DETERMINANTS OF ACCESS TO INFORMAL CREDIT AMONG HOUSEHOLDS IN UGANDA

BY

KYOMBO MOSES
20/U/GAEE/13401/PE

A DISSERTATION SUBMITTED TO THE DIRECTORATE OF RESEARCH AND GRADUATE TRAINING IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF DEGREE OF MASTER OF ARTS IN ECONOMICS OF KYAMBOGO UNIVERSITY

JULY, 2024

DECLARATION

I, **KYOMBO MOSES** hereby declare that this dissertation report titled ***"DETERMINANTS OF ACCESS TO INFORMAL CREDIT AMONG HOUSEHOLDS IN UGANDA"*** is my original work and has never been presented for a degree in any other university.

SIGNATURE_____DATE_____

KYOMBO MOSES

REG NO: 20/U/GAEE/13401/PE

APPROVAL

We as University supervisors confirm that the dissertation titled ***"DETERMINANTS OF ACCESS TO INFORMAL CREDIT AMONG HOUSEHOLDS IN UGANDA"*** has been done by the candidate under our supervision.

SIGNATURE_____DATE_____

DR. OMEKE MICHAEL (PhD),

Department of Economics, Faculty of Social Sciences Kyambogo University

SIGNATURE_____DATE_____

DR. WILFRED NAHAMYA (PhD),

Department of Economics, Faculty of Social Sciences Kyambogo University

DEDICATION

I dedicate this work to my late grandmother Peruth Matama who played a big role during my childhood education, my mother Robinah Muwuta, my lecturers, Cohort II M.A. Economics Kyambogo University and friends for their support, advice and encouragement that you gave me during this research journey.

ACKNOWLEDGEMENT

First and for most, I thank God the Almighty for providing me with the necessary guidance, healthy and financial needs that has enabled me to complete this program.

I also extend my special gratitude to my supervisors; Dr. Omeke Michael and Dr. Wilfred Nahamya for the technical guidance, constructive ideas, comments and advice that enabled me to write this document. In the same way I appreciate all my lecturers, especially Professor Nathan Okurut for his endless and continuous guidance throughout this course and the head of department Dr. Tindimwebwa Kenneth.

I am also grateful to my family members (Robinah Muwuta, Namulinda Peruth Lisa, Teopista Grace Mwebaza, Mwesigwa Robinah Namusobya, Joanita Faith Mirembe and Kange Mildred Abija) for the patience given to me during the study. My friends of Cohort II thanks for the good work you shared with me during discussions.

TABLE OF CONTENTS

DECLARATION ..... **i**

APPROVAL ..... **ii**

DEDICATION ..... **iii**

ACKNOWLEDGEMENT ..... **iv**

LIST OF TABLES ..... **viii**

LIST OF FIGURES ..... **ix**

ABBREVIATIONS ..... **x**

ABSTRACT ..... **xi**

CHAPTER ONE **1**

INTRODUCTION **1**

1.0 Introduction 1

1.1 Background to the Study 1

1.2 Statement of the Problem 4

1.2 Purpose of the Study 5

1.3 Specific Objectives 5

1.4 Research Hypotheses 5

1.5 Scope of the Study 6

1.6 Significance of the Study 6

1.7 Conceptual Framework 7

CHAPTER TWO **8**

LITERATURE REVIEW **8**

2.0 Introduction 8

2.1 Theoretical Literature Review 8

2.2 Empirical literature Review 9

2.2.1 Spatial Characteristics Determining Access to Informal Credit 9
2.3 Individual Factors Determining Access to Informal Credit 12
2.3.1 Age and Access to Informal Credit 12
2.3.2 Gender and Access to Informal Credit 13
2.3.3 Education and Access to Informal Credit 14
2.3.4 Income and Access to Informal Credit 15
2.4. Community Determinants of Access to Informal Credit 16
2.4.1 Household Size and Access to Informal Credit 16
2.4.2 Marital Status and Access to Informal Credit 17
2.4.3 Sector of Employment and Access to Informal Credit 18
CHAPTER THREE 20
METHODOLOGY 20
3.0 Introduction 20
3.1 Research Design 20
3.2 Data Sources and Analysis 20
3.3 Model Estimation 20
3.4 Variable Definitions 23
3.5 Post Estimation Tests 23
CHAPTER FOUR 24
EMPIRICAL DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION 24
4.0 Introduction 24
4.1 Bivariate Analysis 24
4.2 Regression Results 36
4.2.1 Spatial Characteristics 36

4.2.2 Individual Characteristics 39
4.2.3 Community Characteristics 44
CHAPTER FIVE 48
SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS 48
5.0 Introduction 48
5.1 Summary of the Findings 48
5.1.1 Spatial Characteristics 48
5.1.2 Individual Characteristics 49
5.1.3 Community Characteristics 49
5.2 Conclusions 50
5.2.1 Spatial Characteristics 50
5.2.2 Individual Characteristics 51
5.2.3 Community Characteristics 51
5.3 Policy Recommendations 52
5.4 Limitations of the Study 53
5.5 Areas for Further Research 53
REFERENCES 54
APPENDICES 63
Appendix I: Test for normality of the residuals 63

LIST OF TABLES

Table 3. 1: Variables Definitions of the Model and their Priori Expected Signs 23

Table 4. 1: The Results for Cross Tabulation of Residence and Access to Informal Credit 25

Table 4. 2: The Results for Cross Tabulation of Region and Access to Informal Credit 26

Table 4. 3: The Results for Cross Tabulation Age of Household head and Access to Informal Credit.....27

Table 4. 4: The Results for Cross Tabulation of Gender of Household head and Access to Informal Credit.....28

Table 4. 5: The Results for Cross Tabulation of Education Level of Household Head and Access to Informal Credit. 29

Table 4. 6: The Results for House hold Income and Access to Informal Credit 30

Table 4. 7: Results for Cross Tabulation of Household Size and Access to Informal Credit..31

Table 4. 8: The Results for Cross Tabulation of Marital Status of Household Head and Access to Informal Credit. 32

Table 4. 9: The Results for Cross Tabulation of Sector of Employment and Access to Informal Credit.....33

Table 4. 10: Marginal Effects after Regression 34

Table 4. 11: Variable Definitions.....35

LIST OF FIGURES

Figure 1. 1: Conceptual framework for determinants of access to informal credit among households in Uganda. 7

ABBREVIATIONS

ASCA : Accumulating Savings and Credit Associations

IMF : International Monetary Fund

LRA : Lord's Resistance Army

MFIs : Micro Finance Institutions

ROSCA: Rotating Savings and Credit Associations

SACCOs: Savings and Credit Cooperative Organizations

SCA : Savings and Credit Associations

SCC : Saving and Credit Cooperatives

SME : Small and Medium Enterprises

UBOS : Uganda Bureau of Statistics

UNHS : Uganda National Household Survey

VSLA : Village Saving and Loan Associations

YiA : Youth in Action.

ABSTRACT

Uganda's credit system is divided into two that is; informal credit and formal credit. Informal credit system happens to be the dominant one. Informal credit involves loans provided by informal financial institutions not under the control of government or bank of Uganda. This dissertation examines the determinants of access to informal credit among households in Uganda. A logit model was used to establish the extent to which independent variables could explain access to informal credit among households in Uganda. Uganda National House hold survey (UNHS) data (2019/2020) was used. The results revealed that informal credit was positively and significantly influenced by; region, education, income, sector of employment and marital status. However, access to informal credit in Uganda was negatively and significantly influenced by residence as well as gender of the household head. The key policy recommendations; evidence showed that education had a positive association with access to informal credit therefore, for better access and utilization of informal credit, government should widen and strengthen its financial literacy programs and preferably translate financial literacy materials to the local languages for better understanding. Government can as well use community based and multimedia platforms like radios, newspapers as well as televisions for promoting financial literacy. On the sector of employment, evidence indicated that informal credit was accessed mostly by people employed in the production sector. In Uganda the production sector is composed of mainly small and medium enterprises (SMEs) Given that SMEs play an important role in production and generation of employment, government should provide tailor made credit specifically for SMEs to boost production. Government can also promote value addition in the small and medium enterprises so that they can generate more income to pay back the credit. Additionally, evidence from the results also revealed that informal credit was accessed more by women. The policy recommendation is that government should widen and strengthen gender friendly policies and programs in support of informal financial sector directed to women financial needs in the economy. Concerning variable income, findings indicated that income had a positive association with access to informal credit. The policy recommendation therefore is that government should strengthen its socio-economic empowerment and livelihood programs to enhance household incomes so that households are able to invest and pay back the loans.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

According to UNHS (2019/2020), informal financial services are those offered by groups of people to save money on behalf of the group and extend loans to group members with interest. The central bank does not have any authority over them hence savings, credit, and money that have been deposited are not protected.

Informal credit is one that is not monitored, as reported by (Flaminiano & Flancisco, 2021; Mustafa et al., 2021; Nguyen & Canh, 2021; Sile & Bett, 2015). The work of Aliba (2015), highlighted informal credit as financial transactions that take place outside the operational purview of the central bank and monetary regulatory mechanisms. While Italian researchers Hanedar et al. (2014) described it as financial operations that take place in unofficial settings.

Researchers discovered that informal credit could be obtained from a variety of sources including friends and relatives, moneylenders, VSLA, ROSCAS, SCA, and SCC. Two more sources were grain millers and employers. Informal credit benefited people who were not served by commercial banks, including rural dwellers, businesses in the informal sector, the impoverished who had no collateral to provide to banks for official loans, and others. Small manufacturing businesses also utilised informal loans because they were concerned about the bureaucratic structure of commercial banks.

1.1 Background to the Study

Informal loans have a critical role in stimulating global production, generating employment, and controlling consumption. Informal financing has been identified by Wellalage and

Fernandez (2019) as a critical component in the expansion of small and medium-sized enterprises (SMEs). There is a strong association between the growth and performance of firms in several emerging economies, including China, India, Nepal, Thailand, Madagascar, Vietnam and informal financing claims (Nguyen & Canh., 2020). Su and Sun's (2011) research indicate that informal loans contributed to the growth of China's industrial sector. 60% of Pakistan's rural population used informal loans for farm production activities, according to research by Saqib et al. (2017).

Findings from a study conducted by Mago and Madiba (2022), concluded that informal credit has helped Indian entrepreneurs and their communities by fostering the growth of new businesses and improving the standard of living for established ones. Furthermore, research by Hacini et al. (2022); Benedict et al. (2021); and Mutsonziwa & Fanta (2021) revealed that informal credit improved livelihoods, generated jobs, encouraged growth, and decreased poverty. According to research by Ruddle (2011), it helped Vietnamese fishing families purchase boats and take part in other activities.

The study by Nguyet (2014), revealed that enterprises and manufacturing facilities in rural Vietnam utilized informal financing. In Vietnam, informal lenders such as family members continued to advance loans to low-income workers and farmers. In accord with Linh et al (2020) findings, informal credit was also employed to meet expenses on medical management.

The two most common informal loan channels for farmers in other parts of Nigeria, according to a study by Falola et al. (2022), were cooperative associations and ROSCAs. Fishing in the Lagos hamlet was made feasible by unofficial credit. According to Ayodele et al.'s research from (2022) carried out in Nigeria, women were greatly assisted by informal institutions in obtaining funding to enable them to sustain and expand their businesses. In addition, the Tontines engaged in informal credit in Senegal, while the Susu or Esusu collectors' mobile

bankers in West African countries such as Ghana, Ivory Coast, and Togo shared traits with ROSCAs and ASCAs. In Ethiopia, the Iddir and Iqqub served the same function as informal credit groups, just as the Uchaama did in Tanzania. People in Tanzania launched new businesses using unsecured funding, according to (Anderson,2017) research. Rendering to Mabwe and Dundu (2018), the Mukando in Zimbabwe and the Hehui in China both served as (ROSCA). According to Schindler (2010) research, women in Ghana expanded their businesses through the use of informal loans. While the Action Against Hunger (2023) report claimed that informal credit was used in Uganda to raise people's standards of living, purchase land, and launch businesses for farmers, furthermore, the Guma (2015) study showed that people in Uganda used it to start businesses.

The survey by UNHS (2019/2020) stated that informal credit was made up of money lenders, Village Saving and Loan Associations (VSLA), Accumulating Savings and Credit Associations (ASCA), Rotating Savings and Credit Associations (ROSCA), and Merry-go-rounds. In Uganda, just like in any other LDC in Africa, other sources of informal credit include friends, family, coworkers, local businessmen, burial societies, produce purchasers, and microfinance institutions (MFIs). They all work to mobilize credit for consumption and investment reasons, making credit easier to get.

The Ugandan government attempted to implement measures to make it possible for people to access credit to start small businesses in an effort to address the unemployment issue, boost production as well as consumption, but majority of the people were unable to access such credit. Such initiatives included "Entandikwa," start-up capital (1995); figures from the ministry of finance and economic planning revealed that only 36% of the population profited from it, and these were elites who left out the poor (Faisal et al., 2018). Other projects included "Emyooga" (October 2020); which was managed improperly. People mistakenly believed it

was a gift for voting because it was granted during election season and could not be repaid, and Covid-19 also intervened where individuals utilized it for survival. Given, such background, the study investigated the factors leading to access of informal credit among households in Uganda.

1.2 Statement of the Problem

Globally informal credit has played a key role in the socio-economic transformation of low developed countries by boosting production, reducing poverty, employment creation and provision of capital to small and medium enterprises (SMEs) as well as regulating consumption. The report by IMF (2022) indicated that, 60% of the people in the world are involved and engaged in informal sector credit business while Wellalage and Fernandez (2019) recognized informal credit as a key factor in the growth of SMEs in Eastern Europe and central Asian countries. According to Mutsonziwa and Fanta (2021), informal credit promoted the growth of small and medium-sized enterprises, reduced poverty, improved livelihoods, and created jobs in South Africa. In Pakistan, Saqib et al. (2017) alleged that 60% of the total population in rural areas used informal credit for farm production activities. The FINSCOPE report (2018) in Uganda disclosed that 49% of mature people used informal commercial activities as the FINDEX report (2021) revealed that 48% borrowed informally. Additionally, the UNHS 2019/2020 survey report highlighted that 52% of Ugandan adults used informal credit. The research by Munyambonera et al. (2012) has it that 61% Ugandan adults used informal credit for agricultural purposes. Sebaggala et al. (2019) argued that 90% of the farmers live in villages and used informal credit for agricultural practices. Many studies have been undertaken to investigate the determinants of informal credit use and their results show that; distance to the bank, marital status, income, location as some of the factors determining use of informal credit. Most of the studies relating to access to informal credit were done outside

Uganda while other studies that were done in Uganda relating to access to informal credit were based on UNHS 2009/2010 data hence this study specifically sought to address the determinants of access to informal credit among households in Uganda using spatial, individual and community dimensions based on UNHS 2019/2020 data.

1.2 Purpose of the Study

The main purpose of the study was to establish the determinants of access to informal credit among households in Uganda.

1.3 Specific Objectives

The research was guided by the following specific objectives:

i. To establish the effect of spatial characteristics on access to informal credit among households in Uganda.

ii. To evaluate the effect of individual characteristics on access to informal credit among households in Uganda.

iii. To examine the role played by social economic characteristics in access to informal credit among households in Uganda.

1.4 Research Hypotheses

The study was conducted to address the following research hypotheses:

i. Spatial characteristics don't significantly determine people's access to informal credit among households in Uganda.

ii. Individual characteristics don't significantly determine people's access to informal credit among households in Uganda.
iii. Community characteristics don't play a significant role in determining people's access to informal credit among households in Uganda.

1.5 Scope of the Study

The research used information from 2019/2020 Uganda National Household Survey (UNHS) that was conducted by Uganda Bureau of Statistics (UBOS). The survey was based on household population. It therefore provided representative estimates for the whole country, rural and urban areas and all the 15 sub-regions. A total of 1,651 enumeration areas (EAs) were covered with a sum of 16,510 households expected to be covered. Of which 13,732 households were interviewed giving a national response rate of 83%.

1.6 Significance of the Study

The data that was captured in this study was aimed at promoting proper use of credit obtained from informal sources by the community especially in the rural areas.
Additionally, the study also sought to investigate the key determinants of access to informal credit and bring into focus the necessity for bank of Uganda and government to set up competent administrative structures, policies and reforms that could guide the informal credit providers.

The study findings would also help to know why individuals in the community opt for informal credit and leave formal credit yet the informal credit providers charge high interest rates.

1.7 Conceptual Framework

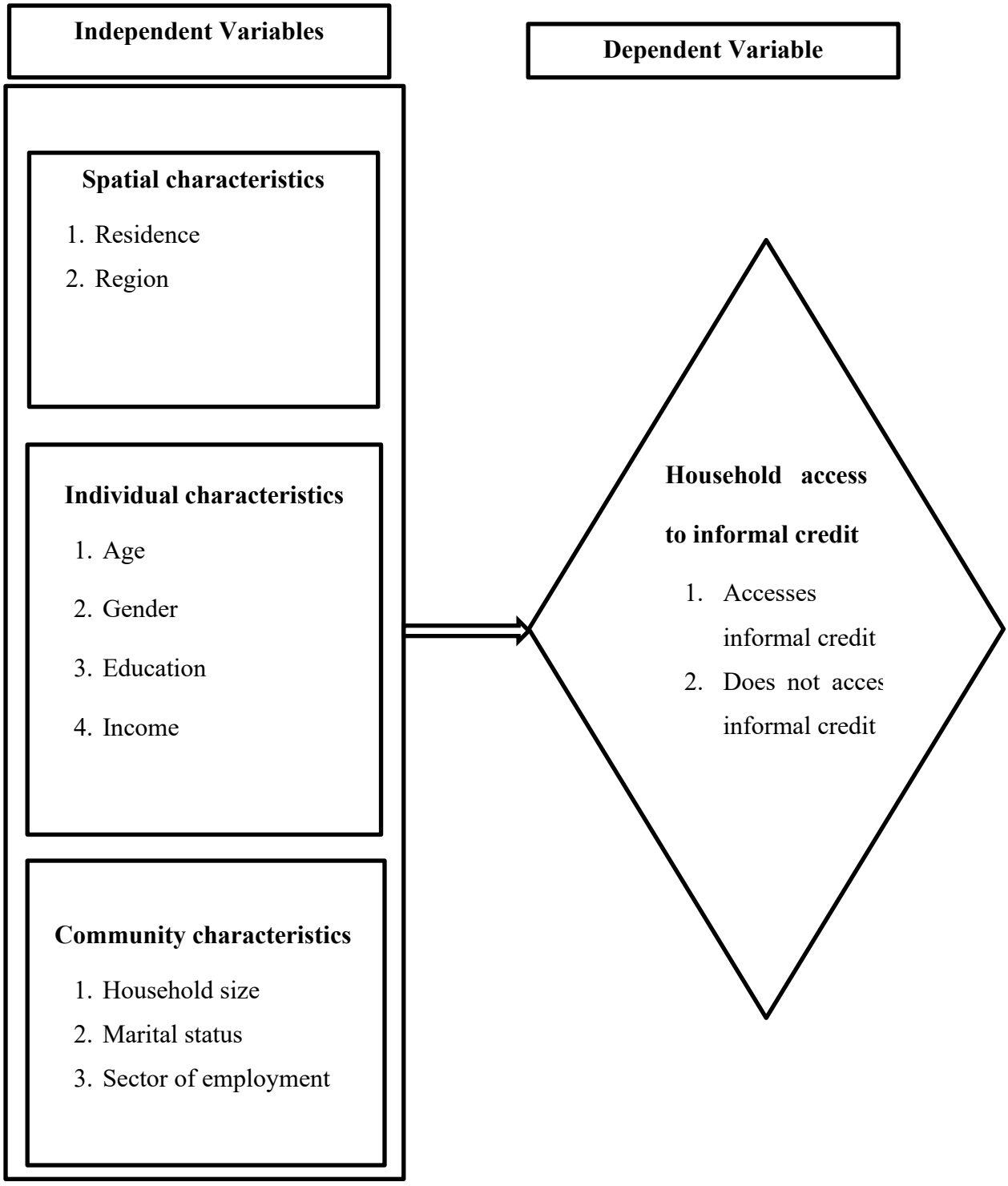

Figure 1. 1: Conceptual framework for determinants of access to informal credit among households in Uganda.

Source; *modified from Fikadu Goshu Fufa (2016)*

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The related literature on informal credit is reviewed in this chapter. It starts with the theoretical framework of the research. The chapter goes on to review the empirical studies on factors that affect informal credit and finally presents the conclusions of the examined studies and the knowledge gap. The factors determining access to informal credit among households in Uganda are divided into spatial, individual and community characteristics.

2.1 Theoretical Literature Review

The study's driving theories were the loanable funds hypothesis as advanced by Robertson and Ohlinin (1930) and the information asymmetry theory as put out by Scholtens and Wensveen (2003). Conferring to the information asymmetry theory, there is lack of knowledge about borrowers, which causes an issue with information. Lending institutions require information about the borrowers in order to assess the risk of default, the cost of making sure the indenture is upheld, and the difficulty of enforcing the arrangement. Formal businesses only provide credit to clients who are able to provide accurate personal information. Informal lenders are used by those who are unable to provide information. Since informal financing is based on friendship and character, information asymmetry between lenders and borrowers is irrelevant.

The loanable funds theory explicates how supply and demand for money affect interest rates and allocation of credit in an economy. The supply of loans by informal lenders is always at a short notice and demand is always quick as it is used mostly for traumas like purchasing food medication, school levies, interest charged is always high and this applies to all people who

borrow from the informal sources. Therefore, practically the demand for informal credit and its supply determines the interest rate charged by the informal credit providers.

2.2 Empirical literature Review

2.2.1 Spatial Characteristics Determining Access to Informal Credit

2.2.1.1 Residence and Access to Informal Credit

Access to informal credit was anticipated to be significantly influenced by the head of the household's place of residence. It was assumed that people who live in rural areas would commonly utilize informal finance since it examined how a person's living situation affected their capacity to acquire informal funding. According to Sonko's (2015) research in Uganda, the bulk of the nation's commercial sector was made up of formal financial institutions, such as commercial banks, most of which were located in cities. He disclosed that local families in rural areas receive credit through unofficial loan exchange systems. Rendering to research done in Afghanistan by Masaood and Moahid (2020), banks were concentrated in urban regions, which made it difficult for farmers in rural areas to get bank credit. As a result, the farmers in rural areas found it difficult to obtain credit from banks, leading to the use of alternative financing.

In accordance with Hanedar et al. (2014), informal credit systems abetted people who had been turned away by commercial banks or who had been denied loans from banks, principally small and medium-sized businesses, low-income families, informal exchange systems, and borrowers from villages that were located far from commercial banks. Akpandjah (2014) discovered that while commercial organizations in Ghana created new branches in the urban areas, they shuttered older ones in the rural areas. As a result, the rural population bowed to informal finance since they couldn't get bank loans. Research by Saqib et al. (2017) indicated

that informal credit was widespread in Pakistani rural areas especially among the farmers. In the same way findings by Moahid and Maharjan (2020) in Afghanistan revealed that while providing loans, commercial banks excluded families in rural areas hence rural dwellers had to make use of informal credit. In addition, Mwangi and Kimani (2015) research in Kenya disclosed that residents of slum regions were often poor and socially relegated and as a result, they relied on unofficial financial organizations to obtain credit and maintain their businesses. Mpofu and Sibindi (2022), Nguyen Canh's (2020) studies respectively found that firms sited in rural areas were expected to utilize informal credit for their agricultural production activities.

2.2.1.2 Region and Access to Informal Credit

The region were the household head stayed was another stimulating critical factor that determined whether the household accesses to informal credit or not. The four regions of Uganda are the central, the eastern, the northern, and the western regions. The aforementioned locations have varying degrees of development. The history of the various areas also varied, and this either directly or indirectly influenced the kind of credit that was used. Therefore, the type of loan to be used was decided by the various economic and security degrees of development of an area. It was predicted that residents of less developed regions would use informal credit more frequently than residents of more developed regions, such as the central region of Uganda.

Conferring to Nguyen and Canh (2021), one of the factors affecting the demand for informal lending is geographic location where individuals located in rural areas utilized informal credit. According to Nguyet's (2014) research, small and medium enterprises are more likely to use informal loans for raising capital. In addition, according to the work of Dadson and Abankwah (2012), regional geography significantly influenced the demand for unofficial financing. Rendering to Kara et al. (2021), inhabitants of China's poorest districts regularly took informal

loans because there were no commercial banks in such places. The northern area in Uganda had the highest percentage of persons who accessed informal credit, basing on data by UNHS 2019/2020. Due to its political unrest, the area could not draw investment for commercial banks. As a result, it was seen that less developed regions, like northern Uganda, tended to access informal credit while the more developed regions like the central, tended to access formal credit.

Ainembabazi (2022) argued that 77% of the households in western Uganda were found in villages hence used informal credit while the report by Action against Hunger (2023) asserted that it was hard for people to obtain loans from banks in western Uganda because most of the households were based in villages and hard to reach areas hence, they borrowed informally. The report by Green Supply Chains in western Uganda (2017) noted that in western Uganda people formed business saving groups which were group-based savings and loan associations implying that people in western Uganda borrowed mostly in informal ways to finance their agricultural activities. In addition, a report by Climate and Development Knowledge Network (2021), indicated that the slum areas of Mbarara city were financially discriminated from bank loans and were left to borrow from money lenders. Additionally, the study by Mduduzi Biyase and Bianca Fisher (2017) specified that families living in outdated rural expanses and farm zones were less expected to be permitted for official loans than families in cities hence households in rural areas had no choice but to make use of informal credit for their farm activities.

2.3 Individual Factors Determining Access to Informal Credit

2.3.1 Age and Access to Informal Credit

The age of the household head was also identified as one of the factors that determined access to informal credit. The use of unofficial credit was anticipated to be common among the youth who had not yet established themselves and hence lacked collateral security to qualify for official credit. Faisal et al. (2018) research in Uganda exposed that a firm's age had a crucial consideration when applying for bank loans hence businesses that had been operating for a while could easily get a loan from a commercial bank, while new businesses had to rely on informal credit. Additionally, it was expected that those businesses that had just started would lack collateral security and were unable to get loans from the formal sector (commercial banks) but could do so through the informal sector.

Rendering to the findings of Asongu et al. (2021) in Ghana, an individual's age left him with few options other than to use informal credit. They also showed that young people lacked the security required to qualify for bank loans, that is why the bulk of those who used informal credit were under 35 years of age. According to the same study by Asongu et al. (2021), informal lenders favored advancing loans to borrowers who were younger than 35 years old because they perceived elderly farmers in Ghana as high-risk borrowers who might pass away at any time before repaying the loan. According to research by Sile and Bett (2015), a person's age had a significant influence on whether or not they choose to use informal credit in Kenya. In addition, the research by Lin et al. (2019) in China; age, family size, yearly household non-agricultural income, degree of education, and history of informal borrowing all had a substantial impact on credit limitation. The study by Sebaggala et al. (2019) indicated that age was a key factor in determining the demand for informal finance in Uganda hence young individuals who lacked collateral security utilized informal credit for running businesses, farm

production and for consumption purposes. In the same way the work of Fikadu Goshu Fufa (2016) in Ethiopia designated that young firms had difficulties in accessing formal credit due to information asymmetry hence they resorted to informal credit.

2.3.2 Gender and Access to Informal Credit

The gender of the household head was viewed as a key factor in determining access to informal loans. Men and women were separated based on gender, with the expectation that women would make up the majority of informal credit. Village boxes and group lending are two instances of this, where women make up the majority of participants. For example, Zins and Weill's (2016) study found that women in Kenya were more prone, especially those living in rural areas, to use unofficial credit services. Due to their lack of official employment opportunities and the fact that they are primarily employed in agriculture, rural women found it difficult to obtain formal credit and instead turned to informal borrowing. Access to formal finance is frequently impeded in developing countries by cultural norms that prevent women from owning property especially land. Based on the studies of Hadenah et al. (2014) in Italy, they discovered that women were more active than males in informal financial transactions, particularly when it came to saving money.

Furthermore, Sile and Bett (2015) research in Kenya found that gender was a significant factor in the utilization of informal credit. Their claim was that because of laws prohibiting women from owning property, women in villages used informal borrowing to cover up household expenses due to a lack of security to qualify for official credit. Males had a higher possibility of obtaining formal lending facilities, according to Faisal et al. (2018) in Uganda, since females fear credit and don't use it. As argued by Kara et al. (2021), ladies in China used informal finance since they were frequently neglected and denied access to formal credit. Men acquired formal credit, conforming to research by Katugan et al. (2020) in Nigeria, while women

obtained credit via informal sources. Gender was a crucial factor determining demand for informal loans as reported by (Sebaggala et al., 2019) in Uganda. Additionally, the work of Mduduzi Biyase and Bianca Fisher (2017) in South Africa indicated that women were less expected to receive approval for a formal loan hence they had to borrow informally.

2.3.3 Education and Access to Informal Credit

Conferring to research done in Nigeria by Nwaru et al. (2011), education played a significant role in determining loan demand and use. The authors further said that literate agriculturalists were more cognizant of liability than illiterate ones, owing to their higher level of sophistication, capacity to compute, and comprehension of superior production methods. Due to their concerns about accountability and paying exorbitant interest rates on loans, educated farmers opted for formal credit rather than informal credit, leaving uneducated farmers who are unafraid of liability to use informal credit. The type of credit available to an individual or group of individuals was also influenced by their level of education. Individuals with little to no formal education, or none at all, choose to apply for informal credit because it requires less paperwork.

Findings from research conducted by Sile and Bett (2015) in Kenya found that "an individual's level of education significantly influenced their choice of informal finance." Since those with a secondary education do not use informal credit, those with only a primary education or no education at all tend to borrow money informally. This contributes to the explanation of why low-education villages are more likely than towns or cities to use informal funding. Rendering to the work of Asongu et al. (2021) in Ghana, Individuals with primary education or no education at all use informal systems for saving and credit, while those with higher education at secondary level do not use informal loans. Their findings are in line with this assertion. As reported by Mwangi and Sichei (2011) study in Kenya, using commercial banks for borrowing

and saving is positively correlated with education. They found that those with higher levels of education employ formal methods of saving and borrowing rather than informal ones.

Iregui et al. (2016) discovered a similar phenomenon in Colombia, demonstrating that municipalities with high levels of education have a higher likelihood of having formal loans and a lower likelihood of having informal credit. This is due to the fact that the educated individuals in cities, as opposed to those with less education in rural regions, have the ability to gather information and determine their likelihood of being approved for a formal loan. Based on study conducted in Pakistan by Saqib et al. (2017), it was found that credit utilization and informal saving are negatively connected with high literacy levels because highly educated people are unable to use informal savings. They further asserted that they save informally because they lack knowledge and are unable to use proper banking services. Moahid and Maharjan's (2020) research carried out in Afghanistan, revealed that households with lower levels of education are not given credit by commercial banks, forcing them to borrow money informally.

2.3.4 Income and Access to Informal Credit

With regards to income, it was projected that informal credit was used mostly by low-income earners. The work of Nwaru et al. (2011) conducted in Nigeria, highlighted that banks prefer to lend money to those with high incomes since they can afford to pay back the debt. The informal sector will thus be left to the impoverished. Research operated by Iregui et al. (2016) in Colombia, suggested that among other things, a family's chances of getting a loan are positively correlated with their income. The income levels were positively related to the likelihood of receiving formal loans but adversely related to the likelihood of receiving informal credit. Mwangi and Sichei (2011) research carried out in Kenya, demonstrated that access to credit was significantly influenced by one's ability to pay. An increase in income

increased the likelihood of successfully getting loans from official sources but decreased the likelihood of doing so from unauthorized sources hence the low-income households borrow money from neighborhood stores to buy food on credit and spend whatever they make on consuming. As reported by Iregui et al (2016) research in Colombia, one of the important factors impacting access to credit was income. The findings indicated that income had a positive correlation with having formal credit and a negative correlation with having an informal loan. The study conducted by Bouman (2021) found that low-income Sri Lankan households have a weak saving culture, which leads to them claiming debt from unofficial sources. Income has a major impact on loan availability, according to empirical studies by Bett and Sile (2015). Wealthy people choose formal credit, whereas others with modest salaries utilize informal credit. As per Sichei's (2017) research in Kenya, a rural family's eligibility for a bank loan was mostly dependent on their household income. A study conducted by Sebaggala et al. (2019) in Uganda, argues that income had a major impact on the demand for informal loans, with the wealthy using legal credit and low-income earners using illicit credit.

2.4. Community Determinants of Access to Informal Credit

2.4.1 Household Size and Access to Informal Credit

It was anticipated that persons with big household sizes utilized informal credit borrowing from business men, landlords, and moneylenders. It was also assumed that individuals with big household sizes are typically found in rural locations since they have access to land that can support such big households. Given that commercial banks are concentrated in metropolitan regions, individuals in rural areas are engaged informal loans.

Sekyi (2017) research based in Ghana, revealed that household spending and family size in Malawi had a distinct and significant influence on loan demand. His research also demonstrated

that big household sizes were highly valued by village dwellers; as a result, demand for informal finance to save and get cash for investment as a means of raising household income increased with increase in household size. In a related trend, Iregui et al. (2016) research on official and unofficial house hold credit in Colombia revealed that, among other things, the size of a household affected people's desire for loans.

Enormous households borrow money informally to pay for living necessities, which include groceries. Furthermore, Mwangi and Sichei's (2011) research in Kenya found that larger households took out more unofficial loans rather than official ones to restock stores and buy food for their large family. According to studies conducted in Mexico, household size does affect how people 0pt and use unofficial lending products claims (Campero and Kaiser, 2013). According to Hanedar et al.'s (2014) study on why SMEs use informal finance in Italy, the size of the SME had an impact on their reliance on it. Olufemi (2019) research based in Nigeria stated that household size was one of the variables influencing credit availability.

2.4.2 Marital Status and Access to Informal Credit

Marital status was also found to be a key determinant in access to informal credit; It was anticipated that individuals who are married were most likely to utilize informal credit as they needed quick money to finance home activities like buying food, paying fees for their children and meeting medical services. Nouman et al. (2013) findings in Pakistan show that informal loans borrowed by farmers hanged on many factors and among them was marital status. The study by Ho (2021), suggested that in Vietnam, marital status was a significant factor that determined access to credit while Emerole et al. (2015) revealed that in Abia state of Nigeria 73.82% who obtained informal loans were married. Still in Nigeria, Ameh Lee findings (2022) revealed that access to informal loans was influenced by a number of criteria, including marital status.

In consonance with research by Aliero et al. (2012) in Nigeria, farmers' ability to receive informal finance was positively impacted by their marital status. While Iregui et al. (2016) found that one of the elements affecting access to informal loans in Colombia was marital status. They claimed that a family's ability to receive credit was unquestionably related to the marital status of the family leader.

Research by Panigrahi et al. (2015) in India revealed that marital status had an impact on families' ability to receive finance from informal sources. Rendering to research by Abdulhamid et al. (2022) in Nigeria, access to informal loans was favorably influenced by community characteristics including marital status. Conforming to a study by Dany (2018) in Ghana where one of the factors affecting access to loans was marital status. Additionally, according to the study by Mmasa (2017), 72% of Tanzanian female farmers who received informal loans were married while the study by Mwangi and Sichei (2011) in Kenya indicated that having a spouse, significantly influenced one's ability to secure loans from neighborhood stores. As reported by Nantongo et al. (2019) research in Uganda, marital status was a statistically significant determinant in acquiring informal loans.

2.4.3 Sector of Employment and Access to Informal Credit

Individuals in the informal sector, such as rural farmers, traders, transporters like boda bodas, and fishermen, were more likely to use informal loans than those in other occupations. Non-agricultural work reduced the need for informal credit in Chinese communities, claim (Maohid et al., 2020). According to Yuan and Xu's (2015) research in China, a household's sector of employment had no impact on their ability to get informal loans. As a result, self-employed individuals use informal credit. Based on the study by Tebali et al. (2022) in Lesotho, the sector of employment was one of the variables affecting farmers' access to credit.

According to Nguyen (2020) work in Vietnam, formal credit was more likely to be obtained if one had a steady job. As a result, those without steady jobs would turn to using informal loans. The findings of Deny (2018) research in Ghana, indicated that formal job status was one of the criteria that enabled informal businesses there to get trade credit. The study carried out by Almane et al. (2022) revealed that social behaviors encourage the widespread usage of informal loans throughout Africa. To maintain their respect, however, those who have jobs turn to formal loans from banks. According to Khoi et al. (2013) research in Vietnam, being a local government employee is one of the variables that affect a person's ability to get microcredit. Kansiime (2021) research claims that wage workers in Uganda depend less on loans from family and friends and instead use formal credit. As reported in a study by Akullu (2014) in Uganda formal credit availability was significantly influenced by the work status, however informal credit access was not restricted to the unemployed.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The aim of this chapter was to outline the methodological strategy used to solve the research hypotheses. It is composed of; the research design, data sources and analysis, the model estimation, the model specifications, plus variable definitions and their priori expected signs as well as post estimation tests.

3.1 Research Design

The study adopted UNHS survey 2019/2020.

3.2 Data Sources and Analysis

The applicable data were obtained from UNHS 2019/20 data sets. In order to establish associations between the independent variables and dependent variable, a bivariate analysis was conducted. At this level, cross tabulations of explanatory variables with dependant variable were constructed and the analysis performed based on the chi square test.

3.3 Model Estimation

The study employed a binomial Logit model because the dependent variable was a binary and the predictor variables were a set of spatial, individual and community characteristics of the households. The logit model was considered appropriate because it does not assume normality, linearity, or homoscedasticity assumptions (Statistics, 2018; Wright, 1995).

The dependent binary variable can be written as Equation (1)

$$Y_i = \begin{cases} 1, & \text{if a household head accessed informal credit} \\ 0, & \text{otherwise} \end{cases} \quad (1)$$

Following Pindyck and Rubinfeld (1981), the cumulative Logistic probability function is specified as:

$$P_i = F(Z_i) = F(\alpha_0 + \sum_{j=1}^{k} \beta_i X_{ij}) = \frac{1}{1+e^{-z_i}} \quad (2)$$

Where P_i = the probability that a household head accesses informal credit given his or her spatial, individual and community characteristics, α_0 = constant term, X_i = determinants of informal credit access (spatial, individual, and community characteristics), β_i = coefficients to be estimated. To understand the interpretation of the coefficients, the Logit model was written in terms of the odds and log of odds. The odds ratio gives the probability (P_i) of an individual choosing to access informal credit over an alternative probability ($1 - P_i$) that the individual does not access informal credit. Equation (2) can be written as Equation (3) below:

$$(1 - P_i) = \frac{1}{1+e^{z_i}} \quad (3)$$

or $\frac{P_i}{1-P_i} = \frac{1+e^{z_i}}{1+e^{-z_i}} = e^{z_i}$ which is the odds ratio.

In this study, the marginal effects were used to measure the expected change in probability of informal credit access with respect to a unit change in an independent variable from the mean.

To assess the impact of the independent variables on access to informal credit, the specification of the empirical model (4), in Logit framework, is employed.

$$Z = \log\left(\frac{P_i}{1-P_i}\right) = \alpha + \sum_{i=1}^{9} \beta_i X_{ij} + \mu_i \quad (4)$$

Where:

Z = Probability of access to informal credit (1 if a household head accessed informal credit and 0 if a household head did not access informal credit); α = constant term; β_1 to β_9 = logistic coefficients of the independent variables; μ = error term; X_1= Residence; X_2= Region; X_3= Age; X_4= Gender; X_5= Education; X_6= Income; X_7= Household size; X_8= Marital Status; X_9= Sector of employment

3.4 Variable Definitions

Table 3. 1: Variables Definitions of the Model and their Priori Expected Signs

Variable	Definition	Hypothesized sign
Household size	Measured in terms of members in a household "0-3"=1 "4-6"=2 "7-25"=3	+
Marital status	Married/cohabiting=1 Divorced/Separated/lost partner=2 Never married=3	+
Sector of employment	Agriculture, forestry and fishing=1 Production=2 Services=3	+
Informal credit utilization	Dummy=1 if a person has used informal credit organizations for loan, zero otherwise.	
	Spatial characteristics	
Residence	Area where household head stays Rural=0 urban =1	+
Region	Central =1 Eastern=2 Northern=3 Western =4	+
	Individual characteristics	
Age	Number of years of a household head measured categorically "15-24"=1 "25-34"=2 "35-44"=3 "45-54"=4 "Above55years"=5	−
Gender	Dummy =1 if male 0= female	−
Education	An individual's level of education calculated categorically with 0=No education 1=Primary 2=Secondary 3= post-secondary	−
	Community characteristics	
Income	Household head's income measured categorically "0-500000" =1 "500001-1000000"=2 1000001-280600000=3	−

3.5 Post Estimation Tests

In order to test whether the data follows a constant variance, the study estimated robust standard errors to fix for heteroskedasticity.

CHAPTER FOUR

EMPIRICAL DATA ANALYSIS, PRESENTATION, INTERPRETATION AND DISCUSSION

4.0 Introduction

This chapter presents bivariate analysis in form of correlation matrix, the empirical results of the estimated model and the interpretation. The study aimed at examining the determinants of access to informal credit among households in Uganda. Data was analyzed using Stata version 15 software. Data was analyzed using sampling weights so that to minimize the effects of any sampling imbalance (obtain a national representative sample).

4.1 Bivariate Analysis

The tables below are based on the weighted sample to get a national representative population. Interpretation of the entire cross tabulations is based on the column for those who accessed informal credit. What is presented in all tables are percentages of the weighted samples. For example, in table 2 below out of 36,216,332 who never accessed informal credit (72.94 %) were from rural areas while (27.06%) were from urban areas. Out of 4,388,695 who accessed informal credit (77.98%) were from rural areas while (22.02%) were from urban areas. However, the interest of study are those who accessed informal credit and all cross tabulations for all the tables are based on those who accessed informal credit.

Table 4. 1: The Results for Cross Tabulation of Residence and Access to Informal Credit

Residence of the household head	**Access to informal Credit**		
	Not Accessed informal credit	**Accessed informal Credit**	**Total**
Rural	26,415,220	3,422,503	29,837,724
	72.94 %	77.98%	73.48%
Urban	9,801,112	966,192	10,767,304
	27.06%	22.02%	26.52%
Total	**36,216,332**	**4,388,695**	**40,605,028**
	100.00	**100.00**	**100.00**

Source*: Author's Computation*

The results in table 4.1 above highlight that (77.98%) of the respondents were from rural areas while (22.02%) were from the urban areas**.** This implies that majority of the respondents in this study were from rural areas.

Table 4. 2: The Results for Cross Tabulation of Region and Access to Informal Credit

Region where the household head stays	Access to informal Credit		
	Not Accessed informal credit	Accessed informal Credit	Total
Central	10,382,635	823,526	11,205,639
	28.68%	18.76%	27.60%
Eastern	9,450,462	1,168,350	10,618,812
	26.09%	26.62%	26.15%
Northern	7,274,945	1,159,843	8,434,789
	20.09%	26.43%	20.77%
Western	9,105,289	1,236,976	10,342,265
	25.14%	28.19%	25.47%
Total	**36,216,332**	**4,388,695**	**40,605,028**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results presented in table 4.2 above indicate the region where the household heads stay and access to informal credit. The outcomes revealed that out of 4,388,695 respondents, majority of the respondents were from western region with (28.19%). They were followed by eastern with (26.62%) of the total number of respondents, while the northern region with (26.43**%)** followed and lastly the central region which accessed informal credit with (18.76%).

Table 4. 3: The Results for Cross Tabulation Age of Household head and Access to Informal Credit

Age of the household head	Access to informal Credit		
	Not Accessed informal credit	Accessed informal credit	Total
"15-24"	490,294.7	157,039.9	6,473,34.7
	7.75%	6.21%	7.31**%**
"25-34"	1,531,784	615,858.7	2,147,642
	24.22%	24.34%	24.26**%**
"35-44"	1,484,422	632,048.7	2,116,470
	23.47%	24.98%	23.90**%**
"45-54"	1,163,038	575,688.8	1,738,727
	18.39%	22.75%	19.64**%**
"Above55years"	1,654,249	549,886.7	2,204,136
	26.16%	21.73%	24.89**%**
Total	**6,323,787**	**2,530,523**	**8,854,310**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results in table 4.3 show that out of 2,530,523 respondents who accessed informal credit, (24.98%) were aged between 35 and 44 years while (24.34%) of the respondents were within the age range of 25 and 34 years old, (22.75%) of the respondents were within the 45-54 years while (21.73%) of the respondents were 55years and above yet only (6.21%) of the respondents were aged between 15 and 24 years.

Table 4. 4: The Results for Cross Tabulation of Gender of Household head and Access to Informal Credit

Gender of Household head	Access to informal Credit		
	Not Accessed informal credit	**Accessed informal Credit**	**Total**
Female	1,883,252	944,964	2,828,216
	29.78%	37.34%	31.94%
Male	4,440,535	1,585,559	6,026,094
	70.22%	62.66%	68.06%
Total	**6,323,787**	**2,530,523**	**8,854,310**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results in table 4.4 reveal that for household head respondents who had accessed informal credit, (62.66%) were male while female household head respondents accounted for (37.34%.), this indicates that majority of the respondents were males.

Table 4. 5: The Results for Cross Tabulation of Education Level of Household Head and Access to Informal Credit.

Education Level of the household head	Access to informal Credit		
	Not Accessed informal credit	**Accessed informal Credit**	**Total**
No Education	1,152,134	328,891	1,481,025
	18.36%	13.06%	16.84%
Primary Education	2,982,966	1,394,025	4,376,990
	47.54%	55.36%	49.78%
Secondary Education	1,483,491	601,573	2,085,065
	23.64%	23.89%	23.71%
Post-Secondary Education	655,706	193,625	849,332
	10.45%	7.69%	9.66%
Total	**6,274,297**	**2,518,115**	**8,792,412**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

It is highlighted in table 4.5 that ceteris paribus; the lower the education levels, the more the chances of accessing informal credit. The results indicate that most of the respondents who accessed informal credit were those who had attended primary education and were (55.36%). Secondly, household heads with secondary education accessed informal credit with (23.89%), they were followed by those with no education who accessed informal credit at a rate of (13.06%). The last group were those with Post-Secondary Education who accessed informal credit by (7.69%).

Table 4. 6: The Results for House hold Income and Access to Informal Credit

	Access to informal Credit		
Household Income	**Not Accessed Informal Credit**	**Accessed informal Credit**	**Total**
"0-500,000"	26,791,236	3,241,835	30,033,070
	74.07%	73.87%	74.05%
"500,001-1,000,000"	4,700,526	627,698	5,328,224
	13.00%	14.30%	13.14%
"1,000,001-280,600,000"	4,677,056	519,162.5	5,196,219
	12.93%	11.83%	12.81%
Total	**36,168,818**	**4,388,696**	**40,557,513**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results in table 4.6 indicate that out of 4,388,696 total number of household heads who accessed informal credit, majority were from the lower income strata of category of '0-500,000' representing 73.87% of respondents, this was followed by the category "500,001-1,000,000" who formed 14.30% of the total number of respondents. In the last category was that which earns "1,000,001-280,600,000" representing 11.83% of the total number of respondents. The results show that as income increases, the demand for informal credit reduces.

Table 4. 7: The Results for Cross Tabulation of Household Size and Access to Informal Credit.

Household size	Access to informal Credit		
	Not Accessed informal credit	**Accessed informal Credit**	**Total**
"0-3"	5,632,159	982,283	6,614,443
	15.57%	22.38%	16.31**%**
"4-6"	16,780,124	2,182,864	18,962,988
	46.39%	49.74%	46.76%
"7-25"	13,756,535	1,223,547	14,980,082
	38.03%	27.88%	36.94%
Total	**36,168,818**	**4,388,695**	**40,557,513**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

Based on the results from table 4.7, majority of the respondents who accessed informal credit are of household size with members between 4 and 6 who formed (49.74%), followed by household size with members between 7 and 25 with (27.88%) and (22.38%) of the respondents who had household size between 0 to 3 members.

Table 4. 8: The Results for Cross Tabulation of Marital Status of Household Head and Access to Informal Credit.

Marital status of the household head	Access to informal Credit		
	Not Accessed informal credit	Accessed informal Credit	Total
Married/cohabiting	4,267,093	1,775,908	6,043,001
	67.48%	70.18%	68.25**%**
Divorced/Separated/lost partner	1,641,032	6,802,39.5	2,321,272
	25.95%	26.88%	26.22**%**
Never married	415,662	74,375	490,037
	6.57%	2.94%	5.53**%**
Total	**6,323,787**	**2,530,523**	**8,854,310**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results in table 4.8 indicate that access informal credit was high among the married household heads with (70.18%), followed by the divorced/separated/lost partner with (26.88%), then lastly were those who never married with (2.94%).

Table 4. 9: The Results for Cross Tabulation of Sector of Employment and Access to Informal Credit

	Access to informal Credit		
Sector of Employment of the household head	**Not Accessed informal credit**	**Accessed informal Credit**	**Total**
Agriculture, forestry and fishing.	8,974,695	2,276,819	11,251,514
	70.69%	63.11%	68.29%
Production	853,161	338,464	1,191,625
	6.64%	9.31%	7.23%
Services	2,868,307	992,223	3,860,530
	22.34%	27.28%	23.43%
Total	**12,696,163**	**3,607,506**	**16,475,829**
	100.00	**100.00**	**100.00**

Source: *Author's Computation*

The results in table 4.9 reveal that majority (63.11%) of the respondents who accessed informal credit were employed in the agriculture, forestry and fishing sector, followed by (27.28%) who were employed in the services sector and (9.31%) of the respondents who had accessed informal credit were employed in the production sector.

Table 4. 10: Marginal Effects after Regression

Variable	dy/dx	Std. Err.	Z	P>|z|
DMale*	-.0350304	.00343	-10.20	0.000
DUrban*	-.0250258	.00282	-8.88	0.000
Reg_No~h*	.0800244	.006	13.33	0.000
Reg_East*	.0543401	.00488	11.13	0.000
Reg_West*	.0642597	.00544	11.82	0.000
Age15_24*	.0074368	.00887	0.84	0.402
Age25_34*	.0076919	.00581	1.32	0.185
Age35_44*	.0102306	.00589	1.74	0.082
Age45_54*	.0273097	.00673	4.06	0.000
Primary*	.0682439	.0085	8.03	0.000
Second~y*	.0569952	.00982	5.80	0.000
Post_S~y*	.0233976	.01119	2.09	0.037
Marrie~t*	.1547843	.01383	11.20	0.000
Divorced*	.1660887	.01367	12.15	0.000
HSize4_6*	.0111405	.00352	3.17	0.002
HSize~25*	-.0064507	.00382	-1.69	0.091
Sec_Pr~t*	.0838893	.00998	8.41	0.000
Sec_Serv*	.0833252	.00707	11.79	0.000
H~000000*	.0179361	.00421	4.26	0.000
H~600000*	.0088345	.00443	1.99	0.046

(*) dy/dx is for discrete change of dummy variable from 0 to 1

Table 4. 11: Variable Definitions

Variable	Definition	Sign
DFemale	Dummy Variable female for gender of household head (reference category)	
DMale*	Dummy Variable Male for gender of household head	-
DRural	Dummy Variable Rural for Residence of household (reference category)	
DUrban*	Dummy Variable Urban for Residence of household	-
Reg_Central	Dummy for being in the Central (reference category)	
Reg_No~h*	Dummy for being in northern region	+
Reg_East*	Dummy for being eastern region	+
Reg_West*	Dummy for being western region	+
Age15_24*	Dummy for people in age bracket '15-24'	+
Age25_34*	Dummy for people in age bracket '25-34'	+
Age35_44*	Dummy for people in age bracket '35-44'	+
Age45_54*	Dummy for people in age bracket '45-54'	+
Age55yrs_above	Dummy for House head Aged 55 years and above (reference category)	
No_Education	Dummy for No education (reference category)	
Primary*	Dummy for people with primary education	+
Second~y*	Dummy for people with secondary education	+
Post_S~y*	Dummy for people with post-secondary education.	+
Never Married	Dummy for not married (reference category)	
Marrie~t*	Dummy for married people	+
Divorced*	Dummy for those people who divorced	+
HSize0_3	Dummy for house hold with members between 0-3 (reference category)	
HSize4_6	Dummy for house hold with members between 4-6	+
HSize~25*	Dummy for house hold with members between 7-25	-
Sec_Agric Sec_Pr~t*	Dummy for people employed in agriculture Dummy for people employed in the production sector.	+

Sec_Serv*	Dummy for people employed in the service sector	+
Household income 0-500000	Dummy for income of household earning between 0_500000 Shillings (reference category)	
H~000000*	Dummy for income of household earning between 500001-1000000 Shillings	+
H~600000*	Dummy for households that earn between 1,000,001-280,600,000.	+

4.2 Regression Results

The level of analysis for all the variables that the study undertook was taken at 5% for the discussions below:

4.2.1 Spatial Characteristics

4.2.1.1 Residence and Access to Informal Credit.

The findings in table 4.10 indicate that residence had a negative relationship with access to informal credit and was statistically significant at 5% with a probability of -0.025 implying that staying in an urban area reduced the chances of accessing informal credit by 0.025 as compared to household heads who stay in rural areas. Given that the coefficient for dummy urban is negative, it shows a less likelihood of household heads staying in urban areas to access informal credit. Therefore, these findings suggested that household heads from rural areas are the ones who accessed more informal credit. This was attributed to the absence of banks in rural areas hence individuals used informal credit as a source of capital for obtaining agricultural inputs as well as for consumption purposes. It is in agreement with research by Saqib et al. (2017) who noted that 60% of Pakistan's rural population use informal loans for their farm activities. These findings are also concurred with the FINSCOPE (2018) report which noted that 76% of

Ugandan adults stay in villages, indicating that the high costs of providing credit in rural areas often makes banks to lack the incentive to penetrate these areas as well as the ability to mitigate operational risks. This gives chance to informal credit providers to bridge up the gap of providing credit to the rural population. The findings similarly agree with Akpandjah (2014) who discovered that while commercial organizations in Ghana created new branches in urban areas, they shuttered older ones in the rural areas. To add on more information, are the findings by Sekyi et al. (2019) in Ghana who revealed that the basic source of credit by rural households was informal financial sources.

The results from table 4.10 show that staying in urban areas reduced the likelihood of accessing informal credit. The probability of dummy urban is negative meaning that people who use informal credit were from rural areas. There was a negative relationship between staying in urban places and access to informal credit. This was because most of the formal institutions are found in towns and people in towns get relatively high income hence can save in banks and use their savings as security to obtain credit from banks.

4.2.1.2 Region and Access to Informal Credit

It was anticipated that informal credit use was more in less developed regions than in developed regions. The results as displayed in table 4.10 show that the region had a positive relationship with access to informal credit. It was statistically significant at 5% level of significance. Staying in the northern, eastern and western regions increased the probability of accessing informal credit by 0.080, 0.054 and 0.064 respectively compared to staying in the central region. This could be explained by the fact that most of the formal financial institutions are concentrated in the central region.

Owori (2020) study in Uganda, stated that the positive association between the northern region and access to informal credit could be explained by the political instability that took place in the region and scared away potential investors in the formal commercial sector hence people had to borrow informally. Additionally, most of the places in northern Uganda are villages where borrowing is informal. The results in table 4.10 agreed with the work of Malual and Mazur (2017) investigations in Uganda that indicated that group saving was carried out in Lira. They went on to say that group saving would be done on every Monday in all the places. This was a common practice in the rural places of Lira in northern Uganda. Furthermore, the positive association between the eastern region and access to informal credit can be explained by the high levels of poverty in the area and the high population growth rates in the region. Owori (2020) noted that the eastern region was one of poorest regions in Uganda between (1992/93-2016/2017). The poor or low-income earners lack security to present to banks for formal credit hence they borrow through informal ways for their financial needs. Staying in the western also had a positive association with access to informal credit plausible reason for this happening was that in western Uganda there are many microfinance institutions which are not controlled by the central bank hence people borrow from them. Additionally, many household heads in western Uganda stay in villages were borrowing is informal. The results are consistent given the fact that most commercial banks are located in the central region. The results are also in agreement with Masaood and Moahid (2020), who conducted research in Afghanistan and reported that banks were concentrated in urban areas. It is at the same time in line with the findings by Sonko (2015) research in Uganda, which said that formal banking institutions including commercial banks, were mostly situated in cities.

Furthermore, the findings agree with that of Ainembabazi (2022) who argued that high access to informal credit in the western could be attributed to most of the households in western Uganda (77%) being in Villages. Ainembabazi (2022) also argues that most people found in

villages tend to borrow from informal sources because they tend to form part of the informal groups such as VSLAs and ROSCAs from which they borrow. Additionally, Action against Hunger (2023) report stated that it was hard for people to obtain loans from banks because most of the households are based in villages and hard to reach areas. It also agreed with the report by Green Supply Chains in western Uganda (2017) which revealed that in western Uganda people formed business saving groups which were group-based savings and loan associations implying that people in western Uganda borrowed mostly in informal ways. In addition, report by Climate and Development Knowledge Network (2021) asserted that slums in the Mbarara city were financially discriminated from bank loans and were left to borrow from money lenders.

4.2.2 Individual Characteristics

4.2.2.1 Age and Access to Informal Credit

In respect with age, the results in table 4.10 exhibited that being in the age bracket of "15-24", "25-34", "35-44", "45-54" all had a positive association with access to informal credit with probabilities of 0.007, 0.008, 0.010 and 0.027 respectively compared to being of age bracket of 55years and above. Age was statistically significant at 5%. Individuals in the age brackets of "15-24", "25-34", are still youth, looking for employment, they have not established themselves hence they lack collateral security to present to commercial banks for formal credit. This is worsened by the high unemployment levels among the youth especially in the villages. The results are in agreement with Asongu et al. (2021) findings in Ghana which indicated that an individual's age left him with little choice but to use informal credit. They also demonstrated that the majority of those who used informal credit were under 35 years old. Additionally, it was because young people lacked the security necessary to qualify for bank loans. Being in the age bracket of '45-54' increased chances of accessing informal credit by 0.027. It was

statistically significant at 5%. The results are in agreement with the work of Sikye (2017) who found that an increase in age increased the chances of accessing credit in rural areas of Ghana. Household heads in the age bracket of '45-54' have established themselves and they are settled. They want to identify with communities, churches, schools and others have shops they want to identify with their customers and other businesses; hence they are involved in formation of informal saving and credit groups like SACCOs, burial groups, friends which are sources of informal lending.

4.2.2.2 Education and Access to Informal Credit

Basing on the results from table 4.10, it was realized that the lower the education level, the more the possibility of people to employ informal credit. It is in agreement with Nwaru et al. (2011) research in Nigeria who noted that People who had only an elementary education or none at all preferred to utilize informal credit which does not require much paper work. Education builds human capital; provide high paying jobs to the people who are educated hence earn high incomes. So, individuals with high education levels and incomes tend to do away with informal credit. The results displayed in table 4.10 show that having attended primary, secondary and post-secondary levels of education, increased the chances of accessing informal credit by 0.068, 0.056, and 0.23 respectively compared to household heads with no education.

Variable education was statistically significant at 5%. This is in agreement with research conducted in Kenya by Sile and Bett (2015), which showed that, "An individual's level of education significantly influenced their choice of informal finance." They added that individuals with only primary education or no education at all choose informal techniques of borrowing since individuals with secondary education do not use informal credit'. This helps to explain why informal financing is used more frequently in villages with low levels of education than in municipalities. Additionally, the results also agree with Asongu et al. (2021),

who revealed that, "Individuals with primary education or no education at all use informal systems for saving and credit, while those with higher education at secondary level do not use informal loans." Their findings are in line with this assertion.

The findings are also consistent with Mwangi and Sichei's (2011) research in Kenya, which found that borrowing and saving at commercial banks were positively connected with education. They discovered that those with more education use formal borrowing and saving strategies rather than informal ones. Moreover, Iregui et al. (2016) discovered a similar phenomenon in Colombia, demonstrating that high levels of education in towns are linked to a high likelihood of formal loans for a home and a low likelihood of informal lending. This is because educated people in cities can find out information and evaluate their prospects of getting a formal loan, whereas less educated people in rural areas cannot. Rendering to Saqib et al. (2017) research in Pakistan, informal saving and consequently credit use are inversely correlated with high literacy levels as the highly educated individuals couldn't employ informal savings. They also claimed that the uneducated were ignorant and could not utilize legitimate banking facilities, they save informally which also agree with the findings of the study. The results also agree with Moahid and Maharjan (2020), who argued that commercial banks do not extend credit to households with lower levels of education in Afghanistan.

The majority of those who had completed primary school accepted informal credit. The results align with the 2018 FINSCOPE research, which indicated that 70% of those who utilized informal credit had completed primary education. Table 11's empirical results demonstrate that the likelihood of utilizing informal credit decreased with an increase education level. The chances for those with elementary, secondary, and post-secondary education levels kept on falling from 0.068 to 0.056 to 0.023 in table 11 compared to individuals with no education at

all. High-achieving household heads save money in banks and utilize it to apply for official credit. They also get high-paying occupations, which boost their income.

4.2.2.3 Gender and Access to Informal Credit

Additionally, the results from table 4.10 indicated that the dummy male for gender had a negative relationship with access to informal credit and was statistically significant at 5% with a probability of -0.035 implying that being male reduced the chances of accessing informal credit by 0.035. Interpretively, given that the coefficient for dummy male was negative which indicated a less likelihood of male accessing informal credit, it implied that being female increased the chances of using informal credit. These findings were consistent with the work of other studies like Wachira and Kihiu (2012) who found out that female had higher probability of accessing credit informally in Kenya. In the same way the findings by Gicheru and Mtongolo (2018) argued that women participated more in informal services than men in Kenya. This finding was also supported by the work of Faisal et al. (2018) in Uganda who concluded that males had more probability of utilizing formal credit than women. To add information, Kara et al. (2021) asserted that ladies in China used informal finance since they were frequently neglected and denied access to formal credit. It is in agreement with Ojong (2019) research in Uganda who stated that females utilize informal commercial services for investments. The findings of the study agreed with Mustafa et al. (2021) research in Ethiopia which found out that women being excluded financially forced them to establish micro and small businesses to use informal credit as a source of capital. In addition, are the findings by Msendena and Nyirenda (2019) they stated that informal credit providers in villages are formed by women to help their small businesses.

However, depending on the findings in table 4.10, the dummy for male had a negative coefficient meaning that males had less chances of accessing informal credit. This could be attributed partly by the structure of Ugandan society which is patrilineal. The report by UNHS (2019/2020) indicated that 69% of the household heads are male. The report further highlighted that 81% of the males in Uganda are literates. In this context, key decisions are made by the household head. Hence since most of the households are headed by men, the men make key decisions of where to borrow from. Given that most of the men are literates, they prefer accessing formal credit than using informal credit. Additionally, in Ugandan society most of the property including land is owned by men. The study by Rugadya (2010) in Uganda, stated 84% of the land is owned by men. Land agreements and titles can act as collateral for men to obtain credit from formal institutions and this could lead to a negative correlation between being male and access to informal credit.

4.2.2.4 Income and Access to Informal Credit

Furthermore, income was yet another important factor that determined utilization of informal credit. The empirical results in the regression analysis table 4.10 indicated that income significantly determined a person's choice for informal credit. It was statistically significant at 5%. Earning income between "500001-1000000" and "1000001-280600000'' increased the chances of accessing informal credit by 0.018 and 0.009 respectively. The results indicated that as income increased, the demand for informal credit kept on reducing. The findings were in line with assertions of Mwangi and Sichei (2011) study in Kenya, whose findings indicated that people with low incomes utilized informal credit. It also agreed with Ojong (2019) who carried out research in Cameroon and found out that low-income earners obtained credit from informal sources. The findings disclosed that as income of the household head increased, the demand for informal credit reduced, individuals with high income levels have the needed

collateral security like land titles that can enable them to access formal credit hence use less informal credit. Banks loans require proper documentation and collateral which is readily available amongst high income earners. Alternatively, people with high incomes can depend on their savings to survive other than loans.

4.2.3 Community Characteristics

4.2.3.1 Marital Status and Access to Informal Credit

Based on the regression results from table 4.10, variable marital status had a positive association with access to informal credit. Being married or divorced was positively associated with access to informal credit with probabilities of 0.155 and 0.166 respectively as compared to those who never married. Marital status was statistically significant at 5%. The findings according to table 4.10 showed that household heads who were divorced used informal credit for investment and consumption purposes because they had no spouses to look after them. These results reinforced the findings of Ojong (2019) in Uganda who argued that women who had lost their partners borrowed from informal sources for investment use. Findings were also in line with the work of Iregui et al. (2016) in Colombia who stated that household heads in villages that were divorced or separated had less chances of borrowing from banks and were most likely to use informal credit. The results also agreed with the work of Sikye (2017) who revealed that married people in Ghana are taken to be credit worthy by banks given that they are stable and sometimes the loans are paid back by both the wife and husband hence less chances of defaulting. Therefore, the divorced household heads who are neglected by banks borrow informally.

At the same time those who are married use informal credit for their financial needs like school fees, obtaining food and rent. Such needs require quick source of funds which can be obtained

from informal sources. The results were in line with the findings by Emerole et al. (2015) who argued that in Abia state of Nigeria (73.82%) who obtained informal loans were married. The results also were in agreement with a study by Mmasa (2017) which indicated that 72% of Tanzanian female farmers who received informal loans were married. Married people as mentioned earlier have many responsibilities to meet like school fees, medication and rent hence may need quick money which is possible with informal credit. The result is supported the work of Sebaggala et al. (2019) in Uganda which stated that informal credit providers like lending to married individuals because they are trustworthy.

4.2.3.2 Household Size and Access to Informal Credit

The results in table 4.10 indicated that having a household size of '4-6' members had a positive relationship with access to informal credit. It was statistically significant at 5%. This implied that having a house hold size of '4-6' members increased the chances of utilizing informal credit by 0.011 over the household size of "0-3" members. This was because informal lenders give small volume of credit to reduce on effects of default. Such little credit can best fit household size of between 4 and 6 members. It concurs with the findings by Mpofu and Sibindi (2022) in South Africa who acknowledged that informal credit providers advance little and short-term loans as a way of managing the default risks. It was also in agreement with the findings of Iregui et al. (2016) in Colombia who established that people with many members were most likely to obtain credit.

4.2.3.3 Sector of Employment and Access to Informal Credit

Sector of employment had a positive association with access to informal credit. It was statistically significant at 5%. Being employed in the production sector and service sector increased the chances of accessing informal credit by 0.084 and 0.083 respectively as compared

to being employed in the agricultural sector. Based on the UNHS (2019/2020) report, the production sector is composed of manufacturing, construction, mining and quarrying, electricity, gas and water supply. Uganda's manufacturing sector is dominated by agro processing, food and beverages, households products, construction materials and first moving consumer goods. Most firms are small and medium enterprises located mainly in urban areas like Kampala and central region. Many of the firms operate casually and as such they borrow through informal means.

This was in line with the work of Mago and Modiba (2022) in South Africa which indicated that SMEs lacked help from banks hence they borrowed informally. The findings were also in agreement with the work of Ullah (2019) who revealed that informal credit was used to help small and medium enterprises globally. Similarly, the findings concur with Dlamini and Mohammed (2018) who said that informal credit was utilized by SMEs to help growth of businesses. In the same way the findings agreed with that of Dube and Dube (2016) who alleged that SMEs use informal credit because they lack collateral security to access bank loans. It was also in line with the findings of Fanta (2015) who displayed it that industrial SMEs took on informal credit because banks rejected their intentions to borrow. It is also consistent with the findings of Haselip et al. (2014) in Ghana whose investigations found that SMEs are taken by banks as having big risks of defaulting than large enterprises in Senegal. The results of the study are also in agreement with the work of Malidi (2018) in Sierra Leone that said that informal credit was utilized because banks could not offer formal loans. The findings also concur with Massarongo et al. (2015) who asserted that informal credit was an alternative of getting capital for businesses. Findings indicated that people employed in the production sector accessed more informal credit.

This was so because the production sector in Uganda was composed of mainly small and medium enterprises (SMEs) and given that most small and medium enterprises were not formally registered they borrowed informally. The banks in Uganda are discouraged from lending to SMEs because they are taken to be high risk and to have high transaction costs.

Under the sector of employment, there is also the service sector. According to the report by UNHS (2019/2020), the service sector includes; market services (trade, transportation, accommodation, food business and administrative services) and non-marketable services (public administration, community, social and other activities). Empirical results showed that individuals employed in the service sector are engaged in accessing informal credit. Most of these services were not formally registered by government like those in transportation. For those in the transport sector, especially boda bodas, obtained motorcycles on credit and they paid in installments as they work. Namara (2022) stated that companies like Watu and Tugende gave motorcycles to individuals who start working as they pay back the loan. Given that such loans were not regulated by bank of Uganda, they formed part of the informal credit. This explains why the service sector accessed informal credit.

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

5.0 Introduction

This chapter presents the summary of the findings and possible recommendations arising out of the results. It is comprised of sub sections 5.1 which gives the summary of findings, 5.2 which gives the conclusions, 5.3 policy recommendations, 5.4 limitations of the study and 5.5 present areas for further research.

5.1 Summary of the Findings

5.1.1 Spatial Characteristics

The results of the study on the residence of the household heads indicate that households in rural areas had a higher likelihood of obtaining informal credit. This may be explained by the fact that rural areas were less accessible to official credit sources, leading to an increase in informal borrowing. The majority of Ugandans living in the rural areas (76%) earn low incomes, which prevents them from having collateral security to provide to formal institutions when applying for loans. As a result, their borrowing is informal, according to findings from FINSCOPE (2018).

Additionally, being in northern Uganda raised the likelihood of using informal credit, according to the study's findings in chapter four. This is due to the fact that most households in northern Uganda reside in villages where informal borrowing is common. Furthermore, the conflict between the LRA and the government, which lasted for nearly two decades, instilled dread in the minds of the populace as well as among bank investors. The findings also demonstrated that remaining in the eastern area raised the likelihood of utilizing informal loans

because of rapid population growth rates that lowered average income and, consequently, poverty. Due to their inability to provide banks with collateral, the impoverished borrow money on an informal basis. While staying in western Uganda increased the probability of accessing informal credit due to existence of many SACCOs in the region and many households being based in rural areas.

5.1.2 Individual Characteristics

Regression results suggested that being male reduced the chances of accessing informal credit. This was because most of the males are literates, they prefer formal credit. Additionally, most of the property in Uganda including land is owned by men. Hence men could use such property to obtain credit from formal institutions. At the same time being female increased the chances of using informal credit given that most of the informal saving and lending organizations were female based, they were formed and ran by women.

The findings further suggested that attaining lower education increased the chances of accessing informal credit. From the study findings, it was noted that as education levels increased the demand for informal credit reduced. Finally earning low income induced people to use informal credit.

5.1.3 Community Characteristics

Results of the regression analysis revealed that individuals who are divorced are more likely to use informal credit compared to those who are married.

Additionally, findings suggested that being employed in the production sector increased the probability of using informal credit.

5.2 Conclusions

The study examined the determinants of access to informal credit among households in Uganda. Extensive literature was conducted and a logit regression model was adopted. The determinants of access to informal credit were categorized into spatial, individual and community characteristics. Findings suggested that the main determinants of access to informal credit are region, education level, income of the household head, sector of employment, marital status, residence and gender of the household head.

5.2.1 Spatial Characteristics

The research attached importance to the residence of the house hold head. It was realized that people who stayed in urban areas used less informal credit compared to those who stayed in rural areas. This was in line with the regression results where urban residence results were negative and significant.

Another fundamental area of concern was the region where the household head stays. Findings revealed that staying in the northern region increased the probability of using informal credit. This was because the northern region had not been politically stable hence did not attract investors in the banking industry and at the same time most of the places in northern region are remote rural areas which could not access formal credit and end up borrowing informally. Staying in the eastern region had a positive association with access to informal credit, this was because of the high population growth in the region and high poverty levels. In addition, they borrowed through informal means because they are low-income earners without collateral security to obtain formal credit. Staying in the western region also had a positive association with access to informal credit and this was attributed to existence of informal credit associations in the region and at the same time many households stayed in rural areas hence borrowed

informally.

5.2.2 Individual Characteristics

The probability of a male accessing informal credit was less compared to a female. This was due to the socio-cultural set up which allows men to own property which can allow them to obtain formal credit unlike the women.

The study also put emphasis on importance of education of the household heads. Informal credit was accessed mostly by people who had attained primary education. There was a positive and significant association between education and access to informal credit. But it was noted that as level of education increased the less the chances of employing informal credit.

Another important area of concern was income of the household head. Informal credit was used by mostly the low-income earners. But as income increased, the usage of informal credit reduced.

5.2.3 Community Characteristics

Marital status was another important factor for accessing informal credit. The People who accessed informal credit were mostly the divorced. It was so because the divorced who did not have spouses to look after them had to borrow informally to meet their demands.

The divorced also borrowed informally because banks couldn't trust them as they were considered mobile. They could move any time to any place and could end up defaulting. Informal credit providers depend on friendship and character not necessarily on one's marital status. Additionally, the married accessed informal credit because they have many needs like school fees, medication, rent which requires quick money, which can be obtained from informal credit providers.

Equally statistically significant was the sector of employment. In this case being employed in the production sector increased the chances of accessing informal credit as compared to being employed in the agriculture sector. In addition, the Production sector was composed of especially small and medium enterprises which were not registered by government hence borrowed from informal credit source.

Therefore, evidence from the findings above suggested that informal credit was positively and significantly influenced by; region, education, income, sector of employment and marital status. However, access to informal credit in Uganda was negatively and statistically influenced by residence as well as gender at 5% significance level.

5.3 Policy Recommendations

Based on the findings of the study on determinants of access to informal credit among households in Uganda, the study hence suggests the following policy recommendations;

Regarding education, findings suggested that education had a positive relationship with access to informal credit at all levels. The positive and significant coefficients of the study's findings on education serve to emphasize this. Therefore, the government should expand and enhance its financial literacy initiatives and, if possible, translate financial literacy materials into the local languages to improve understanding, in order to improve access to and utilization of informal loans. The government can also promote financial literacy through community-based and multi-media channels like television, radio, and newspapers.

Concerning the job sector, the data indicated that individuals working in the production sector were mostly able to obtain informal loans. The production sector in Uganda is primarily made up of small and medium-sized enterprises (SMEs). Since SMEs are crucial to both production and the creation of jobs, the government ought to offer credit designed with small and medium-

sized businesses in mind. Furthermore, because men may obtain formal credit, the findings showed that men used informal credit less frequently than women. The policy recommendation is for the government to promote the informal financial sector by establishing and bolstering gender-friendly policies and programs that cater to women.

5.4 Limitations of the Study

This study had intended to utilize a probit model however, on testing of the residuals' normality, it revealed that they did not follow a normal distribution the figures are displayed in appendix I. As a result, the probit model was abandoned in favor of a logit model with reliable standard errors. Additionally, the research was limited to only quantitative data hence there was no way to incorporate qualitative data into the study; as all of the data used was obtained from UBOS.

5.5 Areas for Further Research

In order to increase understanding in the field of informal credit, more research needs to be done to fill the gaps that remained in this research. Hence, the researcher makes the following suggestions; Concerning methodology, studies in future can put emphasis on primary data collection. This can help to reach out to individual household heads to get firsthand information. Another area of research concerns the impact of informal credit on low-income households in Uganda.

REFERENCES

Adams, D. W. (2019). Taking a fresh look at informal finance. In Informal finance in low-income

Adomako, S., Danso, A., &Ofori Damoah, J. (2016). The moderating influence of financial literacy on the relationship between access to finance and firm growth in Ghana. Venture Capital,18,43–61.doi:10.1080/13691066.2015.1079952

Adong, A., Mwaura, F., & Okoboi, G. (2012). What factors determine membership to farmer

Aggarwal, S., & Klapper, L. (2013). Designing government policies to expand financial inclusion: Evidence from around the world. The Journal of Finance,56,1029–1051.

Akullu, E. (2014). Determinants of access to formal financial credit in Uganda.

Aliber, M. (2015). The importance of informal finance in promoting decent work among

Al-Mudimigh, A., & Anshari, M. (2020). Financial technology and innovative financial inclusion. In M.Anshari, N. Almunawar,&M.Masri(Eds.), Financial technology and disruptive innovation in ASEAN(pp.119–129).

Anson, J., Berthaud, A., Klapper, L., &Singer, D. (2013). Financial inclusion and the role of the post office (Policy Research Working Paper, No.6630), pp.1–30. Washington, DC: The World Bank.

Aryeetey, E. (2011). Financial integration and development in sub-sahara Africa. A Study of groups in Uganda? Evidence from the Uganda Census of Agriculture 2008/9 (No. 677-

Atkinson, A., & Messy, F.A. (2013). Promoting financial inclusion through financial education (OECD Working Paperson Finance, Insurance and Private Pensions, No.34), pp. 1–55. Paris, France: OECD.

Ayyagari, M., & Beck,T. (2015).Financial inclusion in Asia: An overview (Asian Development Bank Economics Working Paper Series,No.449),pp.1–21.Phillipines: Asian Development Bank.

Babajide, A. (2011). Microfinance and Micro. Global Journal of Management and Business

Banka, H. (2014). M-PESA at the point of sale: Expanding financial inclusion and reducing demandforphysicalcash. JournalofPaymentsStrategy&Systems,7,359–369.

Beck, T., Senbet, L., & Simbanegavi, W. (2014). Financial inclusion and innovation in Africa: An overview. Journal of African Economies, 24, i3–i11.doi:10.1093/jae/eju031

Benedict, A., Gitonga, J. K., Agyeman, A. S., & Kyei, B. T. (2021). Financial determinants of SMEs performance. Evidence from Kenya leather industry. Small Business International

Bernhard II, H. C. (2022). Flourishing in Music Education: Lessons from Positive Psychology. *Taylor & Francis.*

Boateng, F. G., Nortey, S., Asamanin Barnie, J., Dwumah, P., Acheampong, M. K., & Ackom

Boateng, F. G., Nortey, S., Asamanin Barnie, J., Dwumah, P., Acheampong, M. K., & Ackom Sampene, E. (2016). Collapsing microfinance institutions in Ghana: an account of

how four expanded and imploded in the Ashanti region. *International Journal of African Development*, *3*(2).

Bouman, F. J. (2021). Informal saving and credit arrangements in developing countries: Business & Entrepreneurship, 34(3), 313-332.

Bouman, F. J., & Moll, H. A. (2019). Informal finance in Indonesia. In *Informal finance in low-income countries* (pp. 209-223). Routledge.

Campero, A., & Kaiser, K. (2013). Access to credit: awareness and use of formal and informal change: Empirical evidence from China. Science of the Total Environment, 659, 1505-choice in SMEs: do the types of formal credit constraints matter? Journal of Small

Daemane, T., & Muroyiwa, B. (2022). Factors influencing credit access for rural small-scale farmers in Lesotho: Evidence from maize farmers in Masianokeng. *World Journal of Advanced Research and Reviews*, *15*(1), 757-768.

Dary, S. K. (2018). Access to trade credit by informal firms in Ghana: Does locating in industrial cluster and holding production/supply contract matter? *Ghana Journal of Development Studies*, *15*(2), 141-167.

Dlamini, T., & Mohammed, M. (2018). Determinants of choice of credit sources by Eswatini SMEs: A focus on the Agriculture Sector.

Dube, A., & Dube, A. (2016). On the suitability of group lending model in South Sudan's small and medium enterprises sector. *African Review of Economics and Finance*, *8*(2), 137-170.

Fanta, A., & Mutsonziwa, K. (2021). Financial literacy as a driver of financial inclusion in Kenya and Tanzania. *Journal of Risk and Financial Management*, *14*(11), 561.

Fapohunda, T. M. (2012). Women and the informal sector in Nigeria: Implications for development. *British Journal of Arts and Social Sciences*, *4*(1), 35-45.

Flaminiano, J. P., & Francisco, J. P. (2021). Firm characteristics and credit constraints among four expanded and imploded in the Ashanti region. International Journal of African

Gicheru, E., & Mtongolo, J. (2018). Comparative study on Gender Integration in Co-operatives: The Case of Women-Based SACCOs at the Kenya Union of Savings and Credit Co-operatives (KUSCCO) Ltd.

Hanedar, E. Y., Altunbas, Y., &Bazzana, F. (2014). Why do SMEs use informal credit?

Haselip, J., Desgain, D., & Mackenzie, G. (2014). Financing energy SMEs in Ghana and Senegal: Outcomes, barriers and prospects. *Energy Policy*, *65*, 369-376.

Hinson, R. E. (2011). Banking the poor: The role of mobiles. *Journal of Financial Services Marketing*, *15*, 320-333.

Huu Thu, N., Bao Duong, P., & Huu Tho, N. (2021). Filling the voids left by the formal sector: informal borrowings by poor households in northern mountainous Vietnam. *Agricultural Finance Review*, *81*(1), 94-113.

Ibitoye, O. (2018). Informal Finance Options and Small and Medium Scale Enterprises'

Idris, I. (2020). Integrated approaches to refugee management in Uganda. Helpdesk Report 716. Brighton, UK: Institute of Development Studies.

Iregui-Bohórquez, A. M., Melo-Becerra, L. A., & Ramírez-Giraldo, M. T. (2016). Health status

Khoi, P. D., Gan, C., Nartea, G. V., & Cohen, D. A. (2013). Formal and informal rural credit in the Mekong River Delta of Vietnam: Interaction and accessibility. *Journal of Asian Economics*, *26*, 1-13.

Kilama, B., George, C., Katera, L., & Rutatina, N. (2016). Assessing Data for the Sustainable

Kira, A. R., & He, Z. (2012). The impact of firm characteristics in access of financing by small and medium-sized enterprises in Tanzania. *International Journal of Business and management*, *7*(24), 108.

Lin, B., & Zhu, J. (2019). The role of renewable energy technological innovation on climate

Lin, L., Wang, W., Gan, C., Cohen, D. A., & Nguyen, Q. T. (2019). Rural credit constraint and

Linh, T. N., Long, H. T., Chi, L. V., Tam, L. T., & Lebailly, P. (2019). Access to rural credit markets in developing countries, the case of Vietnam: A literature review. *Sustainability*, *11*(5), 1468.

Linh, T. N., Long, H. T., Chi, L. V., Tam, L. T., & Lebailly, P. (2019). Access to rural credit markets in developing countries, the case of Vietnam: A literature review. *Sustainability*, *11*(5), 1468.

Mabwe, L. M., & Dundu, T. (2018). Assessing The Sustainability of Informal Saving Groups as A Source of Finance for The Zimbabwean Informal Sector. *Clear International Journal of Research in Commerce & Management*, *9*(3).

Mago, S., & Amp;Modiba, F. S. (2022). Does informal finance matter for micro and small businesses

Malual, J. D., & Mazur, R. E. (2017). Social capital and access to credit in post-conflict Lira, northern Uganda. *Community Development*, *48*(4), 566-581.

Miah, S. J., Vu, H. Q., Gammack, J., & McGrath, M. (2017). A big data analytics method for tourist behaviour analysis. *Information & Management*, *54*(6), 771-785.

Midamba Dick Chune (2022). Determinants of Maize Production Income in Western Uganda. East African Journal of Agriculture and Biotechnology, Volume 5, Issue 1, 20.

Mmasa, J. J. (2017). Determinants of smallholder women farmers access to informal credit in Tanzania–A Case of Singida and Chamwino Districts.

Moahid, M., & Maharjan, K. L. (2020). Factors affecting farmers' access to formal and informal credit: Evidence from rural Afghanistan. *Sustainability*, *12*(3), 1268.

Mpofu, O., &Sibindi, A. B. (2022). Informal Finance: A Boon or Bane for African

Mustafa, F., Khursheed, A., Fatima, M., & Rao, M. (2021). Exploring the impact of COVID-19 pandemic on women entrepreneurs in Pakistan. *International Journal of Gender and Entrepreneurship*, *13*(2), 187-203.

Mustafa, F., Khursheed, A., Fatima, M., & Rao, M. (2021). Exploring the impact of COVID-19

Nguyen, H. H. (2020). Individual customers' access to credits at commercial banks in Viet Nam: The case of Tra Vinh Province. *The Journal of Asian Finance, Economics and Business (JAFEB)*, *7*(9), 371-376.

Nguyen, H. T., Nguyen, T. T., Dang, X. L. P., & Nguyen, H. M. (2022). Informal financing choice in SMEs: do the types of formal credit constraints matter? *Journal of Small Business & Entrepreneurship*, *34*(3), 313-332.

Nwaru, J. C., Essien, U. A., & Onuoha, R. E. (2011). Determinants of informal credit demand

Nyirenda, Z. B. (2019). Impact of land policies and women empowerment on dietary diversity and calorie intake in Malawi.

Oludayo, K. O., & Mbina, O. O. (2019). Analysis of Factors Influencing Access to Formal Loan Among Small-scale Swamp Rice Farmers in Obubra Local Government Area, Cross River State, Nigeria.

Pham, T. T. T., & Lensink, R. (2007). Lending policies of informal, formal and semiformal lenders: Evidence from Vietnam. *Economics of transition*, *15*(2), 181-209.

Pradhan, N. (2013). Persistence of informal credit in rural India: Evidence from 'All-India Debt

Quick, J., & Hall, S. (2015). Part three: The quantitative approach. Journal of perioperative

Rahimi, H. (2018). Formalizing Informal Trade and Credit Institutions: Designing Effective

Rahimi, H. (2022). Reform and Regulation of Economic Institutions in Afghanistan: Formal and Research in Commerce & Management, 9(3).

Saqib, S. E., Kuwornu, J. K., Panezia, S., & Ali, U. (2018). Factors determining subsistence farmers' access to agricultural credit in flood-prone areas of Pakistan. *Kasetsart Journal of Social Sciences*, *39*(2), 262-268.

Sebaggala, R., Kawuki, J., & Nantongo, M. (2019). Access to Financial Credit Facilities by Farming Households in Uganda. *Business and Economic Management Review*, *1*(1), 1-26.6. Daeman and Brian Muroyima (2022)

Sile, I. C., & amp;Bett, J. (2015). Determinants of informal finance use in Kenya.

Silong, A. K. F., & Gadanakis, Y. (2020). Credit sources, access and factors influencing credit demand among rural livestock farmers in Nigeria. *Agricultural Finance Review*, *80*(1), 68-90.

Srinivas, H. (2016). Reasons why the informal credit market is used by the poor: Policy Studies, 20(1), 65-83.

Thu, V. H., & Goto, D. (2020). Does microfinance improve the household welfare of ethnic tourist behaviour analysis. Information & Management, 54(6), 771-785.

Ullah, B. (2019). Firm innovation in transition economies: The role of formal versus informal finance. *Journal of Multinational Financial Management*, *50*, 58-75.

Wachira, I. M., & Kihiu, E. N. (2012). Impact of financial literacy on access to financial services in Kenya.

Wachira, I. M., & Kihiu, E. N. (2012). Impact of financial literacy on access to financial services in Kenya.

Wang, Q., Alfalou, A., &Brosseau, C. (2017).New perspectives in face correlation research: a tutorial. Advances in Optics and Photonics, 9(1), 1-78.

Wellalage, N. H., & Fernandez, V. (2019). Innovation and SME finance: Evidence from developing countries. *International Review of Financial Analysis*, *66*, 101370.2. Su and Sun (2011)

Williams, C. C., & Nadin, S. (2010). Entrepreneurship and the informal economy: An overview. *Journal of Developmental Entrepreneurship*, *15*(04), 361-378.

Williams, N., &Vorley, T. (2015). Institutional asymmetry: How formal and informal institutions affect entrepreneurship in Bulgaria. International Small Business Journal, 33(8), 840-

World Bank (2019). Informing the Refugee Policy Response in Uganda. Results from the Uganda Refugee and Host Communities 2018Household Survey.

Zhu, A., Zhou, H., & Zhou, Y. (2021). Achieving the United Nations' sustainable development goals through financial inclusion: A systematic literature review of access to finance across the globe. *International Review of Financial Analysis*, *77*, 101833.

Zhu, L., Kara, O., & Zhu, X. (2018). A comparative study of women entrepreneurship in transitional economies: The case of China and Vietnam. *Journal of Entrepreneurship in Emerging Economies*, *11*(1), 66-80.

Zins, A., & Weill, L. (2016). The determinants of financial inclusion in Africa. *Review of development finance*, *6*(1), 46-57.

APPENDICES

Appendix I: Test for normality of the residuals

. sktest resid

Skewness/Kurtosis tests for Normality

Variable	Obs	Pr(Skewness)	Pr(Kurtosis)	joint ------ adj chi2(2)	Prob>chi2
resid	64,796	0.0000	0.0000	0.000	

Source: Own computation