THE EFFECT OF INTEREST RATE FLUCTUATIONS ON LOAN DEFAULT LEVELS. A CASE STUDY OF COMMERCIAL BANKS IN NAKURU MUNICIPALITY.

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DECLARATION

I hereby declare that this work is original and has not been presented before in any forum of any nature by any individual or group of individuals.

Candidates Signature .....

Date 13TH OCTOBER 2003 .....

RECOMMENDATION BY THE SUPERVISORS

I declare that this work has been prepared under my supervision and is therefore presented under my approval.

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DEDICATIONS

To my Dad John and Mum Margaret for seeing me through very difficult times in life and their persistent prayer to see me succeed in life.

To my dear wife Georgina and daughter Nelly for their support and cooperation within the period of my studies.

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To all who contributed in one way or another to my success in the course as a whole; God bless you mightly.

ABSTRACT

This study was conducted to explain the effects of fluctuating interest rates on the loan default levels noted by the key commercial banks in Nakuru municipality and to establish the effects of collateral, duration of a term loan, the size of the business and the effect of economic growth on loan default. The analysis showed that in the recent past, the banking sector in Kenya has experienced loan management problems primarily resulting in the increased levels of default under the fixed interest rate regimes and the fluctuating interest rate regimes. Hypotheses were tested with respect to this key objective. Data was collected from the commercial banks in Nakuru municipality and the hypotheses were tested using the students' t- distribution and regression analysis. The findings of the study were that duration and collateral do not impact strongly on the rate of default under either interest regimes but the economic growth was noted as a key factor influencing the rate of default in both interest rate regimes. The sensitivity of the factors were studied under the loans granted to individuals, those granted to small businesses and those granted to large corporations. The proportion of small and medium sized firms defaulting on loan obligations was found to been significantly larger than the large firms.

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CHAPTER ONE

1.1 Introduction

Trade liberalization policies were adopted in Kenya in July 1992, to enable the forces of demand and supply to determine the prices of goods and services in the economy. The financial sector was also affected. Interest rates were de-controlled and individual banks could now charge different interest rates depending on the risks they take and the cost of funds. Fluctuations of interest rates on loans occur creating difficulties in management and repayment of loans.

1.2 Background to the problem

In Kenya, commercial banks play an important role as a source of finance. Commercial banks are usually formed to make profits and maximize their shareholders' wealth. Their main source of income is the interest on loans that they earn on both short-term and long-term loans (CBK, 2001).

The Kenyan economy has been going through periods of extreme credit squeeze in the banking sector and other financial markets. The Central Bank of Kenya tightens the growth in the money supply in its' battle against inflation causing a decrease in loanable funds and an increase in the interest rates, (CBK, 2000, 2001).

The high interest rates are also caused by the bank rate policy of the CBK that requires the commercial banks to charge a certain minimum rate of interest to reduce the supply of money in the economy. This rate of interest is determined from time to time (CBK, 2001).

To compound the problem, business requirements for funds may be increasing. This may force the firm to go for the bank credit even to finance their working capital requirements (Block, 1998).

Another credit crunch in the banking systems is the increasing non-performing loans in the sector. These have led to the commercial banks charging high interest rates to compensate for the risk of default. Political risks in the country have also aggravated the problem (Manasseh, 2000).

The above factors account for the volatility of interest rates, which worries many users of the bank loans. The changing interest rates make it difficult for the users of the finance to stick to the repayment schedules.

Interest rates are affected by the prevailing rates of inflation. Kenya has had a problem controlling its high inflation rates in the 1990s. This has complicated the issue of loan redemption.

Many investors find themselves at cross roads on the actual cost of funds that they have borrowed and in some cases find the assets they had earlier pledged as security being auctioned for their inability to service the bank loans.

The situations mentioned above are indications that the users of bank finance have a major problem related to the uncertainty of future interest rates and hence the need to quantify the impacts of the volatility of the interest rates on default.

1.3 Problem Statement

Despite the significant role that the commercial banks play in offering term loans to the borrowers, fluctuating interest rates cause the commercial banks to offer loans with out any certainty of the future rates of interest. This causes the users of the finance to default their obligations on the loan, as they are not able to plan for their future repayments.

The problem can thus be stated as one of non-repayment of loans owing to the fluctuation of interest rates.

1.4 Objectives of the Study

The general objective of the study is to analyze and quantify the effects of volatile interest rates and their implications on the default rates from the point of view of the commercial banks. The specific objectives were;

(i) To determine the effects of changing interest rates on the rate of default by the customers.

(ii) To determine the extent to which collateral, duration of a loan, size of the firm and economic growth affect the rate of default under the fluctuating and fixed interest rate regimes.

1.5 Research Hypotheses

The supporting hypotheses for the study were;

(i) Applying fixed interest rates results to lesser rates of customer default on loans than fluctuating interest rates.

(ii) The duration of a term loan and the collateral impacts differently between the fixed interest rate regimes and fluctuating interest rate regimes.

(iii) The growth of the economy (GDP) results to lesser rates of default on term loans under the fixed interest rate regimes.

(iv) The proportion of small businesses paying penalties for default on bank loans, exceed that of large businesses significantly.

1.6 Justification of the Study

The findings will be used by the government to create policies regarding the interest rates.

The financial service providers can also use the findings of the study to create bank loan packages that are more convenient to their clients and pose lesser default risk.

The effects of fluctuating interest rates on loan default levels have not been adequately researched. The conclusions of this research will therefore be used by future researchers, and will in addition open areas for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Effects of financial liberalization on credit and deposit market

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 rates increase from the government set low levels when price stability is achieved (Ndii, 1997).

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 real rates were recorded (Njuguna and Ngugi, 2000).

Financial liberalization entails a variety of measures such as liberalization of interest rates, 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, eliminating preferential credit at concessional interest rates, 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 intermediation. This situation is explained by:

- Weak institutions with weak prudential regulations, inadequate supervision and poor enforcement of contracts and regulations.
- Increased risk exposure, including interest-rate, credit, legal and foreign-exchange risk
- Failure to meet the prerequisites for successful liberalization, including macroeconomic and financial stability and fiscal discipline
- Macroeconomic instability which increases the risk premium on loan rates, and increases the default risk with a poor business environment
- An uncompetitive market microstructure with a few banks being in control, and non-diversified financial assets.

When there are no ceilings on lending rates it is easier for banks to charge a higher risk premium and therefore to give loans to more risky projects. This increases the rate of bank insolvency as non-performing assets increase. As a result, banks attempting to defend their profit 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 (Montiel, 1995).

On the other hand, if the inter-bank 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 (Montiel, 1995).

A positive historical shock to external spreads can lead to an increase in domestic spreads and a reduction in the cyclical component of output. Shocks to external spreads immediately after the Mexican peso crisis had a sizable effect on movements in output and domestic interest rate spreads in Argentina (Pierre, 1999).

The real deposit rate has an insignificant impact on the real saving rate in Kenya but the growth of real income is consistently significant in influencing private savings (Mwangi, Mwega and Ngola, 1990).

Demirgüç-Kunt and Detragiache (1998), study the empirical relationship between banking crises and financial liberalization using a panel of data for 53 countries for 1980–95. They find that banking crises are more likely to occur in liberalized financial systems. However, financial liberalization's impact on a fragile banking sector is weaker where the institutional environment is strong—especially where there is respect for the rule of law, a low level of corruption, and good contract enforcement. They examine evidence on the behavior of bank franchise values after liberalization. They also examine evidence on the relationship between financial liberalization, banking crises, financial development, and growth. The results support the view that, even in the presence of macroeconomic stabilization, financial liberalization should be approached cautiously in countries where institutions to ensure legal behavior, contract enforcement, and effective prudential regulation and supervision are not fully developed.

Agénor, Aizenman, and Hoffmaister (1999), studied how contagion affects bank lending spreads and fluctuations in output in Argentina. They present estimates of a vector auto regression model that relates bank lending spreads, the cyclical component of output, the real bank lending rate, and the spread in external interest rates. Using generalized impulse response functions; they show that a positive historical shock to external spreads leads to an increase in domestic spreads and a reduction in the cyclical component of output.

Loans dominate the asset portfolio of the commercial banks and this trend has increased, while the distribution across sectors seems to reflect removal of a credit ceiling. Although at first glance these trends seem to be an outcome of liberalization, in fact several factors could be advanced to explain them. They include financial distress of the risk borrowers, where loan demand increased with increasing real lending rates; a declining role of non banking financial institutions, or an increase in their risk rating on the credit market; and slow growth in the capital market (Njuguna and Ngugi, 2000).

In Kenya, during the reform process that followed the review of the Banking Act prudential regulations were tightened, while the supervisory role of the Central Bank was strengthened. Among the statutory requirements introduced were minimum liquid-asset and cash-balance ratios for the financial institutions. A liquidity ratio was first imposed on commercial banks in 1969 (when it was set at 12.5%) and extended to non banking Financial Institutions in 1974. The ratio was increased to 20% in 1983 and to 25% in March 1994, and then reduced to 20% in May 1997, (CBK Supervisory Report, 2000).

2.2 Risks in commercial banks and consequent supervisory framework

Despite high minimum statutory requirements, banks had excess liquidity. In the 1993–1995 period, the average liquidity ratio was almost twice the minimum statutory requirement.

The excess liquidity can be attributed to several factors, including 'misses' in the implementation process, restrictions placed on commercial banks at the discount window coupled with a thin inter-bank market, a high reserve requirement, and purchase of government securities. From June 1993, the overnight lending by the Central Bank was restricted in terms of eligibility of securities as collateral. The eligible securities were treasury bills, treasury bonds and government bearer bonds. Treasury bills were discounted only if they were half way to maturity and securities if they had at least two working days to maturity. By April 1994, commercial banks could borrow for a maximum of four days and could not exceed ten days in any one month. Bank lending on the inter-bank market did not qualify for borrowing from the Central Bank on the same day. A penalty of 0.2% per day was introduced for banks that failed to comply, and banks that failed to meet the cash ratio for over 30 days were placed under statutory management (CBK, 2000).

Following the banking crisis of 1985/86, a deposit protection fund (DPF) was established to stabilize the banking industry. This was to be achieved through protecting the interests of small depositors who are disadvantaged by being unable to evaluate the financial status of the various banks (Njuguna and Ngugi, 2000). Low interest rates are desirable, but it should be left to the Central Bank of Kenya (CBK) to run the monetary policy in line with what they see as the best balanced monetary policy and fiscal policy.

If the process is interfered with, by bringing in controls on one element, the whole balance will be affected making interest rates less responsive (Takawira, 2002).

The use of the treasury bill rate as a benchmark, to the determination of interest rates, yields paradoxical results asymmetries. The higher the Treasury bill rate, the higher the spread. The banking sector would gain from keeping the Treasury bill interest rates high since margins move up with Treasury bill rates. This would negate the purpose of the legislation in improving savings and improving access to borrowers. In findings that at first seem contradictory to the rise in margins benefiting the banks, the path of the spread shows declining rates of percentage increases. At the Treasury bill rate of 5 percent, an increase to 6 percent creates a percentage increase in the spread of 5.45 percent (Wagacha, 2001).

Banks are exposed to various risks (including interest risk, credit risk, foreign exchange risk and legal risk) because of uncertainty, information asymmetry and the policy environment (Nyang'ena, 1999).

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 (Ngugi and Kabubo, 1998).

Banks are exposed to risk in the credit market, as they do not know ***ex ante*** 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 (Ndung'u and Ngugi 1999).

Ongena et al. (1999), investigate the results of bank distress on borrowing firms during the Norwegian bank crisis of 1988-1991. They find no support for the hypothesis that bank-dependent firms suffer more during a credit crunch than non-dependent firms.

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 (Ngugi, 1999).

Considering risk management by banks, Zarruk (1989) found that risk-averse banks operate with a smaller spread than risk-neutral 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 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 agreements that prevent borrowers from diverting funds away from the intended purpose (fungibility), 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 (Barajas, 1988).

2.3 Constraints in repayment of bank loans

The two principal costs of lending are the soft budget constraint problem and the informational capture problem. Soft budget constraint problems arise when the borrowing firm becomes distressed. Distressed firms often approach lenders seeking additional finance to avoid or postpone default (Adeyoyin, 1992).

Knowing that banks face incentives to support the firm in order to recoup the original loan, borrowers face perverse incentives to take inefficient risks or exert insufficient effort. A second cost of lending is that banks gain informational advantages over borrowing firms and long-term dealings allow banks greater opportunities to exploit their advantage (Ndele, 1998).

Switching costs generate quasi-rents that current lenders appropriate. Further, banks in more concentrated markets are better positioned to capture quasi-rents by virtue of their market power (Boot and Thakor, 1994).

In 1997, it took a minimum rate of interest of 23% for a corporate customer to borrow from a local bank and up to 30% for a retail customer. While the deposit rate ranged between 7 – 15% in comparison with oversees borrowing, which were between 5 – 12%. This was attributed to; excess demand for loans, inadequate competition in the banking industry, inflation, inefficiency, non-performing loans and high operating costs (Kinyua, 1997).

2.4 Factors Influencing the Repayment of Bank Loans

While the interest rate effects of efficient information production and potential problems of market power is one of the central themes of research on relationship banking, empirical evidence is conflicting. Using data compiled by the National Survey of Small Business Finance (NSSBF), Petersen and Rajan (1994), investigate credit costs and loan availability to more than 3,000 small businesses. They find no correlation between the duration of bank-borrower relationships and the cost of credit, but they find a strong positive relationship between credit availability and duration. Berger and Udell (1995), argue that Petersen and Rajan's failure to find a negative correlation between credit costs and duration results from the inclusion of transaction loans in the analysis. By focusing their analysis on lines of credit (L/Cs), a type of lending more consistent with their banking practices, Berger and Udell (1995) find that credit costs and collateral use are declining in loan repayment period.

However, Cole (1998), uses a later NSSBF sample and concludes, like Petersen and Rajan, that the redemption period is a more important determinant of credit availability than credit cost.

Using contract-specific data from two bank holding companies, Blackwell and Winters (1997), find no statistical relationship between the duration of loan repayment and credit costs. Similarly, Elsas and Krahnen (1998), using contract-specific data from five German banks, fail to find any significant interest-cost advantage on lines of credit involving long-term bank relationships. Survey data on small firm L/Cs in Germany also fails to reveal any significant correlation between the duration and credit costs (Harhoff and Körting, 1998).

Macroeconomic instability is both a cause and effect of banking-sector performance. It increases uncertainty and adversely impacts on the credit worthiness of the borrower, thus increasing the risk premium charged by banks on lending rates. This disrupts the supply of credit as demand declines, increasing the interest rate spread. Inflation, for example, is associated with a high interest margin as it creates uncertainty and therefore raises the risk premium charged (Cho', 1988).

Similarly, low output prices and a 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 for default 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 (Omole and Falokun, 1999).

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 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.

High interest rates on loanable funds have a negative impact on investment and since they are not accompanied by high rates on savings deposits cannot do much to encourage higher domestic savings. As it is, the principal beneficiary of the high yields on government paper are financial intermediation agents either locally (banks) or internationally due to the added incentive of an appreciating Kenya currency and a

liberalized foreign exchange regime. The consequences can be devastating economically and socially (Kimura, 1997).

High interest rates tend to generate even higher interest rates in subsequent periods as the prices of commodities are adjusted upwards to reflect the high cost of borrowing. This in turn leads to higher rates of inflation and the cycle begins all over. This problem has prevailed in Kenya since 1993. An interest regime of 25 – 35% is inconsistent with structure of Kenya's economy and could explode if not checked (Kimura, 1997).

Logically, it would be unreasonable for banks to keep high interest rates even when they are excessively liquid. The open economy model entails looking at the interest differentials and related capital flows. This leads to the arbitrage problem – due to an abnormal interest rate differential, there is tendency to attract hot money. Short-term capital flows in to the country for speculative purposes. This puts pressure on domestic interest rates and domestic monetary policy (Ndung'u, 1998).

The lack of credit facilities for Kenya's small businesses is a significant obstacle to building a sustainable financial market. A 1996 estimate placed the gap between the level of credit supplied and the effective demand for credit at some Ksh. 57 billion. The Government of Kenya has, since the early 1990s, shown an interest in the development of small-scale and micro-enterprises. It has been aided in this effort by assistance from donors such as the World Bank, UNDP, ODA, USAID, the European Union, Ford Foundation and CIDA. Further, Kenya's own commercial banking sector has started focusing on micro-enterprises and two of the major banks.

The Kenya Commercial Bank and Barclays Bank have developed credit schemes in this regard (Pederson and Kiiru, 1996).

Douglas and Diamond (1998), gathered information on about 18,000 loans extended by a single Belgian bank to mostly small businesses. They find offsetting relationship effects. On one hand, the loan rate increases with the length of the relationship. On the other, loan rates decline with the scope of the relationship, defined as the purchase of other information-intensive services from the bank.

2.5 Conceptual framework

The following factors impact differently in loan repayment depending on the interest rate regime applied by the banks.

The first factor is the nature and value of the collateral required. Collateral provides assurance to the lender that the borrower has the financial ability to redeem the loan borrowed. A borrower who fails to remit installments on the loan borrowed may be lawfully required to waiver the collateral. The rate of collateral is expected to be higher and liquid in respect of the fluctuating interest rate regimes to account for the higher risk of default.

The second factor is the duration of the loan, which has to do with the period of redemption of the loan. Most borrowers prefer a duration that will coincide with the expected useful life of the projects they intend to undertake on the loans borrowed to minimize chances of default. The longer the duration of the loan under fluctuating interest rates, the higher the chances of default on the loan.

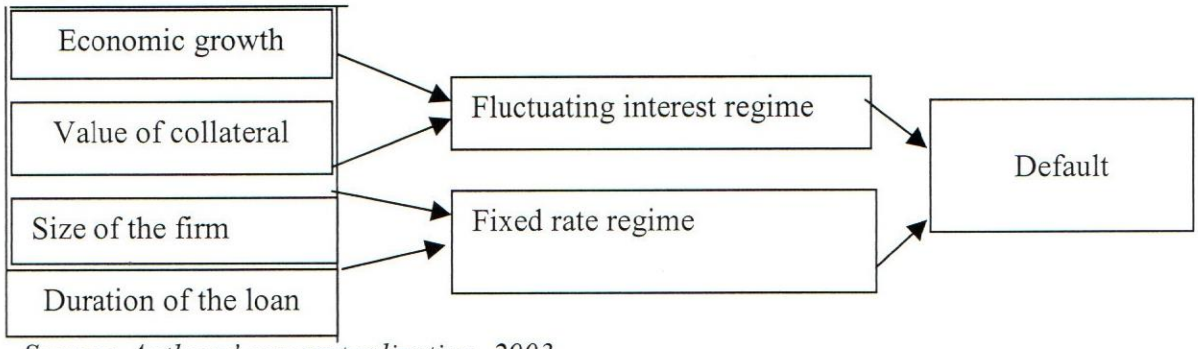
The third factor is the size of the firm; small firms in terms of capital have lesser values of assets to finance the value of the security that may be required by the banks as

opposed to the larger firms. Commercial banks discriminate interest rates on the businesses using these criteria with the larger firms taking advantage of lesser interest rates and relatively fixed rates of interest as they have a higher bargaining power.

The fourth factor is the rate of economic growth – When the economy grows, banks are able to lend more money to the public. Huge growth in the economy encourages borrowing and thus banks are able to create diverse borrowing arrangements. Growth encourages positive risk taking.

The above factors can be summarized in the following diagram. The arrows indicate that the factors mentioned impact differently on default under the two interest rate regimes; fluctuating and fixed.

Figure 1 Conceptual Framework model



Source: Authors' conceptualization, 2003.

2.6 Scope and limitations of the study

The study covered only Nakuru municipality. This was because of in adequate funds for the research and the time constraint otherwise; the data could have been collected from all the banks in Kenya.

CHAPTER THREE

METHODOLOGY

3.1 Population

The population consisted of all the registered commercial banks in Nakuru municipality. The banks were; The Standard Chartered bank, Kenya commercial bank, National Bank of Kenya, Transnational bank, Cooperative bank, Delphis bank and the Barclays bank. Data was collected from all the banks except the Transnational bank branch which started offering loans in 2001 and so did not have ample data to contribute to the research.

3.2 Data collection

Primary data was collected by use of questionnaires, which included, the demographic details of the respondents, rates of interest from 1992 to 2002, nature and value of collateral, duration of term loans and penalties charged from the big and small businesses. The respondents were required to show how each of the variable affected loan default levels under the fixed interest regime and the fluctuating interest rate regime.The secondary data was obtained from the Central Bank of Kenya publications the data collected included; the rate of economic growth, macro economic indicators and the supervisory framework for commercial banks over the period of the study. The questionnaires were personally administered to the loan managers of the responding banks. In the process of data collection, the loan managers were interviewed to clarify any points that were not clear or any questions that the loan managers thought may have more than one answer.

3.3 Data Analysis

For the purpose of the analysis, the mean default rates, economic growth, mean interest rates and the value of collateral required was achieved by cross tabulation was done. The hypotheses were then tested using the t test and a regression analysis on the independent variables on the rate of default.

A test of significance of the difference in the mean rates of default for small and large businesses was also conducted under both fluctuating and fixed interest rate regimes.

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

All the responding banks had been applying the fluctuating interest rate regime, since 1992, which allows them to vary interest rates depending on the performance of the market and the forces of demand and supply of money. However, 50% of the responding banks also offer fixed interest rate plans with an intention of making the banking packages more convenient for the users of the finance. All the banks applying the fixed interest rate regime for specific packages concur that the schemes are quite attractive for personal loans and loans to small businesses for which the owners would not ordinarily make use of financial consultants in making their financial decisions.

Of the banks applying both the fixed and fluctuating interest rate regimes, 70% of the loans are granted under the fluctuating interest rate regime while 30% are granted under the fixed interest rate regimes. The disparity is attributed to increased uncertainty of the interest rates over time.

In determining the installment to charge on the loans, all the responding banks use the pay principle where the interest is charged in the current accounts of the users of the finance. The amount is based on formulae determined using the present value method. The interest charged is computed as the interest percentage of the balance outstanding at the beginning of the month. For the loans under a fixed interest scheme, the rate is pre-determined while for the ones under varying interest rates; the rate is determined by the market forces.

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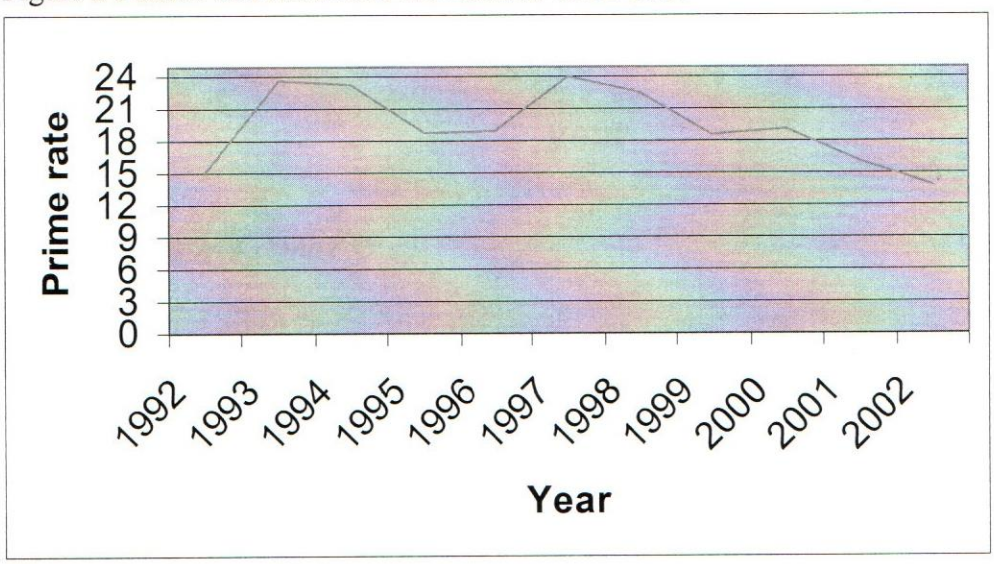
In the granting of the loans, banks offer different loan packages to individuals, small businesses and large businesses. The small businesses are those that have the average capital (equity) less than Ksh. 500,000.

The prime rate is important in determining the actual rate of interest to charge on the loans. 95% of the banks refer to the prime rates before determining the rates of interest to charge in any period. 80% of the banks that refer to the prime rates, scale it up to reflect the various credit classes. 16.7% of the banks charge top customers less than the published prime rates during certain slack loan periods in the economy.

The average customer pays 2 to 5% above the prime rate, while in tight money supply periods, persons in certain speculative business deals such as brokers or international trade agents may pay 6 to 7 percent or more percentage points over time.

Figure 2 Pattern of Prime Rate movements 1992-2002



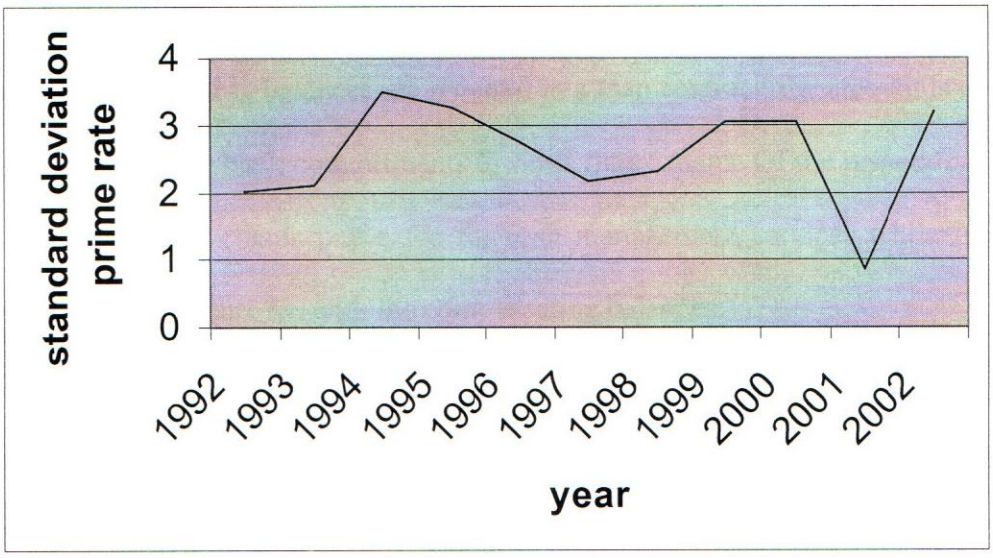
Source: Field survey, 2003

Fig 2 indicates that the prime rate on which 80% of the commercial banks peg their fluctuating interest rates have experienced both downward and upward movements.

The prime rates increased soon after liberalization in 1992. A down ward shift was reported in the consequent years and a further increase reported in 1997. The prime rate has however had a downward trend since then.

The movements in the prime rates have also been quite volatile. The diagram below depicts the volatility of the prime rate over time. This volatility explains the risks encountered by the banks and hence the volatility of the real interest rates.

Figure 3 Volatility of the Prime Rates



Source: Field survey, 2003

All the responding banks determine the interest rates to charge on the loans on the basis of the base lending rate plus a margin. This minimum rate depends on the cost of the funds (interest paid to depositors) and the administrative costs levied the basis of absorption costing. The absorption rate ranges fro 5 to 8 percent within the banks.

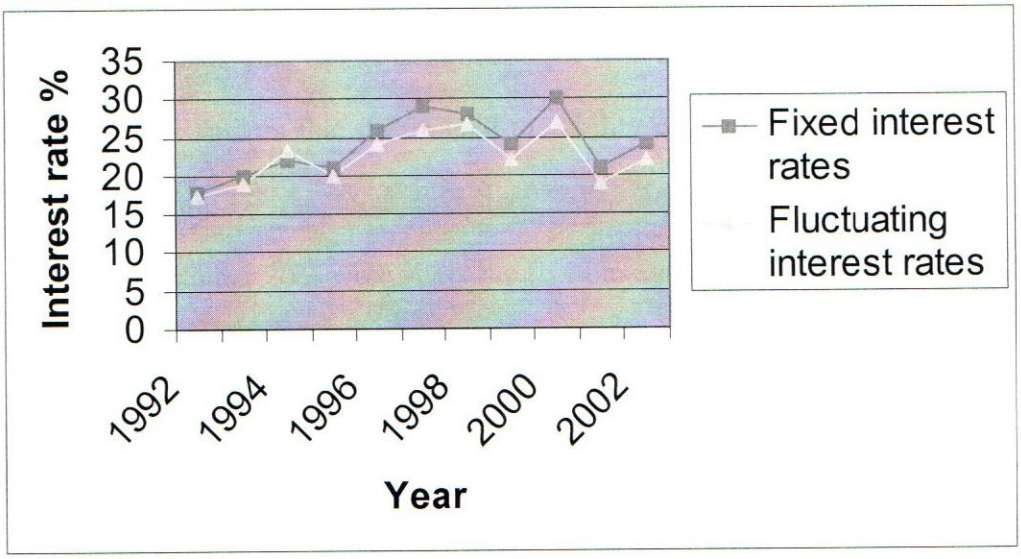
The risk elements also accounts for the fluctuating rates. 50% of the banks viewed personal loans and loans advanced to small businesses as more risky.

The risks are both financial and operational. 33% of the banks accounted for the political risk (as key borrowers are politically connected and also have at least 30% of the loans advanced to government institutions and political parties).

Fifty percent of the banks surveyed, required that customers maintain compensating balances. Customers are either required to pay a fee for the service or maintain a minimum average account balance. Of the responding banks the average compensating balance required to offset Ksh. 100 was Ksh. 24. This accounts for about 24% of the funds being tied in the account so long as the customer has borrowed a loan. When compensating balances are required in a loan contract, the amount is computed as a percentage of the bank commitments towards future loans. Of the responding banks, 27% of the corporate clients pay a fee for cash management services while the other 73% eliminated the direct fee with the compensating balances.

Following the uncertainty regarding the interest rates, banks had a tendency to overcharge the account maintenance fees and other non-interest fees to increase their profitability. The general feeling was that these non-interest charges are not subject to any form of control.

Figure 4 Interest Rate Movement 1992 - 2002



Source: Field survey, 2003

Fig 4 shows that the movement in the actual interest rates is similar to that of the prime rates. This shows the extent to which the banks base the actual interest rates on the prime rates.

4.2 Duration of the term loans

The average duration of the term loans depend on the banks in question and the interest rate regime. On average, a loan whose interest rate is fixed will take a minimum of 2 years and a maximum of 5 years. The minimum duration enables the lender to earn some premium on the loan, as some customers mainly the large corporate clients are able to negotiate lower interest rates. Loans pegged on the fluctuating interest rate regime will take between 1 year and 7 years to redeem on average.

The tendency to extend short-term loans and overdrafts to term loans of between 1 to 7 years was reported by 80% of the responding banks.

All the responding banks acknowledged that the maturity provisions in a loan contract were key factors that determined the ability of the clients to redeem the funds borrowed by them. Of the total defaulters, 80% were under the fluctuating interest regimes while the other 20% were under the fixed interest rate regime.

4.3 Collateral

All the responding banks required customers to furnish them with security in respect of loans borrowed beyond specific amounts. The amounts of the loans are fixed above which security must be provided. For personal loans (advanced to permanently employed persons by the government or any other reputable organization in the private sector), the maximum amount that can be advanced with out tangible security other than the guarantee of the employer is Ksh. 200,000 while for small businesses in highly profitable industries is Ksh. 500,000 and for large corporate businesses the maximum amount is Ksh. 600,000 depending on the bank client relationship.

The collateral takes several forms. The following table shows the various forms of collateral accepted by the banks viz a vis the average value accepted by the banks in the various interest rate regimes.

Table 1 Value of Security required under Fixed and Fluctuating Interest Rate Regimes

Rate on the Value of the Asset

Asset	**Personal Loans**		**Small Businesses**		**Large Businesses**	
	Varying %	**Fixed %**	**Varying %**	**Fixed %**	**Varying %**	**Fixed %**
Land and Buildings in urban areas	160	150	140	125	140	125
Land and Buildings in rural areas	180	150	170	130	170	130
Fixed deposit account balances in the same bank	100	100	100	100	100	100
Fixed deposit account balances in other banks	120	120	100	100	100	100
Share certificates of Blue Chip companies	200	200	200	200	200	200
Marketable securities (highly liquid)	100	100	100	100		
Personal withdrawable deposits	100	80	100	100	100	100
Gold, jewellery etc held in the same bank	160	120	0	0	0	0

Source: Field survey, 2003

The indication from the above table is that, the interest rate regime does not affect the value of the collateral demanded by the banks significantly. The banks do not consider the size of the business in demanding the security. To them what matters is the ability to repay the loans and the interest rather than the size of the firm. Personal loans are however viewed to be more risky and so the need to maintain higher percentages than the businesses.

In all the responding banks, only the competitive loan applicants qualify for the term loan financing.

The strength of the borrower is measured by the working capital position, potential profitability and competitive position in terms of collateral and highly valued assets.

Only 16.67% of the lenders would make a loan strictly on the basis of collateral; the other 83.33% concur that the bank is in the business to collect interest and not to repossess and resell the assets even if such assets are highly liquid.

In conclusion, the study revealed that there is no significant relationship between the duration of a term loan and the rate of default regardless of the interest rate regime applied by the banks.

4.4 Default in the repayment of loans

Default occurs when a customer is not able to fulfill the obligations laid down in the loan agreement. It occurs when a customer is not able to repay the installment due on a loan promptly or the customer is declared bankrupt. For the purpose of the study, default was not restricted to the extreme cases of receivership or liquidation of the borrowing firms but also on cases of temporary inability to repay the installment on a loan.

All the banks studied had put measures in place to minimize the rates of default. The measures included;

- Requiring the guarantee of employers and other credible guarantors in case of loans granted whether or not tangible collateral was furnished
- Scrutinizing past loan records of the borrowers and only allowing those whose past loan redemption schemes were successful
- Restricting loans to persons and businesses already in huge debts

Despite the measures, default rates were noted at different rates between the personal loans, loans to small businesses and the loans to large businesses.

The table below indicates the average percentage rates of default noted in the responding banks.

Table 2 Average Rates of Default

	Personal Loans		Small Businesses		Large Businesses	
Year	Varying %	Fixed%	Varying %	Fixed%	Varying %	Fixed%
1992	40	30	45	50	15	20
1993	40	45	40	45	20	10
1994	35	56	50	30	15	14
1995	26	50	54	35	20	15
1996	20	60	60	30	20	10
1997	30	58	45	28	25	14
1998	48	48	42	25	10	27
1999	50	46	30	30	20	24
2000	20	52	30	25	50	23
2001	29	50	20	35	51	15
2002	31	24	9	56	60	20

Source: Field survey, 2003

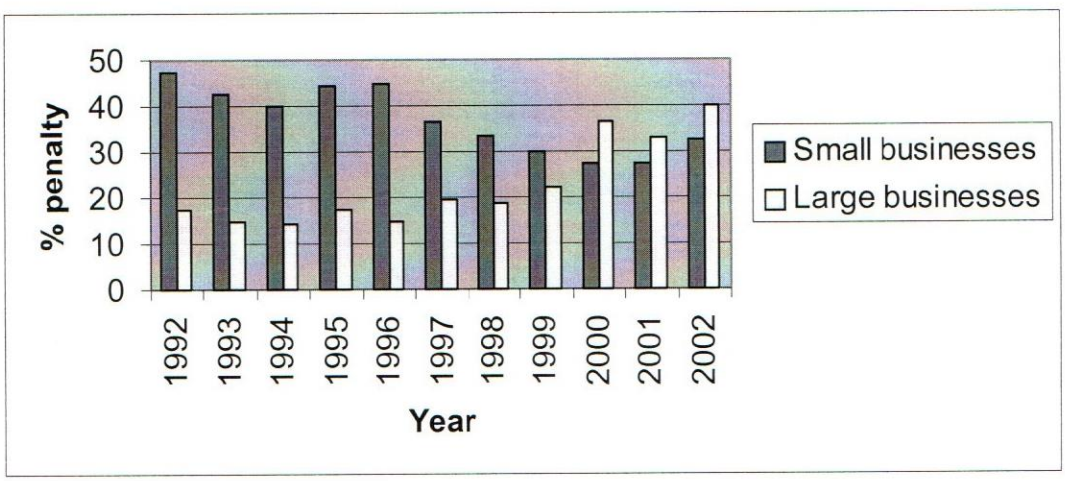
Table 2 indicates that the average defaults under the fluctuating interest rates over the years are 33.5% for personal loans, 38.6% for the small businesses and 27.8% for the large businesses. Under the fixed interest rate regimes, the average default rates were 47.2% for personal loans, 33.3% for loans made to small businesses and 17.5% for loans made to large businesses. The default level is higher in the case of personal loans. This was attributed to the fact that 70% of the loans under fixed interest rate regimes were advanced to individuals. The percentages indicate the extent to which the individuals were not able to abide to the repayment schedules.

4.5 Penalties for non-repayment of loans.

When a customer defaults on his or her obligations under the loan, the bank charges some default penalty. This penalty depends on the bank. Of the six responding banks, 2 use the standing order charges. The average amount charged on non-fulfillment of the standing order agreement amount to Ksh. 2,500 per breach. two other banks make the charge as a standard percentage of the installment due. The average applied is 1.2%. The other banks apply an average of 1% of the outstanding amount of the loan or the standing orders breach penalty whichever is high. In all cases, the penalty is debited in the customers' account.

Specific statistics of the penalties charged to different categories of customers in different interest rate regimes were not obtained but the respondents acknowledged that all the defaulters were debited with the penalties over the years and so the default rates were representative of the penalties charged.

Figure 5 Average Rates of Penalties charged on Small and Big firms



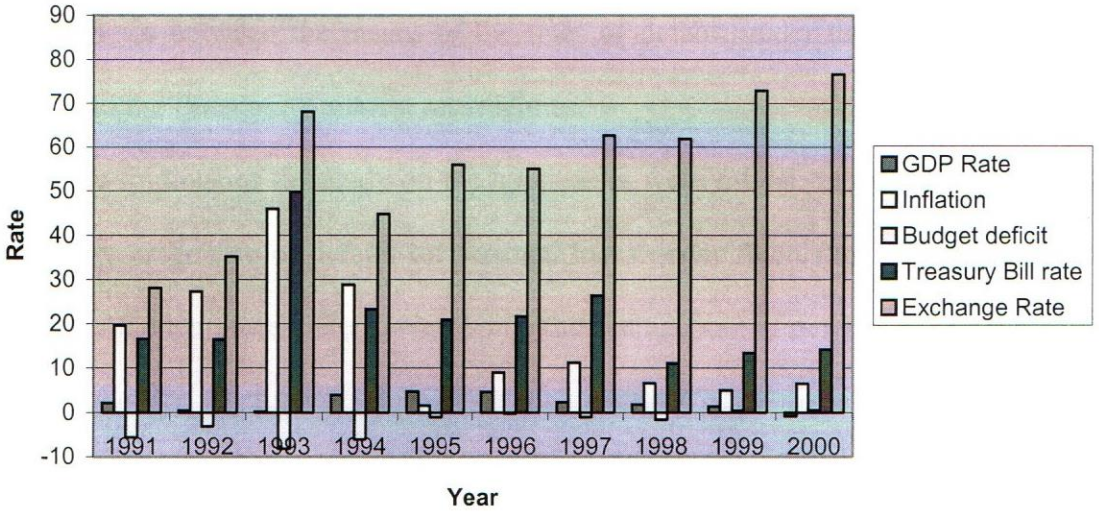
Source: Field survey, 2003

The above figure shows the average rates of penalties charged from the businesses. It shows that the rates of default in large businesses are lesser than those of the small businesses from 1992 to 1999. In the year 2000, the situation changed but with a very small proportion.

4.6 Economic growth

The economic growth was estimated using several parameters according to the criteria adopted by the Central Bank of Kenya. The GDP rate indicates the real rate of growth of the economy. Several other macro-economic indicators are also important. The factors are; inflation, exchange rates, budget deficits, and the treasury bill rates.

Figure 6 Macro Economic Indicators



Source: Field survey, 2003

Fig 6 shows that the Kenyan economy had been growing with a GDP rate of 2.2 in 1991 but the effects of liberalization of the economy in 1992, lowered the rate of growth to 0.2 in 1993. An upward trend was reported between 1994 to 1996 increasing from 4.0 in 1994 to 4.6 in 1996 before reporting a downward trend in 1997. The downward trend continued falling below zero in the year 2000.

These changes in the macro economic environment affected the ability of the borrowers of the bank finance to repay back the loans borrowed by them from the banks.

4.7.0 Results of the hypotheses tests

4.7.1 Hypothesis one

Applying fixed interest rates results in lesser rates of customer default on loans than fluctuating interest rates.

The test static used to test the hypothesis was the Students t – distribution. A test of significance between the means of the rates of default under the fixed interest rate regimes and the fluctuating interest rate regimes.

The findings of the study on the hypotheses were mixed. In the case of personal loans, the average rate of default on personal loans under fluctuating interest rates was 33.5% over the ten years under review while the average rate of default on personal loans granted under the fluctuating interest rate regime was 47.18% over the same period. In the case of loans granted to small businesses, the average rate of default on loans granted to small businesses under the fluctuating interest rate regime was 38.64% while the average rate of default for the same businesses under the fixed interest rate arrangement within the ten years under review was 35.36%.

For the loans granted to large businesses, the average rate of default under the fluctuating interest rates was 27.81% while under fixed interest rate regimes, it was 17.45%.

A test to determine if there was a significant difference between the means of the default rates for the various interest rate regimes was conducted at a significance level of 0.05 using the students' t distribution with 9 degrees of freedom. For the personal loans, the computed t-values were 0.06351. For the loans to small businesses, the computed value was 0.5763 and for the loans to large businesses, the computed t value was 2.1106 against the critical value of 1.833. The null hypothesis was accepted under the personal loans and loans to small businesses but was not accepted in respect of the large businesses.

4.7.2 Hypothesis two

The duration of a term loan and the collateral impacts differently between the fixed, interest rate regimes and the fluctuating interest rate regimes on default of term loans.

The students t-distribution was used to test the significance of the duration on the rate of default.

The findings revealed no significant difference between the durations of the loans under the different interest rate regimes.

In the case of collateral, a test of significance in the difference between the means of the collateral required by the banks under the fixed interest rate regimes and the fluctuating interest rate regimes was conducted. The collateral requirements were categorized depending on whether the loan was granted to an individual, small business

or the large businesses. The average collateral required to cover personal loans was 137% and 124% for the fluctuating and fixed interest rate regimes respectively while for the businesses it was 110% and 104% under fluctuating and fixed interest rate regimes respectively regardless of the size of the business.

In respect of the difference between the means in collateral, the computed t - value at the 0.05 significance level with 7 degrees of freedom was 1.9958 for personal loans, 1.00 for loans to both small and large businesses against the critical value of 2.4469. Given the above results, the null hypothesis was not accepted.

4.7.3 Hypothesis three

The growth of the economy (GDP) results in lesser rates of default on term loans under the fixed interest rate regimes.

Regression Analysis was conducted with GDP as the independent variable and Rate of default as the dependent variable under both fluctuating and fixed interest rate arrangements. The results of the hypothesis gave mixed findings;

In the case of personal loans, the null hypothesis was accepted in respect of variable interest rates. For every 1 percent increase in the rate of GDP, the rate of default fell by 0.7852 percent. However, there was no strong causal relationship as the coefficient of correlation (r^2) was 0.02. In the case of the personal loans granted under the fixed interest rate arrangement, the null hypothesis was not accepted implying that even when the rate of GDP in the country increases, the rate of default may also increase and thus the need to investigate other factors leading to default.

Contrasting results were observed in respect of the loans granted to the small businesses. Under the fluctuating interest rate arrangements, the null hypothesis was not

accepted. Other factors other than the growth of the economy had greater contribution to the rate of default. For the same category of loans but under the fixed interest rate regimes, the null hypothesis was accepted. A percentage growth of the economy would result to a decrease in the rate of default by 3.73 percentage points.

In the case of loans granted to large businesses and corporations, the null hypothesis was accepted. The result was that a percentage increase in the rate of GDP lowered the rate of default by 3.73 percentage.

The null hypothesis was also accepted in respect of the loans granted under the fixed interest rate schemes to the large businesses. In respect of these loans, a one-percentage increase in the rate of GDP will reduce the rate of default by 0.914 percentage points.

4.7.4 Hypothesis four

The proportion of small businesses paying penalties for default on bank loans, exceed that of large businesses significantly. The Students t distribution was used to test the significance of the difference in means on the proportion of penalties charged from large and small businesses. Penalties on loans defaulted were paid either as a percentage of the unfulfilled obligation or standing order charges. Any time there was default, the banks levied penalties and so the percentages of defaulting firms were taken as the percentages of the firms suffering penalties.

The average values indicate that out of all the small businesses to whom loans were advanced, 37% defaulted while in out of all the big businesses to whom loans were advanced, 22.6% defaulted.

The null hypothesis was accepted. There was a significant difference between the proportions of penalty charges levied from the large and the small firms. The calculated t value was 3.067 against the critical value of 1.812.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

5.1 General conclusions

From the results of the first hypothesis, it was concluded that the rate of customer default on loans depends on the type of the loan rather than on the interest rate regime. Thus, financial control in the use of funds is a key determinant to the ability of the firm to repay loans borrowed.

The duration of a term loan has an impact in the rate of default but is not affected by the interest rate regime. The durations of all loans average between 2 to 7 years regardless of the interest rate regime.

There is no significant difference between the average collateral required from individuals and businesses taking loans under fixed and fluctuating interest rates.
The duration of a term and collateral required in a loan agreement do not impact differently under the fixed and fluctuating interest rate regimes.

The general conclusion is that the rate of growth of the economy reduces the rates of default on term loans. The growth of the economy is a key factor in the analysis of default of term loans. Low growth increases the rates of default and vise versa. The contradicting results in the case of personal loans under the fixed interest rate regime could be attributed to the definition of default for the purpose of the study. Default was considered even when a customer failed to fulfill his or her contractual obligations whether he repays in the future or not.

The size of the firm is a significant factor when analyzing the rate of default on loan obligations. Large firms have lesser rates of default than small firms. This can be attributed to better financial controls of the business, as most of the large businesses are corporate bodies.

The eventual generalizations of the research are that fluctuating interest rates increase the risks from the point of view of the banks and from the point of view of the borrower.

The lender and the borrower are however in some game. The borrower in a fluctuating interest rate contract hopes that the real interest rates will fall while the lender hopes that the interest rates will rise.

There are higher chances of default on loans taken up under fluctuating interest rate regimes. The duration of a term loan and the collateral required do not differ significantly under the fluctuating and fixed interest rate regimes.

The size of the firm is also a key factor in the default of bank finance. Small firms have significantly higher rates of default than the larger firms.

5.2 Recommendations.

Before granting loans, commercial banks should investigate the liquidity of various firms thoroughly. This should be more stringent to in the case of small businesses as they are more susceptible to default.

Appropriate measures should be taken to increase the rate of economic growth. The growth of the economy will reduce the rates of default on loans noted by the commercial banks.

Businesses in general and small businesses in particular should budget their operations properly. This will ensure that they have sufficient funds to cater for their fixed contractual obligations like installments on loans and thus minimize the amounts of penalties charged fore default.

5.3 Suggestions 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, i.e. the level of non-performing loans
- Market power
- Transaction costs
- Banks' adjustment strategies at the end of the period
- Interest rate risk as reflected in loan-term structure and available deposit facilities
- An in-depth study on institutions and risk analysis.

Other areas that should also be considered are the effects of the industry of the borrowers business in the repayment of bank finance.

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Appendix 1

RESULTS OF THE DATA ANALYSIS

1. Personal Loans test of difference in the mean rates of default.

	Fluctuating	Fixed
Mean	32.9	48.9
Variance	109.2111	101.4333
Observations	10	10
Pearson Correlation	-0.26403	
Hypothesized Mean Difference	0	
Df	9	
t Stat	-3.10097	
P(T<=t) one-tail	0.006351	
t Critical one-tail	1.833114	
P(T<=t) two-tail	0.012703	
t Critical two-tail	2.262159	

2. Loans to small businesses test of difference in the mean rates of default under fixed and fluctuating interest rate regimes.

	Fluctuating	Fixed
Mean	38	33.9
Variance	249.5556	94.76667
Observations	10	10
Pearson Correlation	-0.52599	
Hypothesized Mean Difference	0	
Df	9	
t Stat	0.576323	
P(T<=t) one-tail	0.289261	
t Critical one-tail	1.833114	
P(T<=t) two-tail	0.578523	
t Critical two-tail	2.262159	

3. Loans to large businesses test of difference in the mean rates of default under fixed and fluctuating interest rate regimes.

	Fluctuating	Fixed
Mean	29.1	17.2
Variance	309.2111	35.28889
Observations	10	10
Pearson Correlation	0.127429	
Hypothesized Mean Difference	0	
Df	9	
t Stat	2.110653	
P(T<=t) one-tail	0.032001	
t Critical one-tail	1.833114	
P(T<=t) two-tail	0.064002	
t Critical two-tail	2.262159	

4. Collateral on personal loans test of difference in the mean rates under fixed and fluctuating interest rate regimes.

	Fluctuating	Fixed
Mean	137.1428571	124.2857
Variance	1790.47619	1595.238
Observations	7	7
Pearson Correlation	0.915729141	
Hypothesized Mean Difference	0	
Df	6	
t Stat	1.995897432	
P(T<=t) one-tail	0.046476624	
t Critical one-tail	1.943180905	
P(T<=t) two-tail	0.092953248	
t Critical two-tail	2.446913641	

5. Collateral on small and large businesses loans test of difference in the mean rates under fixed and fluctuating interest rate regimes.

	Fluctuating	Fixed
Mean	110	104.2857
Variance	4033.333	3461.905
Observations	7	7
Pearson Correlation	0.972334	
Hypothesized Mean Difference	0	
Df	6	
t Stat	1	
P(T<=t) one-tail	0.177959	
t Critical one-tail	1.943181	
P(T<=t) two-tail	0.355918	
t Critical two-tail	2.446914	

6. Regression results of the GDP growth rate VS the rate of default for personal loans under fluctuating interest rates.

Regression Statistics

Multiple R	0.143007
R Square	0.020451
Adjusted R Square	-0.08839
Standard Error	10.58137
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	21.03	21.038	0.187901	0.6748
Residual	9	1007.68	111.96		
Total	10	1028.72			

	Coefficients	*Std Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*
Intercept	35.10174	4.80	7.3083	4.52	24.23	45.966	24.236
X Variable 1	-0.78528	1.81	-0.433	0.6748	-4.88339	3.3128	-4.883

7. Regression results of the GDP growth rate VS the rate of default for personal loans under fixed interest rates.

Regression Statistics

Multiple R	0.27319
R Square	1
Adjusted R Square	0.07463
Standard Error	3
Observations	-0.02819
	11.2806
	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	92.36	92.368	0.7258	0.41631
Residual	9	1145.2	127.25		8
Total	10	1237.63			

	Coefficients	*Std Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*
Intercept	43.92	5.120	8.5776	1.26E-05	32.33	55.503	32.33
X Variable 1	1.645	1.931	0.8519	0.416318	-2.72	6.0143	-2.723

8. Regression results of the GDP growth rate VS the rate of default for loans to small businesses under fluctuating interest rates.

Regression Statistics

Multiple R	0.551352
R Square	0.303989
Adjusted R Square	0.226654
Standard Error	13.30934
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	696.2998	696.2998	3.930823	0.078726
Residual	9	1594.246	177.1384		
Total	10	2290.545			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	29.68312	6.041219	4.913432	0.000832	16.01692
X Variable 1	4.517693	2.278636	1.98263	0.078726	-0.63694

9. Regression results of the GDP growth rate VS the rate of default for loans to small businesses under fixed interest rates.

Regression Statistics

Multiple R	0.129351
R Square	0.016732
Adjusted R Square	-0.09252
Standard Error	10.90531
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	18.21322	18.21322	0.153148	0.704649
Residual	9	1070.332	118.9258		
Total	10	1088.545			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	36.81166	4.950012	7.436681	3.95E-05	25.61395
X Variable 1	-0.73065	1.867053	-0.39134	0.704649	-4.95423

10. Regression results of the GDP growth rate VS the rate of default for loans to Large businesses under fluctuating interest rates.

Regression Statistics	
Multiple R	0.40046
R Square	0.160368
Adjusted R Square	0.067075
Standard Error	16.62784
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	475.2719	475.2719	1.718979	0.222288
Residual	9	2488.364	276.4849		
Total	10	2963.636			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	35.21515	7.547514	4.665794	0.001176	18.14147
X Variable 1	-3.73241	2.846783	-1.3111	0.222288	-10.1723

11. Regression results of the GDP growth rate VS the rate of default for loans to large businesses under fixed interest rates.

Regression Statistics	
Multiple R	0.296511
R Square	0.087919
Adjusted R Square	-0.01342
Standard Error	5.736605
Observations	11

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	28.54957	28.54957	0.86754	0.375946
Residual	9	296.1777	32.90863		
Total	10	324.7273			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*
Intercept	19.26748	2.603893	7.39949	4.11E-05	13.37706
X Variable 1	-0.91478	0.98214	-0.93142	0.375946	-3.13654

12. Penalties to large and small businesses. A test of significance in the difference in the means.

	Small Firms	*Large Firms*
Mean %	37	22.63636
Variance	53.2	86.40455
Observations	11	11
Pearson Correlation	-0.7489	
Hypothesized Mean Difference	0	
Df	10	
t Stat	3.067701	
P(T<=t) one-tail	0.005944	
t Critical one-tail	1.812462	
P(T<=t) two-tail	0.011887	
t Critical two-tail	2.228139	

Table 3 Pattern of Prime rate Movements

Year	Prime Rate	Volatility
1992	15.00	2.02
1993	23.75	2.10
1994	23.33	3.50
1995	18.80	3.27
1996	19.00	2.77
1997	24.00	2.16
1998	22.60	2.30
1999	18.56	3.06
2000	19.11	3.06
2001	16.13	0.85
2002	14.00	3.21

Source: Data collected2003

Table 4 Average Interest Rates 1992 - 2002

Year	Fixed Interest Rates %	Variable Interest Rates
1992	18	17.50
1993	20	19.0
1994	22	23.33
1995	21	20.0
1996	26	24.0
1997	29	26.00
1998	28	26.60
1999	24	22.06
2000	30	27.00
2001	21	19.00
2002	24	22.00

Source: Data collected 2003

Table 5 Macro Economic Indicators

Period	GDP rate	Inflation	Budget deficit	T-bill rate	Exchange rate
1991	2.2	19.6	-5.6	16.59	28.074
1992	0.5	27.3	-3.1	16.53	35.216
1993	0.2	46.0	-8.2	49.80	68.163
1994	4.0	28.8	-6.1	23.32	44.839
1995	4.8	1.6	-1.0	20.90	55.939
1996	4.6	9.0	-0.2	21.61	55.021
1997	2.3	11.2	-1.0	26.36	62.678
1998	1.8	6.6	-1.6	11.07	61.906
1999	1.4	5.0	0.5	13.40	72.911
2000	-0.8	6.5	0.6	14.2	76.581

Source: Central Bank Statistical Bulletin and Economic Survey

Table 6 Average rates of Default on Bank Loans %

Year	Small	Large
1992	47.5	17.5
1993	42.5	15
1994	40	14.5
1995	44.5	17.5
1996	45	15
1997	36.5	19.5
1998	33.5	18.5
1999	30	22
2000	27.5	36.5
2001	27.5	33
2002	32.5	40

Source: Data collected 2003

Table 7 Real Interest Rates and Spread 1973 -1996

Year	Real deposit rate	Real lending rate	Real rate	T-bill	Spread
1973	-9.5	-4.92	-10.92		4.58
1974	-8.99	-5.43	-8.80		3.56
1975	-9.71	-5.74	-9.43		3.96
1976	-1.62	2.70	-0.82		4.32
1977	-11.71	-7.84	-15.04		3.87
1978	-6.27	-2.16	-5.12		4.11
1979	-3.68	0.55	-4.53		4.22
1980	-5.33	-1.89	-6.32		3.44
1981	-7.45	-6.58	-8.60		0.86
1982	-1.30	-0.28	-1.28		1.02
1983	2.53	5.57	4.81		3.03
1984	0.69	3.28	1.49		2.59
1985	7.14	9.50	9.63		2.36
1986	-1.40	0.77	-0.87		2.17
1987	0.08	3.95	3.04		3.88
1988	-1.22	1.20	-0.10		2.42
1989	-1.17	3.23	0.37		4.40
1990	-4.61	-1.10	-3.45		3.50
1991	-0.48	3.96	2.01		4.43
1992	-14.11	-9.42	-12.50		4.69
1993	-19.05	-15.99	-9.95		3.06
1994	6.78	27.82	10.62		21.05
1995	5.43	20.50	13.11		15.07
1996	3.82	16.03	9.72		12.21
1997	7.40	20.70	17.00		13.30

Source: Central Bank Statistical Bulletin and Economic Survey 1998

Appendix 2

A. G Njuguna,
P.O Box 16085,
Nakuru.

Friday, 1st February 2003.

The manager,
-------- Bank, Nakuru Branch.

Dear Sir or Madam;

RE: RESEARCH ON INTEREST RATE FLUCTUATIONS AND IT'S IMPACT ON LOAN DEFAULT.

I am a postgraduate student at the Egerton University Nakuru Town Campus studying a Masters in Business Administration degree. (MBA).

As part of the requirements for the award of the degree, I am required to conduct a research on the above topic. To facilitate extensive study of the topic, I will be collecting data on interest rates over time and the loan default levels in banks.

The effect of this letter is to request you to avail the necessary information from the point of view of your bank. The information you will give will not be used for any other purpose other than the intended research.

A prompt response to the attached questionnaire will be highly appreciated.

Thank you,

Amos Gitau Njuguna.

ADM: CM11/0037/01.

Questionnaire

The information contained in this questionnaire will not be used for any other purpose other than the intended research.

Bank .....

Designation of the respondent.....

1. What is the current interest rate regime? 1. Fixed 2. Fluctuating

2. How long has the interest rate regime been the form it is? .....

3. In the granting of loans and determination of the interest rates to charge, do you distinguish between large and small businesses? 1. Yes 2. No.

4. If your answer in (3) above is Yes, what criteria do you use and why?

.....

.....

.....

5. Do you require your customers to maintain a minimum balance in their accounts when they have borrowed loans from you? 1. Yes 2. No.

6. If your answer in (5) above is Yes how is the minimum balance determined?

.....

.....

.....

7. How do you determine the installment repayment of a loan borrowed from the bank?

.....

.....

.....

8. Do you require customers to give security in respect of the loans borrowed by them? 1. Yes 2. No.

9. If your answer in (8) above is Yes, what is the minimum loan amount that should be secured on; 1. Personal Loans ..... 2. Loans to small businesses 3. Loans to Large businesses .....

10. If your answer in (8) above is Yes, what is the average value of the collateral against the loans borrowed for the following assets in respect of personal loans and loans to small and large businesses?

Asset	Rate of value of asset					
	Personal Loans		Small Businesses		Large Businesses	
	Fluctuating	Fixed	Fluctuating	Fixed	Fluctuating	Fixed
Property – land and buildings in urban areas						
Property – land and buildings in rural areas						
Fixed deposit accounts in your bank						
Fixed deposit account in other banks						
Share certificates of blue chip companies						
Personal withdraw able deposits						
Others (specify)						

11. How are the interest rates to charge on loans determined from time to time in the bank?

.....

.....

.....

12. To what extent is the determination of the interest rates affected by the CBK?

.....

.....

13. Please state the interest rates charged on the bank loans in the following periods, the average default rates and the duration for the loan defaulted by individuals, the small and medium sized businesses and the large businesses under Fluctuating (V) and Fixed (F) interest rate regimes.

	Rate of Interest						Average Default						Duration of the defaulted loan (years)					
	Small		Personal		Large		Small		Personal		Large		Small		Personal		Large	
	V	F	V	F	V	F	V	F	V	F	V	F	V	F	V	F	V	F
92																		
93																		
94																		
95																		
96																		
97																		
98																		
99																		
00																		
01																		
02																		

14. How would you explain the relationship between the duration of a loan and the rate of default?

.....

15. Do you charge penalties when your customers fail to pay an installment on the loan borrowed at the right time according to the agreement made at the date of the inception of the loan contract? 1. Yes 2. No.

16. If your answer in (15) above is Yes, indicate the proportion of penalties that were charged on personal loans, small and medium size businesses and large businesses in the tables below under the fixed and fluctuating interest rate regimes.

Year	**Proportion of Penalties Charged under Fluctuating Interest Rates**			**Proportion of Penalties Charged under Fixed Interest Rates**			
	Small	**Personal**	**Large**	**Small**	**Personal**	**Large**	**Single rate**
1992							
1993							
1994							
1995							
1996							
1997							
1998							
1999							
2000							
2001							
2002							

Appendix 3

Registered Commercial Banks in Nakuru Municipality

1. Barclays Bank of Kenya.
2. Cooperative Bank of Kenya Ltd.
3. Kenya Commercial Bank.
4. National Bank of Kenya Ltd.
5. Standard Chartered Bank (K) Ltd.
6. The Delphis Bank Ltd.
7. Trans National Bank Ltd.

EGERTON UNIVERSITY LIBRARY