FACTORS INFLUENCING ACCESS TO CREDIT BY SMALL AND MEDIUM ENTERPRISES IN SOUTH SUDAN. A CASE STUDY OF JUBA CITY COUNCIL, SOUTH SUDAN

Riiny Anthony Thiik

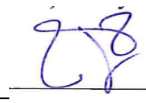
A Project Research submitted in partial fulfilment of the requirements for the award of the degree of Master of Business Administration in the School of Business of Africa Nazarene University

2024

DECLARATION

I declare that this document and the research that they describe are my original work and that they have not been presented in any other university for academic work.

Name (printed): Riiny Anthony Thiik



___ ____ _____27/3/2024_____

Student signature Date (dd/mm/yyyy)

This research was conducted under our supervision and is submitted with our approval as university supervisors.

Supervisor name (printed): Dr. Lucy Kirima



__ ___ _____27/3/2024_____

University supervisor signature Date (dd/mm/yyyy)

Supervisor name (printed): Mr. Stephen Githii Kagwathi



__ _____27/3/2024_____

University supervisor signature Date (dd/mm/yyyy)

Africa Nazarene University

Nairobi, Kenya

DEDICATION

I dedicate my research to my late mother, Abuk Wol Deng. I want to thank her for unconditional love, care, and struggle in raising me and my siblings. A fantastic mother. She will continue be my pillar of motivation and unwavering source of inspiration even if she is no longer among us. I love you, mama.

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ABSTRACT

This study looks into factors that affect SMEs' access to finance in Juba City Council, South Sudan. The study's stated goals included establishing a link between interest rates and SMEs' access to credit, examining the effects of collateral requirements on SMEs' access to credit, and determining the impact of inflation rates on SMEs' access to credit. Governments are beginning to focus more and more on SMEs as a key component of sustainable and inclusive economic growth as the world's economies struggle with ongoing issues. Shocks to supply and demand occurring at the same time have severely hurt SMEs. This indicates that SMEs are in extreme need of funding at a time when financial institutions are particularly cautious. The study's explanation of SMEs' access to credit was based on the financial inclusion theory, Fisher's theory of interest rates, and the information asymmetry hypothesis. The intended audience was South Sudan's Juba City Council's registered SMEs. A total of 6,004 SMEs were included in the sample, making 375 SMEs. The sample size was determined using the Yamane sampling technique using the list of all registered SMEs operating under the Juba City Council. Cross-sectional design was used in the study. Using survey questionnaires, data on research variables was gathered from stakeholders in SMEs management at various levels. The situation of SMEs access to credit in relation to interest rate, collateral, and correlational study was described or characterized. The study found a significant association between interest rate and credit availability (r=0.936), which was supported by data. The findings demonstrated that SMEs' access to credit decreased by 1.5054 units for every unit rise in interest rate. t (344) = -13.8918, p 0.05, indicated that this effect was statistically significant at 5%. The idea that there is no discernible connection between interest rates and credit availability was thus rejected. The study also found a significant (r=0.959) link between the need for collateral and SMEs' ability to acquire finance. The study's findings indicated that a unit increase in the amount of collateral required would result in a 1.50491-unit drop in the amount of credit available to SMEs. This result showed that there was a statistically significant negative correlation between the collateral demand and SMEs. A need for policy creation and/or a shift in practices by stakeholders has been identified based on the study's findings. Decreased loan interest rates are thus advised by the study for banks and other financial institutions. Since the analysis shows that the value of loans allowed per each loan are less than $500 and that more than half of the loans are not approved, decreasing the interest rate on SMEs lending would preferably enhance the volume of loans valued at that amount. Banks and other financial institutions should rethink their policies about small business loan repayment capabilities and adopt a less risk-averse mindset in favour of conducting research on SMEs' loan repayment capacities. Innovative practices from banks and other financial institutions are encouraged.

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DEFINITION OF TERMS

Collateral: operationally defined, collateral as any other item that can be used as a pledge to access loan.

Credit Access: For the purposes of this study, credit access is the ability of individuals and enterprises, specially underserved, to acquire financial services for the purpose of starting and improving business.

SME: SMEs includes micro-sized firms with fewer than five employees, small companies with 5-19 employees and medium-sized ones with 20-99 employees (International trade centre, 2022).

ABBREVIATIONS/ ACRONYMS

SMEs:	Small and medium sized enterprises
GDP:	Gross Domestic Product
OECD:	Organisation for Economic Co-operation and Development
IFC:	International Finance Corporation
MSMEs:	Micro, Small, and Medium Enterprises
KCB:	Kenya Commercial Bank
CPI:	Consumer Price Index
CPA:	Comprehensive Peace Agreement
AfDB:	Africa Development Bank
UNDP:	United Nation Development programme
KPMG:	Klynveld Peat Marwick Goerdeler
SACCOs:	Saving and Credit Cooperative Society
CFI:	Corporate Finance Institute
SPSS:	Statistical Package for Social Sciences

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CHAPTER ONE: INTRODUCTION

1.1 Introduction

This chapter provides reasons for this research project. It explains the important to research on the factors influencing small and medium enterprises (SMEs)s credit accessibility. The chapter includes the background of the SMEs, the objectives, and significance of the research.

1.2 Background of the Study

Small and medium-sized enterprises (SMEs) characterise varieties of firms across different sectors of the economy. This may include micro, small and medium-sized enterprises, ranging at different categories or level of revenues generation to different staffing number of employees to the fast-growing ones with up to 250 employees (Ndiaye, 2017). SMEs are significantly known throughout the world economies for contribution to growth of the respective countries or economies. With underdeveloped countries categorised by unemployment as one of the major problems, SMEs are contributing in great proportion to the employment and job creation. According to International Trade Centre, (2015) SMEs make up about half of global gross domestic product (GDP) and 60% to 70% of employment.

According to Center for Strategic and International Studies (2021), in the developing world, 90 percent of the private sector comprises of SMEs and at the time SMEs contribute to more than 50 percent of jobs in respective economies. Also, Center for Strategic and International Studies (2021) estimated 80 percent of jobs in Africa to be as a result of SMEs business job creation accounting for an important indicator for economic growth representing 44 million MSMEs in Sub-Saharan Africa. According

to Corporate Finance Institute Education Inc. (2022) many innovative approaches and advancement of new technologies are accredited to SMEs unlike large enterprises and corporates which direct much of effort and resources on betterment of already existing products and large production for the purpose of gains of economies of scales. As result large companies tend not to be flexible as compared to SMEs.

Despites SMEs' several and significant economic and social contribution, SMEs nevertheless faced a lot of setbacks such as the challenges of inadequate or no credit access owing to lack of collateral, credit unworthiness, profitability that determine aptitude to repay loan. According to African Center for Economic Transformation and the World Bank (2016), 20 percent of SMEs in Africa indicated access to finance issue as the main challenge in the continent. According to a survey by World bank in 45 different economies or countries with 91 banks, it found that banks acknowledged profitability of SMEs sector however banks are constantly warried of macroeconomic unpredictability among developing economies and high competition in developed economies to grant loans or finance to SMEs (World Bank, 2018a).

1.2.1 SMES Access to Credit

For SMEs to grow and creating more jobs and subsequently boost economic growth, SMEs access to capital is important. According to Center for Strategic and International Studies (2021) 51 percent of important businesses need more funding than businesses currently can access. Approximately 40 percent of SMEs in Sub-Saharan Africa attributed lack of access to credit or finance as a major stumbling block in daily business and growth as compared to 27 percent in South Asia (World Bank, 2018b). With no consistent sources of capital, SMEs tend to fail in securing proper investment that would allow for growth. SMEs face a lot of drawbacks that includes challenges

like low revenue, regulatory hurdles, lack of business skills and knowledges, limited access to credit facilities and good technological infrastructure (Ndiaye, 2017). According to Quartey *et al.,* (2017) comparing enterprises in Sub-Saharan African countries to enterprises in other developing economies, Sub-Saharans enterprises would obtain less credit and have limited knowledge or information about funding or financing opportunities at the disposal.

Center for Strategic and International Studies (2021) estimated that in Sub-Saharan Africa, SMEs that have access to bank or any other credit facility, account for only third to fifth of region SMEs and that 28.3 percent of SMEs are inhibited from credit access. According to World Bank (2017a) African women are not as much as men to possess a bank account. In statistical term, according to World Bank (2017a) 28 percent of adult women in Africa have a formal account against 38 percent of men.

1.2.3 Interest Rate

Interest rate is understood as the price lenders expect (and borrowers pay) for trading current entitlements for bigger forthcoming claims to goods and services (Reeves, 2022). It characterizes the cost of money. The dynamic is that with low interest rates, SMEs will be more probable to go for loans either in the bank or other non-bank financial institutions in order to pay for expenditures or investment and when interest rates increase, the high cost of borrowing discourage SMEs. Lower rates do not favour lenders who in turn aspect less of a return on loan compared to time when interest rates are high. As result, banks and non-bank financial institutions may reduce the interest rates on money deposited in the bank to preserve a stable revenue.

1.2.4 Collateral Requirement

Information asymmetry that come in between entities that borrow and one that lend causes a great barrier to SMEs access to finance but pledging collateral have been used to ease credit accessibility (Rahman, Rahman & Kljucnikov, 2016). In undeveloped economies, high collateral requirement to access loan among SMEs is of the reasons for strong information asymmetry and weak legal enforcement (Hainz, 2003; Menkhoff *et al*., 2006). Lower level of collateralizable asset among SMEs in less developed countries increases credit rationing (Menkhoff *et al*., 2012). Collateral requirement is one of the most strains in supporting of SMEs. However, Berger, A., & Udell, G. (1998) found information gap between lenders and borrowers as being the main reason lenders make it a requirement to pledge collateral arguing that collateral requirement to reduce once the information gap is reduced. Godlewski and Weill (2011) researching on the effect on information asymmetry on loan spread and collateral found a positive relation that exist between the use of collateral and loan spread. Therefore, collateral can reduce the adverse selection problem of the loans.

1.2.5 Inflation Rate

Inflation is persistent raise in all levels of prices of goods and services in an economy (OECD, 2021). Consumer price index (CPI) is often used to measure the rate inflation. An unusual increase in inflation rate is not friendly and would come with consequence. South Sudan had experience rather unusual inflation raise as the country struggle in many economic fronts. Some of the effects felt by SMEs are as a result of increased inflation rate, the purchasing power of consumers decreases and less saving which in effects influence SMEs liquidity and borrowing sources. Increase interest rate as measure to curve inflation growth is however increasing in already SMEs high cost of borrowing.

1.2.6 State of SMEs Globally

Globally, formal SMEs account for approximately 60 percent of overall employment and about 40% of gross domestic product in developing economies. The figures are expected to be higher with inclusion of informal SMEs and still around half of formal SMEs do not have access to legal credit and with financing gab even higher considering micro and informal enterprises (Algan & Bayraktar, 2019). According to Algan and Bayraktar (2019) the current credit gap for formal SMEs is considered to be 1.2 trillion dollars with entire credit gap for both formal and informal SMEs to be 2.6 trillion dollars. The International Finance Corporation (IFC) approximated that 40% of formal MSMEs in developing markets have an annual unmet financing need of 5.2 trillion dollars (IFC, 2017). For formal women owned SMEs, the credit gap is coarsely 2872 billion dollars accounting for 30 percent of the total credit gap for SMEs.

Some of the challenges SMEs are facing globally according to OECD (2022) in OECD scoreboard, financing SMEs and entrepreneurs report, are that there is slow growth of bank credit across many countries with other countries experiencing much worse than slow growth by rather recording a decline in bank credit, while the volumes were up as result of alternatives financing sources. There is also increased number of SMEs that are becoming more reliance on self-finance for investment purpose and cashflow need. According to Facebook/OECD/World Bank (2022) SMEs are less favourable compared to large counterpart in accessing finance for reasons such as inadequate credit history and limited or detailed financial information. Instead, SMEs turn to internal funding to function and increase enterprises, a trend that is obvious in developing economies.

Chowdhury and Alam (2017) on the research of the factors affecting access to finance of SMEs of Bangladesh, found that there is significant positive relationship that exist between access to finance and enterprise features such as the size, age of the firm and inability to produce collateral, financial characteristics such as start-up capital, current status of capital interest rate business plan and thirdly owners' characteristics which include skilled and educated entrepreneurs.

With global economies confronting current main challenges, governments are more and more starting to rely on SMEs as an important component for sustainable and wide-ranging economic growth. According to Albaz, A., Dondi, M., Rida, T., and Schubert, J. (2020) several SME development agencies have created a platform-typically one-stop shop online platform for easy access to government service, program, and data as well as fulfil government obligations, such as paying taxes.

On Covid-19 pandemic front, according to Center for Strategic and International Studies (2021), there was increase scarcity of more affordable financing at the onset of the Covid-19 pandemic. According to Center for Strategic and International Studies (2021) in Sub- Saharan Africa the economic impact of Covid-19 pandemic was huge with an estimated 115 billion dollars in output losses and projected 3.3 percent shrinking of the GDP. SMEs bore the brand of pandemic with shutting down of both demand and supply functions as result of lockdown. As a result, SMEs were in desperate requirement of cashflow at a time when financial institutions are particularly cautious to lend.

1.2.7 Background and History of SMEs in South Sudan

History of SMEs and private sector was almost nonexistence before signing of the Comprehensive Peace Agreement (CPA) in 2005 that lead to semi-autonomous

status of the South Sudan. At the onset, foreign businesses majorly from South Sudan neighbouring countries of Uganda, Kenya, Ethiopia, Eritrea, Somalia were quick to take on formal sector in the Country. The private sector however according to African Development Bank, AfDB (2013) was characterized by many informal businesses due to trade restrictions and high associated cost of business and often to avoid paying licenses fees. AfDB, OECD, UNDP (2017) on Africa economic outlook report on South Sudan stated that the country has one of the most restricted business and investment climate in the world. The World Bank report on ease of doing business ranked South Sudan at 185 among 190 economies in 2022. South Sudan remained in the ranking since 2018.

AfDB (2013) study on competitiveness and cross-border trade with South Sudan neighbouring countries stated that South Sudan is largely undeveloped in comparison with South Sudan neighbours in areas of road link, rail network, access to electricity (only 1 percent of the population had access to electricity), water supply and sanitation and communication infrastructures constrained. According to IFC (2011), South Sudan at the time had 30 miles of paved roads and only 15 percent literacy.

Lack of legal framework that would protect investors assets can scare away prospective investors in the country. According to Kosar (2014), the lack of legal and institutional framework presents risk of exploitation of workers, unprotected property rights and health and safety issues and shareholders' protections. Kosar (2014) also stated on the contrary that with disadvantages of lack of established legal framework, there is positive effect of lack of legal framework as there are no lengthy bureaucratic processes.

Nonetheless, immediately at the independent in 2011, South Sudan was set in improving private sector by setting up enabling environment and legal framework for local business and international investors. Legal framework in enacting laws cover contracts, limited partnership and other critical issues like business entries which focus on strengthening the existing business registry with legal framework procedures simplified so that businesses can incorporate within short period. Also, investment policy and promotion to helps attract potential investors and offer potential investors clear and predictable rules investors needed to thrive are fundamental for SMEs and prerequisites for enabling environment for private sector growth in South Sudan (IFC, 2011).

In South Sudan, there are no support from the government to SMEs as there are limited or no SMEs entrepreneurship development programme. Reviewed literature revealed that financial institutions are reluctant to lend money to SMEs and start-up businesses but only allow under strict conditions of collateral and high borrowing cost. Cash flow is, however, very important to SMEs and start-up businesses to keep SMEs and start-up businesses up and running. As a result, SMEs are required to get loan at high interest rate.

1.3 Statement of the Problem

Access to finance and high cost of borrowing remains the biggest challenge for SMEs growth (Kumar and Rao, 2015; Beck and Cull, 2014a). According to World Bank (2022), the International Finance Corporation (IFC) stated that 65 million enterprises or 40% of MSMEs in developing economies, have an unmet financing estimated at 5.2 trillion dollars every year, equivalent to 1.4 times of the current level of the world-wide MSME lending. This translates to about half of SMEs not having

access to formal credit. The gap is projected to be larger putting into consideration the micro and informal enterprises. It is worth noting that most SMEs count on merely micro financing, personal loans, and informal lenders, hence stagnation of SMEs from growth. The productivity gap between registered and unregistered businesses in a study of 24 African countries was valued at 120% (La Porta and Shleifer, 2011). With the world experiencing series of economics shocks especially with Covid-19 pandemic and currently ongoing Ukraine war, the world is going through inflation crisis. KPMG (2022) estimated global inflation at an average of between 4.5% - 7.7% 2022 and between 2.9% to 4.3% in 2023, and slow economic growth. According to IMF (2022) world economic outlook, global growth was anticipated to slow down with an estimated 6.1 percent initially in 2021 to 3.6 percent in 2022 and 2023. The Ukraine war however have put a huge doubt on the recovery effort of most economies from Covid-19 pandemic and rather exacerbate economic situations and destroying livelihood. Russia was estimated to supplying about 19% of the world's natural gas and 11% of oil, energy prices have soared distressingly (OECD, 2022).

Analysis of financial crisis of 2008 by Jinjarak and Wignaraja, (2016) as cited by Gamage, *et al.,* (2019) revealed that the global financial crisis had resulted in scarcity in international liquidity causing significant fall in international trade and increased unemployment. The financial crisis however had let to adoption of an increased structural change and in effect felt by the activities of SMEs. Series of consequences follows with banks tightening the risk management resulting in an increased number of refusals of overdrafts and the number of rejections of loans requests from SMEs increasing. Banks rather prefer to give resources to large businesses than to SMEs owing to the fact that large enterprises have a lower risk of non-payment of loans and have clear financial statements (Yoshino and Taghizadeh-Hesary, 2016).

In a situation where financial system underserved SMEs' financial needs, the system in effects offer inadequate and high cost of financial loans options to SMEs. In South Sudan, formal financial system is not well developed with at least thirty commercial banks registered and with limited coverage across the country. With current state of economy and a lot of barriers it makes a good recipe for unfriendly environment for SMEs to access loans. In turn SMEs are more likely to turn to informal lenders to access loans, at time further offering unattractive rates. This research is essential in filling a research gap of limited knowledge or understanding of access to credit by SMEs in South Sudan. It is against this background that this study seeks to establish factors influencing SMEs access to credit in Juba City Council, South Sudan.

1.4 Purpose of the Study

Purpose of the study is to establish factors influencing SMEs on credit accessibility of SMEs in Juba City Council, South Sudan.

1.5 Objectives of the Study

This study aims to establish factors influencing SMEs access to credit with focus of Juba City Council, South Sudan.

1.5.1 Specific Objectives

These specific objectives were addressed.

i. To establish the relationship between interest rate and SMEs access to credit with focus of Juba City Council, South Sudan.
ii. To examine the impact of collateral requirement on SMEs access to credit with focus of Juba City Council, South Sudan.

iii. To determine the effects of inflation rate on SMEs access to credit with focus of Juba City Council, South Sudan.

1.6 Hypotheses

The following are the hypotheses of the research:

a) **$H0_1$:** There is no significant relationship between interest rate and SMEs access to credit. A case study of Juba City Council, South Sudan.

b) **$H0_2$:** There is no significant relationship between collateral requirement and SMEs access to credit. A case study of Juba City Council, South Sudan.

c) **$H0_3$:** There are no significant relationship between inflation rate and SMEs access to credit. A case study of Juba City Council, South Sudan.

1.7 Significance of the Study

The findings of this research are intended to help in formulation of policies on tackling the issue of SMEs credit inaccessibility after understanding the relationship or the effects of interest rate, collateral requirement, and inflation on SMEs credit accessibility. With high cost of credit remaining perhaps as the biggest challenge among SMEs growth and huge unmet financing gap, the research recommendations planned to help improve SMEs credit accessibility. The research sought to discover knowledge gap in the field of SMEs credit accessibility that may not have been explored in the past research thus expanding the body of knowledge in SMEs credit accessibility.

1.8 Scope of the Study

The study was limited to SMEs and focus on the factors influencing SMEs access to credit in Juba City Council, South Sudan. The study used primary data in analysis of impact of research variables on SMEs credit access. Primary data was obtained from SMEs owners sampled from registered SMEs in Juba City Council. The research was carried out with following theoretical framework; financial inclusion theory, Fisher's Theory of Interest Rates and Information Asymmetry Theory helping how to relate the variables.

1.9 Delimitations of the Study

In investigating SMEs credit access, there was no attempts to study lack of credit information, credit scores, location, and lack of business plan that may have influence on SMEs credit accessibility. This allowed to stay within the scope of the study. The selected variables of interest rate, collateral requirement and inflation rate issues being major challenges of post–independent South Sudan, were of interest to identify selected variables effect on SMEs sector access to credit. Participations in this study were delimited to SMEs which are registered in Juba City Council. For practicality purpose and objectiveness, research participants are limited to registered SMEs because researching on all SMEs will extend the target population hence increasing study sample.

1.10 Limitations of the Study

The findings of this study must be seen in light of some limitations. In South Sudan access to data might be limited as some organisations/institutions could be reluctant or denying in sharing data for the study because of trust issues and political environment. Lack of willingness to share information by respondents or giving wrong or incorrect information may result in not establishing research objective. Nonetheless,

explaining the purpose of study well and participation of the local research assistants in the process removed the doubt.

1.11 Assumptions of the study

The study was done on the assumption that there is a relationship between or influence of study variables, the interest rate, collateral requirement, and inflation rate on SMEs access to credit. Also, it is assumed that respondents were honest with responses to the questionnaires.

1.12 Theoretical Framework

The section looks at the various theories in effect to credit access by SMEs. The theories are financial inclusion theory, Fisher's Theory of Interest Rates and Information Asymmetry Theory.

1.12.1 Financial Inclusion Theory

Financial inclusion entails accessibility to suitable and affordable financial products and services by both individuals and businesses to meet various business needs such as saving, credit, payments and among others delivered in a sustainable manner (World Bank, 2018e). The focus is to provide financial solutions to the economically disadvantaged individuals or businesses. This is achieved by eliminating the barriers that ignore people from contributing to the financial sector and using these services to improve people's lives. In traditional financial institutions most of businesses are ineligible because businesses lack financial history or credit record to evaluate creditworthiness. In contrast financial inclusion aims to incorporate everybody in society by giving every person basic financial service regardless of individuals and businesses. According to World Bank (2018a), financial access enables everyday

living, and aids families and businesses plan for everything from long-term goals to unanticipated crises. Aggressive credit policies and lack of consumer education is hampering the approach. It is under this principle that the research evaluated the effects of interest rate, collateral requirement, credit risk and inflation on SMEs access to credit and come up with findings and recommendations that are intended to improve credit access among SMEs in South Sudan.

1.12.2 Fisher's Theory of Interest Rates

The link between inflation and both real and nominal interest rates is defined by the "Fisher effect," an economic theory developed by economist Irving Fisher. According to the "Fisher effect," the real interest rate is the nominal interest rate less the anticipated inflation rate. Therefore, unless nominal interest rates rise at the same rate as inflation, real interest rates decrease as inflation rises. According to Fisher's equation, the real interest rate is obtained by deducting the anticipated inflation rate from the nominal interest rate. Inflation rate therefore can be suggested as an influencing factor in interest rate determination and hence affecting credit access of SMEs. Fishers' theory was challenged with notable critic being Keynes. Keynes criticism of Fishers' theory maintains that the concept of real rate is not theoretical relevant for the study of micro - or macroeconomic problems. Many authors have questioned the view of real rate at the empirical level but only a few have done it at the theoretical level.

1.12.3 Information Asymmetry Theory

Information asymmetry theory was developed and popularized by George Akerlof, Michael Spence, and Joseph Stiglitz. It is based on the fact that information

does not flow smoothly, and that one party will have more information than another. That is one party has access to additional information or improved information than the other party leading to phenomenon known as information asymmetry. In financial market, it is moment when fund providers or lenders do not know much information fund providers or lenders supposed to know about the borrowers or borrowers knowing more about the investment than lenders do.

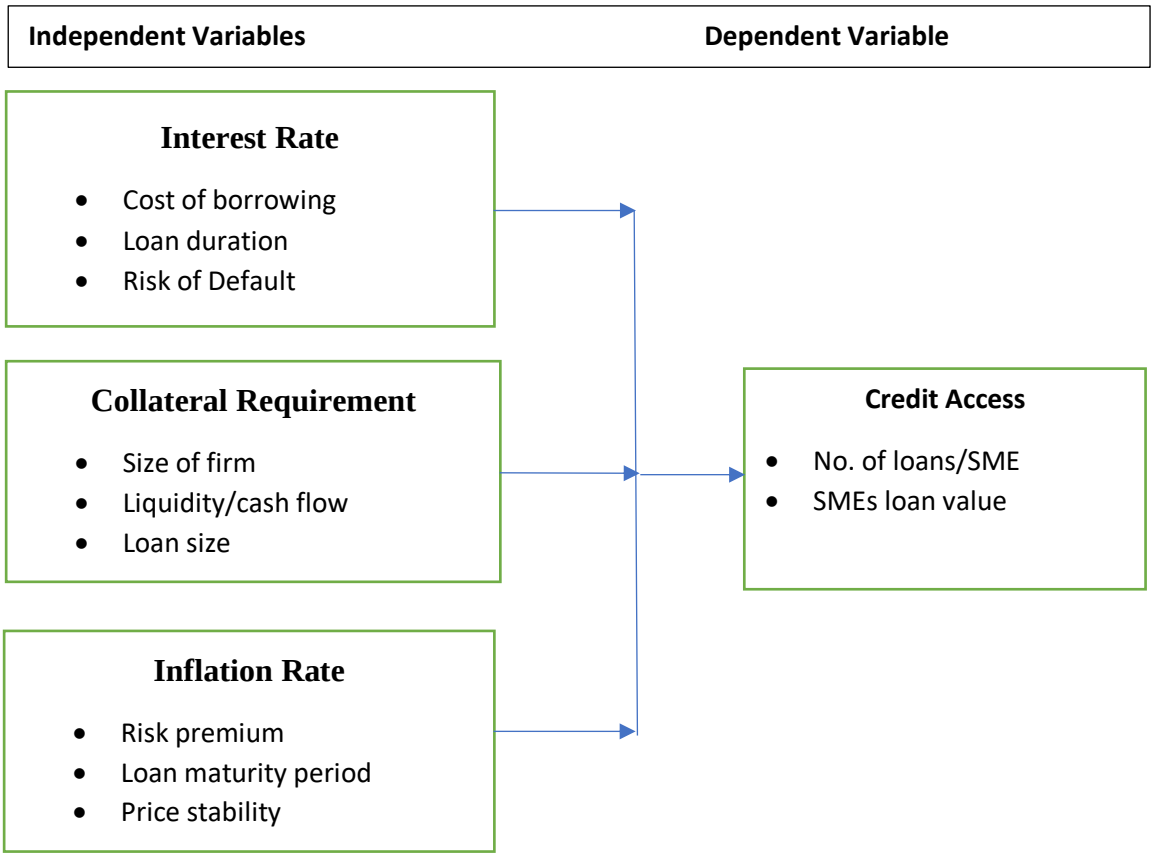
Information asymmetry often led to moral hazard were borrowers probably making a riskier investment upon taking a loan with an increased interest rate with the hope of attempting to having a higher rate of profit that would enable to repay the loan more easily and adverse selection in which lenders are not sure of how risky customers' behaviours are. Information asymmetry is a major problem in addressing SMEs credit access as the phenomenon characterised the relationship between the banks and other financial institutions and the SMEs. Huang, C., When, Y., and Liu, Z. (2014) argued that the main challenge among SMEs in financing is the information asymmetry that exists between SMEs and financial institutions. Huang *et al.*, (2014) also argued that there is high transaction cost associated with asymmetric information as banks and other lenders make effort in term of money and time to search on information to ensure safety of the loans and to prevent the borrower fraud.

1.13 Conceptual Framework

The conceptual framework of this study focused on the factors influencing SMEs access to credit in Juba city council, South Sudan. As shown in below figure, the inputs, that is the interested rate, collateral requirement and inflation rate influence the credit accessibility of SMEs or the output. It illustrates the possible relationship that exist

between dependent and independent variable. Each variable has its indicators which were observed in this study.

Figure 1.1 Conceptual Framework



Source: Research Data (2023)

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the related literature on effects of interest rate on credit access of SMEs. It provided a review of literature based on research variables of interest rate, collateral requirement, and inflation rate. It also provides the summary and conclusion on the literatures reviewed and research gap.

2.2 Review of Literature

Several studies have been carried out to research on factors that influence credit accessibility among SMEs in the past with different designs and methodologies. A review of various literatures was done in relation to the topic as such. As illustrated here, Veiga and McCahery (2019) established that SMEs are particularly dependent on credit and cash flow, but SMEs are confronted by limitation on borrowing funds because SMEs are small and less diversified and have weaker financial structures. Vanguard (2017) stated that commercial banks and investors showed little commitment in work with SMEs in Africa for the reason of perceived risks of lending to SMEs and a lack of information. Banks in Africa have indicated repeatedly lack of willingness to give loans to SMEs due to the high risk of defaulting and insufficient financial facilities. Statistics showed that SMEs appearance an annual financing gap more than 136 billion dollars (World Bank, 2018b). It is not surprising that African enterprises are more likely to rate access to finance as the most important constraint on enterprises operation and growth than enterprises outside Africa.

2.2.1 Interest Rate and SMEs Credit Accessibility

Reeves (2022) refers to interest rate as a measure of the cost of a loan to a borrower expressed as a percentage. On the other hand, Bank of Thailand (2015) define policy interest rate as the rate central bank charge commercial banks for loans and at the likewise pays the commercial banks for the deposit. This rate subsequently impacts on the interest rates that commercial banks employ with commercial banks customers and to both borrowers and depositors. Once central bank increases policy rate, the commercial banks' deposit and borrowing rates will rise as well and when the central bank lowers policy rate, commercial banks also lower deposit and borrowing rates. This in turn affects SMEs credit accessibility as raise or fall in interest rate increases and decreases cost of borrowing.

Bernard, Sare and Musah (2014) conducted study of MSMEs financing decision. The purpose of research was to study on the effects of interest rate on MSMEs access to funds and financing decision in Wa City Council of Ghana. The study involves both qualitative and quantitative methods. Bernard *et al.*, (2014) used descriptive survey arguing that it represents a correct profile of individuals, events, and situations to get information which can be examined, and patterns extracted, and comparisons made. Both convenience and random sampling techniques were used and sample of respondents of 200 enterprises taken. Bernard *et al.*, (2014) found that 56.2% (n=54) of the respondents were deterred by high interest rate charged on credit. Also asserting that interest rate charged on credit services by lenders and other financial institutions were seen by respondents to be extremely high. Despite acknowledging the magnitude of the target audience, the researchers' selection of a sample size of 200 enterprises is seen as poor and cannot be used to extrapolate or generalize the research findings.

Additionally, the use of convenience sampling may lead to bias and the requirement for results to be generalizable to other places. No inferential statistics, such as a regression model, exist to examine the impact of interest rates on MSME access.

Similar result was reached by study of Maalim and Gikandi (2016) on effects of interest rate on credit access of SMEs in Garissa County. Maalim and Gikandi (2016) used a descriptive survey with a target population of 10 SACCOs and 150 SMEs. The questionnaires were given at a random to chosen SMEs members who were the respondents. According to Maalim and Gikandi (2016), the bulk of the loan's applicants reflected on the amount of interest the loan will accumulate when applying for loan. The research findings revealed that SACCOs' interest rate policy had a considerable relationship with SMEs ease of access to credit. Interest rate policy variance in relation to SMEs credit access was at 0.708. Maalim and Gikandi (2016) rightly concluded that interest rate is the most important factor of demand for credit from financial institutions, but there is less empirical evaluation. Additionally, the selected conceptual framework does not bring out the link between interest rate and credit availability. Appraisal costs and default penalties do not clearly come out as interest rate unit of measures.

Ashiqur, Jaroslav and Twyeafur (2017) carried out study on the determinants of SME finance. Testing on the hypothesis "Interest rate is negatively related to access to finance", Ashiqur *et al*., (2017) observed that the interest rate is statistically important for SMEs and other smaller businesses, indicating that the rate of interest increases with increase in the loan size. This might be seen as perhaps indicating that the danger increases with loan size. Therefore, when the amount of loans rises, banks may charge a greater interest rate. According to Ashiqur *et al.* (2017), a big loan size may exacerbate the moral hazard problem; as a result, it is probable that banks may charge higher interest rates in an effort to maximize remuneration. In addition, Ashiqur *et al*. (2017)

stated that the desire of banks to continue providing credit to riskier borrowers at high interest rates is motivated by the need for banks to enhance profit margins.

However, according to Veiga and McCahery (2019), high-risk borrowers are typically more amenable to the concept of paying higher interest rates if borrowers are not required to put up bigger amounts of collateral since borrowers may intend to default or raise the risk of operations.

2.2.2 Collateral Requirement and SMEs Credit Accessibility

Corporate Finance Institute (2022) define collateral as an asset or property pledged by a borrower to a lender or creditor as guarantee for a loan. According to European Central Bank (2022) collateral is an item of value that a lender can take over from a borrower upon failure to repay a loan as agreed in the term of agreement. Chilembo (2021) attributed SMEs failure to meet collateral requirement by banks to SMEs lack of asset to be put forward as collateral or SMEs having assets that have a value but which the bank would be reluctant to accept as collateral. As such, banks and financial institutions often time reject loan requests that do not come with the offer of collateral satisfactory to banks or financial institutions. Chilembo (2021) also stated that the amount that banks offer frequently depends on the value of collateral. This becomes a major setback to SMEs which may not have right asset to offer as collateral. According to European Commission (2017) SMEs tend to be particularly exposed to downturns in the supply of finance due to SMEs higher risk profile and more limited collateral options.

Collateral requirement have been well acknowledged as one of the major hindrances that inhibit SMEs from gaining access to traditional structures of financing needed to purchase machinery and equipment. Chowdhury and Alam (2017) conducted

a study on the factors impacting on access to finance of SMEs of Bangladesh. One of the specific objectives was to investigate the financial characteristics that influence SMEs' accessibility to funding. Chowdhury and Alam (2017) used convenience sampling arguing that there are too many regions in the study making it difficult to involve every SME within the study. Convenience sampling technique always, however, is questioned on objectiveness of the research. Chowdhury and Alam (2017) assessment of collateral impacts on access to finance indicated the ability of the businesses to deliver on collateral for funding at 71% agreed while 6% strongly agreed and 23% remaining neutral. Implying that the SMEs inability to produce collateral affect the firms' access to funding. Although Chowdhury and Alam's (2017) results were undoubtedly important, the findings might be erroneous due to the sample size and sampling technique used. Additionally, it is difficult to generalize these results to all SMEs populations due to the use of convenience sampling.

Ashiqur *et al*., (2017) researched on determinants of SME finance supported the idea that there is a considerable link in between collateral and credit access. According to Ashiqur *et al*., (2017) collateral has a positive sign and that the findings are statistically significant across all firm sizes. According to the outcomes, availability of collateral can lessen the financing opportunity for SMEs suggesting the significant of collateral in SME financing.

Boushnak, Rageb, Rageb, and Sakr (2018) conducted study on factors influencing credit decision for lending SMEs on National Bank of Egypt. The purpose of the study was to find out factors that banks can rely on when evaluating SMEs in the course of credit decision making for lending but then again develop a structure for enabling SMEs lending process. A non-probability sample method was used with sample size of 313 credit analysts, supervisors, managers from SMEs marketing and

SMEs risk departments. Case study and cross sectional were employed. On contrary, Boushnak, *et al.*, (2018) analysis suggests that there is insignificant relation between collateral with credit decision for lending SMEs. Overall, the study of Boushnak et al. (2018) is a significant asset for SMEs seeking loans. However, further study is required to bridge research gaps in the form of limited studies in understanding variables that influence SMEs loan availability in varied contexts such as South Sudan.

While land titles are recognized by banks as a form of collateral, it is the ability to repay that is the critical determinant. In South Sudan valid land titles is not always available for landowners. There is recurring issue of single plot having multiples land titles documents from different individuals making land titles unreliable collateral asset. Berg and Fughs (2013), however, explain that the enabling environment can in theory lower the costs of SME lending, particularly by providing information on potential borrowers through credit bureaus, ensuring the availability of unique IDs, facilitating the use of movable collateral as security through movable collateral registries, and strengthening the enforcement of contracts through alternative dispute resolution mechanisms.

Beck and Cull (2014b) provided a new financing option in the leasing market to enterprises and entrepreneurs that were turned down for traditional banking and commercial credit owing to the lack of credit history and inability to furnish appropriate guarantees. Additionally, the connections and relationships within a bank's local network are crucial in lowering the risks and minimizing some of the opportunistic connected with bank lending to SMEs.

2.2.3 Inflation rate and SMEs Credit Accessibility

OECD (2021) define inflation, measured by consumer price index (CPI), as the change in the prices of a basket of goods and services that are normally purchased by individual groups of households. Nizaeva and Coskun (2019) define inflation as the annual change in the cost of obtaining a basket of consumer goods and services. Banks and other lenders assume risk that the borrower may not pay back the loan plus the interest. Considering the risk of default, interest rate charge by lenders offers a particular compensation for bearing the risk as well as the risk of inflation.

SMEs faced high transaction cost due to high-risk premiums charged by lenders because of inflations (Beck & Demirgüç-Kunt, 2006). In an environment with inflation volatility, lenders often add risk premiums as an incentive for lending as the interest generated can be eroded by inflationary loss. According to Beck, Demirgüç-Kunt, and Honohan (2009), higher inflation rates are frequently related to weak developed financial systems. Inflation factors and domestic loans have a negative correlation, which is consistent with Nizaeva and Coskun (2019). That is, domestic lending to the private sector as a proportion of GDP is high in economies where inflation and bank concentration are low. Nizaeva and Coskun (2019) stated that SMEs operating in macroeconomic environments with lower inflation and interest rates, better macroeconomic conditions, and more regulated environments report fewer financing challenges.

Anis, Putra and Putri (2020) carried out research on determinant of SMEs credit in Indonesia. A descriptive analysis method was used aimed at identifying long-term and short-term relationships as result of correlation between research variables. The official website of Bank of Indonesia was used as data source for secondary data in the study. The results revealed a positive but not statistically significant association between long-term and short-term inflation, showing that rising inflation had no

obvious impact on the overall amount of credit extended to SMEs. However, it is said that owing to the extremely tight financial circumstances of business actors, who are in dire need of money for the enterprises, business actors will continue ask for loans from banks despite rising inflation.

According to the International Monetary Fund (2019), price stability benefits SME access to financing. Low inflation is a crucial indicator of macroeconomic stability since it is linked to decreased risk aversion, higher credit demand from the private sector, and greater loan availability to SMEs. International Monetary Fund (2019) analysis confirms the negative relationship between inflation and SME financial inclusion.

Omondi (2014) conducted research on the effects of inflation on commercial banks that lend with Kenya commercial bank limited as the case study. One of the specific objectives was to determine the relationship between annual inflation rate and KCB base lending rate from the year 2004 to 2013. The research methodology involved a descriptive study taking a survey format involving the use of questionnaires only and inferential statistical analysis using secondary data. Purposive sampling was used to choose secondary data on KCB new lending volumes, loan defaults, base lending rates, and the yearly inflation rates. The researcher employed a sample size of 190 KCB workers and a multi-stage sampling technique. Data analysis was done with use of Statistical Package for Social Sciences (SPSS) tool and displayed using frequency tables, charts, and inferential statistics. The study finding has shown that there has been steady increase of inflation for the period under review and corresponding increase in the base lending rate of KCB limited. The empirical evidence from this study for both the primary data and secondary data have further suggested inflationary forces significantly affect the base lending rate charged by the bank. The empirical evidence

from the study suggested inflation rate has marginal impact on KCB new lending volume, though the base lending rate has a significant effect on the lending volume. Consequently, it shows that inflation mainly affect the base lending rate which in turn has greater effects on the lending volumes. The regression analysis between the two variables showed that there was a positive relationship between the inflation rate and the base lending rate set by the bank.

According to Chowdhury (2012) as quoted by Omondi (2014), banks and other lenders are quite mindful that inflations eat away the value of lenders money over the period of a loan, so lenders increase the interest rates to compensate for the loss. In that regard, by the time of returning the loan amount, the original value or purchasing power had already decreased. According to Taner's (2000) investigation on the impact of inflation uncertainty on the credit markets, unpredictability in inflation results in higher interest rates, less loan supply, and a change in loan demand. As a result, bank lending rates raise and bank lending volume fall with an increase in the inflation. This come about because lenders require higher interest rates as a reward for the decrease in purchasing power of the money lenders are paid in the future. High cost of borrowing as a result of high inflationary rate means limited access among SMEs because of increased cost and would otherwise resort to other means to financing.

2.3 Summary of Review of Literature and Research Gap

The above literature reviewed showed the effects of interest rate, collateral requirement, and inflation rate on credit accessibility of SMEs. In examining the effects, Bernard *et al.*, (2014) found that respondents were deterred by high interest rate charged on credit. Also asserting that interest rate charged on credit facilities by financial institutions were perceived by respondents to be very high. Maalim and

Gikandi (2016) agreed to the proposition that interest rate affect credit accessibility stating that interest rate is a major contributing factor of demand for credit from financial institutions. Also, Ashiqur *et al*., (2017) found that the interest rate is statistically significant at 10 per cent level for the SMEs and small businesses. There is consensus among research work reviewed on the effects on interest rate on credit accessibility although Bernard *et al*., (2014) used both convenience and random sampling technique.

On the other hand, Chowdhury & Alam (2017) found that SMEs inability to produce collateral affect the firms access to funding. Ashiqur et al., (2017) agreed on the same findings on significant link between collateral and credit accessibility. According to Ashiqur *et al*., (2017) collateral has a positive sign and that the results are statistically significant across all firm sizes. Boushnak, *et al*., (2018) have different findings on the link between collateral and credit accessibilities. Boushnak, *et al*., (2018) used a case study and cross sectional which may be attributed to the variance finding with other research findings. According to Boushnak, *et al*., (2018), there is insignificant relationship between collateral with credit decision for lending SMEs.

Study by Anis, Putra, and Putri (2020) revealed that there is a positive but insignificant association between long-term and short-term inflation, indicating that growing inflation has no major impact on the overall amount of SMEs' loans. International Monetary Fund (2019) however, argued that price stability has a positive impact on SME access to financing. Omondi (2014) suggested that inflationary forces significantly affect the base lending rate charged by the bank.

2.3.1 Research Gap

Chowdhury and Alam (2017) found from the assessment that SMEs inability to produce collateral affect the firms access to funding. Although Chowdhury and Alam's (2017) results were undoubtedly important, the findings might be erroneous due to the sample size and sampling technique used. Additionally, it is difficult to generalize these results to all SMEs populations due to the use of convenience sampling. Bernard et al., (2014), despite acknowledging the magnitude of the target audience, the researchers' selection of a sample size of 200 enterprises is seen as poor and cannot be used to extrapolate or generalize the research findings. Additionally, the use of convenience sampling may lead to bias and the requirement for results to be generalizable to other places. No inferential statistics, such as a regression model, exist to examine the impact of interest rates on MSME access. Maalim and Gikandi (2016) rightly concluded that interest rate is the most important factor of demand for credit from financial institutions, but there is less empirical evaluation. Additionally, the selected conceptual framework does not bring out the link between interest rate and credit availability. Appraisal costs and default penalties do not clearly come out as interest rate unit of measures. From empirical review, Anis, Putra and Putri (2020), found a positive but not significant relationship. There is little empirical work on the relationship between inflation and SMEs credit access. Overall, further study is required to bridge research gaps in the form of limited research studies in understanding variables that influence SMEs loan availability in varied contexts such as South Sudan.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents method of data collection that was used in this study. This includes a detailed analysis of the research design**,** target population, sampling technique, data collection instruments and procedures and data analysis.

3.2 Research Design

According to Barbara (2006) research design ensures that the evidence obtained enables researcher to effectively address the research question as explicitly as possible. In this study, cross-sectional design was adopted. In cross-sectional study, researcher only observe variables without influencing variables. Cross-sectional studies provide a 'snapshot' of the result and the attributes associated with it, at a particular point in time and concentrate on studying and drawing inferences from existing differences between people, or phenomena (Hall, 2008). Data on research variables was collected from stakeholders in SMEs management in various level with use of survey questionnaires. Data was collected from SMEs at a single point in time. Descriptive and correlational study help describe or characterise the situation of SMEs access to credit in relationship to interest rate, collateral requirement, and inflation rate changes in Juba City Council. According to Anastas (1999) in descriptive design, the subject is being observed in a completely natural and unchanged natural environment.

3.3 Research Site

The location of the study was Juba City Council targeting SMEs currently operational. Central Equatoria state is one of the ten states of South Sudan. Macrotrends

(2022) estimated the current metro area population of Juba in 2022 at 440,000 people. Juba City Council is purposively selected for the study because JCC has significant number of SMEs and vibrant business activities. Juba city is connected to East African countries of Uganda via Nimule road, and Kenya via Kapoeta and Torit road. Juba is also convenience because of place proximity for researcher.

3.4 Target Population

According to Matula, Kyalo, Mulwa and Gichuhi (2018), target population is the population to which the research hopes to generalize the outcome of study or results of a study. Any inference from a sample refer only to the defined population from which the sample was properly selected. This is regarded as target population. This is according to (Banerjee & Chaudhury, 2010). In this study, the target population was registered SMEs in Juba City Council, South Sudan. The research targets or the respondents were the owners of registered SMEs in Juba City Council. SMEs are scattered over the country, but Juba City Council was selected for research as most SMEs are in the capital of South Sudan. This helped get SMEs experiences in engagement with banks and other financial institutions. The data from chamber of commerce revealed that there are 6,004 registered SMEs in Juba City Council.

3.5 Determination of Study Sample

A sample is a sub section of the population selected by either probability or non-probability approaches to take part in the study (Matula *et al*., 2018). According to Martínez-Mesa *et al*., (2016) the sample frame is the group of participants that can be drawn from the target population taking into account the sampling process used in the study. Considering that the sample may signify only a portion of the target population,

the researcher was required to examine carefully in case the selected sample frame suits the study purposes. The sampling frame for this study was a list of SMEs registered with Juba City Council. A sample of SMEs was drawn from the list of all the registered SMEs operating within the Juba City Council blocks.

3.5.1 Sampling Procedures

Stratified random sampling technique was used. According to Matula *et al.*, (2018), in stratified random sampling technique, population is split up into sub-groups known as strata according to certain criterion such as geographical location or grade level. In this research the criterion was geographical location. The strata were sub-divisions or blocks of Juba City Council that is Juba, Kator and Munuki blocks. SMEs were then selected randomly from each stratum. Convenience sampling was use, within the sample frame, as researchers encountered unwillingness and an unavailability of respondents for the study. As one of the study limitations, SMEs were reluctant or denying in sharing information because of trust issues of business information leaking and exposure to tax authorities for businesses evading taxes. The technique boosted response rate.

Table 3.1 Selected Sample per block

Blocks	**Number of enterprises**
Juba,	140
Kator	147
Munuki	58
Total	345

3.5.2 Study Sample Size

Institute for Work and Health (2008) describe sample size as the number of participants or observations involved in a study. According to Institute for Work and Health (2008) the size of a sample impacts on two statistical properties, the correctness of the estimates and the power of the study to draw conclusions. Matula *et al*., (2018) stated that an optimum sample size is required to achieve significant results vis-avis the study population and to ensure that research resources have been used effectively and efficiently. A sample size of 375 SMEs was taken from a total population of 6,004 SMEs. Yamane sampling technique was used to draw the sample size from the list of all registered SMEs in operation in Juba City Council.

Table 3.2 Categories of Selected Sample

Category of Enterprises	**Number of enterprises**
Retailers	95
Financial services (local money transfers)	20
Manufacturing	15
Hotels & restaurants	75
Transport	45
Health (clinics & pharmacies)	50
Groceries	75
Total	375

Yamane sampling technique took on the assumption of normal distribution that SMEs were normally distributed in relation to the parameters under study. The formula was regarded as suitable for establishing the right sample size. Results from Yamane's

formula are more precise since it considers the population's variability, size, and level of accuracy.

Yamane sample size states that:

n = N/(1+N*e^2)

where:

n signifies the sample size

N signifies the population under study

e signifies the margin error (it could be 0.10, 0.05 0r 0.01)

Therefore n =6,004/ (1+6,004*0.05^2) = 375

n = 375

3.6 Data Collection Measures

3.6.1 Data Collection Instruments

Legal Information Institute (1992) define “Data-collection instruments” as tests, questionnaires, inventories, interview schedules or guides, rating scales, and survey plans, or any other forms used in collecting of information on considerably the same items from 10 or more respondents. The study used primary data sources. Primary data collection is the gathering of raw data at the source. Primary data was collected through questionnaires to obtain quantitative data for the research from SMEs key informant employees. Questionnaires were consisted of a list of structured questions, and Likert rating scales. Closed ended questions were used to ensure standardization of information. Close ended questions have the advantage of collecting practical quantitative data. Research questions were developed to collect data on the general information and demographic data, credit accessibility, and information on interest rate,

collateral and inflation variables and the variables influence on SMEs decision in taking loans.

3.6.2 Pilot Testing of Research Instruments

To determine the feasibility of the research design, pilot study was carried out to determine the research reliability and validity. According to Center for Evaluation and Research (2011), pilot testing help ensure that all participant in sample not only understands the research questions but understands questions in the same way. Also help in ensuring that no question make respondents feel uncomfortable as well as finding the timeline to complete the survey in real time. A pre-test was conducted in real field environments on a group of SMEs. A pilot study of 10% sample population of SMEs was undertaken in Northern Bahr el Ghazal state. The pilot study helped identify the problems that respondents were experiencing in understanding or interpreting a phenomenon and understanding formulation of questions.

3.6.3 Instruments Reliability

Reliability is the extent to which different instruments and procedures can produce the same results or outcome on recurring trials (Matula *et al*., 2018). Reliability, therefore, refers to the consistency of a measure. The research used internal consistency technique to determine reliability of the instrument. Internal consistency measures the consistency of responses across the variables on a multiple measure. It determines how the factual content of an evaluation works together to assess understanding of a concept. In general, all the variables' procedures are intended to reflect the same fundamental construct, so scores on those items should be correlated

with each other. Cronbach's α was used to measure internal consistency. A value of +.70 or greater was considered acceptable to indicate good internal consistency.

3.6.4 Instrument Validity

According to Matula *et al*., (2018), validity refers to the degree the instrument generates data that it was meant to generate. In this study, criteria validity was tested. Criteria validity assesses how well a test can forecast a material result, or how well the results of a test estimated the outcomes of a different test. criterion validity was evaluated assessing the different between the results of research variables and the prediction based on the research theory and hypothesis. high correlation indicated a good test of what is intended to be measure.

3.6.5 Data Collection Procedures

Questionnaires were administered by research assistants to the selected SMEs for the research. Research assistants were drop and Pick questionnaires with a brief interpretation of questions for respondents who can read and write. This helped in confidentiality of information as well give respondent enough time to complete the questionnaires. Interviews were conducted by research assistants in situation respondents cannot do the filling of the form. The respondents were picked based on the criteria or definition of SMEs.

3.7 Data Processing and Analysis

Questionnaires were first edited for completeness and consistency. The research used the quantitative approach of data analysis. The quantitative analysis used both descriptive and inferential statistics approaches. Data were analysed using excel Tool

Pax programs. Descriptive statistics analysis was used on general information of SMEs, the profile and credit accessibility to get the details and features of SMEs. ANOVA, regression model and Correlation analysis were carried out to establish the relationship or impact of interest rate and collateral requirement on the SMEs credit accessibility. Regression analysis was done to test cause and effect between inflation rate and SMEs credit accessibility between the interest rate and credit accessibility of SMEs. Presentation of research findings were done in tables and graphs to give a clear picture of the research findings briefly.

3.8 Legal and Ethical Considerations

To ensure confidentiality, no name or identity was asked in questionnaire. Also, the study sought all participants to accept first participants partaking in the research by way getting a consent. The aim of consent was to assure participants that the research is voluntary and that participants are free to leave from the practice at any point in time for any reason. The intention of the research was purely for academic purpose and no other hidden intended purpose.

CHAPTER FOUR DATA ANALYSIS AND FINDINGS

4.1 Introduction

This section provided analysis of the research findings from the collected data through mean of questionnaires. The analysis includes demographic, descriptive and inferential statistically analysis.

4.1.1 Response Rate

The research targeted three hundred and seventy-five (375) respondents of SMEs operating within Juba City Council of Central Equatoria state. Questionnaires were administrated to respondents in three blocks of Juba City Council. A total of 345 questionnaires were returned which represented response rate of 92%. Response rate above 50% is generally considered adequate. Table 4.1 showed summary of the response rate.

Table 4.1 Response Rate

Response	Total	Percentage
Returned	345	92%
Unreturned	30	8%
Total	**375**	**100%**

Source: Research Data (2023)

4.1.2 Reliability and Validity Test

As indicated in research methodology, reliability analysis was done using Cronbach alpha test to ensure internal consistency of the tool. Results in table 4.2

showed a Cronbach alpha of 0.9934 which indicate high reliability. A value of +.70 or greater was considered acceptable to indicate good internal consistency. On the other hand, validity test was done by the way of correlation analysis. The results are shown later in other sections of this chapter. High correlation indicates a good test of association. Correlation test for relationship between variables indicated high level of correlation.

Table 4.2 ANOVA Results for Reliability Test

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	8633.93989	344	25.0986625**	152.341681	0	1.13280
Columns	835.747674	18	46.4304263	281.819367	0	1.60551
Error	1020.14706	6192	0.16475243**			
Total	10489.8346	6554				

Source: Research Data (2023)

Cronbach Alpha = 1 – (0.16475243/25.0986625) = **0.993435808**

4.2 Demographic Characteristics of the SMEs

This section represents demographic analysis. That is; position held in business by the respondents, age, gender, education level, length of service and number of employees by SMEs, start-up capital, adequacy of capital, major source of financing, type of financial institutions, access to credit, frequency of loan approved, value of loan distribution, reason for not granted credit, rate of accessing credit of the respondents. The analysis showed demographic characteristics of the respondents.

4.2.1 Position Held in the Business

To establish various positions held in business by the respondents, the study indicated that 61% of the respondents were owners of the business, followed by managers at 33% and sale personnel at 6%. The findings revealed that information on SMEs in questionnaires were gotten from the right persons who should well be aware of enterprise detailed information. The findings are as shown in Table 4.3.

Table 4.3 Position Held in the Business

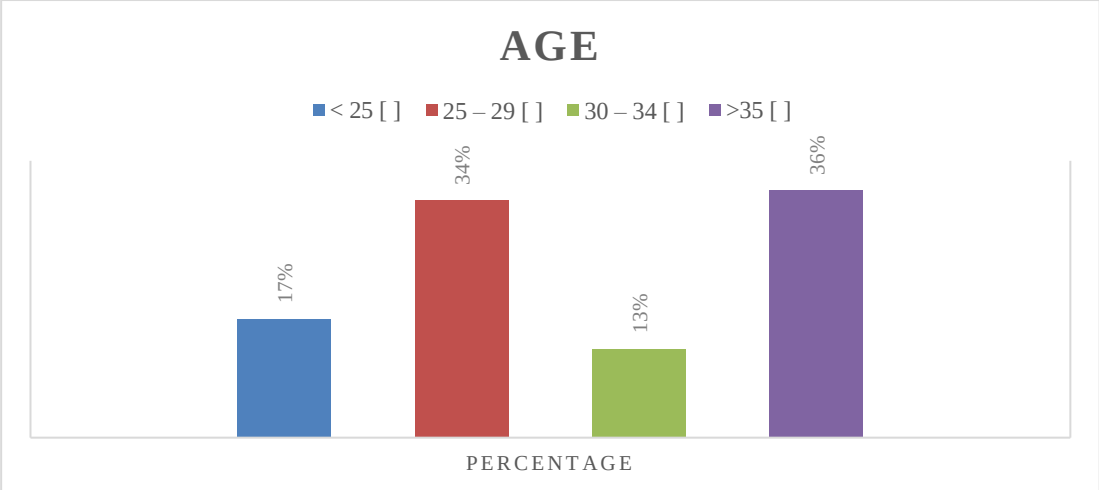
Position held in the business	Frequency	Percentage
Owners	212	61%
Managers	113	33%
Sale personnel	20	6%
Total	345	100%

Source: Research Data (2023)

4.2.2 Age Distribution

The study was also interested in the age distribution of the respondents. 36% indicated that are 35 years and above, followed by 34% age between 25 – 29, 17% age 25 years or below and lastly 13% indicating age between 25 – 29 years. This mean that the uptake in SMEs start-up is low among young people. The findings are as shown in Figure 4.1.

Figure 4.1 Age Distribution

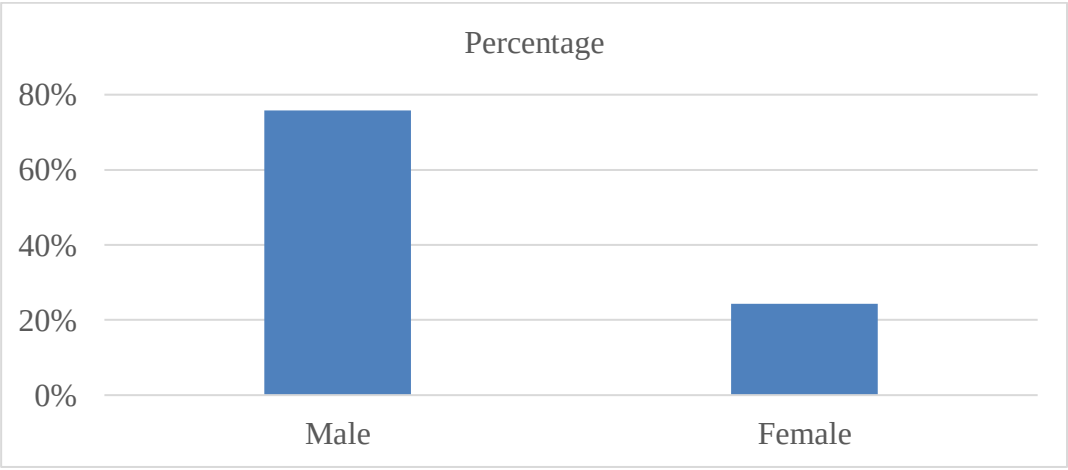


Source: Research Data (2023)

4.2.3 Gender

The respondents were asked to indicate the gender of the respondents. 76% indicated that respondents are male while 24% indicated that respondents are female. This revealed that there are disproportionate numbers in terms of involvement of females in SMEs business. The findings are as shown in Figure 4.2.

Figure 4.2 Gender



Source: Research Data (2023)

4.2.4 Education Level

The study sought to know education level of the respondents. 13% indicated the level of university with 14% having college diplomas, 31% being secondary school level and 41% indicated having primary school level. This revealed that the respondents do not have adequate skills set to get to know where to find credit, understand the loans processing and documents where the process is not simplified and convincing lenders on the plans for business and repayment of loans. The findings are as shown in Table 4.4.

Table 4.4 Education Level

Education level	Frequency	Percentage
Primary	143	41%
Secondary	108	31%
College	49	14%
University	45	13%
Total	345	100%

Source: Research Data (2023)

4.2.5 Length of Service

The respondents were asked to indicate the length SME had been in service. 60% of respondents indicated that the enterprise had been in existence for between 1 - 5 years, followed by 24% of SMEs being in services for period 6 – 10 years, 13% 11-15 and lastly 3% above 16 years. This mean that most of SMEs have been in business relatively shorter period to start acquiring credit. The findings are as shown in Table 4.5.

Table 4.5 Length of Service

Length of services	Frequency	Percentage
1 -5 years	207	60%
6 – 10	84	24%
11 – 15	44	13%
16 and above	10	3%
Total	345	100%

Source: Research Data (2023)

4.2.6 Number of Employees

Respondents were asked to indicate the number of employees in the enterprises. 59% indicated the number of employees in the range of 1-5 years. Followed by 30% for respondents indicating category of 5 – 10 years while 11% indicating above 10 years. This revealed that majority of SMEs are relatively small in relation to the number of employees. The findings are as shown in Table 4.6.

Table 4.6 Number of Employees

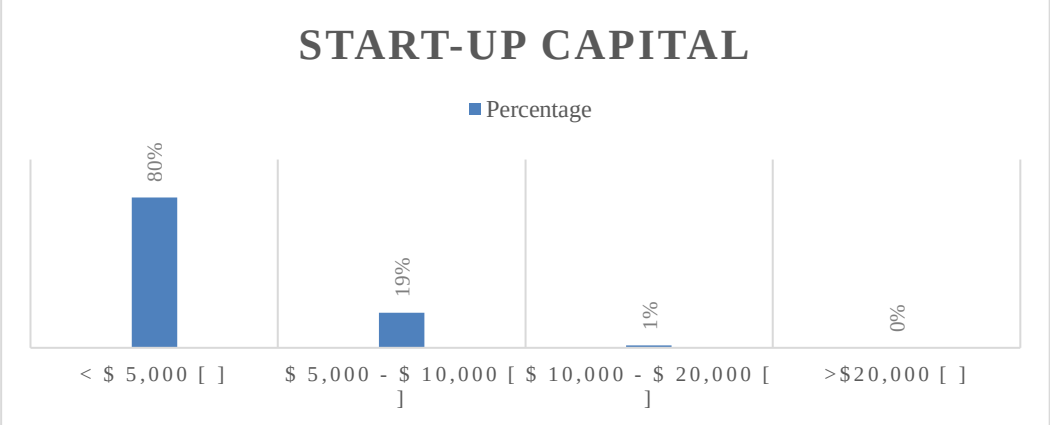
Number of employees	Frequency	Percentage
1 –5	202	59%
5 – 10	104	30%
10 and above	39	11%
Total	345	100%

Source: Research Data (2023)

4.2.7 Start-up Capital

The study was also interested in the start -up capital of SMEs. Majority of the respondents 80% indicated that initial start-up capital was $5000 or less. 19% indicating in the category of $5000 – $10,000. 1% indicated that the start-up capital in the range of $10000 – $20000 while none had a start-up capital above $20,000. This mean that majority of SMEs have less capital at the disposal that act as collateral in getting loan if business decided to get loan. The findings are as shown in Figure 4.3.

Figure 4.3 Start-up Capital

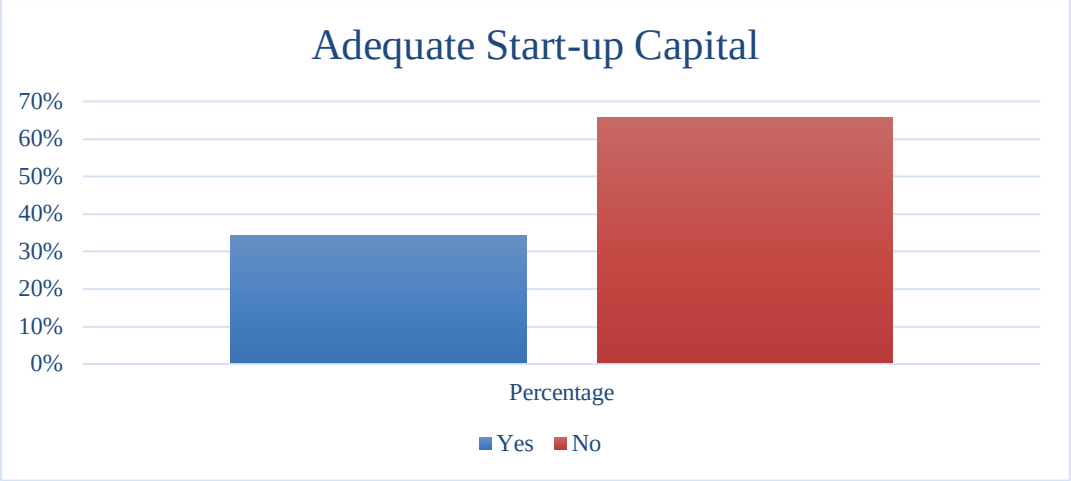


Source: Research Data (2023)

4.2.8 Adequacy of Start-up Capital

The respondents were asked to indicate if the start-up capital was adequate. 66% of the respondent indicated that start-up capital was not adequate. 34% stated “Yes” agreeing that start-up capital was adequate. The findings indicated that SMEs require more start-up capital. Majority of respondents confirmed that start-up capital was not enough. The findings are as shown in Figure 4.4.

Figure 4.4 Adequacy of Start-up Capital

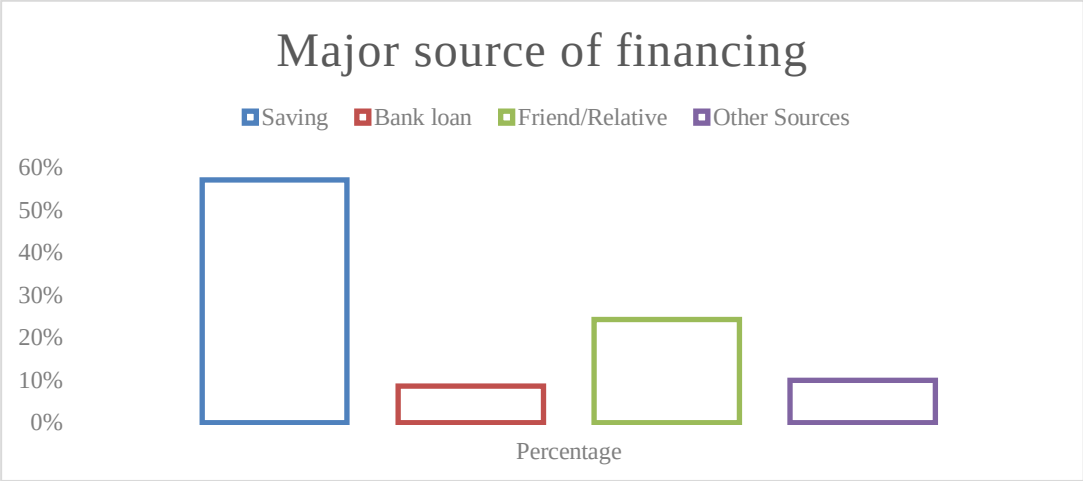


Source: Research Data (2023)

4.2.9 Major Source of Financing

Respondents were required to indicate the major source of financing. 57% of them indicated that major source of financing was through savings. This was followed by friend/relatives at 24%, other sources at 10% and 9% indicating that respondents received fund from bank loan. The findings indicated that there is less SMEs access to finance through bank loan. The main source of finance among SMEs was saving. The findings are as shown in Figure 4.5.

Figure 4.5 Major Source of Financing

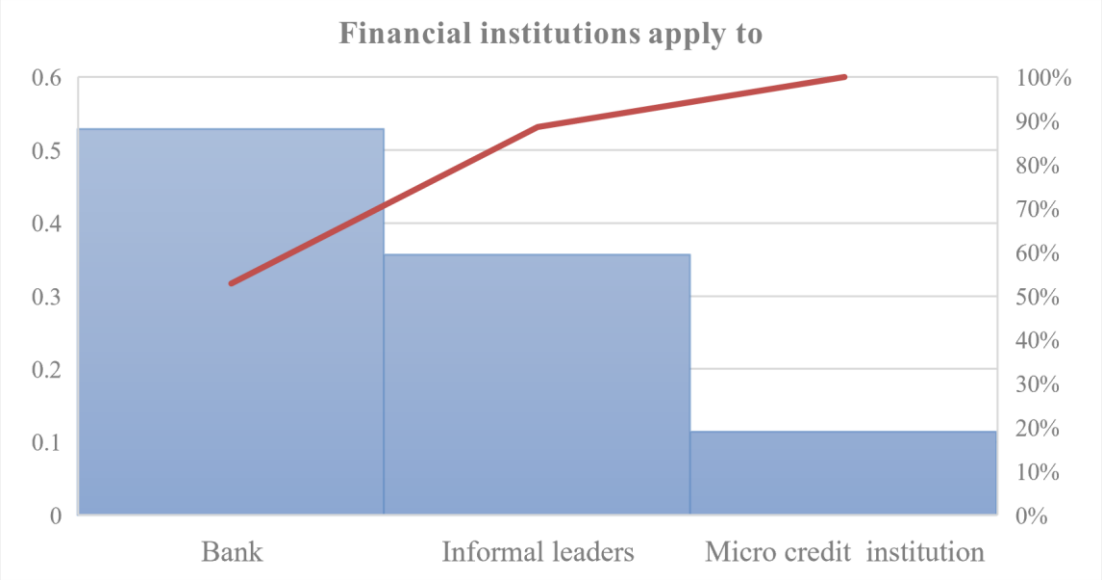


Source: Research Data (2023)

4.2.10 Type of Financial Institutions

The study was also interested in the type of financial institutions SMEs are taking loan from. Respondents indicated that 53% of the loans are from banks, 36% from informal credit institutions and micro credit institutions at 11%. This mean that respondents first turn to banks for the loans. This also mean that micro credit institutions are either not attractive or not many of them are in operation. The findings are as shown in Figure 4.6.

Figure 4.6 Type of Financial Institution



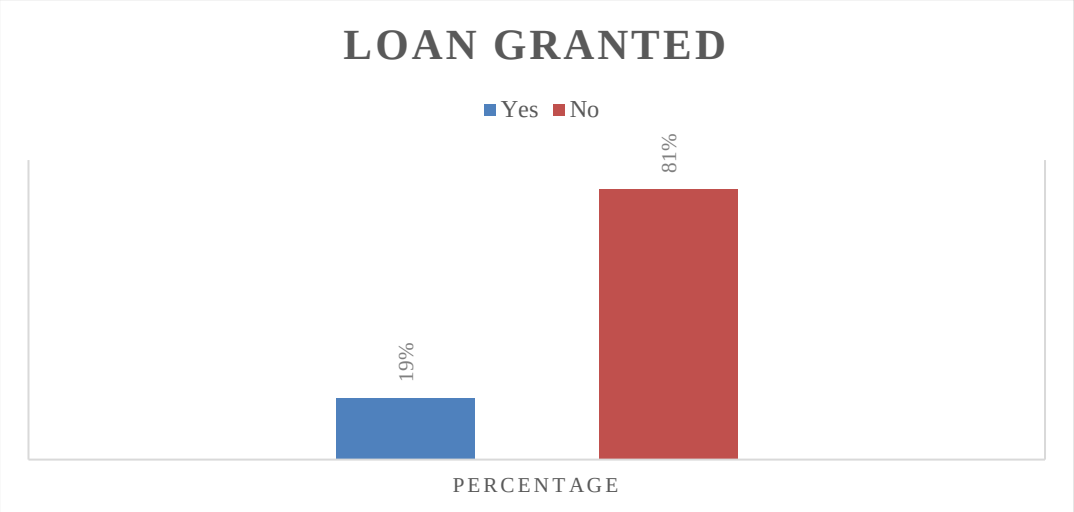
Source: Research Data (2023)

4.2.11 Loan Granted

Respondents were asked to indicate whether respondents had been granted loan after applying. 52% of the respondents indicated that respondents had been granted loan and the remaining 48 % of them indicated that respondents had not been granted. The

findings indicated that access to credit among SMEs in Juba City Council is significantly low. The findings are as shown in Figure 4.7.

Figure 4.7 Loan Granted



Source: Research Data (2023)

4.2.12 Frequency of Loan Approved

Respondents were also required to indicate the frequency of obtaining loans. 50% of them indicated that respondents had obtained loans once. This was followed by those who obtained the loans once and more than 4 times at 19%. Those who had obtained the loans thrice were represented by 11%. The findings therefore reveal that there is low up take of SMEs credit access as there was high percentage of respondents (50%) who have managed to get loan once. Findings are as shown in Table 4.7.

Table 4.7 Frequency of Loan Approved

How many loans application (s) were approved	Frequency	Percentage
1	89	50%
2	35	19%
3	20	11%
>4	35	19%
Total	179	100%

Source: Research Data (2023)

4.2.13 Value of Approved Loan

The study also sought to understand the categories of approved loans. 58% of the respondents indicated $500 or less value of approved loans. Followed by 25% of respondents indicated approved loan value between $500 - $1000. 11% indicated $1,000 - $2000 and only 6% indicating getting loan value of above $2,000. The finding reveals that with almost 50% of SMEs loans being approved as shown in table 4.13, the value of loans being approved is $500 or less. This is further an indication of low credit access among SMEs in Juba City Council The findings are as shown in Table 4.8.

Table 4.8 Value of Approved Loan

What is the value of your approved loan?	Frequency	Percentage
< $500	104	58%
$500 – 1000	44	25%
$1000 - $2000	20	11%
>$2000	10	6%
Total	178	100%

Source: Research Data (2023)

4.2.14 Reason for not Granted Loan

The study also was interested in the reasons for not granted loans by SMEs. 59% of the respondents indicated lack of collateral as the reason for not granted loan. High interest rates follow with 19% and inflation rate fluctuation being indicated by 11% of the respondents. Other reasons than what was given was indicated by another 19% of the respondents. The findings revealed lack of collateral as the major reason loan denial among SMEs in Juba City Council. The findings are as shown in Table 4.9.

Table 4.9 Reason for not Granted Loan

What was the reason for not granted loan?	Frequency	Percentage
Lack of collateral	89	50%
High interest rates	35	19%
Inflationary rate fluctuation	20	11%
Others	35	19%
Total	177	100%

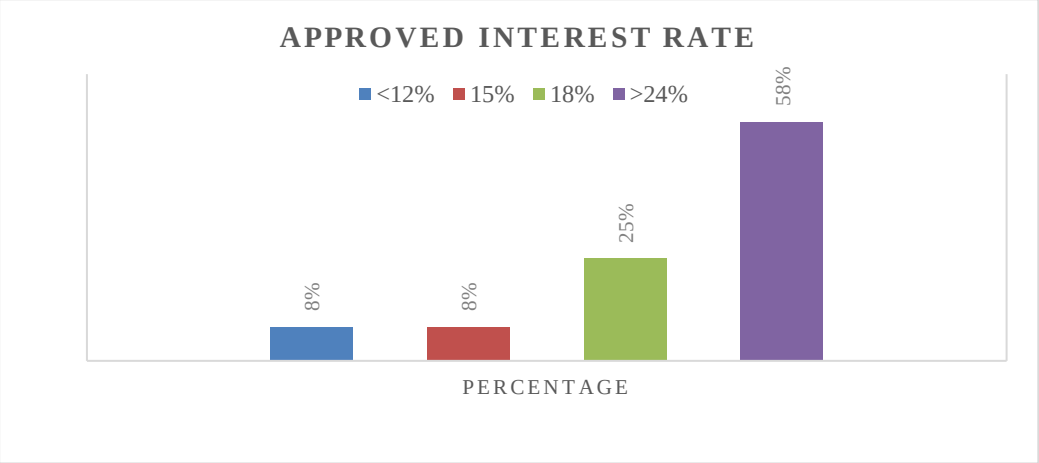
Source: Research Data (2023)

4.2.15 Approved Interest Rate

The study also sought to understand the rate at which the respondents received the loans. Majority of the respondents (58%) indicated that respondents received the loan at interest rate of 25% or above. 25% indicated 18% interest rate while 8% each indicated respondents got loans at 12% or less and 15% respectively. The finding

indicated that SMEs are getting loans at rather significantly high cost. The findings are as shown in Figure 4.8.

Figure 4.8 Approved Interest Rate



Source: Research Data (2023)

4.2.2 Descriptive Analysis

The section covers descriptive analysis of the factors that influence SMEs credit accessibility. Below tables showed percentages, means and standard deviations of the respondents' agreement to various statements and influence on SMEs credit access.

4.2.2.1 Descriptive Analysis for Determinants of SMEs Credit Access

The study objective was to establish factors that influence SMEs credit access in Juba City Council. Descriptive statistic was done to assess how high interest rate, lack of collateral and inflation rate fluctuation influence SMEs credit access.

Table 4.10 Summary Descriptive Statistic

Determinant of credit access	Mean	Standard Deviation
High interest rate	3.72	1.23
Lack of collateral	3.89	1.24
Inflation rate fluctuation hence less profit on loans	3.94	1.12

Source: Research Data (2023)

Respondents were asked to indicate extent to which the agree with various factors influencing SMEs credit access. A Likert using a scale of 1 - 5 points was considered where (1) strongly disagree, (2) Disagree, (3) Not Certain, (4) Agree, (5) Strong Agree. The study revealed means ranging from 3.72 to 3.94 and standard deviations between 1.23 to 1.12. The results in table 4.18 indicated that inflation rate fluctuation (3.94) was significant in determining SMEs credit accessibility. Lack of collateral follow with mean of (3.89) and followed thirdly by interest rate charged lenders (3.72).

4.2.2.2 Descriptive Analysis for Interest Rate

One of the study objectives was to determine the influence that interest rate has on the SMEs credit access. A case study of Juba City Council, South Sudan. Descriptive analysis was done to establish the effect of interest rate on SMEs credit accessibility. Table 4.11 showed the results of descriptive statistics for interest rate.

Table 4.11 Descriptive Analysis for Interest Rate

Statements	SD	D	N	A	SA	Mean	Std Dev.
Financial institutions do not consider my ability to meet the interest rate demanded	3%	3%	10%	34%	50%	4.275	0.926
Lenders lend on short term basis with high interest rate which making credit unattractive	26%	14%	10%	43%	7%	2.904	1.368
Financial institutions adopt a risk averse stance towards SMEs instead of focusing on income generating potential of business	14%	11%	4%	21%	49%	3.788	1.492
Failure to repay on time leads to the lenders confiscating business asset which then affect smooth operation of the business.	9%	13%	3%	30%	46%	3.907	1.333
Overall mean and standard deviation						**3.719**	**1.280**

Source: Research Data (2023)

As shown in table 4.11, regarding the first statement, “Financial institutions do not consider my ability to meet the interest rate demanded”, majority of the respondents (50%) strongly agreed with the statement, (34%) agreed, (10%) were neutral, (3%) disagreed while 6(3%) strongly disagreed with the statement. The statement had a mean score of 4.275 and a standard deviation of 0.926, which is higher than composite mean of 3.719 and a standard deviation of 1.280, implying the statement positively influence SMEs credit access in Juba City Council. Majority of the respondents (43%) agreed with the statement, “lenders lend on short term basis with high interest rate which making credit unattractive”, (26%) strongly disagreed, (14%) disagreed, (10%) were neutral while (7%) strongly agreed. The statement had a mean score of 2.904 and a standard deviation of 1.368, which is lower than composite mean of 3.719 and a

standard deviation of 1.280, implying statement negatively credit accessibility of SMEs in Juba City Council. On the risk averse, SMEs strongly agreed (49%) that financial institution focus on the risk averse stance rather than the income generating potential of SMEs with mean of 3.788 and standard deviation of 1.492. Also, majority (46%) that failure to repay on time leads to the lenders confiscating business asset which then affect smooth operation of the business with mean score of 3.907 and standard deviation of 1.333. Overall, the findings indicated that majority of the respondents agree to statements on interest rate with average mean of 3.719, approving that the statements influence SMEs credit accessing in Juba City Council. Standard deviation of 1.280 indicated low variability in respondent's approval of the statements.

4.2.2.3 Descriptive Analysis for Collateral Requirement

In Table 4.12, descriptive analysis was done to examine the impact of collateral requirement on SMEs access to credit. A case study of Juba City Council, South Sudan.

Table 4.12 Descriptive Analysis for Collateral Requirement

Statements	SD	D	N	A	SA	Mean	Std Dev.
Size of SME is determining factor in acquiring loan	9%	17%	6%	40%	29%	3.623	1.293
Financial institutions consider liquidity or cashflow of business as condition for loan	13%	4%	20%	27%	36%	3.687	1.336
Small collateral size limit on the size of loan	11%	7%	7%	36%	39%	3.829	1.319
There are a smaller number of lenders in the market that borrowers can turn to.	6%	11%	6%	30%	47%	4.012	1.227
Financial institutions make collateral security a basic lending condition	13%	6%	10%	24%	47%	3.870	1.393
Borrowers with collateral have much more chances to get loans from the bank.	7%	4%	1%	26%	61%	4.293	1.171
Borrowers with collateral receive loans with lower interest rates.	6%	10%	14%	26%	44%	3.922	1.228
Overall mean and standard deviation						**3.891**	**1.281**

Source: Research Data (2023)

The study indicated that the size of SME is determining factor in acquiring loan with (40%) of respondents agreeing to the statement and (29%) strongly agreeing and mean of 3.623 and standard deviation of 1.293. Financial institutions consider liquidity or cashflow of business as condition for loan had a mean of 3.687 and standard deviation of 1.319. Study revealed that small collateral size limit on the size of loan with mean score of 3.829 and standard deviation of 1.319. Study also indicated that (47%) strongly agreed to the statement that “There are a smaller number of lenders in the market that borrowers can turn to” with mean score of 4.012 and standard deviation of 1.227. Majority (47%) strongly agreed with mean of 3.870 and standard deviation of

1.393 those financial institutions make collateral security a basic lending condition. Study also shown that borrowers with collateral have much more chances to get loans from the bank. This is with mean of 4.293 and standard deviation of 1.171. Lastly respondents indicated with (44%) strongly agreeing and 26% agreeing that borrowers with collateral received loans with lower interest rate. The overall mean is 3.391 and standard deviation of 1.281. This finding implies that respondents to great extent agree to the statement on the collateral requirement influence on SMEs credit access.

4.2.2.4 Descriptive Analysis for Inflation Rate

In Table 4.13, descriptive statistic was done to determine the effects of inflation rate on SMEs access to credit. A case study of Juba City Council, South Sudan.

Table 4.13 Descriptive Analysis for Inflation Rate

Statements	SD	D	N	A	SA	Mean	Std Dev.
SMEs faced high transaction cost due to high-risk premiums charged by lenders because of inflations	3%	4%	11%	46%	36%	4.070	0.950
Lenders do not want long term maturity period of the loan	6%	10%	4%	31%	49%	4.064	1.206
Price stability is determining factor in getting loan	7%	4%	3%	31%	54%	4.209	1.165
A rise in Inflation rate affects the amount of loan apply for	13%	9%	21%	26%	31%	3.542	1.349
SMEs consider inflation rate in the amount of loan apply for	7%	6%	11%	49%	27%	3.823	1.113
Overall mean and standard deviation						**3.128**	**0.967**

Source: Research Data (2023)

From table 4.13, the study indicated that (36%) of respondents strongly agreeing to the statement that SMEs faced high transaction cost due to high-risk premiums with mean score of 4.070 and standard deviation of 0.950. Lenders do not want long term maturity period of the loan had mean of 4.064 and standard deviation of 1.206. The study further revealed that (49%) of the respondents strongly agreeing to the statement that price stability is determining factor in getting loan with mean score of 4.209 and standard deviation of 1.165. The study also indicated a rise in Inflation rate affect the amount of loan apply for with mean score of 3.542 and standard deviation of 1.349. SMEs consider inflation rate in the amount of loan apply for. This is with mean score of 3.823 and standard deviation of 1.113. The study indicated overall mean score of 3.128. This indicated that most of the respondents agreed to the statements influencing on the SMEs credit accessibility in Juba City Council.

4.3 Inferential Statistics Analysis and Findings

This section presents inferential statistics that were carried out on study variables. This includes correlation and regression analysis research findings.

4.3.1 Inferential Results for Interest Rate and SMEs Credit Access

4.3.1.1 Correlation Analysis Between Interest Rate and SMEs Credit Access

Correlation analysis was done to demonstrate the level of significance in the relationship between interest rate and SMEs credit access. The analysis was carried out to find association between two variables.

Table 4.14 Correlation Matrix Between Interest Rate and SMEs Credit Access

	Credit Access	Interest rate
Credit Access	1	
Interest rate	*0.936	1

*p < 0.05 **. Correlation is significant at the 0.01 level.

Source: Research Data (2023)

There is a strong correlation between interest rate and credit access (r=0.936). The association was found to be statistically significant at 5% level of significance (r=0.936), p< 0.05. These findings imply that change in interest rate influences SMEs credit accessibility in Juba City Council.

4.3.1.2 Regression Analysis for Interest Rate

Regression's analysis was carried out to determine interest rate influence on SMEs credit access in Juba City Council.

Table 4.15 Model Summary for Interest Rate and SMEs Credit Access

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.936
R Square	0.877
Adjusted R Square	0.876
Standard Error	0.433
Observations	345

Source: Research Data (2023)

The results showed that R2 = 0.877 which means that the changes in interest rate accounted for 87.7% variation in credit access. The remaining 12.3% was

accounted by other factors. From this finding, at 95% confidence level, the variables produce statistically significant values and can be inferred on to explain SMEs credit accessibility in Juba city council. The results for ANOVA are displayed below.

Table 4.16 ANOVA Results for Interest Rate and Credit Access

	Df	SS	MS	F	Significance F
Regression	1	458.2392	458.2392	2439.76	5.56
Residual	343	64.42276	0.187821		
Total	344	522.662			

Source: Research Data (2023)

The results in table 4.16 showed that the model was statistically significant in predicting the effect of interest rate on credit access at 5% level of significance, F (1,223) = 2439.76, P < 0.05. The regression was examined, and results displayed in the table below.

Table 4.17 Coefficients for Interest Rate

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1.505423508	0.108368	-13.8918	4.05E-35	-1.71857	-1.29227	-1.71857	-1.29227
Access to fin	1.20465672	0.024389	49.39392	5.5E-158	1.156686	1.252627	1.156686	1.252627

***Correlation is significant at the 0.05 level (2-tailed)

Source: Research Data (2023)

The results showed that a unit increase in interest rate led to decrease in SMEs credit access by 1.5054 units. This effect was statistically significant at 5%, t (344) = -13.8918 p < 0.05. Therefore, the hypothesis that there is no significant relationship

between interest rate and credit access was rejected. The findings were consistent with findings of Ashiqur *et al*., (2017) who stated that the interest rate is statistically significant at 10 per cent level for the SMEs and small businesses. This is also supported by Maalim and Gikandi (2016) who effects of interest rate on credit access of SMEs in Garissa County. The study findings agreed to the proposition that interest rate affect credit accessibility stating that interest rate is a major contributing factor of demand for credit from financial institutions.

4.3.2 Inferential Results for Collateral Requirement and SMEs Credit Access.

4.3.2.1 Correlation Analysis Between Collateral Requirement and SMEs Credit Access.

Correlation analysis was done to demonstrate the level of significance in the relationship between collateral requirement and SMEs credit access. The analysis was carried out to find association between two variables.

Table 4.18 Correlation Matrix Between Collateral Requirement and Credit Access

	Credit Access	Collateral Requirement
Credit Access	1	
Collateral Requirement	0.959	1

*p < 0.05

Source: Research Data (2023)

There is a strong correlation between collateral requirement and SMEs credit access (r=0.959). The association was found to be statistically significant at 5% level of significance (r=0.958), p< 0.05.

4.3.2.2 Regression Analysis for Collateral Requirement

Regression's analysis was carried out to determine collateral requirement influence on SMEs credit access in Juba City Council.

Table 4.19 Regression Analysis for Collateral Requirement

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.958659
R Square	0.919027
Adjusted R Square	0.918791
Standard Error	0.354143
Observations	345

Source: Research Data (2023)

The results showed that R2 = 0.919 which means that the changes in collateral requirement accounted for 91.9% variation in SMEs credit access. The remaining 8.1% was accounted by other factors. The results for ANOVA are displayed below.

Table 4.20 ANOVA Results for Collateral Requirement and Credit Access

	df	SS	MS	F	Significance F
Regression	1	488.2468	488.2468	3892.976	2.63
Residual	343	43.01815	0.125417		
Total	344	531.265			

Source: Research Data (2023)

The ANOVA results showed that the model was statistically significant in predicting the effect of collateral requirement on credit access at 5% level of significance, F (1,223) = 3892.976, P < 0.05.

Table 4.21 Regression Coefficients for Collateral Requirement

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-1.50491	0.088554	-16.9944	2.02E-47	-1.67909	-1.33074	-1.67909	-1.33074
Access to fin	1.243475	0.019929	62.39372	2.7E-189	1.204275	1.282674	1.204275	1.282674

***Correlation is significant at the 0.05 level (2-tailed)

Source: Research Data (2023)

The results of the study showed that a unit increase in collateral requirement would lead to decrease in SMEs credit access by 1.50491 units. This effect indicated that there was statistically a negative and significant relationship between collateral requirement and SMEs credit access at 5%, t (344) = -16.994 p < 0.05. Therefore, the hypothesis that there is no significant relationship between collateral requirement and credit access was rejected. The findings of this study concurred with Chowdhury and Alam (2017) assessment of collateral impacts on access to finance indicating the ability of the businesses to deliver on collateral for funding at 71% agreed while 6% strongly agreed. This implied that SMEs inability to produce collateral affect the firms' access to funding. Again, the finding is supported by Ashiqur *et al*., (2017) who researched on determinants of SME finance. According to Ashiqur *et al*., (2017) there is a considerable link in between collateral and credit access and that the findings are statistically significant across all firm sizes. Boushnak, *et al*., (2018) rather have

contradicting finding, stating that there is insignificant relation between collateral with credit decision for lending SMEs.

4.3.3 Inferential Results of Inflation Rate and SMEs Credit Access

4.3.3.1 Correlation Analysis Between Inflation Rate and SMEs Credit Access

Correlation analysis was done to demonstrate the level of significance in the relationship between inflation rate and SMEs credit access. The analysis was carried out to find association between two variables.

Table 4.22 Correlation Matrix Between Inflation Rate and Credit Access

	Credit Access	Inflation Rate
Credit Access	1	
Inflation Rate	0.966	1

*p < 0.05

Source: Research Data (2023)

There is a strong correlation between inflation rate and SMEs credit access (r=0.966). The association was found to be statistically significant at 5% level of significance (r=0.966), p< 0.05.

4.3.3.2 Regression Analysis for Inflation Rate

Regression analysis was carried out to determine inflation rate influence on SMEs credit access in Juba City Council.

Table 4.23 Model Summary for Inflation Rate and Credit Access

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.966
R Square	0.932
Adjusted R Square	0.932
Standard Error	0.290
Observations	345

Source: Research Data (2023)

The results showed that R2 = 0.932 which means that the changes in inflation rate accounted for 93.2% variation in credit access. The remaining 6.8% was accounted by other factors. The results for ANOVA are displayed below.

Table 4.24 ANOVA Results for Inflation Rate and SMEs Credit Access

	df	SS	MS	F	Significance F
Regression	1	398.9222	398.9222	4735.424	8.31
Residual	343	28.89505	0.084242		
Total	344	427.8173			

Source: Research Data (2023)

The ANOVA results showed that the model was statistically significant in predicting the effect of inflation rate on credit access at 5% level of significance, $F(1,223) = 4735.424$, $P < 0.05$. Next the regression coefficient associated with inflation rate was examined.

Table 4.25 Regression Coefficient for Inflation Rate

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	-0.935677145	0.072576	-12.8924	2.78E-31	-1.07843	-0.79293	-1.07843	-0.79293
Access to fin	1.123987051	0.016334	68.81442	8.3E-203	1.09186	1.156114	1.09186	1.156114

***Correlation is significant at the 0.05 level (2-tailed)

Source: Research Data (2023)

The results showed that a unit increase in inflation rate would lead to decrease in SMEs credit access by 0.9356 units. This effect was negative and statistically significant at 5%, t (344) = -12.8924, $p < 0.05$. Therefore, the hypothesis that there is no significant relationship between inflation rate and credit access was rejected. The findings differ with findings of Anis, Putra and Putri (2020) who carried out research on determinant of SMEs credit in Indonesia. Anis, Putra and Putri (2020) findings showed that inflation in the long term and short term has a positive but not significant relationship, indicating that rising inflation does not have a significant effect on total SMEs credit. Taner (2000) supported the findings argued on the effects of inflation uncertainty on credit markets that unpredictable inflation raises interest rates, decreases loan supply and affect loan demand based on your literature review.

CHAPTER FIVE: DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides detailed discussion of study findings, discussions, and conclusions. The study also presented based on the findings the recommendations, and areas of further research.

5.2 Summary of Main Findings

On the study objective of establishing the relationship between interest rate and SMEs access to credit, descriptive analysis indicated that majority of the respondents agreed to the statements on how interest rate influence SMEs access to credit with average mean of 3.719 and standard deviation of 1.280. Standard deviation of 1.280 indicated low variability in respondent's approval of the statements. Correlation analysis revealed that there is a strong correlation between interest rate and credit access ($r=0.936$). The association was found to be statistically significant at 5% level of significance ($r=0.936$), $p< 0.05$. Regression model results showed $R2 = 0.877$ which means that changes in interest rate accounted for 87.7% variation in SMEs credit access. Regression coefficient table showed that a unit increase in interest rate led to a decrease in SMEs credit access by 1.5054 units. The effect was statistically significant at 5%, $t (344) = -13.8918$ $p < 0.05$. From the findings, at 95% confidence level, the variable produces statistically significant value and can be inferred on to explain SMEs credit accessibility in Juba city council. Therefore, the null hypothesis that there is no significant relationship between interest rate and credit access was rejected.

On second objective, that is examining the impact of collateral requirement on SMEs access to credit with focus of Juba City Council, South Sudan. Descriptive analysis findings indicated that respondents to great extent agreed to the statements on the collateral requirement influence on SMEs credit access with an overall mean of 3.391, though with some variances in the agreement to the statements as indicated by the standard deviation (1.281). Correlation analysis shown that there is a strong correlation between collateral requirement and SMEs credit access (r=0.959). The association was found to be statistically significant at 5% level of significance (r=0.958), $p< 0.05$. Regression analysis in summary output showed $R2 = 0.919$ which means that changes in collateral requirement accounted for 91.9% variation in SMEs credit access. Regression model also indicated that a unit increase in collateral requirement led to a decrease in SMEs credit access by 1.50491 units. This effect indicated that there was statistically a negative and significant relationship between collateral requirement and SMEs credit access at 5%, $t (344) = -16.994$ $p < 0.05$. Therefore, the null hypothesis that there is no significant relationship between collateral requirement and SMEs credit access was rejected.

Lastly, on inflation rate variable, descriptive analysis indicated overall mean score of 3.128 and standard deviation of 0.0967. This indicated that most of the respondents agreed to the statements influence on the SMEs credit accessibility in Juba City Council. Correlation analysis on the hand indicated that there is a strong correlation between inflation rate and SMEs credit access (r=0.966). The association was found to be statistically significant at 5% level of significance (r=0.966), $p< 0.05$. While regression model indicated $R2 = 0.932$ which means that changes in inflation rate accounted for 93.2% variation in credit access. The ANOVA results showed that the model was statistically significant in predicting the effect of inflation rate on credit

access at 5% level of significance, F (1,223) = 4735.424, P < 0.05. Regression coefficient analysis showed that a unit increase in inflation rate led to a decrease in SMEs credit access by 0.9356 units. This effect was negative and statistically significant at 5%, t (344) = -12.8924, p < 0.05. Therefore, the null hypothesis that there is no significant relationship between inflation rate and credit access was rejected.

5.3 Discussions

The study variables were analysed, and findings represented in tables and graphs in chapter 4 above. Here the study findings and interpretations are subjected to discussion in reference to reviewed literature.

5.3.1 The Relationship Between Interest Rate and SMEs Access to Credit in Juba City Council

In this objective, the null hypothesis was that 'there is no significant relationship between interest rate and SMEs access to credit. A case study of Juba City Council'. In descriptive analysis for interest rate, the overall mean was 3.917. Implying that majority of respondents were agreeing to the statements. Standard deviation of 1.280 indicated low variability in respondent's approval of the statements. From analysis of variance, the results showed that a unit increase in interest rate led to decrease in SMEs access to credit. That mean that the model was statistically significance in predicting the effect of interest rate on credit access at 5% level of significance and therefore, the null hypothesis that there is no significant relationship between interest rate and SMEs access to credit was rejected. The relationship may be linked to the fact that financial institutions adopt a risk averse stance towards SMEs and not considering the ability of SMEs in meeting the interest rate demanded by the

lenders. The findings were consistent with findings of Bernard *et al*., (2014) who found that respondents were deterred by high interest rate charged on credit. Arguing that interest rate charged on credit by lenders are viewed by the respondent to be extremely high. Similar result was reached by Ashiqur *et al*., (2017) who stated that the interest rate is statistically significant at 10% level for the SMEs, indicating that the rate of interest increases with increase in the loan size. This is also supported by Maalim and Gikandi (2016) who carried out study on effects of interest rate on credit access of SMEs in Garissa County. The study findings agreed to the proposition that interest rate affect credit accessibility stating that interest rate is a major contributing factor of demand for credit from financial institutions.

5.3.2 The Relationship Between Collateral Requirement and SMEs Access to Credit in Juba City Council

In this objective, the study sought to test the null hypothesis that is no significance relationship between collateral requirement and SMEs access to credit in Juba City Council. In descriptive analysis for collateral requirement, the overall mean was 3.391 and standard deviation of 1.281. This finding implied that respondents to great extent agreed to the statements on the collateral requirement influence on SMEs credit access though with some variances in the agreement to statements as indicated by the standard deviation (1.281). Regression results of the study showed that a unit increase in collateral requirement led to a decrease in SMEs credit access by 1.50491 units. This effect indicated that there was a negative and statistically significant relationship between collateral requirement and SMEs credit access. The finding is supported by information asymmetry theory which asserted that the relationship between SMEs access and financial institutions is influenced by information asymmetry. This may be associated with the fact that most of SMEs are very small and

have inadequate capital that act as collateral. Also, financial institutions made collateral requirement a basic lending condition or offering at high cost, high interest rate, when there is less collateral material with SMEs. The argument is consistent to Huang *et al*., (2014) stated that there is high transaction cost associated with asymmetric information as banks and other lenders make effort in term of money and time to search on information to ensure safety of the loans and to prevent the borrower fraud. The findings of this study also concurred with Chowdhury and Alam (2017) who stated that SMEs inability to produce collateral affect the firms' access to funding. According to Ashiqur *et al*., (2017) there is a considerable link in between collateral and SMEs credit access and that the findings are statistically significant across all firm sizes. Boushnak, *et al*., (2018) rather have contradicting finding, stating that there is insignificant relation between collateral with credit decision for lending SMEs.

5.3.3 The Relationship Between Inflation Rate and SMEs Access to Credit Juba City Council

Lastly in this objective, the study aims at testing the null hypothesis, that is 'There is no significance relationship between inflation rate and SMEs access to credit in Juba City Council'. Descriptive analysis for inflation rate showed an overall mean score of 3.128 indicating that most of the respondents agreed to the statements influence on SMEs access to credit. Regression analysis results showed that a unit increase in inflation rate led to a decrease in SMEs access to credit by 1.5054 units. The effect had a negative and statistically significance relationship on SMEs access to credit. Null hypothesis was rejected. This finding is supported by Fisher's theory which asserted that inflation is a influential in interest rate charged on loan hence affecting SMEs credit access. Consistent with Nizaeva and Coskun (2019), inflation variables are negatively

correlated with domestic loan. This could be associated with the fact that SMEs had to bear with high-risk premium charged by lenders as result of inflation. This phenomenon can be explained further by the fact that lenders at the time of high inflation rate fluctuation do not want long term maturity period of loan as it affects capital that was loaned out. The findings were also consistent with Beck & Demirgüç-Kunt, (2006) who stated that SMEs faced high transaction cost due to high-risk premiums charged by lenders because of inflations. This is inline also with Nizaeva and Coskun (2019) who argued that SMEs working in better macroeconomic setting with low inflation report lower financing obstacles. Contrary Anis, Putra and Putri (2020) findings showed that there is a positive but not significant relationship, indicating that rising inflation does not have a significant effect on total SMEs credit. This is because due to increasing demand and desperate need for credit, SMEs even though inflation is high will continue to apply for loan.

5.4 Conclusions

The study aimed at understanding factors that influence SMEs access to credit. Some of the factors considered for research were interest rate, collateral requirement, and inflation rate changes. The study concluded that independent variables, that is interest rate, collateral requirement and inflation rate affect SMEs access to credit. The conclusion is supported by the study findings that there is a strong and a negative relationship (R = 0.936) between interest rate and SMEs access to credit. The study also revealed that changes in interest rate accounted for 87.7% variation in SMEs access to credit. From this finding, at 95% confidence level, the variables produce statistically significant values and can be inferred on to explain SMEs credit accessibility in Juba city council. The findings also indicated that there is a strong and positive correlation

(R=0.959) between collateral requirement and SMEs credit access. Collateral requirement account for 91.9% variation in SMEs access to credit. Study also revealed that there is strong and positive correlation between inflation rate and SMEs credit access (r=0.966). The study also finds that the changes in inflation rate accounted for 93.2% variation in SMEs access to credit. Majority of the respondents 80% indicated that initial start-up capital was 5000$ or less. The findings indicated that SMEs require more start-up capital. The main source of finance among SMEs was saving. Majority of the SMEs consider taking loan from banks. Access to credit among SMEs in Juba City Council is significantly low. Majority of SMEs managed to get loan once and 58% of the respondents indicated $500 or less value of approved loans, further supporting low up take or access to credit among SMEs. Lack of collateral is the major reason for loan denial among SMEs in Juba City Council. The findings indicated that SMEs (58%) are getting loans at rather significantly high cost.

5.5 Recommendations

SMEs accessibility to credit is one of the main factors in SMEs growth and increase in performance. To improve on SMEs access to credit, there is a need for development and or shift in credit policies and practices by stakeholders. Based on the study findings, it is prudent to consider appropriate strategies that will most likely improve on SME access to credit. The study therefore recommends that banks and other financial institutions to reconsider interest rate policies that would see cost of borrowing to come down. Reducing the interest rate on the SMEs lending would rather increase in the volume of loan value as it is evident in the study that the value of loan approved per each loan are less than 500$ and more than half of the loan not approved. The study found that high interest rate make credit unattractive. Banks and other financial

institutions should also consider change in policies regarding SMEs ability to repay loan and change in risk averse stance when it comes to SMEs borrowing. Instead, banks and financial institutions should carry out research on assessing SMEs abilities in repayment of loans. There is also a need for consumer education.

To improve on the SMEs access to credit, banks and financial institutions should also adopt credit policies changes on collateral requirement for granting loans. It is evident that majority of the respondents revealed that lack of collateral as the major reason for loan denial among SMEs in Juba City Council. Most of the SMEs had short length of service and inadequate start-up capital. This is an indication that majority of SMEs have less capital at disposal that act as collateral when seeking for loan. Banks and other financial institutions to be innovative in approaches in lending funds to SMEs and not just making collateral security a basic lending condition.

Government initiatives to control inflation by stabilizing prices, as well as lender regulations regarding loan maturity duration and risk premium levied by lenders, can all help increase access to credit for SMEs. By creating regulations that will safeguard both lenders and borrowers, the government should create an environment for lenders that is favourable for new entrants.

5.6 Areas of Further Research

The study suggested that similar research be conducted in various regions around the nation for the purpose of comparison in light of the study's delimitations in terms of location and characteristics under consideration. Variables that may affect SMEs' access to finance should also be the subject of further study. That would add to the body of knowledge regarding SMEs studies in the nation and advance understanding of the elements that affect SMEs' ability to acquire finance.

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APPENDICES

Appendix i - Questionnaires

Factors influencing leverage on credit accessibility of SMEs in Juba City Council.

I am Riiny Anthony Thiik, a graduate student at the Africa Nazarene University, Kenya. I am collecting data regarding factors influencing leverage on credit accessibility of SMEs in Juba City Council. I would much appreciate you taking the time to answer a few questions.
All information collected here will be kept confidential and only use for the research purpose.

Instructions: indicate with a tick [ ] or mark [ ] in the space(s) provided.

SECTION A: General Information

1. What is position held in the business?

Owner [ ] manager [ ] sale personnel [ ]

2. What is your age?

< 25 [ ] 25 – 29 [ ] 30 – 34 [ ] >35 [ ]

3. What is your gender?

Male [ ] Female [ ]

4. Education level: What is your highest level of education?

Primary [ ] Secondary [ ] College [ ] University [ ]

Company profiles of SMEs

5. Length of services. How many years has your business been in operation?

1 -5 years [ ] 6 – 10 [ ] 11 – 15 [ ] 16 and Above [ ]

6. How many employees are employed by the business?

1 -5 [ ] 5 – 10 [ ] 10 and above [ ]

SECTION B: Credit Accessibility

7. What was your start-up capital?

< $ 5,000 [ ] $ 5,000 - $ 10,000 [ ] $ 10,000 - $ 20,000 [ ] >$20,000 [ ]

8. Was your start-up capital adequate?

Yes [ ] No [ ]

9. What is/was your major source of financing?

Saving [ ] Bank loan [ ] Friend/Relative [ ] Other Sources [ ]

10. Have you applied for credit or loan in the past from any of financial institution?

Bank [ ] Micro credit institution [ ] Informal lenders [ ]

11. Were you granted a loan?

Yes [ ] No [ ]

12. What was the reason for not granted loan?

Lack of collateral [ ] High interest rates [ ] Inflationary rate fluctuation [ ] Others [ ]

13. How many loans application (s) were approved if you have been granted loan?

1 [ ] 2 [ ] 3 [ ] 4 [ ] >5 [ ]

14. What is the value of your approved loan?

< $500 [ ] $500 – 1000 [ ] $1000 - $2000[ ] >$2000 [ ]

15. What interest rate charge during taking loan.

12% [ ] 15% [ ] 18% [ ] 21 % [ ] 24% [ ]

16. Indicate your level of agreement with the following aspects as challenges SMEs had towards credit accessibility or loans from financial institutions by using a scale of 1-5, where (1) strongly disagree, (2) Disagree, (3) Not Certain, (4) Agree, (5) Strong Agree.

		1	2	3	4	5
a	High interest rate					

b	Lack of collateral					
c	Inflation rate fluctuation hence less profit on loans					
d	Others					

17. To what extent do you agree or disagree with the following statements relating to **interest rate** charged and **interest rate** influence on credit accessibility of SMEs by using a scale of 1-5, where (1) strongly disagree, (2) Disagree, (3) Not Certain, (4) Agree, (5) Strong Agree.

	Rankings	**1**	**2**	**3**	**4**	**5**
a	Financial institutions do not consider my ability to meet the interest rate demanded					
b	Lenders lend on short term basis with high interest rate which making credit unattractive					
c	Financial institutions adopt a risk averse stance towards SMEs instead of focusing on income generating potential of business					
d	Failure to repay on time leads to the lenders confiscating business asset which then affect smooth operation of the business.					

18. To what extent do you agree or disagree with the following statements relating to **collateral requirement** and influence on credit accessibility of SMEs by using a scale of 1-5, where (1) strongly disagree, (2) Disagree, (3) Not Certain, (4) Agree, (5) Strong Agree.

	Rankings	**1**	**2**	**3**	**4**	**5**
a	Size of SME is determining factor in acquiring loan					
b	Financial institutions consider liquidity or cashflow of business as condition for loan					
c	Small collateral size limit on the size of loan					
d	There are a smaller number of lenders in the market that borrowers can turn to.					

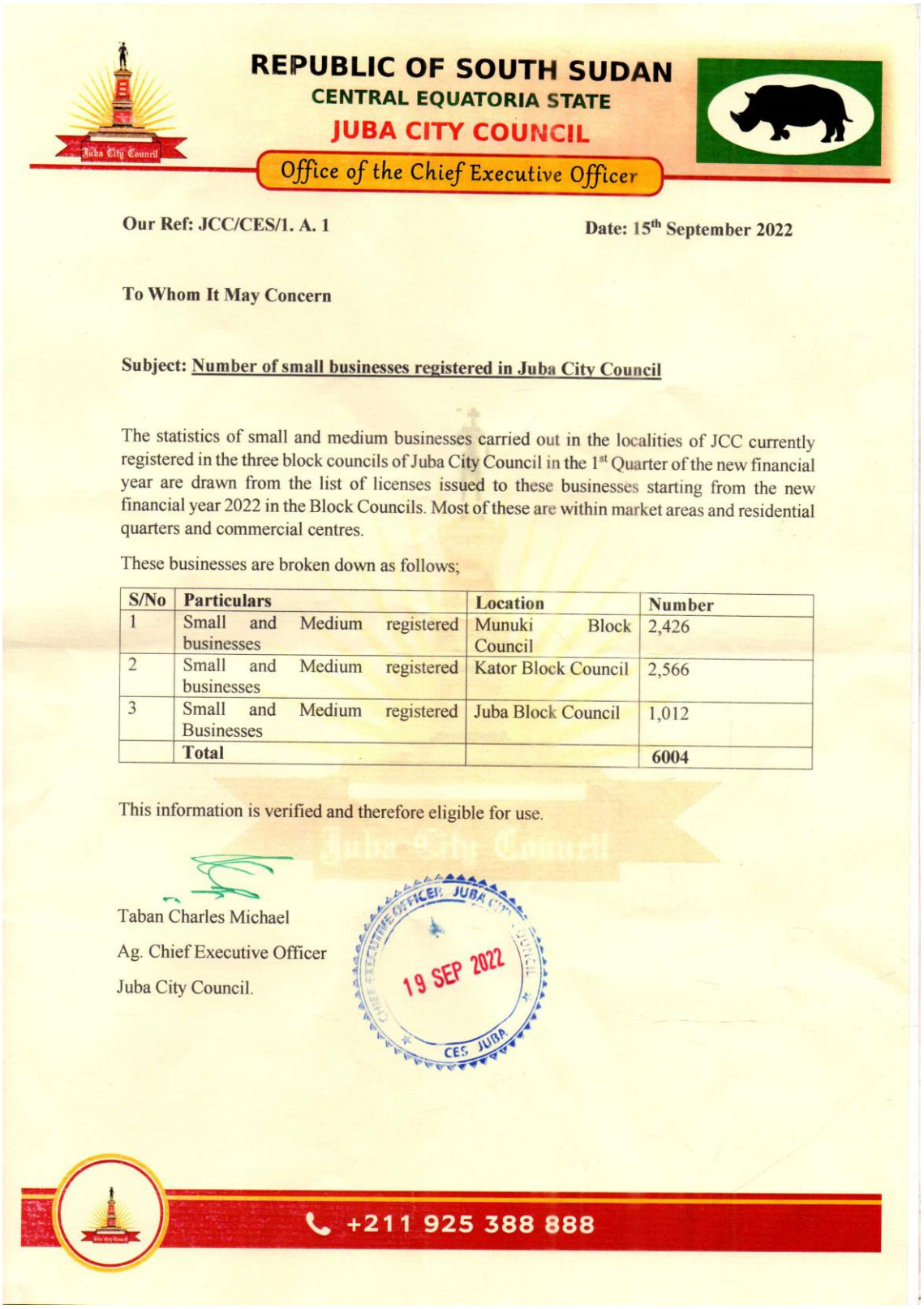
e	Financial institutions make collateral security a basic lending condition					
f	Borrowers with collateral have much more chances to get loans from the bank.					
g	Borrowers with collateral receive loans with lower interest rates.					

19. To what extent do you agree or disagree with the following statements relating to **inflation rate** and influence on credit accessibility of SMEs by using a scale of 1-5, where (1) strongly disagree, (2) Disagree, (3) Not Certain, (4) Agree, (5) Strong Agree.

	Rankings	**1**	**2**	**3**	**4**	**5**
a	SMEs faced high loan cost due to high-risk premiums charged by lenders because of inflations					
b	Lenders do not want long term maturity period of the loan					
c	Price stability is determining factor in getting loan					
d	A rise in Inflation rate affects the amount of loan apply for					
e	SMEs consider inflation rate in the amount of loan apply for					

The survey is now complete. I hope you found this experience pleasurable. Thank you for sharing your opinions.

Appendix ii - Letter from JCC confirming number of registered SMEs



REPUBLIC OF SOUTH SUDAN
CENTRAL EQUATORIA STATE
JUBA CITY COUNCIL
Office of the Chief Executive Officer

Our Ref: JCC/CES/1. A. 1 **Date: 15th September 2022**

To Whom It May Concern

Subject: Number of small businesses registered in Juba City Council

The statistics of small and medium businesses carried out in the localities of JCC currently registered in the three block councils of Juba City Council in the 1st Quarter of the new financial year are drawn from the list of licenses issued to these businesses starting from the new financial year 2022 in the Block Councils. Most of these are within market areas and residential quarters and commercial centres.

These businesses are broken down as follows;

S/No	Particulars	Location	Number
1	Small and Medium registered businesses	Munuki Block Council	2,426
2	Small and Medium registered businesses	Kator Block Council	2,566
3	Small and Medium registered Businesses	Juba Block Council	1,012
	Total		**6004**

This information is verified and therefore eligible for use.

Taban Charles Michael
Ag. Chief Executive Officer
Juba City Council.

CHIEF EXECUTIVE OFFICER JUBA CITY COUNCIL
19 SEP 2022
CES JUBA

+211 925 388 888

Appendix iii - Map of Study Area

