth as they do not contribute to banks’ growing profitability in the long run. Buraschi & Corielli (2005) believed that high interest rates are responsible for higher defaults and declining bank profit indicating that high interest rates are positively correlated to loan defaults in developing countries.

2.4 Effect of Banks’ Policies on Interest Rate Volatility

2.4.1 Bankruptcy and Liquidity Preference Policy

Bankruptcy and liquidity preference policy is used in the commercial banking sector in Kenya to help in restoring investor’s confidence in the banking sector (Central Bank of Kenya, 2012). According to this principle, financial institutions have a preference for liquidity over investing and they have to maintain a balanced quick acid ratio to meet their current liabilities when they fall due. That is, investors will prefer short term securities to long term securities and to encourage them hold long term securities; such securities should yield higher interests than short term securities. Therefore, the yield curve will always be upward sloping (Chan, et al., 2005).

Applying the liquidity preference theory explains the premium offered in forward rates in comparison to expected future spot rates. This premium is used as payment for the use of scarce liquid resources (Bester, 2004). The preference for liquidity can be accounted for by the fact that economic units need to hold certain levels of liquid assets for purchase of goods and services and the fact that these near term future expenditures can be difficult to predict. Liquidity theory is limited by its short-term nature, the assumptions that income remains stable, and like classical theory, only supply and demand for money are considered (Lucchetti, et al., 2010).

Financial liberalization hypothesis holds that allowing the market determination of real interest rates enhances the mobilization of savings and increase deposit levels in commercial banks (Flannery, 1981). Commercial banks that are able to select good from bad borrowers, diversify
risks, minimize transaction costs, and are likely to channel their savings to the best investors who earn the highest rate of return. Performing such roles of intermediation, banks not only increase the rate of capital accumulation but also increase productivity, thereby boosting the economy’s steady-state growth (Crowley, 2007).

Developed countries hold large quantities of excess liquidity in their asset portfolio, of which the larger part does not earn any interest (Gelos, 2006). Bikbov & Chernov (2004) defines excess liquidity as the total bank liquidity minus the required bank liquidity (bank reserve). The required bank liquidity is set by the central banks of the respective countries. In spite of efforts to liberalize and modernize financial institutions, markets and instruments in Less Developed countries (LDCs), the banking sector is the most important source of financing in these economies. Therefore, the investment choice of banks can either retard finance’s role in growth or augment that role. Hence, examining banks’ liquidity preference in LDCs will emphasize important information regarding their behavior in such economies.

Khemraj (2007) posits that banks in LDCs require a minimum rate of interest in the loan market before they make a specific loan. He further argues that a commercial bank must receive a minimum loan rate that compensates for risks, marginal transaction costs and the rate of return on a safe foreign asset before it makes a loan to a particular borrower. Thus, if the marginal borrower is unwilling to pay the minimum rate, then the banks accumulate non-remunerative excess liquidity. This phenomenon is depicted by a liquidity preference curve that is flat at a relatively high loan rate. Therefore, non-remunerative excess liquidity and loans can become perfect substitutes at a very high rate of interest in the loan market (Bikbov & Chernov, 2004).

The understanding of the relationship between bank liquidity and loanable funds helps to distinguish its cause (Chirwa & Mlachila, 2004). For instance, this relationship could be explained by a regime of financial repression promoted through monetary easing identical to quantitative easing especially in the developed economies. The need to understanding the implication of the nexus between financial intermediation and real sector is important given that banks are the leading source of external finance in emerging economies. Ataullah & Le (2006) assert that the commercial banks dominance in the area of provision of external financing is likely to continue indefinitely.
Management of commercial bank reserves is an important aspect of monetary policy in developing countries (Brock & Franken, 2005). However, this is not taken into consideration in the monetary models applied to these economies. In addition to the regime of an investment demand constraint, hypothetical cases of a loan supply constraint that is precipitated by a shock to bank liquidity preference could be developed. This can be used to identify shocks that are more likely to be the result of a financial crisis; moreover, it might be more relevant to an advanced economy where banks hold a large portfolio of financial assets in off balance sheet accounts.

On the other hand, the investment demand constraint occurs after years of policies intended to reform the financial sector (Buiter, 2009). These reforms involve the de-repression of interest rates, the pursuit of indirect or market-based monetary policy, the privatization of commercial banks, and other measures. The investment demand constraint occurs when banks have the capacity to set the lending rate to reflect the marginal cost of lending, risks and a mark-up over some benchmark interest rate (Chan, et al., 2005).

2.4.2 Expectation and Rationality Principle

This principle is founded on the fact that consumers and investors being rational in their investment decisions base their decision on the prevailing market information (Barnea & Kim, 2007). Besides, their expectation on possible future changes in the interest rates charged by financial institutions also has a say in their final investment bundles (Thygersa, 1995). This principle asserts that “the best estimation for future interest rate is the current spot rate and that changes in interest rates are primarily due to unexpected information or changes in economic factors.” Therefore, when the future interest rates are promising, investors would prefer taking a long term investment at the expense of short-term securities. The reverse would be true in case short–term interest rates are higher than the long-term security valuation (Ataullah & Le, 2006).

Other expectations that will influence securities demand will include expectations on political conditions and the expected inflation levels (Priebe, 2010). The rational expectations principle can be incorporated with the loanable funds theory in order to better consider the available information with the economy performance at a given time (Brock & Franken, 2003). The limiting factors of rational expectation theory are mostly related to the difficulty in gathering
information and understanding how the public uses its information to form its expectations (McCallum & Nelson, 2006).

2.4.3 Profitability Index, Minimum Reserve Ratio and Discount Rate

According to Brock & Franken (2003) bank reserve ratios are central bank regulations that set the minimum reserves that a commercial bank must hold as a percentage of its deposits and notes. Bank reserve ratio is mostly used as a monetary mechanism as it presents potentials of regulating the amount of resources available for banks and other financial intermediaries for lending (credit creation by the bank) and other purposes. Minimum reserve ratios are mainly designed to shield the banking institutions from unexpected liquidity drops which results from financial crisis (Bordo, 2008). Though this ratio varies accordingly, for instance, in Australia and U.K, the minimum reserve ratio is maintained at zero percent, while some countries, like Lebanon, the ratio is maintained at 30% (Brock & Rojas-Suárez, 2008; Crowley, 2007).

In Kenya, the CBR is maintained at 4.75%, a figure relatively higher than the 4.50% kept by 2009. This is because the government, through its monetary authority desires to boost the economic performance amid low economic growth and development. The rise means cash will flow out of the market and it sends a signal that the central bank really is watching. It was not hawkish, but it does offer some direction (Central Bank of Kenya, 2012). Raising the window discount rate to 18% by the Central Bank of Kenya widens the interest rate spread and makes the investment in the financial assets more expensive. As a monetary tool, discounted interest rate focuses on creating sustainability in the financial sectors (Chirwa & Mlachila, 2004).

2.4 Chapter Summary

Commercial bank interest rates are the economic pillars of growth and industrial development. Therefore, certainty and sustainability of the interest rate is essential. As highlighted in this study, interest volatility affects the operations of the leading financial institution. Interest rate spread arises from government regulations, legal and institutional factors, fiscal and monetary policies, and the financial management strategies.

Interest rate spread in the banking sector only tends to decline with an improvement on the institutional factors: contract enforcement, legal system efficiency, and increase degree of
transparency in the banking industry. This spread in the commercial bank interest rate is founded on rational expectation theory, liquidity preference principle, and profitability index theory.

Chapter 3 will present the researchers approach in conducting the study. It will discuss the research design to be adopted by the study; target population and sample; data collection instrument and procedure; and, data analysis techniques suitable for this study.
CHAPTER THREE

3.0 RESEARCH METHODOLOGY

3.1 Introduction

This chapter illustrates the approach that the researcher took in carrying out the study. As such, it provided the blueprint of doing the actual research. This chapter, thus, discusses the research design adopted by the study; target population and sample; data collection instrument and procedure; and, data analysis techniques.

3.2 Research Design

Research design is the plan guiding a study on the process of gathering, analysing and interpreting observations (Thomas & Taylor, 2002). It provides guidance on the methods and instruments to be used in collecting information, evaluating it with the purpose of responding to the research questions and objectives (Mugenda & Mugenda, 2003). The study adopted a descriptive research design.

According to Donald & McBurney (2009), descriptive research design responds to research questions regarding what, when, who, where and how of a research problem by describing the facts and characteristics about the population of phenomenon being studied. Descriptive research design enabled the study to establish the determinants of interest rate volatility in commercial banks in Kenya since it was easier to administer and less costly. Besides, it enhanced representation since it used both qualitative and quantitative approaches of data collection and analysis.

3.2 Population and Sampling Design

3.2.1 Population

Population is the collection of individuals or objects that is the key focus of a scientific query or total set of units about which information is desired or to whom inferences and conclusions is generalized (Creswell, 2003). The population of this study was the conventional commercial banks in Kenya. Islamic banks do not charge interest rates, as prescribed by Islamic finance and
Sharia law, which disqualified them from the target population. According to the Central Bank of Kenya (2012), there are 44 commercial banks in Kenya of which 42 are conventional commercial banks. Middle management staff in the commercial banks preferably Finance officers or their equivalents were purposively sampled.

Table 3.1: Population Distribution

<table>
<thead>
<tr>
<th>Type of Ownership</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Owned</td>
<td></td>
</tr>
<tr>
<td>Government Ownership</td>
<td>3</td>
</tr>
<tr>
<td>Privately Owned</td>
<td>27</td>
</tr>
<tr>
<td>Mortgage Finance Companies</td>
<td>1</td>
</tr>
<tr>
<td>Foreign Owned</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>

Source: (Central Bank of Kenya, 2012)

3.2.2 Sampling Design

3.2.2.1 Sampling Frame

Sampling frame is the set of all the available sample units from which a researcher can choose from at a given stage in the sampling process or the working population in which all the population members are represented and there is no duplication of members (Cook & Reichardt, 1979). The study’s sample frame was the different categories of commercial banks as presented in Table1; Source: (Central Bank of Kenya, 2012).
3.2.2.2 Sampling Technique

Stratified sampling technique was adopted for this study. This owed to the heterogeneity of the study’s target population; consisting of commercial banks with different ownership types. Stratified sampling identified target populations variations or sub-groups making it easier to sample each subpopulation (stratum) independently by categorizing members of the population into relatively homogeneous subgroups before sampling. Then other sampling technique can be applied within each stratum which improves the representativeness of the sample by reducing sampling error (Creswell, 2003).

The study stratified the target population into different ownership types; local and foreign owned banks. From each commercial bank, a middle management staff preferably a finance officer or equivalent was purposively sampled. This enhanced objectivity as they were in good stead to provide reliable information on determinants of interest rate volatility as they kept such records.

3.2.2.3 Sample Size

From a population of 42 banks, middle management staff were selected making a sample size of 42. The sample size was justified as it enhanced representation as views were obtained from all the targeted commercial banks.

<table>
<thead>
<tr>
<th>Type of Ownership</th>
<th>Population</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Owned</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government Ownership</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Privately Owned</td>
<td>27</td>
<td>25</td>
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<tr>
<td>Mortgage Finance Banks</td>
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<td>1</td>
</tr>
<tr>
<td>Foreign Owned</td>
<td>13</td>
<td>13</td>
</tr>
<tr>
<td>Total</td>
<td><strong>44</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
</table>

3.4 Data Collection Methods

The study used both primary and secondary data sources. While primary data is information the researcher collects, secondary data refers to data from other sources (Mugenda & Mugenda,
Primary data was used primarily as it was considered more reliable since it is not subject to prior manipulation and is up to date. The main instrument for data collection was semi-structured questionnaires that gave the researcher comprehensive data on a wide range of factors (objectives). That is, both open-ended and closed-ended questions were used.

Questionnaires allowed greater uniformity in the way questions were asked, ensuring greater compatibility in the responses. While closed-ended questions allowed for uniformity of responses to questions; unstructured (close-ended) questions gave the respondent freedom of response which helped the researcher to gauge the feelings of the respondent. He/she used his or her own words which aptly brought out respondents’ attitudes and views (Thomas & Taylor, 2002).

3.5 Research Procedures

Before the actual data collection, the research instrument was pre-tested to establish its validity and reliability. To enhance response rate, the pilot test enabled familiarity with the task at hand and availed an opportunity to make revisions to the instrument and data collection procedures to ensure that appropriate questions were asked, the right data was collected and the data collection methods worked. The questionnaires were pre-tested on 10 commercial banks’ branches that were not included in the study. From the pilot results reliability and validity was tested.

The questionnaires were pre-tested and hand-delivered to the respondents to fill-in and return the questionnaires back. The questionnaires were collected back after 10 days. Secondary data was obtained through published and unpublished materials and annual reports of the banks.

3.6 Data Analysis Methods

The data obtained from the questionnaires was coded and entries made into Statistical Package for Social Science (SPSS) version 17. Responses from unstructured questions (qualitative data) on respondents’ opinion were written on a separate sheet and organized in themes. These themes were used to answer research questions. Descriptive analytical technique was used to analyze the primary data of quantitative nature.
Descriptive statistics included: frequencies both absolute (frequency) and relative (percentage); measure of central tendency (mean) and dispersion (standard deviation). To test if determinants of interest rate volatility differ with different bank ownership, inferential statistics through Chi-square test were used. The chi-square test was conducted at 95% confidence level. The results of the analysis was organized, summarized and presented using tables, pie charts, bar graphs and bar charts showing the frequency and percentages involved.

3.7 Chapter Summary

Descriptive research design answers the fact finding questions of the research problem by describing the characteristics of the phenomenon being studied. This research design method was combined with stratified sampling technique in this study so as to capture the specific characteristics of different commercial banks that influence the interest rate volatility.

Data was collected by the use of questionnaire which had the advantage of collecting quality information within a short duration. For data to be meaningful to the researcher, it must be analyzed systematically and logically and also presentable in a lucid manner by use of statistical software such as the Statistical Package for Social Sciences (SPSS) software was utilized for this study.
CHAPTER FOUR

4.0 DATA ANALYSIS

4.1 Introduction

This study focused on the determinants of interest rates volatility on financial market with emphasis on Kenya commercial banks. The study was guided by the following objectives; to determine the effect of government regulations on commercial banks’ interest rate volatility, to assess the effect of customer attributes on commercial banks’ interest rate volatility, and to evaluate the effect of bank’s policy on their interest rate volatility in Kenya. This chapter presents the research findings and the analysis of the data collected by way of questionnaire.

The researcher wanted to establish the level of education and their understanding on the banks credit policies. Of the 42 commercial banks in Kenya, this study reached respondents from 22 banks, both local and multinational ones. The returned questionnaires were obtained from 22 banks meaning a 52% return rate, with all the questions having been substantially answered. Findings revealed that of the sampled banks, 73% were privately owned as shown in figure 4.1. Further, the respondents had worked in the bank or in the banking sector for an average of over 6 years. Also, 73% of the respondents had levels of education of at least above a degree.

**Figure 4.1: Form of bank Ownership**

![Form of ownership chart](image)

Source: Researcher 2013
4.2 Bank Policies and Guidelines Influencing Interest Rates

The researcher examined the credit policies adopted by the banks that may influence the interest rate volatility. This majorly focused on the bank’s preferences. Findings revealed that the sampled banks prefer liquidity, profitability and discount rate and to some extent consider rational expectations about the market performance. Notably, liquidity takes preference compared to all other factors as shown in figure 4.2 below. Another factor mentioned as being considered is the cost of deposits.

Figure 4.2: Bank policies and Guidelines Influencing Interest Rate

Source: Researcher 2013

The researcher also sought to determine the fundamentals in relation to the above mentioned preferences and policies that may have an impact on interest rates. The liquidity in the general market, inflation, CBR rate, demand on credits, and the level of government borrowing are key market fundamentals that influence the interest rate. A rise in any of these fundamentals results to some increase in interest rate. Another factor mentioned by the respondents as a determinant to interest rate charged by a bank was the competitor rates and extent of the competition in the industry. The banks ensure that their interest charged on loans and credits compare with those from the competitor banks.
### 4.3 Government Regulations and Interest Rate Volatility

The researcher sought to determine the government regulations and its practices that may impact on the interest rate volatility. Monetary policy, legal system efficiency demand, transparency of banking industry, interest rate ceiling caps, fiscal policy, minimum CBK reserve are amongst the identified government regulations affecting interest rate volatility. The respondents identified monetary policy, interest rate ceiling caps, minimum CBK reserve and fiscal policies as causing bigger impact on the interest rates volatility. The respondents ranked CBK rate as number one influencer, followed by government monetary policies as key contributor to interest rate movements as depicted in figure 4.3 below. Nonetheless, all the other factors were mentioned above were also said to have some impact on the interest rates levels.

**Figure 4.3: Ranking of Government Regulations effect on Interest Rates**

![Bar chart showing rankings of government regulations](source: Researcher 2013)
4.3.1 Interest Rate Ceiling or Caps on Interest Rate Volatility

The researcher investigated further on the impact of interest rate ceiling or caps on interest rates in the market. Findings revealed that interest rate ceiling caps impacts not only the levels of interest rates, but also, the banks willingness to offer credits, customers’ willingness to obtain credit as well as the fund allocation within the economy, hence the economic performance. Respondents said that the caps would reduce lending if unfavorable to customers, banks and customers allocation of their funds to alternative investments, and that the credit rationing would be sometimes to less attractive sectors in the economy. Even though, interest rate ceiling or caps would have a positive impact on the lending rate as they reduce interest rate volatility as well as making the cost of credit more predictable. Figure 4.4 below shows the percentages.

Figure 4.4: Impacts of Interest rate Caps on Interest Rate Volatility

<table>
<thead>
<tr>
<th>Impact</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced Interest rate volatility</td>
<td>36%</td>
</tr>
<tr>
<td>Less loans to customers and investing to alternative investments</td>
<td>16%</td>
</tr>
<tr>
<td>Reduced bank lending if rate is unfavorable</td>
<td>24%</td>
</tr>
<tr>
<td>Make cost of credit predictable</td>
<td>12%</td>
</tr>
<tr>
<td>Credit rationing to less attractive sectors in the economy</td>
<td>8%</td>
</tr>
<tr>
<td>Positive impact to lending rates</td>
<td>4%</td>
</tr>
</tbody>
</table>

Source: Researcher 2013

4.3.2 Government Involvement and Actions Influencing Interest Rates

The researcher aimed to determine the government regulatory actions, enforcements and its practices and their impact on interest rate volatility. The findings revealed that greater
commercial banks negotiation power, poor banking infrastructure, CBK reserve and minimum capital requirements, credit contract enforcements, interest rate volatility, broad money growth and increased fiscal deficits does influence the interest level. This study observed that all the regulations regulations below influence the rate of interest rate movements with interest rate uncertainty being the key element for the variations.

Table 4.1: Government Enforcements and Practices Influencing Interest Rates

<table>
<thead>
<tr>
<th>Government regulatory factors affecting interest rate volatility</th>
<th>Code</th>
<th>Extent of Impact on Interest rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater commercial bank negotiation power</td>
<td>3.1955</td>
<td>Great extent</td>
</tr>
<tr>
<td>Poor banking sector/financial service infrastructure</td>
<td>2.7764</td>
<td>Some extent</td>
</tr>
<tr>
<td>Central bank requirements (Reserves and capital requirements)</td>
<td>3.2472</td>
<td>Great extent</td>
</tr>
<tr>
<td>Credit contract enforcements</td>
<td>3.1427</td>
<td>Great extent</td>
</tr>
<tr>
<td>Interest rate uncertainty-proxyed by inter-bank interest rate volatility</td>
<td>3.4045</td>
<td>Very great extent</td>
</tr>
<tr>
<td>Broad money growth and increased fiscal deficits</td>
<td>2.9854</td>
<td>Great extent</td>
</tr>
</tbody>
</table>

Source: Researcher 2013

4.4 Customer Attributes and Interest Rate Volatility

The researcher sought to find out the customer attributes that commercial banks pursue in their decision to which client to extend a credit facility. For this purpose, the researcher requested the respondents to rank the clients such as corporate bodies, middle income individuals, members of the company’s board, interbank lending, high income individuals, Low income individuals and politicians. The most targeted clients by the banks were the corporate bodies followed by high income individuals, with middle income individuals succeeding as the third target. Politicians and Low income individuals trail behind. Needless to say, commercial banks compete for huge clients. The members of the company’s board and interbank lending lie in the middle. Figure 4.5 below provides the percentage sharing for each customer category.
4.4.1 The Use of 5Cs Credit Attributes for Credit Extension

The researcher sought to determine the extent to which the banks use the 5Cs to discriminate on whom to extend credit and the extent to which possession of particular attributes would affect interest rate levels. The findings revealed that the 5Cs are used to determine the creditworthiness of a client all the sampled banks. To some banks, specific client attributes are considered as highly important. Hence, without such, some banks will not extend a credit to a customer. In other banks however, certain attributes may be important, but have to be considered amongst some others and not independently.

All the sampled banks consider the 5Cs as important factors in their decision as regards the interest rate to charge for the extended credit. Although all the elements such as; character, capacity, capital, collateral and condition are considered and have almost similar percentage, the capacity to service the loan- that is availability of sufficient cash flows to pay up the obligation is ranked high (26%), with the collateral- the asset to secure the debt ranked second (21%). Character and capital carry equal ranking (18%) with the condition of the borrower and general economic condition ranked slightly lower (16%) as shown in figure 4.6 below. Nonetheless, the

Source: Researcher 2013

Figure 4.5: Most Targeted Clients for Credit Facilities

![Most Targeted Client for credit facilities](image)

- Corporate bodies: 35%
- Middle income individuals: 18%
- Members of the company’s board: 6%
- Interbank lending: 11%
- High income individuals: 26%
- Low income individuals: 3%
- Politicians: 1%

Corporate bodies: 35%
Middle income individuals: 18%
Members of the company’s board: 6%
Interbank lending: 11%
High income individuals: 26%
Low income individuals: 3%
Politicians: 1%
respondents advanced that the 5Cs are all considered for both the amount of credit and the credit rate chargeable to the clients from time to time.

**Figure 4.6: Importance in Credit Rating for Credit Rate Determination**

![Importance Attached to Credit Ratings (5Cs) to determine Interest Rate to be chargeable to Creditors](attachment:image)

**Source: Researcher 2013**

**4.5 Banks’ Policies and Interest Rate Volatility**

The researcher also sought to determine the mechanism the banks have put in place to ensure proper credit management. The research findings identified that in majority of the banks, there is a credit department and a 33.5% of the banks have a credit committee which is responsible for credit policy enforcement. However, some banks have managers, managing directors and officers as the enforcers of the bank’s credit policies. Managers and the managing directors were amongst the key credit policy enforcers and they received an equal rating from the respondents (18%) as shown below. Shareholder participation in credit policy enforcement earned the least rating of 9% as shown in figure 4.7 below.
The researcher also sought to ascertain the tenets for effectiveness of the commercial banks’ credit enforcement policy. Of the banks with a credit committee, majority of the respondents rated their bank’s credit policy as either effective or very effective. A few of the respondents from the banks with officers and all staffs as credit policy enforcers rated their policy as ineffective. At least 60% of the Kenyan banks were rated as having effective credit policies, while 35% were said to have very effective policies as shown in the pie chart below.
The duration, product type, risk profile and the ability to pay and relationship with client have been cited as major factors for consideration. Availability of customers, competitor rates and economic expectations are other key factors. Also mildly expected is the client needs and the cost of the source of bank funding.

The factors considered in credit cost transfer include transaction costs, banks set profit, purpose and economic cost of funds, other sources of capital in the market, 5Cs, CBR and inflation, deposits and their required rate of return, profit margin targeted and the expected value addition as well as the interest rated charged by competitors. Therefore, although banks can set their own regulations, external market fundamentals and competition for the interest rates is expected to exert the pressure on the established rate hence the rate will have to be a compromise between the market requirements and the bank’s targets and expectations.
4.5.1 Interest Rate Regimes and the extent of their Reviews

Figure 4.9: Frequency of Interest rate Reviews

![Frequency of interest rate reviews](image)

Source: Researcher 2013

The researcher also sought to determine the Banks with stringent controls on credit policy are noted to benefit more from their credit extensions. As a matter of fact, the banks which have an empowered credit committee were noticed to have effective credit policies due to their continuous review of their credit policy. The findings also revealed that in Kenya commercial banks, there is practiced, both floating and fixed interest rates signifying a difference in regimes or credit policy differential.
Figure 4.10: Types of Interest rates Charged by Commercial banks

Generally, quantity borrowed, operational costs, credit risk monitoring techniques, revenue streams and corporate governance of a bank are the major factors influencing the interest rate levels.

Notably, the credit monitoring techniques employed by a bank followed by the quantity borrowed and revenue streams are ranked higher than all the rest factors and they influence the interest rate fluctuations to very great extent as shown in figure 4.10 below.

Source: Researcher 2013
Figure 4.11: Factors affecting Interest rate Volatility

Source: Researcher 2013

4.6 Chapter Summary

This researcher used both primary and secondary data. Primary data was collected by way of a questionnaire which was filled by 22 banks, (51%) of Kenya’s commercial banks majority of which found to be privately owned. Of great concern to the bank are its current and long-term liquidity, and its profitability margin. Most banks aim to achieve maximum profitability while maintaining reasonably high levels of liquidity.

In finding out the impact of government regulations on commercial banks, government regulations aren’t positively received by the banks as they are viewed as curtailing the banks’ business practice. Major government regulations which influence interest rate fluctuations are the CBR, followed by monetary policy, fiscal policy, minimum CBK reserve requirements and the legal structures and systems as regards the banking practices.
Interest rate caps were seen to positively or adversely influence the quantity of credit available and willingness of the borrower to take the credit, thus investments and the economic performance. Nonetheless, the caps majorly had a positive impact to the lending rate as they reduce interest rate volatility hence making the cost of credit more predictable and feasible. Interest rate uncertainty, CBK reserves ration and capital requirements, commercial bank power of negation and credit contract enforcements to some extent influence the interest rates charged by the Kenya commercial banks.

In determining the effect of commercial banks’ customer attributes, most commercial banks target corporate bodies and high income individuals while avoiding low income individuals and politicians for credit extension. Although the 5Cs are all considered for purposes of credit rating, sufficient cash flow to pay the credit as well as collateral to secure the loan were given greater weight in the interest rate estimation.

In determining the effect of bank policies and interest rate, most banks have a bank policy with a empowered credit committee while the manager, managing director and officer being the overseers of the credit policy implementation in some banks. Of the banks with a credit committee, the respondents ranked the policy as very effective. The bank policies are established as mechanisms to be competitive amidst transaction costs, bank’s set profit, purpose and economic cost of funds, other sources of capital in the market, 5Cs, CBR and inflation, deposits and their required rate of return, profit margin targeted and the perceived value addition as well as the interest rated charged by competitors which also affect the interest rates fundamentasl and fluctuations.

Notably, banks with well established credit committee were found to have better credit management policies and their policies were reviewed continously. Most banks in the Kenyan financial stream were observed to practice both fixed and floating exchange rate system. The credit risk monitoring technique and quantity borrowed, and revenue streams of the borrowers were observed to be major factors influencing the interest rate fluctuation. The next chapter will provide a succid summary of the findings conclusions and recommendations.
CHAPTER FIVE

5.0 DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study sought to investigate the determinants of interest rate volatility in the Kenyan financial market with a special emphasis on commercial banks in Kenya. Knowledge of the determinants of interest rate volatility in Kenya is valuable since the borrowing rates offered by banks have fluctuated over time with different banks (Kiragu, 2012). This chapter provides the conclusions from the study findings and recommendations regarding the deductions made.

Interest rates have been erratic in Kenya. In 2011, CBK increased its base lending rates from 5% in January to 11% in October and 16.5% in December; effectively increasing banks’ lending rates to between 20-25%. In spite of the fact that this was meant to curb the inflation, which increased to 19.7% in November from 4.51% in January, it had implications on the consumer and company borrowing and savings (Okoth, 2011). Notably, interest rate is an important monetary policy tool in modern economies. Their roles in savings mobilization and investment expansion are robustly documented especially in developed world (Weth, 2002).

The dearth of studies on the determinants of interest rate volatility in Kenya is the sure justification for this study. Ndung’u and Ngugi (2005) conducted a study on the impact of interest rate spread on non-performing loans and established positive relationship between the two. Okoth (2011) conducted a study on the impact of interest rate volatility on credit borrowing and established that the former does adversely affect borrowing. This study sought to establish the effect of government regulations, customer attributes and bank policies have on interest rate volatility.

5.2 Summary

5.2.1 The Effect of Government Regulations on Interest Rates Volatility

The researcher sought to determine the effect of government regulations on the interest rate volatility. Monetary policy, legal system efficiency demand, transparency of banking industry, interest rate ceiling caps, fiscal policy, and minimum CBK reserve have been established to
affect interest rate volatility. The respondents identified central bank rate, monetary policy, minimum CBK reserve and fiscal policies as having bigger impact on the interest rates volatility. The respondents ranked CBK rate highly, trailed by government monetary policies as key contributor to interest rate movements. Nonetheless, all the other factors mentioned above were also said to have some impact on the interest rates levels.

The findings revealed that greater commercial banks negotiation power, poor banking infrastructure, CBK reserve and minimum capital requirements, credit contract enforcements, interest rate volatility, broad money growth and increased fiscal deficits can hamper economic worth of a nation if not well managed. Governments silence on interest rates levels can have adverse impact on the economy since interest rates are determine the extent of capital allocations within an economy (DeBondt, 2002). Crowley, (2007) possited that governemns out to contain inflation levels through a closer watch of the interest rates.

5.2.2 Interest rate Ceiling caps and interest rates

This research revealed that interest rate ceiling caps impacts not only the levels of interest rates but also, the banks willingness to offer credits, customers’ willingness to obtain credit as well as the fund allocation within the economy, hence the economic performance. Respondents said that the caps would reduce lending if unfavorable to customers, banks and customers allocation of their funds to alternative investments, and that the credit rationing would be sometimes to less attractive sectors in the economy. The study revealed that interest rate ceiling caps would have a positive impact on the lending rate as they reduce interest rate volatility hence making the cost of credit more predictable. Nevertheless, interest rate ceiling caps would have a positive impact to the lending rate as they reduce interest rate volatility hence making the cost of credit more predictable.

5.3 The Effect of Customer attributes on Interest Rate Volatility

The research revealed that the most targeted clients by the banks are; the corporate bodies followed by high income individuals, and middle income individuals were the third ranked target. Politicians and low income individuals trail behind. Needless to say, commercial banks compete for huge clients. Corporate bodies usually make huge transactions. They also have got
collateral security together with their incomes to show. Also, since they publish audited accounts and the fact that they may already have a relationship with financial institutions, they become a good candidate for the credit extension.

5.4 The Effect of Bank’s Policy on their Interest Rate Volatility

Bank policies on credit extensions and management of credit facilitation are greatly dependent on the guidelines the bank views as critical to furthering the interests of the entity (Barnea & Kim, 2007). The liquidity in the general market, inflation, CBR rate, demand on credits, and the level of government borrowing are key market fundamentals that influence the interest rate. A rise in any of these fundamentals results to some increase in interest rate. Another factor mentioned by the respondents as a determinant to interest rate charged by a bank was the competitor rates and the extent of the competition in the industry.

5.5 Conclusion

5.5.1 The Effect of Government Regulations on Interest Rate Volatility

The government regulates the business activities within their economy for diverse reasons. The government of Kenya regulates the banking practice to ensure the consumers are protected from the practices of the banking institutions to promote growth and stability. It is due to the significance of the banks in their financial intermediation that the governments ensure to keep close watch of the financial institutions. CBK, the official regulator of the financial institutions in Kenya regulates the practices of the banks through CBR, monetary policy, fiscal policy and parliamentary regulations.

Central bank rate is the major tool used in regulating the levels of banking institutions ability to lend to the public. The CBR influences the interest rate the banks are likely to charge their customers for credit extensions and is the major determinant of the rate the bank is likely to charge. If the CBR rises, the interest rate charged would rise. The monetary policy is the second likely tool that the government can use to influence the interest rate in the market more successfully. Although the government can use fiscal policy to manage the interest rate in the market, it may take quite some time before the effect is impounded into the market. Similarly, laws are effective but it takes quite some time before a draft is effected as a law.
5.5.2 The Effect of Bank’s Policy on Interest Rate Volatility

Bank policies adopted by commercial banks usually impact the decisions on who to extend the credit to and how much interest rate to charge for the opportunity cost of funds lent. Normally, it is the senior staffs who are involved in credit policy determination and definitely, the senior staffs are involved enforcing credit policies. Bikbov & Chernov, (2004) noted that one of the tools the credit department employs to manage the costs owing to credit extensions is the review of the interest rate offered by the bank from time to time. Informing choice of the interest rate to charge is a function of a myriad of factors.

A key inclusion in most banks’ policy is on who verifies and signs the application as well as follow-up of extended credit. A department tasked with management and addressing credit issues is paramount for banks. Banks with a credit committee are more effective in credit management than those without.

5.5.2 Bank policies and Interest Rate Volatility

The retail and corporate market is majorly targeted by the banks for their ability to pay. The rating for credit is dependent on perceived risk. Big clients like corporate bodies are perceived less risky. Some banks also highly regard a client’s ability to pay and availability of collateral. But, some banks have a strategy to bank to the unbanked. Yet other banks, concentrate on the many middle class income earners. Whereas most banks want to establish a competitive hedge by attracting many clients, risk of default is of concern hence, liquidity levels of the potential clients as ranked by a bank dictates whether they will be chosen for the credit.

Politicians and low income individuals are considered as risky clients, hence avoided for credit extensions. Commercial banks consider the capacity to pay and collateral to secure the loan slightly more than character, capital, and condition in determining the interest rate to charge for a credit extension. The greater the rating a customer gets, the less risky they are perceived to be and thus the amount of credit they may receive and the interest they may be charged in certain periods.
5.6 Recommendation

5.6.1 Government Regulators

The corporate governance, banking sector financial structure, CBK reserves and capital requirements, interest rate uncertainty and interbank rate volatility, broad money growth and increased fiscal deficits are key if the government is to contain the lending rate in the nation. Therefore, the government regulators should tighten its regulations on these variables to ensure that the interest rate in the economy is well contained.

5.6.2 Bank Executives

The quantity borrowed, operation costs, commercial bank negotiation power, credit contract enforcements, and credit monitoring technique are key ingredients in ensuring reasonably low interest rates and its volatility. Commercial banks ought to keenly look into the issues affecting these variables to ensure the interest rate levels and its volatility is contained in the economy.

5.6.3 The Customers

Revenue streams and the 5Cs are the general elements considered by commercial banks in determining the potential creditors’ risk profile and creditworthiness. For example, issues like character should be safeguarded. Also, a succinct management of company cash flows can help the customer to service the debt obligation. The borrower could also negotiate for favorable terms of payment and for their consideration even if their collateral may not be exactly what the bank requires.

5.6.4 Recommendation for Further Research

The study sought to investigate the determinants of interest rate volatility in the Kenyan financial market with a special emphasis on commercial banks in Kenya. The effect of three major variables such as the government regulations, bank policies as regards credit extensions and the customer attributes were considered. To analyze the three variables at one go was a big task. It is therefore commended to conduct a research on each specific variable in order to determine the exact relationship more exhaustively. Also, a study on these variables in the developed market like US, UK or Singapore can avail information for comparison.
REFERENCES


APPENDICES

Appendix I: Introductory Letter

Dear Sir/Madam,

REF: DATA COLLECTION CONSENT

I am a Global Executive Master of Business Administration (GeMBA) student at the United States International University (USIU) and currently conducting a research on *Determinants of Interest Rate Volatility in Commercial Banks in Kenya*.

In view of the above, I humbly request you assist me meet this objective by filling-in the questionnaire. It will only take 5 to 10 minutes of your invaluable time. Kindly read the accompanying instructions and respond to the questions as provided for. This will help in collecting the necessary data which will assist in carrying out analysis in order to achieve the objectives of the study.

This is an academic research and the answers you supply will be treated in utmost confidence and propriety.

Thank you for your co-operation,

Yours Sincerely,

Wilfred Kamuyu
Appendix II: Questionnaire

This questionnaire seeks information on the determinants of interest rate volatility in commercial banks in Kenya. All the information you give will be treated in confidence and used for academic purposes only.

Section A: Personal profile

1. What form of ownership does your bank conform to?

- Government Ownership □
- Privately Owned □
- Mortgage Finance □
- Banks Foreign Owned □

2. For how long have you been working in the banking sector?

…………………………………………………………………………………………………………………………………………………………………………………………………………………

3. What is your highest level of academic qualifications?

- Diploma □
- Undergraduate □
- Technical Qualifications □
- Graduate □

4. How would you rate your level of involvement in credit facilities offering/credit policies in your bank? (In a scale of 1-5 where; 1= not involved, 2= least involved, 3= substantially involved, 4= very much involved, and 5= in charge of policy making).

1 □ 2 □ 3 □ 4 □ 5 □
5. How would you rank the bank policies and guidelines that influence the interest rate levels?

- Liquidity preference policy  
- Rational expectation policy  
- Profitability Index policy  
- Discount rate policy  
- Any other (specify) …………………………………………………………………………………

6. If yes in (5), what are the fundamentals of these policies that ensure stable interest rate in the face of fluctuations in market fundamentals and CBK lending rate/monetary policy?

………………………………………………………………………………………………………………
………………………………………………………………………………………………………………
………………………………………………………………………………………………………………
………………………………………………………………………………………………………………

Section B: Government Regulations and Interest Rate Volatility

7. What are the regulations governing interest rates charged by your bank? Consider offering options and then allow for “other please specify”

- Monetary policy  
- Fiscal policy  
- Legal system efficiency demand  
- Central Bank Rate  
- Transparency of banking industry  
- Minimum CBK reserve  
- Interest rate ceiling caps  
- Any other (specify) …………………………………………………………………………………

………………………………………………………………………………………………………………
8. How would rank the different government regulations in order of the influence the regulation has on the interest rates charged by your bank. (using 1-7; where 1= most influential and 7=Least influential )

- Monetary policy
- Fiscal policy
- Legal system efficiency demand
- Central Bank Rate
- Transparency of banking industry
- Minimum CBK reserve
- Interest rate ceiling caps

9. What do you think would be the impact of interest rate ceiling or cap affect interest rate volatility in commercial banks?

10. The following are statements attributed to the government regulatory factors that affect interest rate volatility. Kindly indicate to what extent the following factors affect the volatility of interest rates charged by commercial banks with specific reference to your commercial bank. Use a scale of 1 – 5; where 1= Low extent; 2=some extent 3 = moderate extent; 4 = great extent; and, 5 = very great extent.

<table>
<thead>
<tr>
<th>Construct</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater market (negotiation) power of commercial banks</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poorly-developed banking sectors or financial service infrastructure</td>
<td></td>
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</tr>
<tr>
<td>Central bank’s requirements such as high reserve requirements or capital adequacy etc.</td>
<td></td>
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<tr>
<td>Credit contract enforcement</td>
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<tr>
<td>Interest rate uncertainty - proxied by inter-bank interest rate volatility</td>
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<tr>
<td>Broad money growth and increased fiscal deficits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section C: Customer Attributes and Interest Rate Volatility

11. Using numerals 1-7, rank the listed clients in the order of the most to the least targeted by your bank in regard to consumption of the banks ‘credit facilities.

   Corporate bodies [ ]   High income individuals [ ]
   Middle income individuals [ ]   Low income individuals [ ]
   Members of the company’s board [ ]   Politicians [ ]
   Interbank lending [ ]

12. How would you explain your answer above?

   …………………………………………………………………………………………………
   …………………………………………………………………………………………………
   …………………………………………………………………………………………………

13. What level of importance is attached to the following credit rating bases by your bank in assessing the interest rate to be charged on individual customers?

   KEY:
   1. Very important; without it no credit can be approved; in some cases, used as the only deciding factor.
   2. Important; has to be considered alongside other factors, not independently
   3. Less important; may or may not be considered
   4. Not important; never considered

<table>
<thead>
<tr>
<th>Rating Criteria</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character (Integrity)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capacity (Sufficient cash flow to service the obligation)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital (Net worth)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collateral (Assets to secure the debt)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Condition (of the borrower and the general economy)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Section D: Banks’ Policies and Interest Rate Volatility

18. Who enforces the interest rate policies in your Bank? Consider ranking from most important to least important.

Managers [ ] Officers [ ]
Managing Director [ ] Credit Committee [ ]
Shareholder [ ] All the Above [ ]

19. How effective are these policies in controlling the interest rates in your bank?

Very ineffective [ ] Ineffective [ ]
Not at all [ ] Effective [ ]
Very effective [ ]

20. How frequently does the bank review its interest rate?

Continuously [ ] Monthly [ ]
On quarterly basis [ ] Semi-annually [ ]
Annually [ ] Never Happens [ ]

21. In order of importance, how would you rank the types of interest rates on loans offered by commercial banks? (Choose only one ranking. Use the Key provided as above)

1 2 3 4

Float interest rates [ ] [ ] [ ] [ ]
Fixed interest rate [ ] [ ] [ ] [ ]
Both [ ] [ ] [ ] [ ]
22. What informs the choice of the type of interest rate charged? Consider providing options along with “other please specify”

………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

23. How does your bank formulate cost of credit (through interest rates) it seeks to transfer to customer?

………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

24. The following are statements attributed to the commercial bank related factors that affect interest rate volatility. Kindly indicate to what extent the following factors affect the volatility of interest rates charged by commercial banks with specific reference to your commercial bank. Use a scale of 0 - 5: 0 = Not at all; 1= Low extent; 2= some extent 3 = moderate extent; 4 = great extent; and, 5 = very great extent.

<table>
<thead>
<tr>
<th>Factor</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity borrowed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial bank’s operation cost</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>State of corporate governance within bank</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Credit risk monitoring technique</td>
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<td>Commercial bank’s revenue streams</td>
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THANK YOU FOR YOUR PARTICIPATION