

**EFFECT OF INTEREST RATES ON CREDIT ACCESSIBILITY IN
KENYA: A CASE OF COMMERCIAL BANK BRANCHES IN NANDI
COUNTY**

JUSTUS KIPKOGEI KIRUI

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DECLARATION

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

MR. JUSTUS KIPKOGEI KIRUI

D61/0005/2019

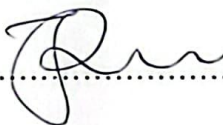
SIGNATURE  DATE 22/11/2023

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

DR. LOICE KOSKEI,

Senior Lecturer,

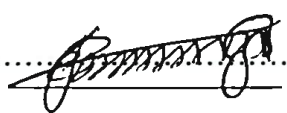
Koitaleel Samoei University College (Constituent College University of Nairobi).

SIGNATURE  DATE 22/11/2023

PROF: JOSEPHAT LISHENGA,

Professor,

Koitaleel Samoei University College (Constituent College University of Nairobi)

SIGNATURE  DATE 22/11/2023

DEDICATION

I dedicate this project to my dear family members; my mother, wife Eunice Kirui and lovely children Miriam, Maryanne, Timothy and Titus, my brothers and sisters and the entire youth of Kamoson church for their immense support they gave me during the period of my study. I am always grateful to you all for the wonderful support I received from you people, God bless you abundantly.

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LIST OF ABBREVIATIONS & ACRONYMS

ANOVA:	Analysis of Variance
CBK:	Central Bank of Kenya
COD:	Certificates of deposit
CP:	Credit Performance
DRC:	Democratic Republic of Congo
FI:	Financial Institutions
IRC:	Interest Rate Capping
KBA:	Kenya Bankers Association
SMEs:	Small Medium Enterprises
SPSS:	Statistical Package of Social Sciences
UK:	United Kingdom
USA:	United States of America
WOE:	Women-Owned Enterprises
NACOSTI:	National Commission for Science, Technology & Innovation
MFIS:	Microfinance's Institutions
MF:	Mortgage Financing
MIX:	Microfinance Information Exchange
EU:	European Union
SD:	Standard Deviation
WOE:	Women-Owned Enterprises

ABSTRACT

Interest rates contribute significantly to the performance of commercial banks; this depends on the value of interest charged on credits or loans issued. Borrower's access to credits or loans is determined by the level of interest charged by commercial banks. Balancing of the different interest rates have made difficult to balance the ideal rate that will propel effective credit borrowing conditions. The fluctuations of interest rates in the market make it difficult to determine accurately the elasticity of loan accessibility this means that financial institutions find it difficult to predict their loan performance. Therefore, the general objective was to investigate the effect of interest rates on credit accessibility in commercial bank branches in Nandi County, Kenya. The specific objectives were to determine the effect of lending rate on credit accessibility in commercial bank branches in Nandi County, Kenya; assess the effect of deposit rate on credit accessibility in commercial bank branches in Nandi County, Kenya; find out the effect of interbank rate on credit accessibility in commercial bank branches in Nandi County, Kenya; and establish the effect of base rate on credit accessibility in commercial bank branches in Nandi County, Kenya. The theoretical frameworks of the study were Fisher's theory of interest and Keynes theory of liquidity preference. The study used descriptive and correlation research design, with the target population being 98 staff that included; 15 branch managers and 83 credit officers from the 15 commercial bank branches of Nandi County. Due to the small size of the target population, the study employed census techniques. Questionnaires were issued to the respondents, and the data collected was analyzed using descriptive and inferential statistics. The findings showed a strong positive relationship existing between the loan taken and the four variables: lending, deposit, interbank, and base interest rates. At $P < 0.05$ the study found that lending interest rates contributes 37.6%, deposit interest rates 17.9%, interbank interest rates 6.4% and base interest rates 12.6% of credit accessibility. These interest rates determine the amount and type of credit borrowed among households. The study concludes that interest rates have a strong positive relationship effect on loan accessibility. Therefore, policy makers in the financial and credit sectors need to develop viable strategies on interest rates to enhance loan accessibility.

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Financial institutions (FI) contribute significantly in offering support services to businesses. Globally, as cited by Mbogo (2018) financial institutions offer several services to businesses and households these include; credit, savings schemes and business support. Lofton and Ulate (2021) states that significant amount of bank revenue comes from issuance of loans. As reported by Altavilla, Burlon, Giannetti and Holton (2021) the amount of revenue raised by issuance of credit depends on the interest rates being charged. Commercial banks as cited by Hanzlík and Teplý (2019) should consider several market related conditions and banking legislations in determining the rate of interest to be charged on loans but in that respect, they additionally make assessment of its affordability. Osoro and Muturi (2013) noted that interest rates charged on loans are a managerial decision and requires a careful consideration.

The effect of interest rates in Europe on credit accessibility differs accordingly among countries. For example, Spain has put in place interest caps so as to prevent the exploitation of its consumers while Belgium, Poland, the Slovak Republic, and the United Kingdom (UK) intention was to protect the consumers from predatory lending and excessive interest rates and encourage more credit uptake. In Estonia, as reported by Altavilla *et al* (2021) the purpose of the interest rate caps was to reduce over-indebtedness and increase customer capacity to access credit. While in Netherlands the interest rate capping was meant to decrease the cost factor of accessing loans. Other developed countries have at varying times adopted a form of maximum level of interest rates this include France, Germany and the USA.

In Africa, interest rates on credits differ significantly with countries. For example, majority of the Islamic countries have similar interest rates structure in commercial banks like their counterparts in Asia. Egypt, Tunisia, Morocco, Libya, and Sudan have more rigid interest rates charged on loans or borrowings. In Zimbabwe, as stated by Svotwa,

Munyoro and Govere (2020) the interest rates charged on credits are high to a point, farmers and business persons are unable to access credits.

Kenya has faced various challenges in terms of credit accessibility which has been blamed on the constraints of the supply side of the economy from the financial institutions (Gichuki, Mwaniki & Ogolla, 2019). In 2019, 5th November, there were changes in credit or loan lending after the interest rate capping was lifted allowing financial institution to freely set their own interest rates thus creating competition for credit lending and deposits (CBK, 2019). Since this lifting, banks have seen differential results as reported by several studies. After the lifting, Take (2020) reported that the loan uptake had increased by 1% among the business community and 0.5% among household. The interest cap law 2016 in Kenya favored low risk borrowers and lifting it in 2019 was aimed at increasing credit accessibility among individuals and households. This led to few commercial banks in the Country charging a low interest rates (Mbogo, 2018). According to CBK, loan from corporate and civil servants increased due to these changes brought by lower lending rate. But loan uptake among households was reported to be low (Ngungu and Abdul 2020). The central bank of Kenya is controlling and setting a fixed interest value of inter-bank and base rate lending while allowing financial institutions to charge their own lending interest values. This study does contribute to empirical review by exploring the effect of interest rates changes on credit accessibility among commercial bank branches in Nandi County.

1.1.1. Concept of Interest Rates

The term interest rate is defined by Luo, Li, Peng, and Fan (2018) as the value a borrower or depositor pays from the amount advanced by a lender in a specified period of time. While Ma, Wu, and Gan (2019) define it as an expense paid after obtaining an asset, the definitions by the author indicate that interest rates are extra charges from a principal amount offered to a borrower or extra gains for the lender of an asset. Interest rates are common in the financial sector, especially among financial institutions. Commercial banks get interest income after issuing loans or credits to a borrower. Therefore, the level of interest rates is a primary component in banking sector performance.

Michail (2019) gives examples of interest rates that are found in the financial sector. These rates include lending, inter-bank, deposit, and base rates. Depending on the institution and purpose, these types of interest rates are used to serve several purposes. Kimaku (2021) states that lending interest rates are the charges levied on any borrowed amount, commonly in loans or credit lending. Chung, Kang, Kim, and Xiong (2022) explain that base interest rates and interbank interest rates are those levied within the financial institutions. Base interest rates are between the state Central Bank and commercial institutions, while inter-bank interest rates are between the commercial banks themselves. Xu, Shi, Rong, and Yuan (2020) state that deposit interest rates are unique because they represent the extra income levied on customers' deposits made. In this study interest rates was therefore measured based on the above four types of interest rates.

1.1.2. Concept of Credit Accessibility

Several authors have provided the definition of credit accessibility. Ermilova and Ushakov (2019) define it as the ability of businesses or households to obtain financial assets, loans, and mortgages within a stipulated period. Abrar (2019) defines capacity as the capacity of a borrower to get financial assistance at an extra cost. While Kimaku (2021) states the ability of individuals or institutions to borrow financial credits or loans, in commercial undertakings. Credit accessibility, as cited by Twumasi, Jiang, Ameyaw, Danquah, and Acheampong (2020), refers it as the capacity of borrowers to obtain loans as per their needs and lenders' terms. Therefore, it represents an agreement between the lenders and borrowers. The accessibility of credit in organizations depends on the amount available, type of credit, and terms specified by the lender. As primarily cited by Lin, Wang, Gan, Cohen and Nguyen (2019), credit accessibility among borrowers depends on the cost of the loans or extra amount levied on the borrowings (interest).

1.1.3. Interest Rates and Credit Accessibility

The association of interest rates and credit accessibility vary with context of the countries. The effect of interest rates in Europe on credit accessibility differs accordingly among countries. For example, Spain has put in place interest caps so as to prevent the exploitation of its consumers while consumers were protected from irresponsible lending and unhealthy interest rates charges in United Kingdom (UK), Poland and Belgium. In

Estonia, as reported by Altavilla *al* (2021) the purpose of the interest rate caps was to reduce over-indebtedness and increase customer capacity to access credit. While in Netherlands the interest rate capping was meant to decrease the cost factor of accessing loans. Other developed countries have at varying times adopted a form of maximum level of interest rates including France, Germany and the USA.

Financial analysts report as cited by Egorycheva (2019) indicated that Asian commercial banks charge lower lending rates and have relatively low base interest rates as compared to banks in other continents. This makes credit accessibility more affordable to the borrowers and explains the reasons why some of the African states access cheaper loans from countries like China and Japan. Ngungu and Abdul (2020) argued that credit accessibility had not improved as large number of non-performing loans has rendered commercial banks to be cautious on advancing loan or credits. On the other hand, Koech and Maina (2020) stated that interest rates volatility drivers have negatively influenced credit accessibility and credit recovery thus affecting performance of the banks. In Kenya, as reported by Gichuki, Mwaniki and Ogolla (2019) credit accessibility is directly influenced by the supply side of the economy, and therefore interest rates create additional effect.

1.1.4. Commercial Banks in Nandi County

In Kenya, Banks are classified according to the ownership; others are local while others are foreign banks. Currently according to CBK (2022) it licensed 42 financial institutions operating in Kenya in which 28 are local banks while 14 are foreign affiliated banks. The CBK monitors the rates of interest rates financial institutions charge in Kenya. A ceiling is created by the CBK to ensure that customers are not exploited and balance inflation in the country.

Historically, the first commercial bank in Nandi town now County was in 1987 which was Kenya Commercial Bank (KCB). The commercial bank goal was to allow savings among tea farmers in the county. Issuance of credit was unknown during this period. After which, other commercial banks have emerged and currently operating in the county many of these being branches of their parent firms. The county has grown economically

with businesses joining in; one of the leading commercial bank in Nandi which is Equity Bank reported that business loans in Nandi County had increased by 12% since the year 2015 to now. Currently, many commercial banks in Nandi are willing to offer credit to the borrowers especially households and businesses.

1.2. Statement of the Problem

Determination of interest rates on loans and credit among banking authorities and institutions vary significantly this is after the 2016 Interest Rate Capping (IRC) by the Kenyan Government. Since the capping as cited by Osoro and Muturi (2013), financial institutions have reported varying results on the amount of interest rates charged. In Kenya, commercial banks with similar economic conditions have reported different Credit Performance (CP). For example Kenya, as cited by Collins and Wanjau (2011) the cost of loan acquisition reduced from 18% to 14% in 2016 therefore the findings show that interest rate capping did not improve credit accessibility. Differing charges in types of interest rates has complicated things further leading to situations in which financial institutions are unable to predict their credit performance.

Furthermore, a gap in studies exists on effects of different types of interest rates on credit accessibility. This prompts a study to be conducted to understand how different types of interest rates influence on credit accessibility. Maina (2018) did a study in Nyeri County in Kenya seeking to find the predictive association between loan repayments and interest rates. A positive association effect was found by the study. Ngugi (2001) conducted a study focusing on spread of interest rates among commercial banks and the uptake of credit and found that there was a decrease in loans accessibility among households due to high interest rates.

Gaps exist that provide empirical findings to guide policy making in reviewing, setting and regulating interest rates. Many of the related studies have wholesomely looked at the effect of interest rates on loan borrowings. From reviewed studies on the variables, it becomes difficult to establish whether interest rates have an effect on credit accessibility and therefore they did examine the effects of interest rates on credit accessibility in commercial banks i.e. positive or negative effect of interest rate on credit accessibility.

This study therefore explored the effect of interest rates changes on credit accessibility among commercial bank branches in Nandi County.

1.3. Objectives of the Study

1.3.1. General Objective:

To investigate the effect of interest rates on credit accessibility in commercial bank branches in Nandi County, Kenya.

1.3.2. Specific Objectives:

- i. To determine the effect of lending rate on credit accessibility in commercial bank branches in Nandi County, Kenya.
- ii. To assess the effect of deposit rate on credit accessibility in commercial bank branches in Nandi County, Kenya.
- iii. To find out the effect of inter-bank rate on credit accessibility in commercial bank branches in Nandi County, Kenya.
- iv. To establish the effect of base rate on credit accessibility in commercial bank branches in Nandi County, Kenya.

1.4. Research Hypotheses:

- H₀₁: There is no significant relationship between lending rate and credit accessibility.
- H₀₂: There is no significant relationship between deposit rate and credit accessibility.
- H₀₃ There is no significant relationship between inter-bank rate and credit accessibility.
- H₀₄ There is no significant relationship between base rate and credit accessibility.

1.5. Significance of the Study

1.5.1. Banking Customers

Banking customers will have awareness of the various interest rates that directly and indirectly affect credit accessibility thus enabling them to understand the appropriate time

to borrow loans. Furthermore, the customers will benefit by understanding the costs of accessing credit and enabling them to access less costly loans.

1.5.2. Banking and Financial Institutions Managers

The banking management would benefit from the findings by formulating credit related policies that would provide mitigation measures in managing interest rates. On the other hand, the commercial banks or financial institutions management would benefit from the empirical findings by improving their marketability in selling credit in the market. Commercial banks would design viable interest rates to enhance credit accessibility.

1.5.3. Scholars, Academicians and Researchers

Scholars, academicians and researchers would as well benefit from study findings. The study does provide empirical and theoretical secondary data on interest rates and credit accessibility that can benefit scholars, and academicians. The study would further provide additional texts on interest rates and credit accessibility that academicians and scholars can enrich their academic studies. Future researchers would benefit from the study by identifying gaps that would filled by their studies and additional knowledge to fit their literature review.

1.6. Basic Assumptions of the Study

The following assumptions did influence the outcome of the study. In the first instance, research assumes respondents did consent to the purpose of the study. The respondents were assumed to voluntarily participate in the study by comprehensively answering all the questions with a subjective behavior. The other assumption is that the target population would be available to participate in the study during the scheduled data collection period. Also, the instruments used to collect the data were additionally providing valid and adequate information to the study.

1.7. Limitations of the Study

The bureaucratic procedures and fear of the respondents to consent on the issues of their employers were limiting factor in the study. The researcher was flexible during data collection to allow adequate responses to research instruments because the banking sector

is extremely bureaucratic. The researcher sought authorization from the respective institutions and discussed with the respondents before issuing the instruments.

1.8. Delimitation of the Study

Interest rates and credit accessibility are the key elements in the study, where interest rates are as follows; lending, deposit, inter-bank and base interest rates. In respect to geographical scope, the study was conducted among commercial banks found in Nandi County. The target population was 15 commercial bank branches operating in Nandi County.

1.9. Operational Definition of Significant Terms

Interest rates: The interest rate represents the charges on the borrowed money (Hanzlík & Teplý, 2019). This is the additional amount charged on the principal amount borrowed, which is usually set by the lenders.

Base Interest Rate:

Auerbach and Gale (2021) define base interest rate as the annual charge on deposits done in financial institutions by the monetary authority in a country. Base rate as impact on interest rate because if Central Bank of a country reduces or increases base rate form basis of interest rate charged on credit i.e., the higher the base rate the higher the interest rate charged on credits. In this study, base interest rate was defined as that interest that a country's central bank would charge other commercial banks.

Credit Accessibility:

Hong and Kandrak (2018) define credit accessibility as the ability of the business or individuals to get external financing and using the credit according to its needs and match. In this study, credit accessibility is the type, affordability, availability, and payment flexibility of credit at a particular period of time borrowed from external sources by business or individuals.

Deposit Interest Rate:

Hanzlík and Teplý (2019) defined deposit interest rates as amount charged to customers holding accounts in financial institutions. Those with savings or more deposits are encouraged to do so by providing them with deposit interest rate.

Inter-bank Interest Rate:

Mbogo (2018) defined inter-bank interest rate as the rate charged on loans between one banks to the other with a short-term period. This borrowing between banks is for liquidity, reserve preservations and regulatory compliance. In this study, inter-bank Interest rate is a type of interest rates in which commercial banks charge for short terms credits between themselves.

Lending Interest Rates:

Lofton &Ulate, (2021) defines lending rate is charges on money loaned out to individuals, organizations or institutions. Lending interest rate will represent the highest rate which is charged by commercial banks on unsecured loans given to companies and private individuals.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The chapter outlined empirical, theoretical and conceptual reviews of the study variables. This review is from credible secondary sources aimed at establishing knowledge gaps.

2.2. Theoretical Framework

The two theories seek to explain the relationship between the two variables of the study.

2.2.1. Fishers, Theory' of Interest

This theory was proposed by Irving Fisher in the year 1930. The Fishers' interest rates theory states that the interest rate is the link between capital and income. According to the theory many people in need of credit will be guided by the purpose and the need to spend it and view the rate of interest to be charged on borrowing within a stipulated time period. This charge is hypothetically aimed at giving the lenders a benefit from risking their financial assets. The definition of interest was theorized by Fisher (1930), and further justifies the reasons why interests are levied on the amounts borrowed or provided for lending. Theory of interest rates explains the reasons why respondents should be speculative by making necessary decisions for investments. This will enable them to bear the necessary risks involved with a particular decision or investments.

The study was applicable in the current study to explain the relationship between the study variables. This theory is utilized to explain the study variable (interest rate) and further explains why borrowers are seeking to get credit. Several borrowers influenced by the costs or charges that are levied on the loans offered to them or are available. In agreement with the theory Maina (2018) states that the level of interest rates determines the amount of savings and credit accessed. Furthermore as pointed by Ermilova and Ushakov (2019) who argues that borrower's decisions are directly influenced by the extra charges of the loan advanced. The theory is criticized for its ability to explain interest rates but no other economic parameters.

2.2.2. Keynes Theory of Liquidity Preference

The theory was created by John Maynard Keynes in 1891, guided by the economic growth theory, which postulates that money is for conducting transactions and holding wealth. In the theory, liquidity preference is guided by three motives: money for transaction, speculative basis, and precautionary basis. Those with transactional and precautionary motives are guided by income, while those with speculative motives are guided by interest rate. Those seeking reward for speculation by depositing or lending their money will depend on favorable market conditions. According to Keynes, the forces of demand and supply would determine the value of money deposited or lent for speculative purposes. Contrary, borrowers' access to the loans will depend on the conditions that will allow them to access credit (Ermilova and Ushakov (2019)).

The theory provides explanations on why people borrow, save and invest. Three motives of money transaction, speculation and precaution distinguishes individual's decisions to borrow, save and invest. This is true with the borrowers of loans or credit they are more likely to be influenced by the three motives. The theory of liquidity preference as cited by Giang and Hang (2019) determines the amount of money individuals are willing to save, invest or deposit with the current market conditions. This explains the determinants of accessing credits by individuals. As referenced by the theory individuals will make choices on the time and amount to invest if the rate of interest is favoring their ideal needs. This will explain the effect that interest rates have on accessibility of loans.

The theory is reported to ignore other contributors that influence decision to save, deposit or invest. It only focuses on the gain one will get by depositing or investing. There are other factors related to income levels that contribute money for speculative, transactional or precautionary motives. Huang (2015) stated that the value of money consists of a wide decision and determinants that should not be tied to one factor.

2.3. Empirical Review

The section provides empirical evidence on various themes of the study. The themes of the study are the association between lending, deposits, inter-bank, base interest rates, and credit accessibility in commercial banks.

2.3.1. Lending Interest Rate and Credit Accessibility

Mugo and Gakobo (2020) conducted a local descriptive study design in Limuru, Kenya to find out the extent to which Women-Owned Enterprises (WOE) are affected by financial accessibility related challenges. The specific aim was to establish the extent to which lending interest rates affected the growth of women-owned enterprises. The study's findings revealed that many women's groups are unable to access large sums of money that would help their businesses grow because banks offers higher lending rates. As a result, higher lending interest rates by financial institutions have hampered the growth of women-owned businesses. Conclusively; the study established that the growth of women enterprises are affected negatively or positively due to financial related challenges.

In Nyeri, Kenya, Maina (2018) did a study on the effect of interest rates and loan repayments on commercial banks. Descriptive survey research design was utilized, where several bank managers were surveyed and given a structured questionnaire. Findings from the study showed loan repaid was influenced by lending interest rates, which later negatively influenced credit accessibility among the borrowers and lenders. Each of the parties in a credit contract is risk averse, reducing uptake and issuance of loans.

A survey was conducted among SMEs in the Democratic Republic of Congo by Woldie, Laurence and Thomas (2018), did a research on challenges of finance accessibility for SMEs. According to quantitative findings analyzed descriptively, a large number of SMEs argued that higher lending interest rates made loans expensive and inaccessible to them because commercial banks in Congo have dominantly set higher interest rates on their loans, and the government was doing little to provide a ceiling to cushion the borrowers. Therefore, compounded with other contextual factors, higher lending interest rates are a determinant of credit accessibility among SMEs.

In Indonesia, a descriptive study was conducted by Widhiyanto, Nuryartono, Harianto, and Siregar (2018). The research goal was to analyze farmers' financial literacy and its impact on micro-credit accessibility. This was to establish and determine the extent to which financial literacy elements have affected credit accessibility among the farmers. The study found out that 76% of the 186 farmers who were given a structured questionnaire lacked knowledge on loans interest charges and were thus vulnerable to any

charges. Lack of financial knowledge of interest rate charges, especially lending rates, had resulted in many farmers' complaining that the loans were expensive, thus hindering more new loan applications in the long-run.

Ermilova and Ushakov (2019) study conducted in Russia focus on establishing how lending interest rates affect mortgage accessibility among households. The study established that mortgage credit accessibility among households with a mother's capital was higher than those without it. This is because the lending rates were higher among those borrowers with no or little initial capital. Therefore, the perceived lending rates by the commercial banks affected mortgage credit accessibility among households. This prompted commercial banks to request initial mother capital before advancing mortgage credit to any borrower in Russia.

Abrar (2019) focused on the impact of interest rates, financing on micro finance institution. Five stars rated MFIs were selected in six regions of the world and data collected between the years 2006 and 2012. The study sampled 382 MFIs from 70 countries and records from them were obtained. Microfinance Information Exchange (Mix Market). Panel data estimation techniques assess the empirical association between the study variables. Results showed that lending interest rates were an effective estimator of loan uptake and thus increased performance in MFIs. Many borrowers rely on lending interest rates to obtain credit on loans.

2.3.2. Deposit Interest Rate and credit Accessibility

A number of local and global scientific studies have been reviewed to explain the association between deposit interest rates and credit accessibility. Ipek Erdogan, (2019) conducted a survey study among 492 SMEs in Turkey to establish the determinants of perceived bank financing accessibility. Survey questions were focused on deposit interest rates offered by the commercial banks this had an effect on SME access to loans. Descriptive findings revealed that there are more intakes of loans and deposits in SMEs that are in manufacturing firms. While inferential statistics showed that a positive predictive association existed between deposit interest rates and credit accessibility, This

meant that SMEs were motivated to access the loans if only the bank offered a higher deposit interest rate and vice versa.

A descriptive study conducted by Yuan, Azam, and Tham (2020) in Malaysia revealed the effect of deposit interest rates on loan accessibility. This was a survey among SMEs who were provided with questionnaires and the findings were analyzed statistically. A positive association exists between interest rates and loan accessibility among SMEs in Malaysia. These findings revealed that commercial banks that offered higher deposit interest rates to their client have attracted more borrowers. That means that banking customers are attracted by higher deposit interest rates, which encourage them to save and borrow more.

Olawumi, Adewusi, and Oyetunji (2019) did a descriptive study in Lagos, Nigeria assessing determinants of uptake of Mortgage Financing (MF). Institutions offering mortgage financing in the city were the target population. Data was analyzed using Mann-Whitney U test and factor analysis. Findings via factor analysis showed that deposit interest rates were significant contributor to housing mortgage credit accessibility. Primary mortgage institutions and real estate developers offering saving mortgage investment schemes with them and offering higher deposit interest rates have more uptakes of their housing credit product schemes.

2.3.3. Inter-bank Interest Rate and Credit Accessibility

Several related studies, both local and global, were reviewed to establish the predictive association between inter-bank interest rates and credit accessibility. A survey study between 2009 and 2014 was conducted among SMEs in Europe by Andrieu, Staglian, and Van Der Zwan (2018). The research established association of a positive effect between trade credit and loan uptakes among these SMEs. The study revealed that inter-banking interest rates in commercial banks were among the contributors to lower borrowings in European countries. These findings were justified by the fact that if one commercial bank lends to the other, it sets a higher interest rate to gain from the lending, which in the long run is charged to the consumer. This scenario occurred mostly when small commercial banks borrowed from well-established big commercial banks.

Therefore, the study concluded that inter-bank interest rates negatively affected loan accessibility among SMEs.

Lee, Yahya, Habibullah, and Ashhari (2019) did a cross-sectional study seeking to establish the effect of inter-banking interest rates on the accessibility of loans in European Union conventional banks. A total of 1053 conventional banks were obtained from a period of 2007–2016. Trend analysis showed that inter-banking interest rates had increased over the period, but it was not a significant factor in influencing loan borrowings over time. More loans were accessed and borrowed as the years progressed, and their ANOVA results showed no significant difference over the 10-year period.

Ebekozien, Aigbavboa, Aigbedion, Ogbaini, and Awe (2022) did a survey study in Nigeria among housing pensioners. Interviews were conducted which were analyzed thematically. Findings revealed that some of the inter-banking interest rates on mortgages were extremely higher, hindering their accessibility among many of the pensions. This means that other banks do not offer the mortgage directly; they seek it from other commercial banks offering the product. The addition of the interest rate by each bank engaged in the transactions makes it expensive for the borrowers. Therefore, inter-bank interest rates are a hindrance to mortgage credit accessibility in Nigeria.

A study that was conducted in Vietnam revealed the influence of inter-bank interest rates among rural households found in Vietnam (Giang and Hang, 2019). The results showed that fewer localized banks had no capacity to provide flexible loans and therefore sought help from other well-established banks. In doing so, they had to cope with the new interest rates offered by the commercial banks. Because they could not afford to make losses, they had to charge the borrowers. This affected the accessibility and uptake of loans among businesses and households, with the majority complaining of higher rates of interest.

In their study, Mol-Gómez-Vázquez, Hernández-Cánovas, and Koter-Kant (2021) pointed out the need for banking stability aimed at not discouraging borrowers. A multilevel methodology was applied where 20,207 observations gathered among 16,382 firms operating in the EU-28 during the period 2011–2018 were accessed. According to the study, inter-banking interest rates was important in ensuring unhealthy competition

among commercial banks was not witnessed. There was need to have stabilized interest rates between banks to avoid unfair competition that eventually affected the borrowers of loans or credits. Furthermore, results showed that SMEs are more likely to borrow credit in countries with established credit and deposit banking systems.

2.3.4. Base Interest rate and Credit Accessibility

Several global and local studies have been conducted to establish the association between base interest rates and credit accessibility in commercial banks. Molyneux, Reghezza, Thornton, and Xie (2020) did a descriptive study on negative interest rate and how it improves bank lending. It was specifically set to evaluate whether base interest rates affect loan accessibility among Malaysian banks. The study conducted a cross-sectional study where various base rates over a period of six months were compared with the loans that were borrowed during the same period. According to inferential statistics, changes in the base rate significantly predicted loan accessibility; the study further noted that many borrowers' especially corporate clients, sought loans when the base rate was favorable.

A descriptive survey study was conducted by Erdogan (2018) focused on determinants influencing accessibility to finance among SMEs. This was an interview study among 25 Turkish bank managers where thematic analysis was used to analyze the data. According to the interview findings, the majority of the banking managers stated that the base interest rate was the main hindrance that affected SMEs' access to loans in commercial banks. The state central bank usually sets a base interest rate that made it unfavorable for commercial banks to offer the best to borrowers. Loan accessibility among SMEs is directly affected by the overall base interest rates offered by commercial banks.

In Turkey, Yildirim, Alola, and Sengelen (2021) did a study using a novel approach to find out the causal nexus between interest rate policy and the gold market. More significantly, the country's base interest rate contributes to credit accessibility and the capacity of the gold businesspeople to access credit for their loans. Because gold business requires a higher capital base, many Turkish business people have to access credit and their credit interest rates are determined by the state base rates. The aim of this is to stabilize the gold business in the country.

In Tanzania, a cross-sectional study was conducted by Sansa (2019) whose aim was to critically analyze the effect of loan conditions on accessibility to loans among SMEs in the country. Among the 89 respondents, qualitatively and quantitatively techniques provided the analysis of the data. The cost of the loan was found to be highly determined by the base interest rate charged by the state central bank. Credit and loan prices are not easily determined by the forces and demands of the market like other products in the market. Therefore, many commercial banks depend on this rate offered to them, and it is sometimes not favorable for conducting the business of issuing loans. Therefore, the study conclusively states that loan accessibility for Tanzanian borrowers is directly dependent on the base interest rate offered to them.

2.4. Conceptual Framework

Brag, Gall and Gall 2005 describe conceptual framework has a diagrammatical representation of the variables relationship in a study. It comprises of independent and dependent variable. For this study (Figure 2.1) independent variables are lending, deposit, interbank and base rates while dependent variable is credit accessibility.

**INDEPENDENT VARIABLE:
INTEREST RATES**

**DEPENDENT VARIABLE:
CREDIT ACCESSIBILITY**

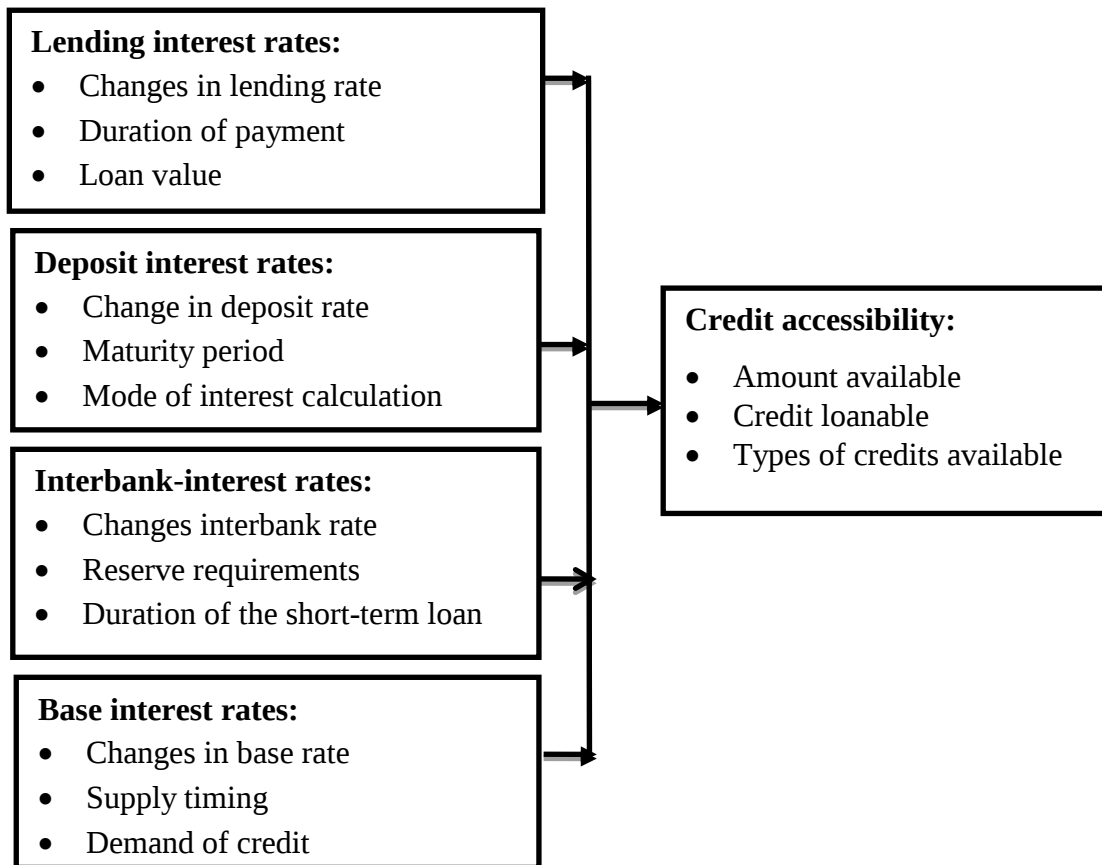


Figure 2.1 Conceptual framework
Source: Researcher 2022

2.5. Knowledge gaps

Table 2.2 shows a summary of research gaps that the study intends to achieve the study objectives.

Authors	Study aim	Study findings	Study Gaps	Addressing Gaps
Mugo and Gakobo (2020)	Descriptive study design in Limuru, Kenya to find out the extent to which Women-Owned Enterprises are affected by financial accessibility related challenges.	The study established that the growth of women enterprises are affected negatively or positively due to financial related challenges.	The study focused on challenges affecting accessibility of credits among women enterprises.	The study did focus on the effect of interest rates on credit accessibility.
Maina (2018)	A study on the effect of interest rates and loan repayments on commercial banks.	Findings from the study showed that the lending interest rates charged on the loans affected loan repayment, which later negatively influenced credit accessibility among the borrowers and lenders	The study focused on loan repayment relation with lending rates among lenders and borrowers.	The current study did relate lending rates with credit accessibility.
Woldie, Laurence, and Thomas (2018).	The purpose of the study was to establish the challenges of finance accessibility for SMEs.	A large number of SMEs argued that higher lending interest rates made loans expensive and inaccessible to them because commercial	The study focused on challenges facing loans accessibility.	The study did link the relation between lending interest rates and credit accessibility

		banks in Congo have dominantly set higher interest rates on their loans		
Yuan, Azam, and Tham (2020)	The effect of deposit interest rates on credit accessibility.	According to the study, shows a positive association exists between interest rates and credit accessibility among SMEs in Malaysia.	The study was conducted in Malaysia.	The study is conducted in Kenya with the findings of the study being one specific objective.
Olawumi, Adewusi, and Oyetunji (2019)	To find out the factors that influence uptake of mortgage financing.	Findings via factor analysis showed that deposit interest rates were a significant contributor to housing mortgage credit accessibility.	The study utilized factor analysis to establish the relationships and only focused on factors.	The study did employ multiple regressions and focus on relationship between variables.
Lee, Yahya, Habibullah, and Ashhari (2019)	A cross-sectional study seeking to establish the effect of inter-banking interest rates on the accessibility of loans in European Union conventional banks.	Trend analysis showed that inter-banking interest rates had increased over the period, but it was not a significant factor in influencing loan borrowings over time.	The study focused on the trends of inter-banking interest rates	The study focused on inter-banking interest rates and credit accessibility.
Giang and Hang (2019)	To establish the factors affecting the bank credit	The results showed that fewer localized banks had no capacity to	The study focused on factors influencing credit	The study was conducted to find the relationship

	accessibility of rural households in Vietnam.	provide flexible loans and therefore sought help from other well-established banks.	accessibility	between interest rates and credit accessibility
Erdogan (2018)	To establish the factors affecting SME access to bank financing.	The majority of the banking managers stated that the base interest rate was the main hindrance that affected SMEs' access to loans in commercial banks.	The study focuses on factors affecting accessibility to bank financing.	The study was conducted to find the relationship between interest rates and credit accessibility
Sansa (2019)	Aim was to critically analyze the effect of loan conditions on accessibility to loans among SMEs in the country.	The findings from the study revealed that the cost of the loan is highly determined by the base interest rate charged by the state central bank	Focused on loan conditions and credit accessibility	The current study focused on interest rates and credit accessibility

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This section presents chronological steps in achieving study objectives. The methodology section presents the design used by the study, sampling and data seeking process, additionally, procedures for processing and analyzing data. The section also indicates the researcher's consideration of ethical practices.

3.2. Research Design

The study employed a descriptive and correlation research design. Faulkner and Faulkner (2018) describe the design as a guideline in which the research follows to answer the objectives of the study. According to Vaske (2019) the descriptive design involves conducting an in-depth analysis on a chosen subject to obtain relevant inferences to the purpose of the study. Faulkner and Faulkner (2018) describe correlation research as a design that seeks to establish the cause effect between two or many variables. The two designs are relevant to sought and obtain inferences that explain the association between interest rates and the accessibility of credit.

3.3. Target Population

Vaske (2019) defined the target population as objects, units, and individuals from whom the study obtained inferences to answer the study objectives. The study population was 98 staff i.e. 83 credit officers and 15 branch managers from the 15 commercial bank branches of Nandi County. The numbers were obtained from Nandi County, department of business registration and licensing as per human resource respective records of 2022 (Table 3.1). This target population provided information regarding the effect of interest rates on credit accessibility. Commercial banks were chosen because they provide useful information to answer the study objectives.

Table 3.1 Target Population

Commercial bank	No of branches	Branch managers	Credit staff
Post bank	1 (Nandi Hills)	1	4
Equity Group	2 (Kapsabet, Nandi Hills,)	2	16
Kenya commercial	3 (Kapsabet, Serem, Nandi Hills)	3	19

Co-operative	2 (Kapsabet, Nandi Hills)	2	15
National	2 (Kapsabet, Nandi Hills)	2	6
Access	2 (Lessos, Nandi Hills)	2	8
Absa	1 (Kapsabet)	1	5
Family bank	1 (Kapsabet)	1	6
Chase Bank	1 (Kapsabet)	1	4
Total		15	83

Source: (Department of business registration and licensing and Banks HR records) 2022

3.4. Sample Size and Sampling Procedure

The sampling frame as cited by Babbie, Wagner, and Zaino (2018) represents the boundary within which samples was obtained from the target population. Census technique was adopted in the study due to a smaller target group. Babbieet *al.* (2018) defines census technique as a method in which all the entire populations are sampled by the study. The census technique was appropriate because the sampling error is zero. Therefore 15 and 83 branch managers and credit officers represented the respondents of the study.

3.5. Data Collection Procedure

The primary data was used in the study. This was administered to the branch managers and credit staff. Flick (2018) states that questionnaire provided sufficient chance to obtain information within the constraint of time and resources. The process of collecting data took thirty days i.e. November and December 2022; the period is set to provide sufficient information for actual and pilot study. The study began by seeking authorization from the banking management to conduct the study in the respective institutions. After the collection of data, it was safely stored and ready for analysis.

3.6 Reliability and Validity

3.6.1. Pilot Study

Pilot study was conducted in Uasin Gishu County where 10% of the 3 commercial bank branches were used (Kenya Commercial Bank, Equity Bank and ABSA bank). Kothari (2014) stated that pilot study is essential in ascertaining the truthfulness, accuracy and consistency that the data

collection instruments did offer for the study. Numbers was assigned to the bank branches and then they were sampled randomly for the pilot study tests.

3.6.2. Validity of the Instruments

It is defined as correctness and relevancy of the items in the research instrument to answer the intended outcomes (Kothari, 2014). The validity of the instruments was done by the researcher in consultation with supervisors and panel of subject experts. They scrutinize each item in the questionnaire in detailed to check whether it meets the intended purpose. Furthermore, they checked the construct of the questions to check for appropriate language and flow of questions. Corrections were done on the questions according to the advices provided.

3.6.3. Reliability of the Instruments

The instruments reliability explains how the instruments were able to answer the intended purpose consistently (Babbie, Wagner, and Zaino, 2018). Reliability tests began by conducting a test-retest process. Thereafter, the set of data was subjected for a statistical reliability test. The study used Crouback alpha reliability coefficient test, where a value of items in the questionnaire produced $r=0.751$ for 5 questionnaire items obtained during the reliability test (Table 3.2). Flick (2018) agrees that a value above 0.70 is sufficient for the study to continue.

Table 3.2 Reliability statistics

Reliability Statistics

Crouback's Alpha	No. of Items
0.751	5

3.7. Data Analysis Procedure

Before analysis the data was screened for adequacy and validity. The application that was used by the study during analysis is the SPSS window 23 version where data was coded to it. Vaske (2019) defines data analysis as the process of converting raw data into final information. Quantitative data was analyzed using descriptive and inferential statistics. Babbie, Wagner, and Zaino (2018) define descriptive statistics as the process of summarizing and presenting data. Descriptive statistics involved the use of percentages, frequencies, mean and standard deviation.

Inferential statistics, as cited by Flick (2018), involved statistics that interpret data or provide meaning to a set of data.

The Pearson moment correlation coefficient sought to find association between the study variables. Multiple regression analysis explained the predictive association between interest rate variables and credit accessibility. Findings from the multiple regression analysis were accepted after assumptions of linearity, collinearity, homoscedasticity, and independence of errors have been tested. The hypotheses testing was at 95% significance ($p < 0.05$). The regression model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \dots\dots\dots$$

Where;

Y– Credit accessibility (Dependent Variable)

β_0 – Constant Term, ($\beta_1, \beta_2, \beta_3, \beta_4$) – Beta Coefficients

X_1 – Lending interest rates

X_2 – Deposit interest rates

X_3 – Interbank-interest rates

X_4 . Base interest rates

e- Error term

3.8. Operationalization of Variable

Table 3.2 shows the Operationalization of the variables. This explains the relationship between the following elements; objectives, variables, research instruments, measurement scale and data analysis techniques used by the study.

Table3.3. Operationalization of the variables

Objective	Variables	Research Instrument	Measurement Scale	Tool of analysis
To determine the effect of lending rate on credit accessibility in commercial bank branches in Nandi County, Kenya.	Lending interest rates: -Changes in lending rate -Duration of payment -Loan value	Questionnaire	Nominal, interval & Ratio	Descriptive statistics & Inferential.
To assess the effect of deposit rate on credit accessibility in commercial bank branches in Nandi County, Kenya.	Deposit interest rates: -Change in deposit rate -Maturity period -Mode of interest calculation	Questionnaire	Nominal, interval & Ratio	Descriptive statistics & Inferential.
To find out the effect of inter-bank rate on credit accessibility in commercial bank branches in Nandi County, Kenya.	Interbank-interest rates: -Changes in interbank rate -Reserve requirements -Duration of the short-term loan	Questionnaire	Nominal, interval & Ratio	Descriptive statistics & Inferential.
To establish the effect of base rate on credit accessibility in commercial bank branches in Nandi County, Kenya.	Base interest rates: -Changes in base rate -Supply timing -Demand of credit	Questionnaire	Nominal, interval & Ratio	Descriptive statistics & Inferential.

3.9. Ethical Considerations

The researcher did keep privacy of the information extracted from the respondents confidential this is by not disclosing their identity during the entire research process. The study seeks authorization from various institutions before commencing process of data collection. The research got consent from the study respondents before issuing them with the survey tools. Furthermore, explaining to them the aim of the study, contents contained in the questionnaire and who are the target groups. This enabled the respondents to be free and comfortable during the entire process. Whenever direct contact was made with a respondent, the research benefits was discussed and honored.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION, INTERPRETATION & DISCUSSION

4.1. Introduction

The section outlines results from analysis answering the general objective to investigate the effect of interest rates on credit accessibility in commercial bank branches. The project is organized according to study objectives.

4.2. Questionnaire Response Rate

The study involved a total of 83 credit officers and 15 branch managers who were provided with questionnaires. During the data collection the researcher was able to get 74 credit officers and 12 branch managers this represented 89.2% and 80% questionnaire response rate. Babbie, Wagner and Zaino (2018) justifies that a questionnaire response rate above 75% justifies continuation of the study analysis process.

4.3. Background Information

This part involves questions on the gender and academic qualifications of the study respondents. The questions are viable in assessing their representation in the study. Findings (Table 4.1) summarize the findings to these questions.

Table 4.1 Background Information

Item	Responses	Credit officers		Branch Officers	
		F	%	F	%
Gender	Male	51	68.9	9	75.0
	Female	23	31.1	3	25.0
	Totals	74	100	12	100
Academic qualifications	Diploma	25	33.8	1	8.3
	Degree	37	50.0	5	41.7
	Masters	11	14.7	4	33.3

PHD	1	1.5	2	16.7
Totals	74	100	12	100

Source: Researcher 2022

According to Table 4.1, the majority of credit officers (68.9%) and branch managers (75%) were male, with only a few credit officers (31.1%) and branch managers (25%) being female. In respect to academic qualifications, the study found that half (50%) of the credit officers had a degree as their highest academic qualification, followed by 33.8% with a diploma, 14.7% with a master's, and 1.5% with a PHD. This shows that a large number of credit officers have degrees and other higher academic qualifications. On the other hand, 41.7% of branch managers held a bachelor's degree, 33.3% a master's degree, 16.7% a PHD, and 8.3% a diploma-level academic qualification. The higher academic level of education of the respondents is a good indicator that the respondents understand the purpose of the study.

4.3.1. Highest Credit Beneficiary

The study sought to learn from credit officers which category receives the most credit. This question was important in identifying banking clients who are the highest beneficiaries of loans. Table 4.2 displays the results of this question.

Table 4.2 Highest Credit Beneficiary

Beneficiary	Frequency	Percentage
Households	10	13.6
Business	28	37.8
Civil Servants	36	48.6
Totals	74	100

Source: Researcher 2022

Table 4.2 shows that 48.6% of the civil servants were the highest beneficiaries, followed by 37.8% of the beneficiaries were businesses, and lastly, 13.6% of the loan beneficiaries were households. The findings show that civil servants are the highest credit beneficiaries. This is true according to Mugo and Gakobo (2020) who opined that civil servants are seen by financial

institutions as more credit worthy due to their stable incomes and use of check off system during repayment.

4.4. Lending Interest Rate and Credit Accessibility

The effect of lending interest rate on credit accessibility was first objective of the study. The objective data was descriptively analyzed. The objective assesses the lending interest rate in the market, and its influence on loan borrowed.

4.4.1. Level of Lending Interest Rates

The branch managers to provide the rate of lending interest rate in the last one year, the rate in which the interest rate changes last year and the amount of loan revenue estimate as a result of lending interest rate in a year. The finding to these questions was summarized in Table 4.3.

Table 4.3 Level of Lending Interest Rates

Questions	Response	Frequency (n=12)	Percentage
State the category that has been the lending interest rates in your bank in the last one year?	Below 10%	2	16.7
	10 – 20%	9	75.0
	Above 20%	1	8.3
Kindly give the duration at which lending interest changes in your bank in the last one year?	1 – 3 months	2	16.7
	4 – 6 months	4	33.3
	7 – 9 months	5	41.7
	10 – 12 month	1	8.3
Indicate the loan revenues as a result of lending interest rate in your bank in the last one year?	Below 1 million	2	16.7
	2 million – 5million	2	16.7
	6 million - 10 million	3	25.0
	Above 10 million	5	41.6

Source: Researcher 2022

Respondents (75%) (Table 4.3) agreed that the lending interest rates in the last one year has been 10-20%, 16.7% of the branch managers stated that is below 10%, while 8.3% branch managers stated that is above 20%. The findings show that the lending interest rates in average are between 10-20% in financial institutions. Furthermore, findings showed that majority of the branch managers (41.7%) agreed that the interest rates changes between 7-9 months, followed by 33.3% branch managers stating that it changes between 4-6 months, 16.7% stating that it changes between 1-3 months. Only 8.3% branch managers agreed that it changes in a period between 10-12 months. The findings show that the interest changes in the banks is a period between 7-9 months. Lastly, did seek to identify the estimated amount of loan revenue that accrued from lending interest rates. Findings in Table 4.13 showed that 41.6% branch managers agreed that the bank gets an estimate of more than 10 million due to the lending interest charged, 25% branch managers stated that they get 6-10 million revenues, while 16.7% of branch managers each state that the bank get below 1 million and 2-5 million revenues from lending interest rates. The findings show that the banks get an estimate of more than 10 million revenues from lending interest rates.

4.4.2. Influence of Lending Interest Rates on Credit Accessibility

The credit officers were provided with statements in which they need to rate. These were meant to assess association between lending interest rates on credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA(Strongly Agree). Table 4.4 illustrates the findings.

Table 4.4 Influence of lending interest rates on credit accessibility

Statements	5 F(%)	4 F (%)	3 F (%)	2 F (%)	1 F(%)	Mean	SD
Changes in lending interest rates influence amount of loan borrowed by the customers.	38(51.3)	24(32.4)	1(1.3)	6(8.1)	5(6.8)	4.3	0.4
Duration of loan rates have not enhanced the amount of credit which is loanable to the consumers	9(12.1)	8(10.8)	2(2.7)	15(20.3)	40(54.1)	2.1	1.1

Loan value due to lending interest rates have increased the types of credits available to consumers	31(41.9)	27(36.5)	2(2.7)	10(13.5)	4(5.4)	4.1	0.2
Lending interest rate does not affect the amount borrowed by consumers.	7(9.5)	9(12.2)	1(1.4)	19(25.7)	38(51.4)	2.1	0.8
Composite mean & SD=						3.1	0.6

Source: Researcher 2022

Table 4.4 indicated that 38 (51.3%) and 24 (32.4%) credit officers strongly agreed and agreed that changes in lending rates influence amount of loan borrowed by the customers. While a few number of credit officers 1 (1.3%) were undecided with the statement, also, 6 (8.1%) and 5 (6.8%) credit officers disagreed and strongly disagreed respectively that changes in lending rates influence amount of loan borrowed by the customers. The mean of 4.3 and SD (0.4) shows agreement that change in lending rates influence amount of loan borrowed by the customers. In support to the finding, Maina (2018) established that the amount of loans borrowed depends on the lending rates.

Additionally, findings showed that 40 (54.1%) and 15 (20.3%) credit officers did strongly disagree and disagree respectively that the duration of loan rates have not enhanced the amount of credit which is loanable to the consumers while 2 (2.7%) credit officers were undecided with the statement. Furthermore, 9 (12.1%) and 8 (10.8%) credit officers did strongly agree and agree respectively that the duration of loan rates have not enhanced the amount of credit which is loanable to the consumers. The mean of 2.1 and SD of 1.1 shows disagreement that the duration of loan rates have not enhanced the amount of credit which is loanable to the consumers. Abrar (2019) supports this by stating that the loan payment schedule is an important element that determines loan absorption and accessibility.

Findings further showed that 31 (41.9%) and 27 (36.5%) credit officers did strongly agree and agree respectively that loan value due to lending interest rates have increased the types of credits available to consumers, and a few 2 (2.7%) credit officers were undecided. On the other hand, 10

(13.5%) and 4 (5.4%) credit officers disagreed and strongly disagreed that loan value due to lending interest rates have increased the types of credits available to consumers. The mean of 4.1 and SD of 0.2 showed agreements that loan value due to lending interest rates have increased the types of credits available to consumers. This contrasts with what Widhiyanto, Nuryartono, Harianto, and Siregar (2018) in their studies, where they stated that the types of credit accessed is determined by other borrower's characteristics such as level of incomes rather than interest rates or affordability.

Last but not least, findings in Table 4.4 revealed that 38 (51.4%) and 19 (25.7%) credit officers did disagree and strongly disagree respectively that lending interest rate does not affect the amount borrowed by consumers while 1 (1.4%) credit officers were undecided. Additionally, 7 (9.5%) and 9 (12.2%) credit officers strongly agreed and agreed respectively that lending interest rate does not affect the amount borrowed by consumers. The mean and SD shows disagreement that lending interest rate does not affect the amount borrowed by consumers. Laurence and Thomas (2018) agree entire on the findings by opining that the amount of loans is depended on the lending interest rates in the market. A composite mean of 3.1 SD of 0.6 shows in neutrality that lending interest rate has an influence on credit accessibility in banks.

Furthermore, the branch managers were to respond on the influence of lending interest rate on loan value borrowed by the customers for the last one year in their banks. The findings to this question are in Table 4.5.

Table 4.5 Influence of lending interest rates on credit accessibility

Level of agreement	F (n=12)	100 (%)
To a very low extent	1	8.3
To a low extent	2	16.7
To a moderate extent	1	8.3
To a large extent	3	25.0
To a very large extent	4	33.3

Source: Researcher 2022

The findings (Table 4.5) showed that 4 (33.3%) and 3 (25%) branch managers stated that in a large extent and very large extent respectively does lending interest rates influence credit

accessibility while 1 (8.3%) branch managers stated that it does in a moderate extent. Additionally, 2 (16.7%) and 1 (8.3%) branch managers did state that lending interest rates influence to a low extent and to a very low extent on credit accessibility respectively. These findings show that to a very or large extent do lending interest rate influence credit accessibility.

4.5. Deposit Interest Rates and Credit Accessibility

To establish the effect of deposit interest rates on credit accessibility was the second objective. This did involve assessing how deposit interest rates affect credit accessibility. The responses from the branch managers and credit officers was analyzed using descriptive and inferential statistics

4.5.1. Deposit Interests Rates Values

The branch managers were asked to state the rate of deposit interest rates in the bank in the last one year and the extent to which this rate changes within a year. Table 4.6 provides results.

Table 4.6 Deposit interests rates values

Question	Response	Frequency (n=12)	Percentage (100%)
What have been the deposit interest rates in your bank for the last one year?	Below 10%	4	33.3
	Above 10%	8	66.7
Kindly give the duration at which deposit interest rate changes in your bank in the last one year.	1 – 3 months	2	16.7
	4 – 6 months	7	58.3
	7 – 9 months	2	16.7
	10 – 12 months	1	8.3

Source: Researcher 2022

Findings in Table 4.6 shows that majority 8(66.7%) branch managers stated that the deposit interest rate in the banks has been above 10% while 4(33.3%) branch managers stated that it has been below 10%. The findings show that the deposit interest rate is above 10%. Furthermore,

the findings showed that 7 (58.3%) branch managers agreed that the deposit interest rate has been changing between 4-6 months, while 16.7% branch managers stated it changes between 1-3 months and 7-9 months respectively while 1 (8.3%) branch manager state that it changes during 10 – 12 months period. This finding shows that deposit interest rate changes for a period of 4-6 months.

4.5.2. Influence of Deposit Interest Rates on Credit Accessibility

The credit officers were provided with statements in which they need to rate. These statements were meant to assess the influence of deposit interest rates on credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA (Strongly Agree). Table 4.7 provides the results.

Table 4.7 Influence of deposit interest rates on credit accessibility

Statements	5 F (%)	4 F (%)	3 F (%)	2 F (%)	1 F(%)	Mean	SD
Changes in deposit interest rates have not influenced the credit borrowed.	10(13.5)	8(10.8)	1(1.4)	26(35.1)	29(39.2)	2.3	0.7
Deposit rates charged on different loan maturities influence the amount of the loan borrowed.	26(35.1)	31(41.9)	2(2.7)	4(5.4)	11(14.9)	3.9	0.1
Mode of calculating deposit rates does not influence the credit to be borrowed.	6(8.1)	9(12.2)	4(5.4)	34(45.9)	21(28.4)	2.3	0.7
Deposit rate influence the amount of loans borrowed.	40(54.1)	19(25.7)	3(4.1)	5(6.6)	7(9.5)	4.4	0.4
Composite mean & SD=						3.2	0.9

Source: Researcher 2022

Table 4.7 shows that 29 (39.2%) and 26 (35.1%) credit officers strongly disagreed and disagreed respectively that changes in deposit interest rates have not influenced the credit borrowed while 1

(1.4%) credit officer was undecided. Additionally, findings showed that 10 (13.5%) and 8 (10.8%) credit officers did strongly agree and agree respectively that changes in deposit interest rates have not influenced the credit borrowed. The mean of 2.3 and SD of 0.7 shows disagreement that changes in deposit interest rates have not influenced the credit borrowed. Ipek Erdogan, (2019) his in agreement with the finding reports that loans borrowed by the customers in financial institutions depend on the rate of deposit interest charged on savings.

Furthermore, findings in Table 4.7 showed that 26 (35.1%) and 31 (41.9%) credit officers strongly agreed and agreed respectively that deposit rates charged on different loan maturities influence the amount of the loan borrowed while 2 (2.7%) credit officers were undecided on the statement. Also, 11 (14.9%) and 4 (5.4%) credit officers did strongly disagreed and disagreed respectively that deposit rates charged on different loan maturities influence the amount of the loan borrowed. The mean of 3.9 and SD=0.1 shows agreement that deposit rates charged on different loan maturities influence the amount of the loan borrowed.

Additionally, the study found that 21 (28.4%) and 34 (45.9%) credit officers strongly disagreed and disagreed respectively that the mode of calculating deposit rates does not influence the credit to be borrowed while 4 (5.4%) credit officers were undecided. More findings further showed that 6 (8.1%) and 9 (12.2%) credit officers strongly agreed and agreed respectively that the mode of calculating deposit rates does not influence the credit to be borrowed. The mean of 2.3 and SD 0.7 shows disagreement that the mode of calculating deposit rates does not influence the credit to be borrowed. Olawumi, Adewusi, and Oyetunji (2019) argues for this statement that loan schedules showing deposit rate of interests is an important ingredient for loan accessibility.

Lastly, findings showed that 40 (54.1%) and 19 (25.7%) credit officers strongly agreed and agreed that deposit rate influence the amount of loans borrowed while 3 (4.1%) credit officers were undecided on the statement. Additionally, 7 (9.5%) and 5 (6.6%) credit officers strongly disagreed and disagreed respectively that deposit rate influence the amount of loans borrowed. The mean of 4.4 and SD of 0.4 shows agreement that Deposit rate influence the amount of loans borrowed. The composite mean of 3.2 and SD of 0.9 shows neutrality that deposit interest rates have an influence on credit accessibility. The branch managers were further asked to state the extent to which deposit interest rates influence credit accessibility. Table 4.8 outlines results.

Table 4.8 Influence of Deposit interest rates on credit accessibility

Level of agreement	F (n=12)	100 (%)
To a very low extent	2	16.7
To a low extent	1	8.3
To a moderate extent	-	
To a large extent	3	35.0
To a very large extent	6	50.0

Source: Researcher 2022

Table 4.8 shows that majority of branch managers 3 (35%) and 6 (50%) did state that to a large extent and to a very large extent does deposit interest rate affect credit accessibility in their banks. Also, minority 2 (16.7%) and 1 (8.3%) branch managers stated that to a very low extent and to a low extent has deposit interest rate affect credit accessibility in their banks.

4.6. Interbank Interest Rate and Credit Accessibility

The effect of interbank interest rate on credit accessibility was the third objective. It covers questions on the interbank interest rates and changes of interbank interest rates. Respondents were asked the questions and the findings were then analyzed.

4.6.1 Interbank Interest Rates

The branch managers were asked to indicate what has been interbank rate for the last one year and the period at which this rate change in their bank. Table 4.9 shows findings of these questions.

Table 4.9 Interbank interest rates

Question	Response	Frequency (n=12)	Percentage (100%)
What has been inter-bank rate in your bank for the last one year?	Below 2.5%	10	83.3
	Above 2.5%	2	16.7
Kindly give the duration at which Inter-	1 – 3 months	1	8.3
	4 – 6 months	4	33.3

bank rate changes in	7 – 9 months	5	41.7
your bank?	10 – 12 months	2	16.7

Source: Researcher 2022

Table 4.9 results show that; 10 (83.3%) branch managers stated that interbank rate is below 2.5% the last one year while 2 (16.7%) branch managers stated that the interbank rate is above 2.5%. This shows that interbank rate is below 2.5%. Furthermore, findings showed that 41.7% and 33.3% branch managers stated that interbank rate change after 7-9 months and 4-6 months respectively. Additionally, 16.7% and 8.3% branch managers stated that interbank changes after 10-12 months and 1-3 months respectively. This finding shows that interbank rate changes after 7-9 months.

4.6.2. Influence of Interbank Interest Rates on Credit Accessibility

The credit officers were provided with statements in which they need to rate. These were meant to assess the association between interbank interest rates and credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA (Strongly Agree). Table 4.10 shows the results.

Table 4.10 Influence of interbank interest rates on credit accessibility

Statements	5	4	3	2	1	Mean	SD
	F (%)	F (%)	F (%)	F (%)	F(%)		
Changes of interbank rates influence the type of credits available to consumers	35(47.3)	19(25.6)	3(4.1)	7(9.5)	10(13.5)	3.9	0.1
Interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers.	6(8.1)	10(13.6)	6(8.1)	24(32.4)	28(37.8)	2.3	0.4
Interbank rates charged on the short term loan durations influence the amount of loan borrowed.	32(43.2)	18(24.3)	3(4.1)	9(12.2)	12(16.2)	3.8	0.9

Interbank rates do not influence the amount of loans accessed.	6(8.1)	10(13.5)	2(2.7)	21(28.4)	35(47.3)	2.1	0.1
Composite mean & SD=						3.0	0.7
Source: Researcher 2022							

Table 4.10 shows that 35 (47.3%) and 19 (25.6%) credit officers strongly agree and agreed respectively that changes of interbank rates influence the type of credits available to consumers while 3 (4.1%) credit officers were undecided with the statement. Also, 10 (13.5%) and 7 (9.5%) credit officers did strongly disagree and disagree respectively that changes of interbank rates influence the type of credits available to consumers. The mean of 3.9 and SD of 0.1 showed agreement that change of interbank rates influence the type of credits available to consumers. Lee, Yahya, Habibullah, and Ashhari (2019) agree that loan types are depended on the extra interbank charges on the loans especially in mortgage products.

Additionally, Table 4.10 results revealed that 28 (37.8%) and 24 (32.4%) strongly disagreed and disagreed respectively that interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers while 6 (8.1%) credit officers were undecided. Furthermore, findings showed that 6 (8.1%) and 10 (13.6%) did strongly agreed and agreed respectively that interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers. The mean of 2.3 and SD 0.4 shows disagreement that interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers.

Furthermore, findings showed that 32 (43.2%) and 18 (24.3%) credit officers strongly agreed and agreed respectively that interbank rates charged on the short term loan durations influence the amount of loan borrowed, only 3 (4.1%) were undecided by the statement. Additionally, the study established that 12 (16.2%) and 9 (12.2%) credit officers strongly disagreed and disagreed respectively that interbank rates charged on the short term loan durations influence the amount of loan borrowed. The mean of 3.8 (SD 0.9) reveals agreement that interbank rates charged on the short term loan durations influence the amount of loan borrowed. Giang and Hang, (2019) agrees that loan affordability depends on inter banking interest loan schedules.

Last but not least, 35 (47.3%) and 21 (28.4%) credit officers did strongly disagree and disagree respectively that Interbank rates do not influence the amount of loans accessed while 2 (2.7%) credit officers were undecided. Also, 6 (8.1%) and 10 (13.5%) did strongly agree and agree respectively that interbank rates do not influence the amount of loans accessed. The mean of 2.1 and SD 0.1 shows disagreement that interbank rates do not influence the amount of loans accessed. Mol-Gómez-Vázquez, Hernández-Cánovas, and Koter-Kant (2021) as well found no effect of interbank interest rates on the loan borrowed in financial institutions. The general composite mean of 3.0 and SD 0.7 shows that interbank interest rate neutrally influence credit accessibility in banks. The bank managers were asked further to state whether interbank interest influence credit accessibility as in Table 4.11.

Table 4.11 Influence of interbank interest rates on credit accessibility

Level of agreement	F (n=12)	100 (%)
To a very low extent	1	8.3
To a low extent	1	8.3
To a moderate extent	2	16.7
To a large extent	4	33.3
To a very large extent	4	33.3

Source: Researcher 2022

Table 4.11 shows that 4 (33.3%) bank managers did each state that to a large extent and to a very large extent does interbank interest rate influence credit accessibility while 2 (16.7) bank managers stated that it does in a moderate extent. But only 2 (8.3%) branch managers each stated that to a very low extent and to a low extent respectively does interbank interest rate influence credit accessibility. The findings show that in large and very extent do interbank interest rates influence credit accessibility. Ebekozien, Aigbavboa, Aigbedion, Ogbaini, and Awe (2022) agrees with the finding by stating that loans accessibility among Nigeria customers depend on the cost of the loan between banks as a result of shared interest rates.

4.7. Base Interest Rates and Credit Accessibility

To establish the effect of base rate interest on credit accessibility was the fourth objective. Responses from the branch managers and credit officers were analyzed to obtain inferences to answer the study objectives.

4.7.1. Base Interest Rates

The branch managers were asked to state what has been the base interest rates in the bank for the last one year, and further indicate the rate at which the interest have changed the last one year. This was necessary in identifying base interest rates value in credit market. Table 4.12 showed the results.

Table 4.12 Base interest rates

Question	Response	Frequency (n=12)	Percentage (100%)
What has been base rate in your bank for the last one year?	Below 5%	8	66.7
	Above 5%	4	33.3
Kindly give the duration at which base rate changes in your bank?	1 – 3 months	2	16.7
	4 – 6 months	5	41.7
	7 – 9 months	3	25.7
	10 – 12 months	2	16.7

Source: Researcher 2022

Table 4.12 shows that majority 8 (66.7%) branch managers stated that the base rate is at below 5% while 4 (33.3%) branch managers stated that the base rate has been above 5%. The findings show that the base rate has been below 5% in a year. The branch managers were asked to indicate the rate to which the base rate changes in a year, 5 (41.7%) and 3 (25.7%) branch managers stated that it changes 4-6 months and 7-9 months respectively. Additionally, 2 (16.7%) and 2 (16.7%) branch managers stated that it changes between 1-3 months and 10-12 months respectively. The findings show that base rate change between periods of 4-6 months in a year.

4.7.2. Level of Agreement on Base Interest Rate and Credit Accessibility.

The credit officers were provided with statements in which they need to rate. These statements were meant to assess the influence of base interest rate on credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA (Strongly Agree). Table 4.13 illustrates the results.

Table 4.13 Influence of base interest rates on credit accessibility

Statements	5 F (%)	4 F (%)	3 F (%)	2 F (%)	1 F (%)	Mean	SD
Changes in base rates do not influence the amount of loans available for borrowing.	9(12.2)	4(5.4)	1(1.4)	23(31.1)	37(50)	2.0	0.2
Timely base rate changes influence the amount of loan borrowed.	31(41.9)	23(31.1)	2(2.7)	11(14.9)	7(9.5)	3.9	0.7
Base interest rates affect the types of credit available to consumers	32(43.2)	18(24.3)	3(4.1)	9(12.2)	12(16.2)	3.9	1.0
Base rates do not influence the amount of credit accessible to customers.	8(10.8)	8(10.8)	3(4.1)	27(36.5)	28(37.8)	2.3	0.3
Composite mean & SD=						3.0	0.3

Source: Researcher 2022

Table 4.13 shows that 37 (50%) and 23 (31.1%) credit officers did strongly disagree and disagree respectively that changes in base rates do not influence the amount of loans available for borrowing while 1 (1.4%) credit officers were undecided. Furthermore, 9 (12.2%) and 4 (5.4%) credit officers did strongly agree and agree respectively that changes in base rates do not influence the amount of loans available for borrowing. The mean of 2.0 and SD 0.2 shows disagreement that changes in base rates do not influence the amount of loans available for borrowing. Erdogan (2018) agrees with the finding by opining that base rate is one of the ingredients that determine the amount of loans borrowed in banks.

Additionally, 31 (41.9%) and 23 (31.1%) credit officers did strongly agree and agree respectively that timely base rate changes influence the amount of loan borrowed while 2 (2.7%) credit officers were undecided on the statement. Furthermore, 7 (9.5%) and 11 (14.9%) credit officers strongly disagreed and disagreed respectively that timely base rate changes influence the amount of loan borrowed. The mean of 3.9 and SD 0.7 shows agreement that timely base rate changes influence the amount of loan borrowed. Sansa (2019) support this finding by stating that the extent to which loans base interest rates are distributed is essential in determining the amount of loan to be borrowed.

The study further found that 32 (43.2%) and 18 (24.3%) credit officers strongly agreed and agreed respectively that base interest rates affect the types of credit available to consumers while 3 (4.1%) credit officers were undecided. Furthermore, 12 (16.2%) and 9 (12.2%) credit officers strongly disagreed and disagreed respectively that base interest rates affect the types of credit available to consumers. The mean of 3.9 and SD 1.0 shows agreement that change in the base interest rates affect the types of credit available to consumers.

Lastly, findings (Table 4.13) showed that 28 (37.8%) and 27 (36.5%) credit officers did strongly disagree and disagree that bank rates do not influence the amount of credit accessible to customers while 3 (4.1%) credit officers were undecided with the statement. Additionally, 8 (10.8%) each strongly agreed and agreed respectively that bank rates do not influence the amount of credit accessible to customers. The mean of 2.3 and SD 0.3 disagree that bank rates do not influence the amount of credit accessible to customers. Erdogan (2018) agrees with the finding by stating that bank rates influence the amount of loan accessed by borrowers in financial institutions. The composite mean of 3.0 and SD of 1.0 shows neutrality that bank rates do influence the amount of credit accessible to customers.

To what extent does base interest's rate influence credit accessibility in the bank. The branch managers were asked the question and the findings shown in Table 4.14.

Table 4.14 Influence of bank rate interest rates on credit accessibility

Level of agreement	F (n=12)	100 (%)
To a very low extent	1	8.3
To a low extent	1	8.3

To a moderate extent	2	16.7
To a large extent	4	33.3
To a very large extent	4	33.3

Source: Researcher 2022

The findings in Table 4.14 shows 4 (33.3%) branch managers each stated that to a large extent and very large extent respectively that does base rate interest rate influence credit accessibility in their bank while 2 (16.7%) branch managers stated that it does in a moderate extent. Additionally, 1 (8.3%) credit officers each agrees that to very low extent and low extent respectively that base rate interest rate influence credit accessibility.

4.8. Credit Accessibility

The credit officers were provided with statements that measure the dependent variable of the study that is credit accessibility. Table 4.15 provides findings to these questions.

Table 4.15 Level of agreement on credit accessibility

Statements	5 F (%)	4 F (%)	3 F (%)	2 F (%)	1 F (%)	Mean	SD
Number of creditors has increased the last one year.	36(48.6)	24(32.5)	1(2.7)	6(8.1)	6(8.1)	4.2	1.0
Amount of credit borrowed have dropped in the last one year	33(44.6)	19(25.7)	5(6.8)	6(8.1)	11(14.9)	3.9	0.7
All types of credit have been accessed by the customers.	16(21.6)	18(24.3)	3(4.1)	24(32.4)	13(17.6)	3.1	0.3
Composite mean & SD=						3.7	0.7

Source: Researcher 2022

The findings in Table 4.15 shows that 36 (48.6%) and 24 (32.5%) credit officers did strongly agree and agree respectively that the number of creditors has increased the last one year while 1 (2.7%) credit officers were undecided on this. Additionally, 6 (8.1) credit officers each did strongly disagree and disagree respectively that the number of creditors has increased the last one year. The mean of 4.2 and SD 1.0 showed agreement that the number of creditors has increased the last one year.

Furthermore, 33 (44.6%) and 19 (25.7%) credit officers did strongly agree and agree respectively that amount of credit borrowed have dropped in the last one yearwhile 6 (8.1%) credit officers were undecided. Additionally, 11 (14.9%) and 6 (8.1%) credit officers strongly disagreed and disagreed respectively that the amount of credit borrowed have dropped in the last one year. The mean of 3.9 and SD 0.7 shows agreement that amount of credit borrowed have dropped in the last one year.

Lastly findings in Table 4.15, 16 (21.6%) and 18 (24.3%) credit officers did strongly agree and agree respectively that all types of credit have been accessed by the customers while 3 (4.1%) credit officers were undecided in the statement. Also, 13 (17.6%) and 24 (32.4%) credit officers did strongly disagree and disagree respectively that all types of credit have been accessed by the customers. The mean of 3.1 and SD 0.3 shows neutral response that all types of credit have been

accessed by the customers. The composite mean of 3.7 and SD 0.7 showed agreements that all types of credit have been accessed by the customers.

4.8.1. Amount of Loan Value Borrowed

The credit officers were further asked to indicate the loan value estimates borrowed in a year. This question was important in valuing the amount loan accessible to be borrowed. Table 4.16 illustrates the findings.

Table 4.16 Amount of Loan value borrowed

Loan Category	F	% (100)
Below 1 million	9	12.2
2 million-5 million	12	16.2
6 million – 10 million	14	18.9
Above 10 million	39	52.7
Totals	74	100

Source: Researcher 2022

The findings (Table 4.16) showed that 39 (52.7%) credit officers stated that more than 10 million have been borrowed while 14 (18.9%) credit officers stated that loans between 6 to 10 million have been borrowed. Only 9 (12.2%) and 12 (16.2) credit officers stated that loans below 1 million and between 2 to 5 million have been borrowed within a year. The findings show that more than 10 million is available to be borrowed in the banks.

4.9. Effect of Interest Rates and Credit Accessibility

The study employed measures of relationship (correlation and regression) to ascertain the effect relationship between the variables of the study.

4.9.1 Correlation Analysis

The Pearson moment correlation coefficient (r) was used to establish the association between the study interest rates variables (lending, deposit, interbank and base interest rates) and credit accessibility. The r- value was interpreted as follows; 0=no correlation, <0.1 to 0.3=slight

correlation, 0.4 to 0.6= averagely correlated, and >0.7 =strong correlation. The findings were used to establish the association of the variables and presented in Table 4.17.

Table 4.17 Correlation analysis

		Loan accessibility	Lending interest	Deposit interest	Inter- bank	Base interest rate
Spearman's rho	Loan accessibility	Correlation	1.000	.741**	.688**	.674**
		Coefficient				.797**
		Sig. (2-tailed)	.	.000	.000	.000
	Lending interest rate	N	74	74	74	74
		Correlation	.628**	1.000	.448**	.650**
		Coefficient				.507**
	Deposit interest rate	Sig. (2-tailed)	.000	.	.000	.000
		N	74	74	74	74
		Correlation	.634**	.448**	1.000	.712**
	Interbank interest rate	Coefficient				.556**
		Sig. (2-tailed)	.000	.000	.	.000
		N	74	74	74	74
	Base interest rate	Correlation	.797**	.650**	.712**	1.000
		Coefficient				.697**
		Sig. (2-tailed)	.000	.000	.000	.
		N	74	74	74	74
		Correlation	.688**	.507**	.556**	.697**
		Coefficient				1.000
		Sig. (2-tailed)	.000	.000	.000	.
		N	74	74	74	74

**, Correlation is significant at the 0.01 level (2-tailed).

Source: Researcher 2022

The findings in Table 4.17 showed that a positive strong relationship($r=0.741$) existed between lending interest rates and amount of loan borrowed, and a positive strong relationship ($r=0.728$) exists between types of credit borrowed and lending interest rates. Mugo and Gakobo (2020) likewise in their study found a strong positive relationship between lending interest rates and amount of loans borrowed. Findings showed a positive strong relationship ($r=0.688$) exist between deposit interest rates and amount of loan borrowed and also a positive strong relationship ($r=0.655$) exists between types of credit borrowed and deposit interest rates. Yuan, Azam, and Tham (2020) in their study did find a positive relationship existing between deposit rates and loan accessibility.

Additionally, findings in Table 4.17 showed that a positive strong relationship ($r=0.674$) exists between amount of loan borrowed and interbank interest rates likewise a positive strong relationship ($r=0.708$) exists between interbank interest rates and types of credit borrowed. Lastly, the findings found a strong positive relationship of $r=0.797$ and $r=0.65$ exists between

base interest rate and amount of loan borrowed and types of credit borrowed respectively. Similar to the finding Molyneux, Reghezza, Thornton, and Xie (2020) found a positive relationship between base interest rates and loan borrowings among banking customers.

4.9.2. Multiple Regression Model

The extent to which interest rates have an effect on credit accessibility at 95% level of significance was tested using multiple regression models. A number of regression model assumptions were tested to ascertain its utility and validated the model use. These assumptions included; homoscedasticity, independence of errors, linearity and multicollinearity.

4.9.2.1. Normality

The assumption is that the residual variables are usually distributed. That is, errors in the prediction of the value Y (dependent variable) are still distributed in a way that approaches the normal curve. The P-P plot for the model can be used to evaluate this assumption. The residuals are distributed closer to average the closer the dots are to the diagonal line.

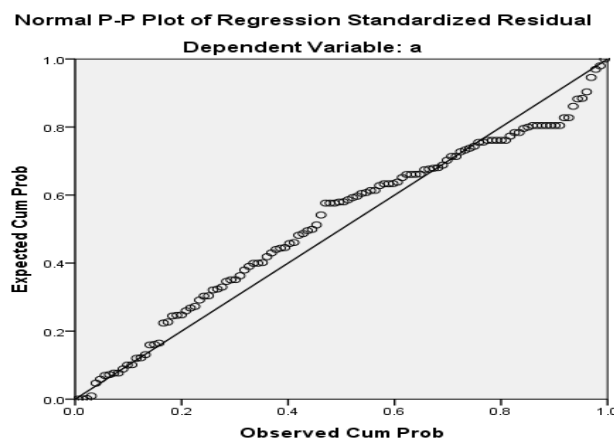


Figure 4.1 Assumptions for Normality

The data points touched the line in this situation, meaning that the presumption was not broken. The graph shows that the points follow the normal (diagonal) line with no major deviations. The

residuals are usually distributed in this situation. The dependent and independent variables were also found to be normally distributed.

4.9.2.2. Homoscedasticity

This tests the hypothetical hypothesis, assuming that the variance of the residue (or error number in the model) is the same for each model location. This graph lists the same values the model can estimate, compared to the validated residues found. The predicted values increase (next to the X-axis), the residual variance should be almost the same. If the graph looks like the correct position, this view may be broken. In this study the scatter plot looks like a series of random dots. Estimated residues have always been in each area of the predicted values so this assumption is not violated.

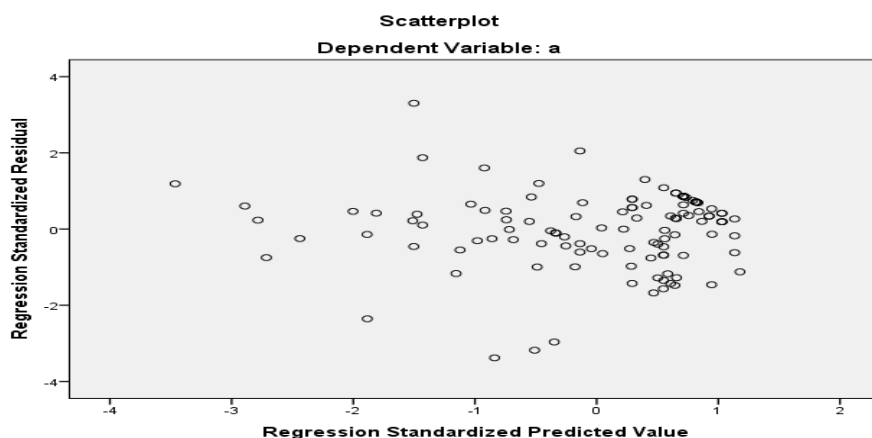


Figure 4.2 Assumptions for Homoscedasticity

4.9.2.3 Multicollinearity

Multicollinearity refers to the merging of a line between variables. It occurs when two or more predictions in a model are combined and provide unwanted details in response. A dynamic variable test, multicollinearity was tested using the variance in inflation (VIF) findings in Table 4.18. For assumptions, VIF scores should be less than 10, and tolerance scores should be less than 0.2 (Cohen et al., 2003).

Table 4.18 Assumption for Multicollinearity

Model	Unstandardized Coefficients		Coefficients Standardized Coefficients Beta	T	Sig .	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
(Constant)	1.23	.22		5.51	.00		
Lending rate	.30	.06	.42	4.82	.00	.55	1.83
Deposit rate	-.03	.07	-.10	-.30	.72	.44	2.29
Interbank rate	.46	.08	.62	5.91	.00	.32	3.16
Base rate	-.23	.02	.12	2.21	.00	.43	1.41

a. Dependent Variable: credit accessibility

In this regard, the current study conducted multicollinearity tests with the aim of finding high adjustment variables between them (Table 4.18). All variables were found to be well-matched.

4.9.2.4 Residual Values are Independent

The value must be about 2 for this consideration to be fulfilled. Rates below 1 and above 3 are troubling and may result in inaccurate analysis. Since the number is 1.960 in this case, this belief is verified as shown in model summary is shown in Table 4.19.

Table 4.19 Model summary

Model Summary					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.988 ^a	.966	.955	.31890	1.960

a. Predictors: (Constant), (lending, deposit, interbank, base) interest rates

b. Dependent Variable: credit accessibility

Table 4.19 revealed that the adjusted R-square=0.955 indicating interest rates (predictors including; lending, deposit, interbank, base) contributes to 95.5% of the credit accessibility (amount of loan borrowed). The adjusted R-square was then tested for significance level. The analysis of variance (ANOVA) Table presented test for significance as shown in Table 4.20.

Table 4.20 ANOVA

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	237.28	2	4.03	29.07	.000 ^b
	Residual	16.16	74	12		
	Total	253.44	72			

a. Predictors: (Constant), (lending, deposit, interbank, base) interest rates

b. Dependent Variable: credit accessibility

Findings as presented by the ANOVA (Table 4.20) shows that F (DF=72, $p < 0.05$) = 29.07 which shows the relationship between credit accessibility and study predictors is significant. The study sought to find predictor's coefficient contributions to credit accessibility. The coefficients analysis (Table 4.21) was used to indicate the unit contribution of each predictor to the dependent variable (credit accessibility).

Table 4.21 Coefficients

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	1.101	.041		.120
	Lending interest rates	.219	.001	.376	.060
	Deposit interest rates	.352	.021	.179	.104
	Interbank interest rates	.135	.009	.064	1.00
	Base interest rates	.018	.028	.126	.060

a. Dependent Variable: credit accessibility

The coefficient findings in Table 4.21 show that lending interest rates contribute to 37.6% to a unit of credit accessibility. Furthermore, the stated null hypothesis that; H_{01} : There is no significant relationship between lending rate and credit accessibility. The test statistic ($t = 1.002$, $p > 0.05$) indicating the null hypothesis is rejected and alternative hypothesis adopted which states that there is significant relationship between lending rate and credit accessibility. Therefore this means that the lending interest rate directly affects credit accessibility to clients.

The findings showed further that deposit interest rates contribute to 17.9% to a unit of credit accessibility. Furthermore, the study hypothesis stated that; H_{02} : There is no significant relationship between deposit rate and credit accessibility. The test statistic ($t=0.844$, $p>0.05$) indicating that the null hypothesis is rejected and alternative hypothesis adopted which states that there is significant relationship between deposit interest rates and credit accessibility. This therefore means that deposit rates directly affects credit accessibility to customers.

Additionally, findings showed that interbank interest rates contribute to 6.4% to a unit of credit accessibility. Furthermore, the stated hypothesis is that; H_{03} There is no significant relationship between inter-bank rate and credit accessibility. The test statistic ($t=1.377$, $p>0.05$) indicating the null hypothesis is rejected and alternative hypothesis adopted which states that there is significant relationship between interbank interest rate and credit accessibility. This means therefore that interbank interest rates directly affect credit accessibility to borrowers.

Lastly, findings showed that base rate interest rates contribute to 12.6% to a unit of credit accessibility. Furthermore, the stated the hypothesis that; H_{04} : There is no significant relationship between base interest rate and credit accessibility. The test statistic ($t=2.152$, $p>0.05$) indicating the null hypothesis is rejected and alternative hypothesis adopted which states that there is significant relationship between base interest rate and credit accessibility. We can therefore say that base interest rate directly affects credit accessibility to customers.

The multiple regression analysis models were therefore presented as follows;

Régressions Model:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \dots\dots\dots$$

Where;

Y– Loan accessibility (Dependent Variable)

β_0 – Constant Term, (β_1 , β_2 , β_3 , β_4)– Beta Coefficients

X_1 – Lending interest rates

X_2 – Deposit interest rates

X_3 – Interbank interest rates

X_4 _Base interest rates

e- Error term

$$\beta_1=0.376, \beta_2=0.179, \beta_3=0.064, \beta_4=0.126,$$

$$e=0.041$$

$$\beta_0=1.101$$

The regression model:

$$Y = 1.101 + 0.376X_1 + 0.179X_2 + 0.064X_3 + 0.126X_4 + 0.041$$

Holding other factors constant a combination of 37.6% lending interest rates, 17.9% deposit interest rates, 6.4% interbank interest rates and 12.6% base interest rates contributes to a unit of credit accessibility.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1. Introduction

This is the last section of the research process which presents the summary of the findings, conclusion based on the main contribution of the study, recommendations to several institutions, limitations and suggestions of further studies. The chapter is guided by the findings of the study.

5.2. Summary of Findings

The effect of lending interest rate on credit accessibility was the first objective. The findings shows that the lending interest rates in average are between 10-20% change in a period between 7-9 months, and banks get an estimate of above 10 million revenues from lending interest rates. There is agreement that changes in lending rates influence amount of loan borrowed by the customers, and disagreement that the duration of loan rates have not enhanced the amount of credit which is loanable to the consumers. Findings also shows agreement that loan value due to lending interest rates have increased the types of credits available to consumers, and does not affect the amount borrowed by consumers. These findings show that to a very or large extent do lending interest rate influence credit accessibility. The findings showed a positive strong relationship ($r=0.741$) existed between lending interest rates and amount of loan borrowed, and a positive strong relationship ($r=0.728$) exists between types of credit borrowed and lending interest rates. Multiple regression analysis show that lending interest rates contributes to 37.6% to a unit of credit accessibility with a significant relationship existing between lending rate and credit accessibility.

The effect of deposit interest rates on credit accessibility was the second objective. The findings show that the deposit interest rate is above 10% and changes for a period of 4-6 months. The findings shows disagreement that changes in deposit interest rates have not influenced the credit borrowed, and furthermore different loan maturities influence the amount of the loan borrowed. The findings showed disagreement that the mode of calculating deposit rates does not influence the credit to be borrowed, and agreement that deposit interest rate influence the amount of loans

borrowed. In large extent and to a very large extent the study found that deposit interest rate affect credit accessibility. Inferential findings showed a positive strong relationship ($r=0.688$) existing between deposit interest rates and amount of loan borrowed and also a positive strong relationship ($r=0.655$) exists between types of credit borrowed and deposit interest rates. Deposit interest rates contribute to 17.9% to a unit of credit accessibility and a significant relationship between deposit interest rates and credit accessibility.

The effect of interbank interest rate on credit accessibility was the third objective. Findings showed that interbank rate is below 2.5% the last one year, and changes after 7-9 months. The findings showed agreement that changes of interbank rates influence the type of credits available to consumers, and disagreement that interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers. Furthermore, findings shows agreement that interbank rates charged on the short term loan durations influence the amount of loan borrowed, and disagreement that interbank rates do not influence the amount of loans accessed. Findings further shows that in large and very extent do interbank interest rates influence credit accessibility. A positive strong relationship ($r=0.674$) exists between amount of loan borrowed and interbank interest rates, likewise a positive strong relationship ($r=0.708$) exists between interbank interest rates and types of credit borrowed. Interbank interest rate contributes to 6.4% to a unit of credit accessibility, and a significant relationship between interbank interest rate and credit accessibility.

The effect of base rate on credit accessibility was the fourth objective. The findings show that the base rate has been above 5%, and changes between periods of 4-6 months in a year. The findings show disagreement that changes in base rates do not influence the amount of loans available for borrowing, and timely base rate changes influence the amount of loan borrowed. Findings shows agreements that the base interest rates affect the types of credit available to consumers, to a large extent and very large extent respectively that base interest rate do influence credit accessibility. A strong positive relationship of $r=0.797$ and $r=0.65$ exists between base interest rate and amount of loan borrowed and types of credit borrowed respectively while base interest rate was found to contribute to 12.6% to a unit of credit accessibility. Lastly, a significant relationship was found between base interest rate and credit accessibility.

5.3. Conclusion of the Study

The study concludes that lending interest rates have an effect on credit accessibility where findings showed that changes in lending rates influence amount of loan borrowed, duration of loan rates enhanced the amount of credit which is loanable to the consumers, and lending interest rates have increased the types of credits available to consumers, and does affect the amount borrowed. The study further concludes that lending interest rates predicts credit accessibility, and strong positive existing between the variables.

The study concludes that deposit interest rates have an effect on credit accessibility with the findings in support of this showing that changes in deposit interest rates and different loan maturities influence the amount of the credit borrowed. Furthermore showing the mode of calculating deposit rates does influence the credit to be borrowed. Additionally, deposit interest rates predict credit accessibility with a strong relationship existing between the variables.

The study concluded that interbank interest rate have an effect on loan accessibility this is in line with the findings that changes of interbank rates influence the type of credits available to consumers, and interbank rates charged on reserve requirements influence the amount of loan loanable. Also, interbank rates charged on the short term loan durations influence the amount of loan borrowed and accessed. In addition, interbank interest rate was found to predict credit accessibility with the variables showing a positive strong relationship.

The study concludes that base interest rate have an effect on loan accessibility with finding showing that changes in base rates influence the amount of loans available for borrowing and timely base rate changes influence the amount of loan borrowed. Also, base interest rates affecting the types of credit available to consumers. More to this conclusive declaration the base interest rate was found to predict credit accessibility with both having a strong positive relationship. General conclusion is that interest rates have an effect on credit accessibility in banks.

5.4. Recommendations of the Study

The study recommends a number of insightful contributions to particular stakeholders. Policy makers in the financial sectors especially in financial institutions should develop policies that

will regulate the rate of interest rates to encourage credit borrowings and accessibility. Consequently, the study recommends that the different interest rates should be kept low to encourage the amount of credit accessed by the borrowers. Financial regulators should institute sustainable interests rate programmes that encourage a long term change in interest rates this will ensure stability in the credit industry. Financial institutions need to market their loans to other beneficiaries and should not focus majorly on civil servants only. Credit awareness programmes should be instituted to inform customers of the different types of interest rates. Additionally, credit officers should institute reasonable mode of calculating interest rates for this affects the amount of loans accessed. Lastly, researchers especially in the financial planning or economic sector need to formulate interest rates integrative models and frameworks that would predict credit accessibility.

5.5. Limitation of the Study

The study faced several methodological and theoretical limitations. Due to bureaucracy that was found in banks due to the nature of work and time of conducting the study the researcher did not have sufficient time to collect data to obtain 100% response rate. Few studies have been conducted on the three types of interest rates (base rate, deposit and interbank) this created a limitation during literature review.

5.6. Suggestion for Further Studies

Future studies need to be conducted for longer period to give respondents sufficient time to provide adequate responses. Furthermore, future researchers need to widen the scope of methodology to involve other financial institutions such as micro finance to assess the purpose of the study. On the geographical limitation, future studies should be conducted in other regions to ascertain the current findings of the study and should target different audience especially the banking customers.

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Appendix I: Questionnaire (Branch Managers)

Dear Respondents,

I am Justus Kirui a student at University of Nairobi pursuing a Master of administration degree. As part of our studies, I am required to conduct a research in order to complete my studies. My research topic is 'Effects of interest rates on credit accessibility in commercial banks in Nandi County.' You have been selected to participate in this study and you are therefore requested to kindly respond to this questionnaire. The information you give will be used for academic purposes only and treated with confidentiality. Thank you in advance.

Instructions:

Do not write your name or that of the bank anywhere in this questionnaire.

Participants code [Tick (✓)] in the spaces provided.

1. SECTION A: BACKGROUND INFORMATION

1. Gender:

- 1) Male ()
- 2) Female ()

2. Academic qualifications:

- 1) Diploma ()
- 2) Degree ()
- 3) Masters ()
- 4) Phd ()

2. SECTION B: INTEREST RATE AND CREDIT ACCESSIBILITY

1. Lending rates and credit accessibility.

a) State the category that has been the lending interest rates in your bank in the last one year?

- 1) Below 10% - ()
- 2) 10 – 20% - ()
- 3) Above 20% - ()

b) Kindly give the rate at which lending interest changes in your bank in the last one year?

- 1) 1 – 3 months - ()
- 2) 4 – 6 months - ()
- 3) 7 – 9 months - ()
- 4) 10 – 12 months - ()

c) Indicate the loan revenues as a result of lending interest rate in your bank in the last one year?

- | | | |
|---------------------------|---|-----|
| 1) Below 1 million | | () |
| 2) 2 million – 5million | - | () |
| 3) 6 million - 10 million | - | () |
| 4) Above 10 million | - | () |

d) Kindly rate the influence of lending interest rate on loan value borrowed by the customers for the last one year in your bank.

- | | | |
|---------------------------|---|-----|
| 1) To a very low extent | - | () |
| 2) To a low extent | - | () |
| 3) To a moderate extent | - | () |
| 4) To a large extent | - | () |
| 5) To a very large extent | - | () |

2. Deposit rates and credit accessibility

a) Indicate what have been the deposit interest rates in your bank for the last one year?

- | | | |
|--------------|---|-----|
| 1) Below 10% | - | () |
| 2) Above 10% | - | () |

b) Kindly give the rate at which deposit interest rate changes in your bank in the last one year.

- | | | |
|-------------------|---|-----|
| 1) 1 – 3 months | - | () |
| 2) 4 – 6 months | - | () |
| 3) 7 – 9 months | - | () |
| 4) 10 – 12 months | - | () |

c) To what extent does deposit interest rate affect credit accessibility in your bank?

- 1) To a very low extent - ()
- 2) To a low extent - ()
- 3) To a moderate extent - ()
- 4) To a large extent - ()
- 5) To a very large extent - ()

3. Interbank rate and credit accessibility.

a) What has been inter-bank rate in your bank for the last one year?

- 1) Below 25% - ()
- 2) Above 25% - ()

b) Kindly give the rate at which Inter-bank rate changes in your bank?

- 1) 1 – 3 months - ()
- 2) 4 – 6 months - ()
- 3) 7 – 9 months - ()
- 4) 10 – 12 months - ()

c) In your own opinion rate the extent of the effect of inter-bank rates on credit accessibility.

- 1) To a very low extent - ()
- 2) To a low extent - ()
- 3) To a moderate extent - ()
- 4) To a large extent - ()
- 5) To a very large extent - ()

4. Base interest rate and credit accessibility

a) What has been the base interest rate in your bank for the last one year?

- 1) Below 5% - ()
- 2) Above 5% - ()

b) What has been the rate at which base interest rate change in your bank in a year?

- 1) 1 – 3 months - ()
- 2) 4 – 6 months - ()
- 3) 7 – 9 months - ()
- 4) 10 – 12 months - ()

c) To what extent in your opinion does base interest rate influence credit accessibility in your bank?

- 1) To a very low extent - ()
- 2) To a low extent - ()
- 3) To a moderate extent - ()
- 4) To a large extent - ()
- 5) To a very large extent - ()

Appendix II: Questionnaire (Credit officers)

Dear Respondents,

I am Justus Kirui a student at University of Nairobi pursuing a Master of administration degree. As part of our studies, I am required to conduct a research in order to complete my studies. My research topic is 'Effects of interest rates on credit accessibility in commercial banks in Nandi County.' You have been selected to participate in this study and you are therefore requested to kindly respond to this questionnaire. The information you will give will be used for academic purposes only and will be treated with confidentiality. Thank you in advance.

Instructions:

Do not write your name or that of the bank anywhere in this questionnaire.

Participants code [Tick (✓)] in the spaces provided.

SECTION A: BACKGROUND INFORMATION

1. Gender:

1).Male ()

2).Female ()

2. Academic qualifications:

1) Diploma ()

2) Degree ()

3) Masters ()

4) Phd ()

SECTION B: LENDING INTEREST RATE AND CREDIT ACCESSIBILITY

1. Indicate the category who is the highest credit beneficiary:

1) Households []

2) Businesses []

3) Civil servants []

2. Rate by ticking (✓) where appropriate from the following statements that explain the level in which lending interest rate affect credit accessibility in your bank. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A(Agree), 5=SA(Strongly Agree).

Statements	5	4	3	2	1
Changes in lending interest rates influence amount of loan borrowed by the customers.					
Duration of loan rates have not enhanced the amount of credit which is loanable to the consumers					
Loan value due to lending interest rates have increased the types of credits available to consumers					
Lending interest rate does not affect the amount borrowed by consumers.					

SECTION C: DEPOSIT INTEREST RATES AND CREDIT ACCESSIBILITY

3. Rate by ticking (✓) where appropriate from the following statements that explain the level in which deposit interest rate have affected credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A(Agree), 5=SA(Strongly Agree).

Statements	5	4	3	2	1
Changes in deposit interest rates have not influenced the credit borrowed.					
Deposit rates charged on different loan maturities influence the amount of the loan borrowed.					
Mode of calculating deposit rates does not influence the credit to be borrowed.					
Deposit rate influence the amount of loans borrowed.					

SECTION D: INTERBANK INTEREST RATE AND CREDIT ACCESSIBILITY

4. Rate by ticking (√) where appropriate from the following statements that explain the level in which interbank interest rate has affected credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U(Undecided), 4=A(Agree), 5=SA(Strongly Agree).

Statements	5	4	3	2	1
Changes of interbank rates influence the type of credits available to consumers					
Interbank rates charged on reserve requirements do not influence the amount of loan loanable to customers.					
Interbank rates charged on the short term loan durations influence the amount of loan borrowed.					
Interbank rates do not influence the amount of loans accessed.					

SECTION E: BASE INTEREST RATES AND CREDIT ACCESSIBILITY

5. Rate by ticking (√) where appropriate from the following statements explains the level in which bank interest rates affect credit accessibility. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA (Strongly Agree).

Statements	5	4	3	2	1
Changes in base rates does not influence the amount of loans available for borrowing					
Timely supply of credit influence the amount of loan borrowed.					
Demand of credit affect the types of credit available to consumers					
Bank rates do not influence the amount of credit accessible to customers.					

SECTION D: CREDIT ACCESSIBILITY

6. Rate by ticking (✓) where appropriate from the following statements that explain the financial performance of your bank as a result of operational risk management practices in Nandi County. Rating scale is as follows; 1=SD (strongly Disagree), 2=D (Disagree), 3=U (Undecided), 4=A (Agree), 5=SA (Strongly Agree).

Statements	5	4	3	2	1
Number of creditors increased in the last one year					
Amount of credit borrowed have dropped in the last one year					
All types of credit have been accessed by the customers					

7. Indicate the loan value estimates borrowed in a year:

- 1) Below 1million []
- 2) 2million-5million []
- 3) 6million-10million []
- 4) Above 10 million []

Appendix III: Letter of Transmittal



KOITALEEL SAMOEI UNIVERSITY COLLEGE
(A CONSTITUENT COLLEGE OF THE UNIVERSITY OF NAIROBI)

OFFICE OF THE DIRECTOR SCHOOL OF BUSINESS

Email: jlshenga@ksuc.ac.ke
Website: www.ksuc.ac.ke

Telephone: +0722638064
P.O. Box 5-30307
Mosoriot, Kenya

REF: KSUC/SOB/MBA/PR/002

DATE: November 8, 2022

TO: WHOM IT MAY CONCERN

RE: JUSTUS KIPKOGEI KIRUI - D61/0005/2019,

This is to confirm that the above person is a bona-fide student in the School. He has successfully completed MBA course work, prepared the requisite project proposal and is ready to proceed to the field for data collection.

His project proposal is titled, **Effects of interest rate on credit accessibility in Kenya; a case of Commercial bank branches in Nandi County Kenya.**

Any assistance and cooperation given to him in furtherance of his research enterprise will be welcomed and appreciated.

Thank you

Faithfully,



Prof. Josephat Lishenga
Director, School of Business

Cc: Prof. J. Lishenga
Dr. Loice Koskei
Coordinator, Post-Graduate Studies Committee

Scanned with CamScanner

Appendix IV: Permit

 REPUBLIC OF KENYA	 NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION
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This is to Certify that Mr.. JUSTUS KIPKOGEI KIRUI of Koitaleel Samoei University College, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nandi on the topic: EFFECT OF INTEREST RATES ON CREDIT ACCESSIBILITY IN KENYA: A CASE OF COMMERCIAL BANK BRANCHES IN NANDI COUNTY. for the period ending : 17/November/2023.	
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EFFECT OF INTEREST RATES ON CREDIT ACCESSIBILITY IN KENYA: A CASE OF COMMERCIAL BANK BRANCHES IN NANDI COUNTY

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