

**THE EFFECT OF INTEREST RATES SPREAD ON LENDING
CAPACITY OF BANKS**

A CASE STUDY OF BARCLAYS BANK OF KENYA

SCHOOL OF BUSINESS AND MANAGEMENT

**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT FOR THE AWARD OF A BACHELORS DEGREE
IN INTERNATIONAL BUSINESS ADMINISTRATION IN THE
SCHOOL OF BUSINESS AND MANAGEMENT AT KAMPALA
INTERNATIONAL UNIVERSITY**

PRESENTED

BY:

AKATSA PAULINE

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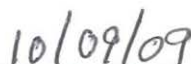
JUNE 2007

DECLARATION

This research paper is my original work and has not been presented for a degree in any other university.



Akatsa Pauline



Date:

APPROVAL

This research paper has been submitted for examination with my approval as a University supervisor.

Mr. Ruteganda

22/09/08

Mr. Ruteganda Michael Msc (UK) BA (US) ACIS

Date

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ACRONYMS AND ABBREVIATIONS

CBK	–	Central Bank of Kenya
DPF	–	Deposit Protection Fund
KBA	–	Kenya Bankers Association
IMF	–	International Monetary Fund
NBFI	–	Non Bank Finance Institutions
NPLs	–	Non Performing Loans
OMO	–	Open Market Operations
OMTO	–	Open Markets Type Operations
REPO	–	Repurchase Order

TABLE OF CONTENTS

DECLARATION.....	ii
APPROVAL.....	iii
ACKNOWLEDGEMENT	iv
ACRONYMS AND ABBREVIATIONS	v
ABSTRACT	1
CHAPTER ONE:.....	1
INTRODUCTION	1
BACKGROUND	1
1.3 Statement of the Problem	5
1.4 Goals and Objectives.....	5
1.5 Justification.....	5
CHAPTER TWO	8
2.1 Literature review	8
Theoretical literature review.....	8
2.2 EMPHIRICAL LITERATURE REVIEW.....	13
2.3 OVERVIEW OF LITERATURE.....	16
3. 0. Introduction.....	17
3.2. Procedure.....	17

3.3. Sample Collection	17
3.4. Data collection	17
3.4.1 Interviews.....	17
3.4.2 Questionnaires.....	18
3.5. Data Analysis.....	18
CHAPTER FOUR.....	19
4.1 Data Analysis.....	19
CHAPTER FIVE	22
DISCUSSIONS, CONCLUSSIONS AND RECCOMMENDATIONS	22
5.1 Conclusions and Recommendations	22
5.2 Some areas for further research.....	24
REFERENCES.....	25
Questionnaire for the key informants	27
MAP OF NAIROBI.....	30

ABSTRACT

A key indicator of financial performance and efficiency is the spread between the lending and deposit rate. If this spread is large, it works as an impediment to the expansion and development of financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy wide effect of reducing feasible investment opportunities and thus limiting future growth potential. It has been observed that large spreads occur in taxation or repression, lack of competitive financial banking sector and macroeconomic instability. That is risks in the financial sector are high. Financial reforms and liberalization should improve efficiency in the intermediation process. This implies that the spread will decline over time as liberalization is accomplished and financial sector develops. But in Kenya financial liberalization seems to have led to a widening interest rate spread. The main factors that propel this are distortions in the loans market, institutional and policy factors impact on transaction costs compound the effects of risks and uncertainty in the market thus worsening the spread. To narrow the interest spread it is important to maintain a stable macroeconomic environment and thus reduce credit risks. There is also a need to minimize implicit taxes like reserve requirement and cash ratios accompanied by fiscal discipline to reduce the demand for financing budget deficit with low cost funds. Banks should perform more screening functions than simply investing in treasury bills to enhance economic growth and invest in information capital to reduce the moral hazard and adverse selection problems. By enhancing competitiveness in the Treasury bill market and promoting diversification of financial assets for investors banks will have to compete for public funds. The result of this will be to squeeze the spread from increasing deposit rate. Above all strengthening the institutional base is important in enhancing enforceability of contract

CHAPTER ONE

INTRODUCTION

The subject of bank interest rate spread has dominated much of economic and business thinking in Kenya in recent years. At the heart of this concern are the consequences such high interest rates have on economic performance of the country, on individual enterprise performance and on the welfare of the average Kenyan who is the one who ultimately bears full impact through loadings which find their way through prices of products that he consumes. Interest rate spread is defined as the difference between the lending rate and the deposit rate.

This study will analyze the impact financial liberalization on the bank interest rate spread in Kenya. The study is useful in highlighting the actions that are required to enhance efficient operations of the financial system in Kenya. The basic question is whether policy makers and the monetary authorities should focus on the institutional infrastructure, the policy environment or the microstructure of the financial system. The study will outline the problems of the financial sector in Kenya and the possible causes of interest rate spread. In the study charts interest rate spread levels as measures of liquidity in the financial sector are provided. This spread is taken as a proxy for the efficiency of the financial intermediation. As efficiency improves the financial sector becomes competitive, the spread should narrow down.

BACKGROUND

In Kenya interest rates were liberalized in July 1991. Financial repression theory predicts that after liberalization positive real interest rates should be realized as nominal interest increase from government set low levels when the price stability is achieved. The financial system also gains efficiency in the intermediation process such that the interest rate spread between the lending and deposit rate narrows. In Kenya however nominal interest rates increased minimally immediately after liberalization and as inflation accelerated very high negative rates were recorded. Interest rate spread widened indicating either inefficiency in the intermediation process, weak institutional infrastructure and or macro economic instability, and or a non-competitive structure in

the banking sector. Deposit rates remained at low and almost constant levels while lending rates began moving upwards. This could be explained by the following factors.

- Lack of diversity in financial institutions and assets creating an uncompetitive financial market. For example the stock market was still at infancy, there were also constraints on individual investors, competing for government securities with a strictly set minimum investment capital level

- Inflationary pressures because of the lack of appropriate mechanism to hedge against future inflation. This implies that there was a preference for holding inflationary hedges rather than deposits, whose rates were low and did not change to compete for inflation.

- A Treasury bill rate maintained at persistently high levels encourages banks to hold treasury bills and thus relegate to the background their screening and monitoring roles in the financial intermediation process.

Lending rates increased gradually after liberalization and were accelerating as the sector faced more risky environment. In addition Treasury bill rates were kept high so that the lending rates tended to follow the Treasury bill rate over time. Even with a favorable environment for flexible interest rates the lending rates were sticky downwards and when they did decline they settled at relatively high levels. The persistently high lending rates were attributed to inflationary expectations regarding exchange rate depreciation, high implicit taxes, poor loans portfolios, a noncompetitive financial system and inefficient intermediation process. Given these trends in both markets, a widening interest rate spread was evident as shown in figure 1 below.

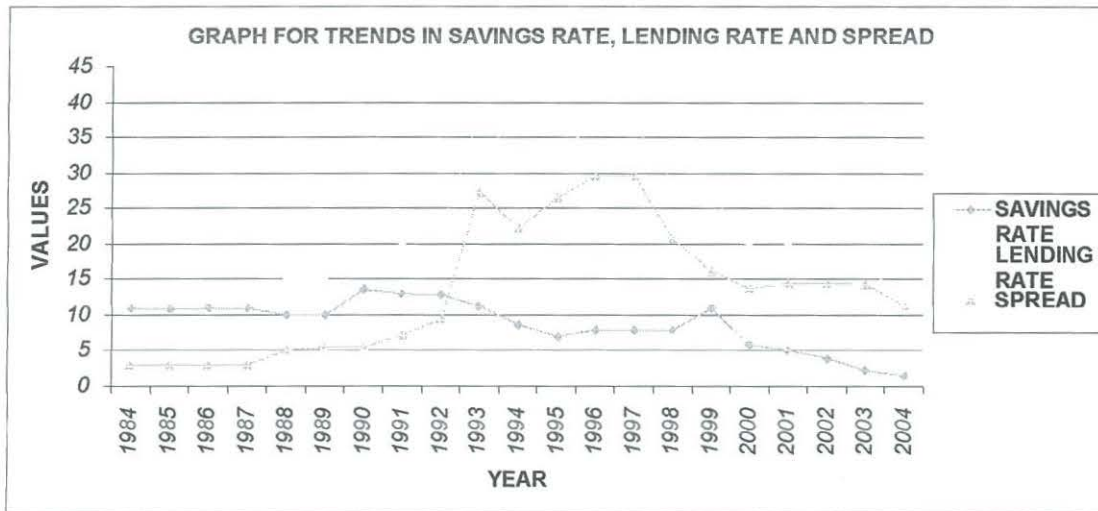
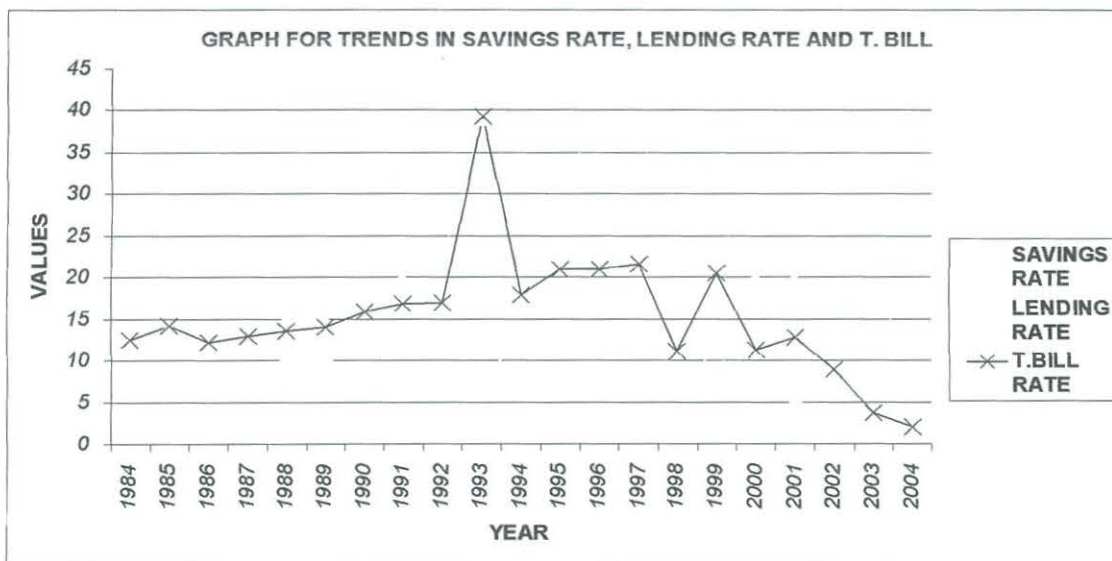


FIGURE 1

This trend in interest rate spread can be discussed in relation to the liberalization efforts and macroeconomic conditions, for example reform measures during the period included a change to a floating exchange rate regime, trade liberalization attempts to strengthen the regulatory system, tight monetary policy and interest liberalization. At the macro level, inflation accelerated, the economy went into a prolonged recession, while the Treasury bill rate was very high as the central bank used high rate treasury bills to finance the government's growing budget deficit. As steps towards liberalization of foreign exchange transactions, the shilling was devalued three times during the period. However given the modest changes in lending and deposit rates, there was only a modest increase in the Spread as shown.



In the period 1993-1995, a tight monetary policy was adopted with increased reserve requirements and reserve requirements and restrictions set on the use of the discount window. At the same time the central bank of Kenya (CBK) asked the non bank financial institutions (NBFIS) to convert to commercial banks or retain their true status as non bank financial institutions, and the cash ratio was extended to include NBFIs as the way of harmonizing the regulatory system. As the Treasury bill rate increased, other short term interest rates increased at even faster rate as shown in the deposit rate and the spread almost tripled recording an average of 12.9%

At the macro level GDP performance improved following the tight monetary policy adopted. Inflation came down to a single digit and attempt at fiscal discipline also brought down the deficit. In addition to central bank intervened in the market to defend the exchange rate. However the credibility in monetary policy was still low and lending rates were sticky downwards with inflationary and depreciation expectations.

In the period 1996 – 1998, interest rate spread increased very marginally. This period was characterized by efforts to enhance money and capital market performance and to strengthen the supervisory rate of the central bank. The market was also being enlarged as several NBFIs converted to commercial banks while others merged with their parent banks. This was a policy intended to discourage financial segmentation. Monetary policy moved towards using indirect tools. However the economy experienced instability with sudden outflow of short-term capital as the pull factors weakened, while foreign aid was suspended. As a result during the following period interest rate spread declined.

Thus the period covered by this analysis was characterized by various policy and institutional changes and macroeconomic instability. However, the relationship between these factors and the interest rate spread is not clear.

1.3 Statement of the Problem

A key indicator of financial performance and efficiency is the spread between the lending and deposit rates. If this spread is large, it works as an impediment to the expansion and development of the financial intermediation. This is because it discourages potential savers due to low returns on deposits and thus limits financing for potential borrowers. This has the economy wide effect of reducing feasible investment potential. Thus a widening interest rate spread in an economy is an area of great concern and warrants increased attention especially in research and more so in the policy arena.

1.4 Goals and Objectives

The main objective of the study is to analyze the spread between the lending and deposit rate in relation to the Treasury bill rate. The Treasury bill rate is the major macro economic factor influencing the spread. In pursuit of this objective the following specific objectives will be achieved.

To analyze the extent and direction in which the policy action are reflected in the spread.

To determine the factors that determines the interest rate spread in Kenya

To explore the various policy issues that will arise from the study.

1.5 Justification.

A repressed financial system is viewed as a hindrance to economic growth as it promotes inefficiency in the allocation of resources (with credit controls and distorted price indicators) curtails domestic resource mobilization (with interest rate set at low levels,) thus making the economy dependent on foreign savings; and supports fiscal indiscipline as the government obtains almost zero interest denominated resources to finance its deficit. Thus with financial liberalization it is expected that greater efficiency in the financial sector will stimulate savings (hence economic growth), enhance fiscal discipline and reduce excessive dependence on foreign capital.

Financial liberalization entails a variety of measures such as liberalization of interest rate, establishing freedom of entry into and procedures for orderly exit from the banking industry, reducing reserves and liquidity requirements, eliminating or minimizing credit allocation directives and removing controls in the capital account of the balance of payments (montiel 1995.)

Despite the assumed benefits of financial liberalization (McKinnon 1973) and (Shaw 1973) financial sectors in most developing countries are characterized by fragility, volatile interest rates, high-risk investment and inefficiencies in the intermediation process. These threaten stability of the financial sector as the system experiences banking crises, misallocation of resources, high levels of non-performing loans and high costs of intermediations. Widening interest rate spread is an indicator of the underlying weak institution and policy set up of the financial sector. How does this happen? When there are no ceilings on lending rates it is easier for banks to charge a higher risk premium and therefore give loans to more risky projects. This increases the rates of bank insolvency as non performing assets increase. As a result, banks attempting to defend their profits margins will charge high interest rates on the performing loans. The impact is felt more with economic shocks, when there is no hedging of such risky loans by a well diversified portfolio; and if investment in information capital, especially to cater for adequate analysis in monitoring and evaluation of funded projects, is yet to be carried out. On the other hand, if the interbank market is not well developed and there are restrictions on the discount window, banks will face a tight liquidity situation. If this is coupled with high reserve requirements, the banks stability will be threatened. In addition the presence of implicit or explicit insurance promotes adverse selection and moral hazard problems, and as capital controls are relaxed banks are exposed to foreign exchange risk. While interest rate levels and volatility have been used to assess the impact of financial liberalization on economic growth, interest rate spreads are used as a measure of the impact of financial liberalization on efficiency in the intermediation process. In addition the spread reflects economic activity in that it is used to forecast macroeconomic variables, inefficiency in the intermediation process is attributable to the incentive problems, which includes both information and enforcement components.

Weaknesses in enforcement of financial contracts create credit management problems exposing banks to legal and credit risk. These weaknesses may be manifested in an inability to make sufficiently restrictive agreement that prevent borrowers from diverting funds away from the intended purpose, failure to disclose accurate information on borrowers, as well as an inability to write easily enforceable legal contracts. A weak legal system (without clearly spelt out property rights) also narrows the scope of institutions and therefore the opportunity to diversify the asset portfolio. As a result the premium charged on credit is high, keeping lending rates high and widening the interest rate spread.

The unstable macroeconomic environment that the banks find themselves in serves to worsen the incentive problem and increase policy-induced risks due to unstable prices and hence unpredictable returns – similarly the incentive problem worsens the macro economic conditions. Uncertainty created by price volatility increases risk, while deteriorating macroeconomic performance impacts on the credit worthiness of the borrower. A decline in output or the price of outputs reduces the value of assets for collateral thus reducing that credit worthiness. Poor economic performance also impacts on investment returns. Poor business returns imply a weak position for the investor for repaying loans and thus the loan default rate increases it may also reflect distress borrowing as banks borrow to repay previous loans. Consequently productive investment declines accelerating the deterioration in economic performance. This in turn perpetuates the increase in risk premium charged on loans. In addition market segmentation whereby there are preferred banks for deposit and credit allocation as a result of political patronage may polarize the financial sector and increase risks, thus maintaining inefficiency in the intermediation process. All these factors show why interest rate spread is really topical issue for research.

CHAPTER TWO

2.1 Literature review

Theoretical literature review

In this section I review the literature on the factors influencing the size of the spread and the empirical procedures. Internal organization and management including government ownership and control and the regulatory framework.

A repressive financial system is characterized by credit ceilings that impose uneven credit rationing criteria and reduces efficiency in resource allocation. In addition a repressed financial system has interest rate ceiling that create a disincentive for resource mobilization as investors are poorly rewarded, while banks have no incentive to compete for deposits as extra deposits represent idle cash reserves. Consequently deposits supply and demand is sub optimal. In addition the presence of government to enforce the regulatory system. Thus the market structures incorporates the degree of competition, concentration and interlocking control between financial institutions and business enterprises and the degree of specialization (fry 1995)

Financial liberalization calls for the abolition of interest rate ceilings and the promotion of free competition among financial intermediaries. It emphasizes reducing government ownership and control and the establishment of a strong regulatory and legal framework; to facilitate competitiveness. Although competitiveness does not imply the non-existence of interests rate spread (Ho and Saunders 1981) the size of the spread is much higher with endogenous constraints to efficient allocation of resources by the banking sector where, in the absence of a well functioning equities market, efficient allocation of capital is not realized even with financial liberalization. Fry (1995) points out that in the absence of direct financial, equity and bonds markets financial institutions absorb too much risk and business enterprises rely excessively on debt financing. Thus interest rate spread will widen reflecting the substitution between debt and equity financing (Demirguc Kunt and Huizinga 1998).

However as the equity market expands offering competitive returns the risk absorbed by the banking sector falls and as they increase deposit rate to compete for funds from the public, the interest rate margin declines. Thus Fry (1995) argued that in an oligopolistic banking system there is a need for competition from the direct financial market. The question that remains is how competition can be introduced into the banking system. This is an institutional as well as a policy question.

The regulatory and legal framework influences functional efficiency. The regulatory framework incorporates regulations by the monetary authority aimed at achieving financial stability – thus in the liberalization process as a strong regulatory framework. Financial instability with unsound and improperly supervised lending practices may result in banks rationing out credit instead of taking on new borrowers. Imposing different regulatory guidelines for banks and non bank financial institutions also results in financial sector instability by diverting intermediation into the informal less regulated and less taxed part of the financial sector instability by diverting intermediation into the informal less regulated and less taxed part of the financial system.

The legal framework incorporates the adequacy of commercial law and the efficiency with which judicial system makes and enforces legal decisions. Weaknesses in enforcement of financial contracts will create credit increases. This is because banks face a credit associated risk with their inability to make agreements that restrict the ability of the borrowers to divert funds away from the intended purpose, disclose accurate information borrowers or make legal contracts will create credit management problems so that the premium charged on credit increases. This is because banks face a credit associated with their inability to make agreements that restrict the ability of the borrowers to divert funds away from the intended purpose, disclose accurate information borrowers or make legal contracts easily enforceable in addition a weak legal system without clearly spelt out property rights hinders diversify of institutions thus denying them the opportunity to diversify of institutions thus denying them the opportunity to diversify risk. In their study Demirgüç and Kunt and Huizinga (1997) found that better contract

enforcement efficiency of the legal systems and lack of corruption are associated with lower realized interest margins.

This is because they reduce the risk premium attached to the bank-lending rate. As Fry (1995) showed liberalization in the presence of inadequate prudential supervision and regulation magnifies the impact of exogenous shocks by accommodating distress borrowing. However it is noted that in developing countries regulation tend to be on paper but in practice are not enforced consistently and effectively. Thus expectations for a competitive banking sector and contract enforcement have become elusive.

Deposit insurance schemes are instituted to protect the depositors and maintain stability of the financial sector. However insurance (explicit or implicit) promotes moral hazard and adverse selection problems – Fry (1995) argues that adverse selection arises with a deposit insurance scheme especially if accompanied by high macro instability. In addition banks seldom seek to reduce adverse selection in credit rationing especially if macro instability produces strongly correlated outcomes. Thus explicit insurance for the banking system should first of all make sure that the system is stable regulated and has effective supervision, and then that it has an adequate depository fund – This fund should have some backup support to cushion banks against periods of financial stress or shocks.

Reserve and liquidity requirements and mandatory investment and interest controls are categorized as implicit taxes. A reserve requirement with no interest payment tends to have a high opportunity cost as it squeezes the excess reserve available for banks to advance credit, reducing the scope of the banks income earning assets. Similarly mandatory investment implies inefficient allocation of resources where banks continue giving funds to prioritized sector despite a non optimal rate of return, while interest rate controls limit the banks efforts to capture high yielding investments.

Explicit taxes like implicit taxes on financial intermediation process may provide a negative effective protection to the domestic financial system and encourage financial intermediation abroad, especially if there is tax discrimination.

Discriminatory taxation of financial intermediation reduces the flexibility of the system by significantly reducing the funds available for discretionary lending. Tax discrimination also leads to financial sector instability by driving intermediation into the informal, less regulated and less taxed part of the market.

The presence of explicit and implicit taxes also discourages the development of an interbank market, where the latter plays a major role in improving resource allocation and effectiveness of monetary policy. With heavy taxation at the interbank market level, all financial transactions make short-term overnight borrowing uneconomical and increase. The reliance on central bank discount facilities that provide inexpensive and unlimited loans to banks in need of funds. However with a restrictive discount facility the banks may face liquidity problems and they may resort to offering attractive deposit rates to attract more deposits. For example Barajas (1997) and Demirgüç – Kunt and Huizinga (1997) found a positive relationship between high interest rate spreads and high levels of taxation of impacts of the reserve requirement depends on the loans deposit interest rate elasticity.

Macroeconomic instability is both a cause and effect of banking sector performance – it increases uncertainty and adversely impacts on the credit worthiness of the lending rates. This disrupts the supply of credit as demand declines increasing the interest rate spread. Inflation for example for example is associated with a high interest margins as it creates uncertainty and therefore raises the risk premium charged. Similarly low output prices and slowdown in production and economic activity generally reduce the value of assets for collateral and therefore the credit worthiness of borrowers diminishes. This pushes banks to charge higher lending rates to cover the default rate risk. In an environment where the exchange rate is volatile and the interest rates are sticky downward, expectations of exchange rate depreciation will result in higher lending rates. This widens the spread.

Anticipated inflation thus leads to increased interest rate spread – Cukierman and Hercowitz (1990) found that when the number of banking firms is finite, an increase in anticipated inflation leads to an increase in the interest rate spread. As the number of banks approaches infinity that is as the number increases (competitive case) there is no

correlation between interest spread and inflation as the spread tends towards marginal cost of intermediation with increasing number of banks.

Banks are exposed to various risks (including interest risk credit risk, foreign exchange risk and legal risk), as a result of uncertainty, information asymmetry and the policy environment. When banks hold deposits and loans with unmatched maturities they are exposed to interest rate risk. As they adjust to the available assets and liabilities at the end of the period by engaging in money and secondary market operations or roll over the deposits. A decline in market interest rate lowers the present value of the outstanding amount of loan, even if the credit risk is low. This is especially so when banks raise funds through short term deposits to finance loans or purchase security with a longer maturity period, and thus leads to a significant increase in the volatility of market interest rate. This is because the short-term interest rates are highly volatile and affected by nominal shocks.

Banks are exposed to risk in the credit market as they do not know before lending the proportion of loans that will perform. To cover this credit risk, banks charge a premium whose magnitude depends on the credit policy, the interest rate on alternative assets, amounts borrowed and types of client. This increases the effective rate to borrowers and may reduce the demand for loans with an unstable macroeconomic environment, investors face increasing risks to their investments. In addition, if leading rates are also high, investors find it costly to finance their loans. As such instability and an escalating interest rate increase credit risk and the level of non-performing loans for banks, thus widening the spread.

Foreign exchange risk arises especially when banks borrow abroad, while legal risk is faced when the legal framework for collateral and bankruptcy is not clear. Liquidity risk arises if depositors demand to withdraw their funds leaving the banks with insufficient reserves, for example, when banks face a run as customers respond to a loss of confidence in the bank. On the other hand, banks earn zero income when holding cash and prefer to invest in order to hold relative to deposits will depend on the return on alternative uses of funds so that the opportunity cost of holding reserves is the market rate.

The higher the market rate, the lower the excess reserves, thus banks trade off between being caught with no funds and having to liquidate their assets. Banks can participate in the interbank market use the repurchase agreement for government securities to reduce their liquidity risk. Considering risk management by banks, Zarruk (1989) found that risk averse banks. Thus the expected size or scale of operation is larger in the case of risk aversion. Paroush (1994) showed that risk aversion raises the bank interest rate and reduces the amount of credit supplied.

2.2 EMPHIRICAL LITERATURE REVIEW.

Previous empirical works show support for market power in the loans market, indicating a non-competitive environment. For example, Ho Saunders (1981), approximating market power with bank size, found a significant difference in spread between large and small banks, where smaller banks had higher spreads than larger banks. The result of Barajas et al, (1996) and Elkayam (1996) also supported the hypothesis of a non competitiveness in the credit market. Elkayam (1996) observed that in a competitive banking system interest rate spread is driven solely by central bank variables including the discount windows loans, reserve requirement and interest on liquid assets deposited with the central bank. However, under a monopolistic or oligopolistic structure, interest rate spread is also affected by the responsiveness of demand for credit and deposits to interest rate.

In modeling the interest rate spread, two models are used to define the spread the accounting value of net interest margin and the firm maximization behavior. The accounting value of net interest margin uses the income statement of commercial banks, defining the bank interest income and interest expenses, which is expressed as a percentage of annual earning assets. However both Hanson and Rocha (1986) and Barajas et al (1996) criticize the accounting approach, saying that it does not indicate if there is equilibrium in economic sense or the type of market structure generated.

The firm maximization behavior on the other hand, allows derivation of profit maximization rule for interest rate and captures features of market structure. Depending on the market structure and risk management, the banking firm is assumed to maximize either the expected utility of profits or the expected profits. And depending on the assumed market structure, the interest rate spread components vary, for example,

assuming a competitive deposit rate and market power in the loan market, the interest rate spread is traced using the variations in the loan rate. But with market power in both markets, the interest rate spread is traced using the variations in loan rate. But with market power in both markets, the interest rate spread is defined as the difference between the lending rate and deposit rate.

Barajas et al (1996) uses a combination of firm maximization behavior and the accounting approach to model interest rate spread the study assumes a competitive deposit rate is infinite there is no market power ($\phi = 1$), while definite elasticity implies existence of market power ($\phi < 1$), super competitive solutions exist when ($\phi > 1$). Given the competitive deposit rate and assuming linear function of real level financial intermediation, he defines the lending rate as a function of policy and marginal cost variables. Interest rate spread is equated to loan rate. Demirgüç Kunt and Huizinga (1997) use the accounting method defining the spread as the interest margin. Assuming a linear relationship between the spread and various variables, they use cross sectional data for both developed and underdeveloped countries. Zarruk (1989) compare a risk averse and a risk neutral situation and considers interest risk averse and a risk neutral situation and considers interest risk assuming no default risk and implicit tax (reserve requirement).

A bank is assumed to be an interest spread setter as it sets both loan and deposit rates simultaneously. Assuming the bank is out to maximize the expected utility of profits the von Neumann – Morgenstern utility function can also be applied so that the bank is assumed to face the following model.

$$\text{Max } \mu = E [\mu (\Pi)] = \int \mu (\pi) g(\mu) d\mu$$

$$s.t L + B = D + E$$

$$D = D (R_D) + e$$

$g (\Pi)$ = Random term for deposit uncertainty.

Wong (1997) took the cost of goods sold and the firm maximization behavior to evaluate the determinants of the optimal bank interest margin. The model features a risk averse bank with credit and interest risk. The bank is assumed to be a Loan rate sector and a quantity setter in the deposit market, so that deposit rate is not a choice variable and the properties of the optimal bank interest margin are similar to the optimal loan rate. The concept of market power is captured by the reciprocal of interest elasticity where a high interest rate elasticity where a high interest rate elasticity where a high value indicates a bank possesses more market power. Paroush (1994) models a risk neutral bank whose objective is to maximize expected credit risk in addition to the deposit and lending rates is considered as a decision variable. Collateral is used to categorize a short run and medium term period. Gheva et al (1992) also assume the bank has two decision variables, loans rate and deposits rates. The bank sets both rates and allows the volumes to be set by public demand for credit and supply of deposits. The model assumes a risk neutral bank, therefore a bank out to maximize the profits. In addition the model assumes that is bank is out to minimize the difference between actual (short run and desired (long run) returns. To capture the adjustment process a partial adjustment model is fitted and a linear relationship assumed. Ho and Saunders (1981) integrate the hedging and expected utility approaches to analyze the determinants of bank margins. Their approach assumes a bank is a dealer in the credit market, acting as an intermediary between demanders and suppliers of funds and aiming to maximize the utility of expected terminal wealth. New Loans and deposits are made in a passive way so that prices and quantities are determined exogenously. The authors define the prices of loans and deposits as;

$$P_L = p - b$$

$$P_D = p + a$$

Where P is the bank's opinion of the price of loan or deposit and (a) and (b) are fees for provision of intermediaries services – spread was defined as (a + b)

Demirgüç Kunt and Huizinga (1997) note that interest margin and spread are different unless there is zero non interest bearing funds. However spread is superior and margins as an indicator of the bank policy in determining the conditions and volume of intermediation. Interest spread can be measure ex post and ex ante. Ex ante spread equals the difference between the contractual rates charged on loans and the rates paid on deposits. Ex post spread measures the difference between the bank interest revenues and their actual interest expenses. Ex ante spread is biased, however as perceived risks are reflected in the ex ante yields. The ex post spread problem is in terms of interest income and loan loss reserve associated with a particular loan that tend to materialize in different time periods.

2.3 OVERVIEW OF LITERATURE

From the above review of empirical and theoretical literature, and the Kenyan experience during the period of analysis, it appears that interest rate spread is influenced by various factors including market power, credit risk, interest risk, implicit taxes, macroeconomic variables and the institutional set up and the environment.

CHAPTER THREE

METHODOLOGY

3.0. Introduction

This chapter will cover the description of the methodology to be used in the study. It will contain a survey of the population, research technique and design to be used in the study including an analysis and the limitation to the study.

3.1. Research Design

Qualitative research design, guided by the use of questionnaires and interviews will be used.

3.2. Procedure

The researcher will first carryout a pilot survey and questionnaires will be sent to the selected respondents and collected after two weeks. Interviews with the respondents will be conducted at the time of collection.

The researcher will also visit written literature about capital markets from various libraries and the internet.

Data collected will be coded, analyzed and thereafter a report with recommendations will be made.

3.3. Sample Collection

The sample will be made from the conception, growth and development data of Barclays Bank Of Kenya using random sampling. The samples will include both hard and soft copies which will be sent via post and the internet respectively.

3.4. Data collection

The research will be carried out on two types of data sources:

- a) Primary data- which involves the Kenya Institute of Bankers personel.
- b) Secondary data- this will involve the analysis of secondary data information from the library and the internet.

The researcher will use interviews and questionnaires as the main research instruments.

3.4.1 Interviews

Interviews will be used to get the historical background of the areas of study; including the year Kenya Institute of Bankers was set up, its mission and goals, roles/duties, and implementation strategies among other things.

The researcher will also use telephone and mail interviewing methods.

3.4.2 Questionnaires

Questionnaire as a tool of data collection will be used to gather detailed information about the authority. As a researcher I intend to use mail questionnaires mainly because of;

- a) The high degree of anonymity
- b) Token gifts might be used to seek compliance
- c) Large amounts of data will be collected
- d) Respondents might take a long time to respond at convenience and administer replies electronically on request (time lag).

3.5. Data Analysis

Data will be analyzed for accuracy and consistency using:

- Data editing
- Tables and Graphs

CHAPTER FOUR

4.1 Data Analysis

The regression results yielded an equation of the form

$$S = -0.204 + 1.019L - 0.997S - 0.0109 T$$

The regression results are reported in the following table.

Dependent Variable: SPREAD

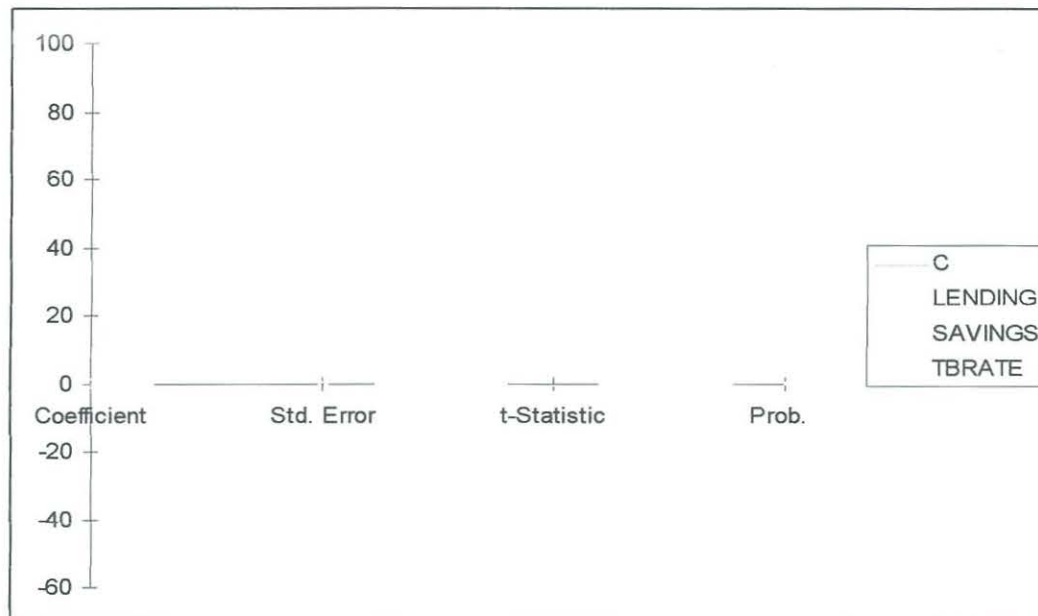
Method: Least Squares

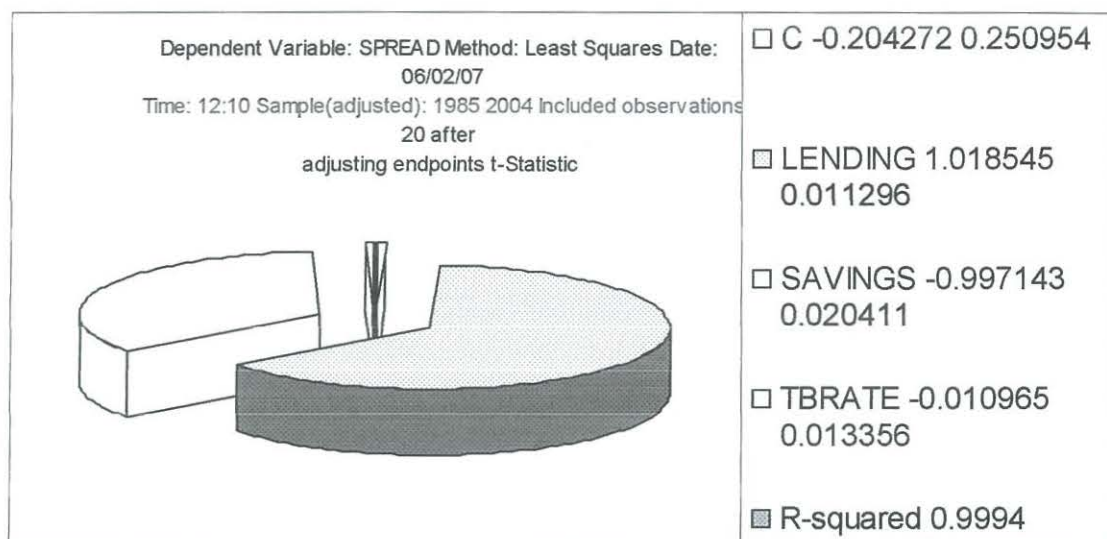
Date: 06/02/05 Time: 12:10

Sample(adjusted): 1985 2004

Included observations: 20 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.204272	0.250954	-0.813981	0.4276
LENDING	1.018545	0.011296	90.16662	0.0000
SAVINGS	-0.997143	0.020411	-48.85326	0.0000
TBRATE	-0.010965	0.013356	-0.820991	0.4237
R-squared	0.999400	Mean dependent var	13.41350	
Adjusted R-squared	0.999288	S.D. dependent var	9.081258	
S.E. of regression	0.242398	Akaike info criterion	0.180381	
Sum squared resid	0.940105	Schwarz criterion	0.379528	
Log likelihood	2.196186	F-statistic	8883.973	
Durbin-Watson stat	2.333360	Prob(F-statistic)	0.000000	





The results give the coefficients different signs from those expected in the model, except for the lending rate which gives a positive relationship with the spread as expected.

This can be explained by various factors in Kenya's financial history and policy environment. These factors include the conversion of NBFIs to commercial banks, policy changes in the Treasury bill market, macroeconomic instability and increases in reserve requirements. In the Treasury bill market the minimum investment went down while the interest rate came down as the government moved away from relying on the treasury bills to finance the government deficit. A reduced minimum investment resulted in competition for treasury bills from the non banking sector. A declining Treasury bill rate meant that the banks profit margin was being squeezed such that they had to maintain the margin by raising interest and non interest charges on loans thus increasing the spread.

The model explains 99% of the variations in spread, then the remainder may be attributed to institutional factors including the weak legal and regulatory factors a non competitive market structure and inefficient intermediation levels.

Correlations

		SPREAD	LENDING	SAVINGS	T.BILL RATE
Pearson Correlation	SPREAD	1.000	.917	-.330	.552
	LENDING	.917	1.000	.072	.765
	SAVINGS	-.330	.072	1.000	.424
	T.BILL RATE	.552	.765	.424	1.000
Sig. (1-tailed)	SPREAD	.	.000	.072	.005
	LENDING	.000	.	.379	.000
	SAVINGS	.072	.379	.	.028
	T.BILL RATE	.005	.000	.028	.
N	SPREAD	21	21	21	21
	LENDING	21	21	21	21
	SAVINGS	21	21	21	21
	T.BILL RATE	21	21	21	21

The correlation results show a negative relationship between the spread and deposit rate, but positive with the lending rates, implying that interest rate spread is driven by activities in the credit market.

A positive correlation is indicated between the spread and the Treasury bill rate. This is due to the negative relationship between the positive relationship between the Treasury bill and the lending rate. These relations indicated competition for financial assets and the incentive for investment or risk premium between the treasury bills on one hand and the lending and deposit rates on the other.

Descriptive Statistics

	Mean	Std. Deviation	N
SPREAD	13.3136	8.86315	21
LENDING	22.1995	8.29229	21
SAVINGS	8.9431	3.50787	21
T.BILL RATE	15.9662	7.73395	21

The descriptive statistics show that while the deposit rate distribution approximate a normal distribution both the lending and the treasury bill rate have a skewed distribution lending rate as higher dispersion measure implying a higher volatility compared to both the treasury and savings rate.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Conclusions and Recommendations

This study analyzed factors behind the widening interest rate spread following interest rate liberalization in Kenya.

Market fundamentals and institutional factors influence interest rate spread due to data limitations and difficulties in capturing institutional factors. My empirical analysis has been limited to observable fundamentals.

The results show that the factors that drive the interest rate spread are availability of deposits, alternative investment channels for banks and the ease of portfolio adjustment at the end of the period.

Some institutional factors like micro market structures and policy actions explain substantial variations in interest rate spread. This is because of their impact on transaction costs and the compounding effect on risk and uncertainty in the market.

Performance in the loans market reflects a macro-economic environment in which stability serves to reduce the risk premium and ensure positive returns for investments. This reducing the credit risk. High implicit taxes increases the spread through the lending rates as the banks aim to maintain their profit margins.

Attractive Treasury bill rates in a loan competitive market compels banks to reallocate their asset portfolio and invest in risk free assets. This weakens the intermediation process. The Treasury bill is a default free commercial paper since the government cannot default on sovereign debt in the light of these conclusions, some recommendations that would follow are outlined.

It is necessary to strengthen the institutional framework, including review of the regulatory and legal framework.

This should target enhancing confidence among depositors and investors and strengthening enforces ability of loan contract.

As a result, this will enhance stability in the financial sector and reduce costs of capital to investors. It should also serve to strengthen the supervisory and monetary control role of the central bank and will avoid the current conflict between monetary and fiscal policy in the use of open market operations in the sale of treasury bills. At the same time, there is an urgent need to strengthen the credibility of monetary policy. This also allows the financial sector to gain stability and thus reduce risk to investors. Enhancing enforcement of contracts would also reduce risk premium in the financial sector.

Macro economic stability is vital for successful financial liberalization process, thus policy actions should be taken to ensure sustainable growth of the economy. Stability of key prices including the exchange rate, commodity prices and interest rates is crucial. This will stimulate high investment returns and reduce credit risk, consequently reducing the risk premium tagged on loan interest rate. In addition it would discourage banks from non intermediation activities while enhancing the move towards an equilibrium position in the loans market.

Implicit taxes should be kept at minimal levels by maintaining low reserve and cash requirement ratios. This will ensure that lending rates are kept down as banks. Endeavours to maintain their profit margins. Banks should perform more of the intermediation process than investing in short term treasury bills and this could be achieved by realigning Treasury bill rates with other returns on short run financial assets and pushing for competitiveness in the market. The end result will be to force banks to divert their efforts to investing in information capital, thus reducing the moral hazard and adverse selection problems that are compounded by poor monitoring and evaluation of the investment projects.

Conduct of monetary policy should be in line with the goals of financial sector reform and the conduct of monetary policy should support financial sector growth. This can be achieved by using the main instrument of monetary policy, that is the interest rate. So far it has worked to discourage financial intermediation and turn banks into short term deposit taking institutions. Fortunately, some banks have recently realized that this route has weakened their operations and are reverting to long term finance.

5.2 Some areas for further research.

For a more encompassing and exhaustive empirical analysis disaggregated financial data, especially for the banking sub sector are required. These data are required in order to capture factors such as

- Credit risk
- Market power
- Transaction costs

Interest rate risk as reflected in loan term structure and available deposit facilities.

An in depth study on institutions and risk analysis.

In addition it would be interesting to examine the information content of the spread in terms of forecasting macroeconomic variables such as investment, inflation and growth.

What is the relationship between the bank interest rate spread and growth of the economy? What is the implication of widening spread of investment and mobilization of savings? These are questions that should be addressed in future given the importance of the subject on the financial market.

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Questionnaire for the key informants

KAMPALA INTERNATIONAL UNIVERSITY

Dear sir/Madam;

You are kindly requested to participate in this study in assessing “The effect of interest rates on lending capacity of Banks.” Your information shall be treated confidentially and it shall only be used for the purpose of the study.

Q1. How old are you?

- a) 20-25 ☐
- b) 26-30 ☐
- c) 31-35 ☐
- d) 36-40 ☐
- e) 41-45 ☐
- f) 51-55 ☐
- g) 56 and above ☐

Q2. Marital status

- a) Single ☐
- b) Married ☐
- c) Divorced/Separated ☐
- d) Widowed ☐
- e) Others ☐ Specify _____

Q3. What is your level of education?

- a) Primary ☐
- b) Secondary ☐
- c) College/University ☐
- d) Others ☐ Specify _____

Q4. Are you employed?

- a) Yes ☐
- b) No ☐

Q5. Do you get loans from Banking institutions?

- a. Yes ☐
- b. No ☐

I. If 'yes' how much do you get as a loan?

Ksh _____

Q6. Are loans beneficial to you?

- a) Yes ☐
- b) No ☐

Explain your answer.....

.....

.....

Q7. What is your level of income?

- a) 1,000-5,000 ☐
- b) 6,000-10,000 ☐
- c) 11,000-15,000 ☐
- d) 16,000-20,000 ☐
- e) 21,000-25,000 ☐
- f) 26,000-30,000 ☐
- g) 31,000-35,000 ☐
- h) 36,000-40,000 ☐
- i) 41,000 and above ☐

Q8. Are you able to meet interest expenses?

- a) Yes ☐
- b) No ☐

Specify the interest rates affect you.....

Q9. Do you think spread interest rates can be managed and controlled?

a) Yes ☐

b) No ☐

Explain.....

.....

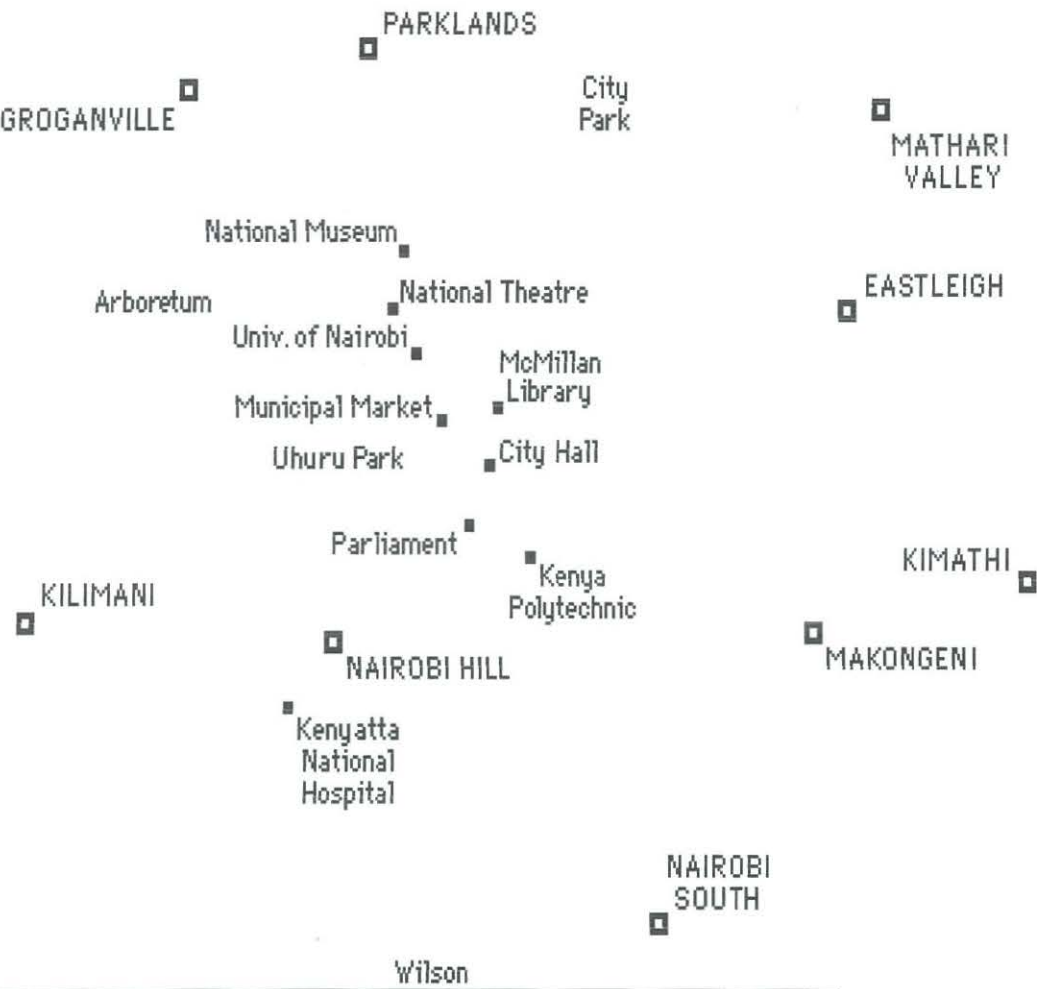
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Q10. Are spread interest rates expensive?

a) Yes ☐

b) No ☐

MAP OF NAIROBI



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**OFFICE OF THE DEAN
SCHOOL OF BUSINESS AND MANAGEMENT**

Date: 27 April, 2007

THE HUMAN RESOURCE MANAGER,
BARCLAYS BANK (K) LTD,
NAIROBI.

Dear Sir/Madam,

RE: AKATSA PAULINE REG. NUMBER BIB/5033/41/DF

This is to confirm and inform you that the above referenced, is a bonafide student of Kampala International University pursuing a Bachelor of International Business Administration Degree programme in the School of Business and Management of the University.

Her title of the Research project is "The effect of interest rates on lending capacity of Banks". As part of her studies (research work) she has to collect relevant information through questionnaires, interviews and reading materials from your place.

In this regard, I request that you kindly assist her by supplying/furnish him with the required information and data she might need for her research project and also by filling up the questionnaire.

Any assistance rendered to her in this regard will be highly appreciated.

Yours Sincerely,

**DR. Y.B. NYABOGA
ASSOCIATE DEAN – SCHOOL OF BUSINESS AND MANAGEMENT
TEL.NO.0752 843 919**