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ACCESS TO DEBT FINANCE AND ITS DETERMINANTS IN UGANDA: AN EMPIRICAL INVESTIGATION OF SMALL AND MEDIUM-SIZED ENTERPRISES (SMEs)

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ABSTRACT

The main objective of this research was to investigate the extent of access to debt finance and its determinants among SMEs in Uganda using the "Applied and Received" approach (AR_a). In addition, supplementary to the main research objective, the thesis had two subsidiary objectives; firstly, to examine the effect of measuring access to debt finance by comparing two approaches, the "Received" (R_a) and "Applied and Received" (AR_a), to the extent and determinants of access to debt finance. Secondly, to examine if there are significant differences in the way SMEs and financiers perceive effective lending rates, transaction costs, firm age, firm size, industry, financial transparency, collateral, education, entrepreneurial experience and gender as determinants of access to debt finance.

To achieve the main objective and two subsidiary objectives, a survey was conducted based on a population of 128,000 SMEs, out of which a sample of 384 was considered appropriate, according to random tables by Sekaran and Bougie (2013). From the financiers' side, a population of 25 commercial banks, 22 insurance companies, 50 registered trade credit suppliers and a sample of 10 credit service bureaus, 10 MFIs and 10 SACCOs were used for the purposes of this study. The response rate was 57% from the SMEs and 62% from the financiers.

In terms of analysis, the extent of access to debt finance was examined using descriptive statistics. In addition, Pearson's correlation coefficient was employed to determine the relationship between access to debt finance and its determinants and binary logistic regression analysis was used to determine the strength of the relationships between access to debt finance and the determinants. Overall, the model explained up to 73.3% of the variation in access to debt finance. Finally, the independent samples *t-test* was used to determine if there were significant variations and consensus between SMEs and financiers with regard to the determinants of access to debt finance.

The findings of the study contribute to the literature in a number of ways; first, the conventional measures ("Received", "Loan size" and "Frequency of acquisition" approaches) have understated the extent of access to debt finance, while the "Applied and Received" approach (AR_a) is a superior measure of the extent of this among SMEs in Uganda. This is because the AR_a focuses on active borrowers and not discouraged borrowers or those SMEs that have voluntarily excluded themselves from external credit. Second, the study provides empirical evidence of the determinants of access to debt finance for the first time in Uganda where such evidence was previously unknown. Third, the study documents significant differences in the perceptions of the determinants of access to debt from the SMEs and suppliers of debt finance. However, the AR_a has limitations; for example, the degree to which discouraged borrowers can be excluded is open to debate. This is because, unlike voluntary excluded borrowers (not seeking funding at all), discouraged borrowers want debt but do not seek it because they think it will not be granted.

The most important implication of this research to policy makers and academics is the methodology of operationalising access to debt finance using the AR_a. This approach deals with voluntary exclusion and reports higher rates of access to debt finance compared to the R_a, which helps policy makers to estimate the financing gap among SMEs in Uganda. Likewise, the AR_a includes additional determinants of access to debt finance variables, which suggests that SMEs seeking finance are aware of the factors that financiers consider in the credit scoring process. Secondly, for SMEs and financiers, the findings concerning the consensus and variations in the determinants of access to debt finance are of great value to educate policy makers on the information gap existing between the demand and supply sides. Knowledge of the determinants of access to debt finance from the financiers' side will improve access among SMEs in Uganda because financiers play a pivotal role in the issue of this finance.

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DECLARATION

This thesis is submitted in fulfilment of the requirements for the degree of Doctor of Philosophy at Bournemouth University, United Kingdom. I declare that it is based on my original work except for quotations and citations, which have been duly accredited. I also declare that this thesis has not been previously or concurrently submitted, either in whole or in part, for any other qualification at Bournemouth University or other institutions.

Mary Nanyondo Byaruhanga

February 2017

DEDICATION

I dedicate this dissertation to the living God Almighty, my lovely husband Dr. Timothy Byaruhanga, my daughter Blessed Priscillah, Jackie Stopp, and my family for their continuous support, encouragement and constant love throughout my life.

LIST OF ABBREVIATIONS AND ACRONYMS

ADB - African Development Bank

AR_a - Applied and Received approach

ATDF - Access to debt finance

AWU - Annual Work Units

BDRC - Business Development Research Consultants

BIS -Business Innovation Services

BOU- Bank of Uganda

BOE - Bank of England

BUDS – Business Uganda Development Scheme

CBE – Central Bank of Egypt

DFID - Department for International Development

ECB - European Central Bank

EEA - European Economic Area

ESRC - Economic and Social Research Council

EU - European Union

FRB – Financial Reporting Board

FSA - Financial Services Authority

GAAP - Generally Accepted Accounting Principles

GCI - Global Corruption Perception Index

GEM - Global Enterprise Monitor

GFI - Global Findex Database

GDP - Gross Domestic Products

IFC - International Finance Corporation

IMF - International Monetary Fund

MEM - Macro Economy Meter

MFIs - Micro Finance Institutions

NBFIs - Non-Bank Financial Intermediaries

NSBS - National Small Business Survey

OECD - Organization for Economic Cooperation and Development

PSF - Private Sector Foundation

R_a - Received approach

SACCOs - Savings and Credit Cooperatives

SMEs - Small and Medium-Sized Enterprises

UBOS - Uganda Bureau of Statistics

UEPB - Uganda Export Promotion Board

UIA - Uganda Investment Authority

UMA - Uganda Manufacturers Association

UNCC1 - Uganda National Chamber of Commerce and Industry

UNCTAD - United Nations Conference on Trade and Development

USSIA - Uganda Small Scale Industries Association

WBES - World Bank Environmental Survey

WBDB - World Bank Doing Business

CHAPTER ONE

INTRODUCTION AND OVERVIEW OF THE RESEARCH

1.1. Introduction

Numerous studies have investigated the extent and determinants of access to finance by small and medium sized enterprises (Diagne, 1999; Beck and Demirguc-Kunt, 2006; Johnson and Max, 2009; Ayyagari, Demirguc-Kunt and Maksimovic, 2012; Beck, Demirguc-kunt and Maksimovic, 2005; Nanyondo, Tauringana, Kamukama and Nkundabanyanga, 2014; Ololade and Olagunju, 2013). For example, in Uganda Nanyondo et al. (2014) found that on average SMEs did not regularly access finance, and also reported that the quality of financial statements and information asymmetry were significant determinants of access to debt finance. In the UK, BIS (2012) found that 36% of SMEs could not access the finance they needed and that the managerial competence and information market failures which affected the demand side for businesses seeking finance were among the determinants of this access. In Libya, Zarook et al. (2013) found that access to debt finance among Libyan enterprises was low and that firm age, firm size and sector were significant determinants. Access to debt finance essentially refers to the supply of finance, as well as demand by users (Kendall et al., 2010; Beck and Torre, 2006; Claessens and Feijen, 2007). In addition, it implies an absence of price and non-price barriers in the use of finance *(see Literature Review, Chapter Two)* (Claessens, 2006; Arora, 2014; Demirguc-Kunt and Levine, 2008a).

Existing studies have used different approaches to measure access to debt finance. For example, Nanyondo et al. (2014) used the 'frequency of acquisition' approach; defined as the number of times the SME would receive the desired amount of money to finance its activities. On the other hand, Zarook et al. (2013) measured it on the basis of the 'loan

size' approach, operationalised as the sum that the SME received as a percentage of the size of the loan desired.

Another approach to measuring access to debt finance that studies have used is what may be referred to as the "Received" approach (R_a) (Arora, 2014; BIS, 2014), in which access to debt finance is measured in two ways. Firstly, SMEs are asked if they operate a loan account. If so, they are deemed to have access to debt finance; if not, they are classified as having no access to debt finance. Secondly, SMEs are asked if they operate a deposit account. Again, if they do so they are deemed to have access to debt finance, and if not, this implies they have no access.

The different approaches to measuring access to debt finance discussed above have been criticised for a number of reasons. Firstly, the "Frequency of acquisition" approach (e.g., Nanyondo et al., 2014; Berger and Udell, 2006; Johnson and Niño-Zarazúa, 2009) has been criticised on the basis that it considers SMEs to be borrowing from one financier. However, in practice, SMEs, like other large enterprises, tend to borrow when the terms of availability of finance and convenience in receiving it are favourable (Arora, 2014). In addition, SMEs borrow for different reasons; for example, for asset acquisition or for a boost in working capital, and hence the reason for borrowing will determine how frequently the SME will borrow (OECD, 2014; WBES, 2012).

Secondly, the loan size approach by Zarook et al. (2013) has been criticised on the basis that the loan portfolio size may increase when only a few SMEs are accessing finance (World Bank, 2014; OECD, 2014). Finally, the R_a has faced criticism on the basis that it ignores voluntary exclusion and the category of discouraged borrowers (self-rationing) (Arora, 2014; Kostov et al., 2012; World Bank, 2014; IFC, 2014). Voluntary exclusion refers to SMEs that are not seeking finance, for personal, culture or social reasons. As a result, it has been suggested that determining access to debt finance on the basis of whether

an SME received a loan without asking whether it applied for one in the first place may be an inappropriate way of measuring access to debt finance (OECD, 2014).

Therefore, this study adopts a more appropriate way of measuring access to debt finance, as suggested by some of the literature, which focuses on the success registered by SMEs that have applied for and received finance (Arora, 2014; Butler and Cornaggia, 2009; Okurut et al., 2004). This implies that all SMEs that do not apply for finance and the category of discouraged borrowers should be excluded for the purposes of determining the extent of access to debt finance (World Bank, 2014; IFC; 2014; ACCA Global, 2014). This approach, which may be referred to as the "Applied and Received" (AR_a) approach, only considers SMEs that actively seek finance (see World Bank, 2014). SMEs that apply for and receive funding are considered to have access to debt finance, and those that apply and are unsuccessful are deemed to have no access to debt finance. The main strength of this approach is that it excludes discouraged borrowers and voluntarily excluded borrowers.

However, the AR_a suffers limitations; first, the extent to which discouraged borrowers can be excluded is subject to debate because such borrowers are good borrowers but they do not seek debt finance for fear of being rejected (Kon and Storey, 2003). Secondly, it does not differentiate between those SMEs that have applied for and received the full amount and those that have only received part of the loan amount requested.

The comparison of the two measures of access to debt finance i.e. AR_a and the R_a follows after the recommendation by Arora (2014) who suggested that for the AR_a to be deemed superior over the existing R_a, it requires a study that compares both approaches to report distinct extents of access to debt finance which is why this study compared the two measures. Consequently, to further distinguish and clarify the samples used for both approaches, 220 SMEs form the cohort of R_a, implying that such SMEs operate a debt

account. With the AR_a, out of the 220 SMEs, 115 applied for and received any of the 18 listed forms of finance. Therefore, this is the explanation of $|R_a \cap AR_a| \neq |R_a|$.

Unlike existing studies in Uganda on access to finance, this thesis focuses on access to debt finance among SMEs. The rationale is that access to finance can be inform of debt or equity (Paul et al. (2007). Both forms of finance have obligations for example with equity finance, the enterprise should be prepared to share control of the enterprises with new shareholders. In addition, for an SME to qualify to source for equity from the public it should have existed for a reasonable time with audited published financial reports and considered resilient to economic pressures, long time in Uganda is 50 years and above (Bukenya and Kinatta, 2012). However, a report by NSBS (2015) indicated that majority SMEs in Uganda at 69% fall in the bracket of 1 to 5 years which makes such SMEs not eligible for equity finance. More still, SMEs at 93.8% are commonly sole family owned with no intentions to share ownership and control with the public which again limits equity financing. Finally, Mullineux and Murinde (2014) justify that SME financing is inclined to follow a 'pecking order' of choices, from which they prefer to use debt finance to equity finance because of fear of loss of control.

The study is based on Ugandan SMEs for two main reasons. Firstly, there are already three studies based on the R_a which indicate that SMEs' access to debt finance in Uganda is below average, at 42% (ADB, 2013; Calice et al., 2012; Johnson and Niño-Zarazúa, 2009). This study, which measures access to debt finance on the basis of the AR_a, also compares the findings obtained with the R_a to show how different ways of operationalising access to debt finance affect its reported extent and determinants. Secondly, the SME sector is a major contributor to Uganda's economic growth. For example, in percentage terms, SMEs constitute over 90% of the private sector, contribute approximately 75% of the country's Gross Domestic Product (GDP) and employ more than

2.5 million people (Uganda Investment Authority (UIA), 2015). Despite such a contribution, access to debt finance is a major obstacle to the growth of SMEs (Nanyondo et al., 2014; Johnson and Niño-Zarazúa, 2009; Kassekende and Opondo, 2003). Recent research by the World Bank (2014) indicated that access to debt finance by Ugandan SMEs is much lower, at 2% below average, compared to the extent reported by the African Development Bank of 42%. Moreover, the IFC (2014) ranked Ugandan SMEs at 132 out of 189 countries in terms of accessing finance, which is a drop of six places from 126th position in 2013 (WBDB, 2013).

Despite the existence of literature that has used different approaches to measuring access to debt finance, it is currently unknown what effect the different approaches have on the reported SME rates of access to debt finance. In addition, it is not known how the different ways of operationalisation of access to debt finance have influenced the results reported in respect to its determinants. Moreover, there is limited knowledge of the rates of SME access to alternative sources of finance; most studies seemed to have specifically used bank finance loans. Finally, there is lack of knowledge as to whether there is consensus on the determinants of access to debt finance across SMEs and financiers.

1.2. Contribution of the research

This research makes several new contributions, as well as extending the literature on the extent of access to debt finance and its determinants among SMEs in Uganda. First, the AR_a measure of access to debt in Uganda is a superior approach to measuring access to debt finance compared to the conventional measures of access to debt finance, for example the "Received" approach, "Loan size" and "Frequency of acquisition" approaches, which understate the extent of access among SMEs. This approach is superior in the sense that it focuses on active borrowers and ignores all voluntarily excluded borrowers and discouraged borrowers. The study documents that when using the AR_a, the reported extent

of access to debt finance is on average 78% higher compared to the extent reported by ADB (2013), which was 42%. However, the AR_a has some limitations; for example, the fact that it only focuses on active borrowers, and the degree to which discouraged borrowers can be excluded is not clear.

Second, the determinants in terms of the known findings have never been applied to SMEs in Uganda, especially in studies comparing the R_a and AR_a, which is a major contribution to the literature and policy formulation. A study that combines two approaches to the measure of access to debt finance provides an insight into the variation in its reported extent. This insight highlights the loopholes of the R_a and helps academicians and policy makers to devise a better approach to measuring access to debt finance. The R_a underestimates the average extent of access at a rate of 48%, compared to 78% with the AR_a. Hence, it does not give a full picture of the existing access to debt finance gap among SMEs in Uganda. Therefore, the huge difference of 30% in the reported extent of access adds cause and impetus to the World Bank's (2014) and OECD's (2014) call to find consensus in the way to operationalise access to debt finance.

Third, the study investigates the supply side (finance providers) as well as the demand side (e.g. SMEs). The rationale is that financiers make the decisions on the advancement of credit, so they are considered to be more knowledgeable of the determinants of access to debt finance. Moreover, studies conducted by Honohan and King (2009), Berger and Udell (2006) and OECD (2014) suggest that, if the determinants of access to debt finance are to be understood, financiers must be involved, given that they are at the centre of decision making on the issuing of finance to SMEs. Therefore, this study contributes to the literature by documenting evidence of significant variations and consents in the way SMEs and financiers perceive effective lending rates, transaction costs, firm age, firm size, industry, ownership, financial transparency, collateral, education, experience, and gender

as determinants of access to debt finance. The findings will help SMEs to devise strategies that aim to improve credit scoring; for example, by improving the quality of financial statements, true and fair valuing of collateral, and formalising ownership of SMEs. For policy makers, the insight is that SMEs and financiers perceive effective lending rates and transaction costs as determinants of ATDF, therefore the Bank of Uganda, in conjunction with the Private Sector Foundation (PSF) and Uganda Investment Authority (UIA), need to regulate and put in place support mechanisms that can stabilise effective lending rates to improve access to debt finance among SMEs. To financiers, the loan evaluation process needs to introduce new training programmes for entrepreneurs and develop relationships with business associations to improve access to debt finance.

1.3. Research questions

The main research question in this study is: what is the extent of access to debt finance among SMEs in Uganda and what are the determinants of this access using the AR_a? The study has two subsidiary questions:

(1) What is the effect of measuring access to debt finance using the R_a and AR_a on both the extent and determinants of access to debt finance among SMEs in Uganda?

(2) Are there significant differences in the way financiers (supply side) and SMEs (demand side) perceive effective lending rates, transaction costs, firm age, firm size, industry, ownership, financial transparency, collateral, education, experience and gender as determinants of access to debt finance?

1.4. Research objectives

The main objective of this study is to examine the extent of access to debt finance among SMEs in Ugandan and also investigate the determinants of such access using the AR_a. The study also has two subsidiary objectives:

(1) To investigate the effect of measuring access to debt finance using the R_a and AR_a on both the extent and determinants of access to debt finance among SMEs in Uganda. The rationale behind this objective is to answer the World Bank (2014) call on the appropriate measure of access to debt finance. The use of two approaches will enable the research to compare and contrast the reported extent of access to debt finance and its determinants among SMEs in Uganda.

(2) To establish if there are significant differences in the ways financiers (supply side) and SMEs (demand side) perceive effective lending rates, transaction costs, firm age, firm size, industry, financial transparency, collateral, education, experience and gender as determinants of access to debt finance. Achieving this objective will improve our knowledge of whether there is consensus or variation in the perceived determinants of access to debt finance between SMEs and credit suppliers.

1.5. Summary of research methodology

The research takes a quantitative stance, whereby access to debt finance is measured on a binary scale of "1" 'access' to "0" 'no access', and the determinants of access to debt finance are measured with perception questions anchored on a five point Likert scale of "1" strongly disagree to "5" strongly agree. The study is cross-sectional, conducted on SMEs and financiers operating within five regions of Uganda: Western, Central, Eastern, Northern and Southern. For the purpose of this study, the SMEs were considered to be on the demand side, and the financiers on the supply side.

On the demand side, a population of 128,000 SMEs registered and operating in the five regions was taken from the statistics offered by the Uganda Bureau of Statistics (UBOS) (2014), the Uganda Small Scale Industries Association (USSIA) (2014) and the Uganda Investment Authority (UIA) (2014). A simple random sampling technique was

employed, in which every SME in each region had an equal chance to be selected for the sample. From the financier's side, a population of 25 commercial banks, 22 insurance companies, 50 registered trade credit suppliers, 10 credit service bureaus, 10 MFIs and 10 SACCOs were issued questionnaires. These were tested for structural validity and reliability; the result of the Cronbach Alpha coefficient relating to the financiers' questionnaire was 0.93, while that of the SMEs was loaded with a value of .82. As advised by Saunders et al. (2009), both questionnaires were piloted to make provision for evaluation, acceptance, and understanding of them by the respondents. Finally, the response rates from the main study were 57% from the SMEs and 62% from the financiers.

1.6. Main findings

Findings relating to the main research objective were arrived at using a sample of 115 SMEs under the AR_a out of the total response of 220 SMEs. SMEs that applied and received either form of finance among the listed eighteen forms (see Appendix 1) contributed to an average access to debt rate of 78%. In terms of the determinants of access, logistic regression results indicate that the variables of effective lending rates (H_I), transaction costs (H_2), firm age (H_3), firm size (H_4), ownership (H_6), financial transparency (H_7), collateral (H_8) and entrepreneurial experience (H_{10}) were significant predictors among SMEs in Uganda. In terms of the individual eighteen forms of finance listed (formal and alternative), on the formal finance side SMEs mostly access debt in the form of bank overdrafts at a rate of 60.87%, followed by bank loans at a rate of 56.94, and hire purchase finance at a rate of 42.86%. On the other hand, in terms of alternative finance SMEs mostly access this from family and friends at a rate of 68.49%, followed by trade credit at a rate of 63.64% and from SACCOs at a rate of 42.50%.

The findings relating to the first subsidiary objective indicate that using the R_a to measure access to debt finance severely underestimates its extent among SMEs, at a rate of

48%. Findings relating to the R_a were arrived at using a sample of 220 SMEs that indicated operation of a loan account without indicating the form or its application. In addition, with respect to the determinants of access to debt finance variables, effective lending rates (H_1), transaction costs (H_2), collateral (H_8), education (H_9), entrepreneurial experience (H_{10}) and gender (H_{11}) were found to be significant. In terms of access to individual forms of finance, the R_a shows very low levels of access; for example, bank overdrafts at a rate of 11.42%, bank loans at a rate of 35.62% and hire purchase at a rate of 15.62%. However, when access to debt finance is measured using the AR_a, the rates of access to bank overdrafts, bank loans and hire purchase are 60.87%, 56.94% and 42.86% respectively. Nonetheless, the logistic regression results indicate that the variable of industry is not a significant predictor of access to debt finance, irrespective of the approach used.

Finally, the findings with respect to the second subsidiary objective show that there is consensus of up to 45% between SMEs and financiers on the determinants of access to debt finance. For example, they perceive effective lending rate, firm age, ownership, financial transparency and collateral as determinants of access to debt finance. However, there is variation of 55% across SMEs and financiers concerning other factors; for example, SMEs, in addition to effective lending rate, firm age, ownership, financial transparency and collateral, also perceive firm size and entrepreneurial experience as having an influence, whilst financiers also perceive the education of entrepreneurs as a significant predictor of access to debt finance, at a level of 5%. Findings relating to this final objective were arrived at using a sample of 115 SMEs under AR_a and 79 finance providers.

1.7. Structure of the thesis

The remainder of the thesis is organised as follows. Chapter two is the empirical literature review, chapter three analyses the SME environment in Uganda, while chapter four discusses the theoretical framework. Chapter 5 focuses on the hypothesis development and

chapter six explains the methodology. Chapters 7 discusses the findings in respect to the "Applied and Received" approach and compare this approach to the 'received' one in terms of the extent and determinants of access to debt finance. Chapter nine discusses the results of the perception of SMEs and financiers on the determinants of access to debt finance, and finally chapter ten presents the summary, conclusion, limitations, and recommendations.

CHAPTER TWO

EMPIRICAL LITERATURE REVIEW

2.1. Introduction

This chapter presents an empirical literature review of studies conducted in various countries on the extent of access to debt finance and its determinants, such as effective lending rates, transaction costs, location, firm age, firm size, industry, financial transparency, collateral, gender, education, and experience. The rationale of this chapter is to document what has been done in terms of delineating the extent and determinants of access across SMEs. It is presented in two sections: the first section reviews the current literature on the extent of access to debt finance, and the second section discusses its determinants. Study of the perspective of developed and developing economies intends to highlight differences in access to debt finance rates, since these rates could be different across economies (Bartoli et al., 2013; Cavusgil et al., 2002; Beck and Demirguc-Kunt, 2006).

2.2. Access to debt finance (ATDF)

Access to debt finance refers to the absence of price (for example market minimum deposits) and non-price barriers (for example travels to main branches) for enterprise to obtain credit (Arora, 2014). Controversy surrounds the definition and measure of the term as it has many dimensions and services which need to be available when and where desired, and products need to be tailored to specific needs. The literature suggests that the rate of access to debt finance by SMEs depends on the success registered by those that apply for and receive it (Arora, 2014; Butler and Cornaggia, 2009; Werner, 2008). In addition, it is also necessary that a particular form of finance must be available and that SMEs must be aware of the availability of such forms (Kostov et al., 2012). In addition, caution needs to be taken while measuring access to debt finance to take into account voluntary and

involuntary exclusion. There is a need to separate those enterprises that are excluded involuntarily from those that are rejected due to high risk or poor project quality. Moreover, there is also a need to differentiate between enterprises that are disqualified because of discrimination or high prices, which eventually makes finance products unaffordable (Arora, 2014; Kostov et al., 2012). While rejection due to high risk and poor project quality is not necessarily worrisome, rejection due to discrimination and high prices is, particularly if equilibrium prices are too high, excluding large portions of the population. In addition, even if the underlying cost structures were the same in different countries, a given price would lead to greater exclusion in poorer countries (Cavusgil et al., 2002). SMEs could be involuntarily excluded due to the absence of appropriate products or services; they may need simple transaction accounts rather than checking accounts that entail the risk of incurring severe overdraft charges when the timing of payments and receipts goes wrong (Kendall et al., 2010).

The implication of this definition of access to debt finance is that all SMEs that do not apply for finance are excluded for the purposes of determining the rate of access. In addition, if a particular form of finance, e.g. bank loans or overdrafts, is not available for any reason (e.g., during the recent financial crisis), then under such circumstances it is difficult to determine rates of access to debt finance. In addition, the other implication is that if SMEs are not aware of the availability of a particular form of finance (and therefore presumably do not apply), then again access rates cannot be determined accurately.

Various studies have measured access to debt finance in many different ways (see Table 2.1). For example, BIS (2012) measured access to debt finance as a fraction of the level of bank deposits by SMEs and the rate of rejection for both overdrafts and the term loans, while Kostov et al. (2012) operationalised access by the level of knowledge among SMEs of the available sources of finance. Arora (2014) measured access to debt finance

from the supply side (financial institutions), using 'outreach' (a proxy for geographically and demographically physical access), 'ease' (how easy it is to undertake financial transactions), and 'procedures' (administrative difficulties and cost of finance). On the other hand, others have operationalised it as the proportion of SMEs that have applied and received finance (e.g., World Bank, 2014; ECB, 2012; IFC, 2010). Further, access to debt finance has been measured in terms of loan size and frequency of acquisition (Beck et al., 2006; Ayyagari et al., 2008; Nanyondo et al., 2014). However, these proxies have been criticised because that they do not take into account the fact that some SMEs do not apply for finance.

Table 2.1: Access to debt finance rates summarised

Author and year	Country	Formal finance	Alternative	Rates
Bank of England (2014)	Eurozone	Bank loans, overdrafts, hire purchase, invoice discounting.		45%
BDRC (2014)	England, Wales, Scotland and Ireland	Bank loans, credit cards, credit swaps, invoice discounting		66%
ADB (2014)	Uganda	Bank loans		42%
Triki and Gajigo (2012)	Africa	Bank loans		between 0.1% to 1.1%
Calice et al. (2012)	East Africa and Zambia	Bank loans		42%
Ayyagari et al. (2012)	125 developing counties	Bank loans		44%-58%

Ayyagari et al. (2008)	China	Bank loans, asset-based finance	Subordinate loans	20% formal, 80% alternative
Steinerowska-Streb (2014)	Poland	Bank loans	Trade credit, peer to peer financing, private placement finance	23% for loans and 77% alternative finance
Nasr (2013)	Egypt	Bank loans	Trade credit	50%
Beck et al. (2006)	80 Countries	Formal and alternative		50% to 81.5% and 20%
Beck et al. (2010)	USA	Bank products	Crowd-funding	50%
Besley and Levenson (2010	Taiwan		'ROSCA' (SACCOs)	36%
Degryse and Cayseele (2013)	China		Peer to peer	11%
Ongena (2013)	China		Equity finance	7%

From the literature, it is apparent that not only have different studies measured access to debt finance differently, but some have just focused on the supply side (banks), while others just on demand side (the SMEs). This is consistent with the OECD Scoreboard (2012), which recommends that for access to debt finance rates to be wholly understood, both the suppliers of finance and SMEs must be investigated. Given the different approaches adopted by the research, the rate of SME access to debt finance is unclear. Consequently, it could be argued that what we really know about this is limited.

Another issue with the existing research is that it is not clear which forms of finance count in measuring access, given that these range from the formal (e.g. bank loans and overdrafts) to the alternative (e.g. crowd-funding and trade credit) (Arora, 2014). This is because most of the studies on SME access to debt finance are limited to bank finance, mainly loans, (Ayyagari et al, 2011; Cavusgil et al., 2002; Cleassens, 2006), while a few are extended to other sources of finance, e.g. trade credit (Olawale and Akinwumi, 2010). For example, Calice et al. (2012) conducted a study of bank financing to SMEs in East African countries (Kenya, Tanzania, Uganda) and Zambia. The study used questionnaires to collect data from 16 banks, four banks in each country, followed by interviews. The findings revealed that the Ugandan SME sector has the lowest aggregate access to debt finance among the four countries, with a rate below average at 42%. In addition, Triki and Gajigo (2012) conducted a survey to investigate public and private access to debt finance among SMEs using a sample of over 900 commercial banks across 42 African countries. Their findings revealed that access to bank finance among SMEs is on average higher in countries such as Namibia (58.5%), Botswana (57.6%), and South Africa (54.9%), while Malawi and Mozambique have the lowest access, at less than 0.1%.

The studies that have investigated different sources of finance to determine SME finance access rates include a survey by the Bank of England (2014). This study was conducted in 18 countries in the Eurozone. The findings revealed that SMEs access more bank loans, at 45%, compared to bank overdrafts (23%), leasing or hire purchase (16%), factoring or invoice discounting (10%), mortgages (4%), trade finance (4%) or grant and equity investment (1%). Ayyagari et al. (2011) also conducted a study aimed at establishing the forms of finance applicable to SMEs. In their study, firm level data was used from the period 2006 to 2010, and a sample of 120,000 SMEs across 125 developing countries was selected using the stratified random sampling technique. The descriptive statistics revealed

that bank finance in particular is the most common type of external finance for SMEs across these countries, with access ranging from 44% to 58%.

Contrary to the findings that bank finance is the most popular form of finance, some studies suggest that this is not the case. For example, Besley and Levenson (2010), in Taiwan, found that sole proprietors use alternative (non-bank) finance from Rotating Savings and Credit Associations (ROSCA) groups, at a rate of 90%. The respondents indicated that the bureaucracy in banks does not favour SME access to debt finance, therefore saving groups offer a remedy in terms of quick finance. In addition, Bank of Mexico data shows that in 2009, for every ten pesos of financing to small enterprises, 6.3 pesos came from their suppliers, whereas only 1.7 pesos came from commercial banks and 1.6 pesos from development banks (OECD 2013). This would again suggest that bank finance is not the dominant source of finance for SMEs. Given this contradictory evidence, it is therefore important for there to be clarity over what forms of finance count when determining SME access to debt finance, otherwise there is a danger that the debate will never end.

2.2.1. Formal and alternative finance

Categorising finance into formal and alternative types is particularly important because the extent, rate of access and the determinants of access to debt finance vary (Ayyagari et al., 2008). In addition, the level of difficulty in acquiring finance depends partly on the form of finance being sought (Calice et al., 2012). For example, formal finance tends to be the most common form available to most SMEs in developing countries (Beck et al., 2010). This is evidenced in the study conducted by Ayyagari et al. (2011) using World Bank Business survey data of 2006-2010 from 99 countries. In this study, SMEs used formal

finance mainly in the form of bank loans, at a rate between 44% and 58%, the highest compared to other forms of finance, with usage below 15%.

The main reason for the preference of formal finance was that it was readily available from banks. Moreover, respondents indicated that formal finance could be attained if the bank requirements were fulfilled. SMEs operating in the Eurozone countries, for example Austria, Belgium, Finland, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Portugal and Spain, prefer formal finance, mainly in the form of bank loans, overdrafts, leasing and insurance. This was discovered in the recent research conducted by the Bank of England (BOE) (2014). This research aimed at establishing the preferred form of finance by SMEs in the Eurozone after the debate and mixed views on the proportion of them that were having difficulty raising finances. The descriptive statistics indicated that 60% - 70% of SMEs apply for and acquire finance from formal sources, at a rate of 45%. Respondents indicated that formal finance is easily sought because the financiers put clear guidelines on the conditions to be fulfilled to access it. In addition, in major economies such as Germany, France, Wales, Scotland, and the England, formal finance was found to be most preferred by SMEs. The descriptive statistics indicated an aggregate access rate to formal finance of 66% (BDRC, 2014).

The recent report by the BDRC (2014) also highlighted the popularity of alternative finance in the form of private placement finance, crowd funding and peer to peer funding among the Eurozone economies. SMEs in these countries sell securities to a relatively small number of selected investors as a way of raising capital. Investors involved in private placements are usually large banks, mutual funds, insurance companies and pension funds (SME Monitor, 2014). According to the Macro Economic Meter (2014), finance of over 416 billion US Dollars was added to the private placement market towards the financing of SMEs.

However, in Poland, Steinerowska-Streb (2014) established that SMEs prefer alternative finance, mainly in the form of trade credit. Using an online questionnaire survey on a sample of 202,000 Polish firms, their descriptive statistical results indicated that SMEs access alternative finance in many forms, especially family contributions and trade credit, at a rate of 77%, compared to formal bank finance, at a rate of 23%. However, Steinerowska-Streb (2014) noted that larger enterprises have high chances of obtaining core finance products from banks. This study has been criticised based on its questionnaire administration. The survey yielded only 987 questionnaires that were completed and usable, indicating a response rate of 0.47%. The researchers assumed that all the SMEs in the sample would complete the online questionnaire, but nearly 201,013 questionnaires were uncompleted. According to Saunders et al. (2009), the findings therefore cannot be generalised to apply to all SMEs, because for a questionnaire survey to be successful, there has to be a researcher-respondent relationship and online responses may not be convenient.

In China, in a study conducted by Ayyagari et al. (2008), finance was categorised into formal and alternative, with the aim of taking a closer look at firm financing patterns among SMEs. A sample of 2,400 accountants and personnel managers of Chinese small and medium sized firms were interviewed by using a questionnaire and also by qualitative questions asking for the managers' opinions on the business environment and access to debt finance. The sample only included registered SMEs with a corporation status. The descriptive statistics results indicated that approximately 20% of SMEs in China utilise formal bank finance, with a much greater reliance on alternative sources, at nearly 80% (Ayyagari et al., 2008).

In Egypt, most SMEs are inclined to use alternative finance in the form of trade credit (Nasr, 2013). Using secondary data from the Central Bank of Egypt (CBE), analysis indicated that 19% of SMEs use formal bank finance, compared to 81% usage by large

enterprises. In addition, the descriptive statistics indicated that fewer than 50% of SMEs in Egypt sought formal bank finance in the period 2012 to 2013. The respondents indicated that SMEs dislike the bureaucracy that surrounds access to formal finance. Likewise, loan officers indicated that nearly 80% of SMEs lack accepted collateral to secure the loans and insufficient guarantors to secure the finance (Nasr, 2013).

Similarly, Beck et al. (2006) conducted a survey based on the time-series variation and micro-economic data of over 10,000 firms located in more than 80 countries, using data from the World Business Environment Survey (WBES) from 1999 and 2000. The findings revealed that SMEs tend to use formal finance in the form of bank products. On a scale of 0 to 30, small enterprises use bank finance at a level of 15 out of 30 (50%) and medium enterprises 22 out of 30 (81.5%).

2.3. Determinants of access to debt finance

Many studies have surveyed SMEs to establish the perceived determinants of access to debt finance (e.g. Kostov et al., 2012; Nanyondo et al., 2014; Arora, 2014). A summary of these studies is presented in Table 2.2. However, given that access to debt finance involves the supply side (finance providers) as well as the demand side (e.g. SMEs), it is important to attempt to reconcile the perceptions of what determines access to debt finance from both sides in order to improve our understanding of the question. Honohan and King (2009) suggest that if access to debt finance is to be understood, financiers must be involved, given that they are at the centre of decision making to advance finance to SMEs or not. Knowledge of the determinants of access to debt finance helps alleviate access to debt finance barriers. For example, Beck et al. (2006) argue that collateral is essential in bank financing; awareness of such a requirement will mean SMEs will work towards improving collateral levels and hence be able to access finance more easily. SME access to debt

finance is contingent on a number of both micro- and macro-economic factors as indicated by extant literature.

2.3.1. Effective lending rates

According to Thornton and Valente (2012), the effect of monetary policy actions on interest rate volatility alter the total supply and demand of credit. The interest rate theory postulates that lending rate elasticity may cause low access to debt finance (Ciocca et al., 1996). The fact that the demand for credit is a function of the interest rate only implies that whatever the equilibrium rate is, the demand for credit must be consistent with it (Turner, 2011b). However, according to Ciocca et al. (1996) traditional arguments for why demand for credit depends on the interest rate are not compelling because the real interest rate is the nominal rate stated in monetary units, which is lower than the expected rate of inflation stated in the same monetary unit.

In Uganda, the effective lending rate was found to be positively related to access to debt finance in a study conducted by Odongo (2014) in the Soroti district. The results were based on a survey conducted on a sample of 386 SMEs operating in this one district. The findings revealed that commercial bank lending rates negatively influence SME access to bank loans (Odongo, 2014). However, these findings suffered from sample size bias because 94 SMEs responded and the scope was limited to one district which suggests that findings may be different in the other remaining districts of Uganda, both rural and urban (UBOS, 2015). In addition, they were based on urban SMEs; therefore, the results may not apply to rural ones, which form the largest SME fraternity of 65% in Uganda (UIA, 2015). In addition, in Nigeria lending rates were found to be significantly related to access to debt finance by Ololade and Olagunju (2013). This study was conducted by on a sample of 210 respondents in Oyo state, using a structured questionnaire. Lending rates were significant in explaining access to bank loans, among other factors.

In addition, high lending rates and limited access to credit remain key impediments to private sector growth in Uganda. Countries in Europe enjoy the lowest commercial bank lending rates on formal core bank finance. Many of the countries in Europe and central Asia have the lowest lending rates, ranging between 0.00% and 9.9%, with the exception of the Kyrgyz republic, whose commercial bank lending rate is at 25%, followed by Tajikistan at 22%, Georgia at 18.5% and Ukraine at 16% (Macro Economy Meter (MEM), 2014). Latin America and the Caribbean follow with low lending rates, also from 0.00 to 18.5%, with the maximum being 28.9% in Paraguay, Brazil at 26.9% and Peru at 20.3% (MEM, 2014; IFC, 2014). In East Asia and the Pacific region, lending rates range between 1.5% and 17.5%, the highest being in Lao PDR, with 23.2%; the Mediterranean has the lowest at 0.25% in Malta and the highest in Yemen at 22.0%. Sub-Saharan Africa has higher interest rates, which range from 4% in Niger to 44% in Madagascar, with an average lending rate of 22%. Uganda's lending rate is high in the East African region, at an average of 23.7%, up from the reported 22% in 2014 (ADB, 2014; World Bank, 2014).

The African Development Bank (ADB) (2014) also conducted a study focusing on neutralising lending rates. It took a sample of 30 dominant commercial banks across five countries, Uganda, Kenya, Tanzania, Burundi, and Rwanda; from each country, six commercial banks were selected. The findings revealed that Uganda's average commercial bank lending rate was rated the highest at 23.7%, followed by Tanzania's at 21%, that of Rwanda and Burundi was under 20%, and Kenya's rate emerged lowest from the five countries, at 17%.

2.3.2. Transaction costs

Transaction cost theory highlights that in the service sector transaction costs for borrowers are even higher because of the intangibility of their stock (Liedholm, 1985). For SMEs, the situation is more difficult because they tend to take out smaller loans (Cavusgil

et al., 2002). The transaction costs of acquiring information from SMEs are very high, given the fact that they do not have mandatory disclosure (Tweedie, 2012). In addition, the element of information reliability triggers the transaction costs in terms of validation to reduce the default risk because of borrowers' exaggerated view of their finance worthiness (De Meza and Webb, 2005). Costs related to administration, legal fees and the acquisition of information, such as the purchase of a credit profile from a specialised agency, are fixed and should be incurred by SMEs (IFC report, 2014).

Empirical studies conducted in countries other than Uganda on transaction costs and access to debt finance among SMEs by Masuko and Marufu (2013), Ayyagari et al. (2008) and Zarooki et al. (2013) indicate that SMEs will borrow less when the transaction costs associated with finance acquisition are very high. High minimum balances to open and maintain bank accounts and high annual fees can constitute considerable barriers for large parts of the population in the developing world (Ayyagari et al., 2011). Checking accounts also often come as expensive packages, with costly overdraft facilities that can easily be incurred accidentally by those with low and volatile incomes, resulting in great risks. Assuming, somewhat arbitrarily, that poor people cannot afford to spend more than 2 per cent of their annual income on financial services, simply the fees on checking accounts can exclude more than 50% of the population in some African countries such as Kenya, Malawi, and Uganda from having a bank account (IFC, 2013, 2014).

In addition, transaction costs, for example time, service fees, transport and opportunity costs, make access to debt finance difficult (Lambert et al., 2007; Tweedie, 2010; Barth et al., 2006; McKenzie and Baker, 2012). Transaction costs are overstated for SMEs that exhibit low levels of transparency, in that banks are not able to easily make assessments to accept a loan applicant (Zarooki et al., 2013; Diagne, 1999). The cost of appraising a loan application or of conducting a due diligence exercise in view of a possible

equity investment is largely independent on the size of the financing under consideration. It must be noted that for all practical purposes in formal finance acquisition the following costs are fixed: administrative costs, legal fees and costs related to the acquisition of information, such as the purchase of a credit profile from a specialised agency (World Bank, 2014; IFC, 2014).

A study was conducted by Masuko and Marufu (2013) in Harare, which is the administrative and commercial capital of Zimbabwe, using the random selection technique across SMEs and financiers. In the study, a sample of 60 SMEs was split into two groups of thirty respondents, whilst financiers were divided into nine from Chitungwiza, six from Norton, and fifteen from non-bank institutions, with the aim of providing information on the magnitude and the burden of transactions costs. Respondents were interviewed using questionnaires, which were administered during face-to-face interviews in Harare. Transaction costs were measured based on loan size, distance travelled, borrowing experience, and decision time (Ayyagari and Demirguc-Kunt, 2012). The findings revealed that loan size and borrowing experience were the most significant determinants of total transactions cost. The results also showed that a 1% increase in the loan amount was associated with a decrease of 0.622% in the transaction costs. These costs explained a variation of 36% in access to debt finance. Transaction costs are exaggerated for SMEs that exhibit low levels of transparency, in that banks are not able to easily make assessments to accept a loan applicant (Zarooki et al., 2013; Diagne, 1999). In addition, Claressens (2005), Demirguc-Kunt (2006) and Hill (2001) discuss the fact that irrespective of risk profile considerations, the handling of SME financing is an expensive business.

2.3.3. Location

The high costs associated with monitoring enterprises in remote areas causes financiers to ignore the financing of such SMEs (Ayyagari et al., 2011). However, according to Weber

(1909), the location of a firm is guided by the least-cost principle, whereby, before an enterprise chooses a location, four factors must be considered: cost, location interdependence, demand, and profit. Weber contends that industries are located in areas where transportation of raw material and final product is minimal. He explains the optimum location of industries using the location triangle, which emphasises the need for reduced costs because other factors are considered to have an adjustment effect. In addition, Dahl and Sorenson (2011) point out that location impacts on the market potential and access to debt finance opportunities of enterprises. Geographical proximity to potential buyers or suppliers produces a form of enhanced environment that enables new enterprises to more easily identify and exploit growth opportunities in the market.

Empirical evidence suggests that location matters to SMEs because the people who provide them with resources are usually located in less remote places (Mccann and Sheppard, 2003). Therefore, location was found to have a positive influence on access to trade credit in South Africa by Olawale and Akinwumi (2010). This study was an empirical investigation conducted using a self-administered questionnaire across new SMEs in Eastern Cape Province of South Africa. Replies were received from 417 respondents, out of whom only 71 were able to access trade credit. The logistic regression findings indicated that location is a significant determinant of access to trade credit by new SMEs in South Africa. In the study, new SMEs located in the city were significantly more likely to be successful in their credit applications compared with those located in rural areas.

In addition, Mccann and Sheppard (2003) conducted a study in the US on a sample of 127 independently founded new enterprises. It was intended to examine the impact of location on access to debt finance among new enterprises. The findings revealed that geographical location could serve as a competitive advantage or disadvantage for new firms, and firms in regions with industry clustering were hypothesised to possess access to

debt finance advantages due to superior access knowledge. The statistics indicated that enterprises located within geographical clusters absorbed more knowledge from the local environment and found it easier to acquire finance. The results also revealed the importance of being located within close geographical proximity to the market being served; that if a new enterprise is located within an industry cluster, it provides visibility to key groupings of their predominant customers. As a result, remote areas where a large number of SMEs are located are unbanked or underbanked (Barth et al., 2006). According to Dahl and Sorenson (2011), location influences the market potential and growth opportunities of enterprises. Geographical closeness to the factors of production improves productivity and full resource utilisation by firms, hence exploitation of growth opportunities.

2.3.4. Firm age

Economically, firm age is measured by the number of years the enterprise has existed (Loderer et al., 2009). The relevance of age to firm dynamics has attracted comparatively little attention in access to debt finance studies, with the exception of management literature. Therefore, there is little theoretical work one can rely on to guide this study on the relationship between firm age and access to debt finance. The prior belief would seem to be that firm age benefits access to debt finance; enterprises learn about their abilities and how to do business activities better as they become older (Loderer et al., 2009). Firm age can also be advantageous because it helps firms focus on their core competences and improve their reliability and accountability. According to the theory of the firm by Jensen (2000), the older the firm is, the more it builds on enterprise capacity to improve its access to debt finance. However, at the same time firm age benefits can probably decline over time, which may cause a decline in the factors that increase enterprises' competitive advantage.

A related argument concerns enterprise memory, especially how an enterprise evolves and performs its functions depending on its history of either success or failure (Katz, 1982). Past external and internal events, such as discussions, disagreements and related compromises, shape the performance of an enterprise, particularly how it conducts its business operations over time (Lowered et al., 2009). Arguably, older SMEs have a stronger and more restrictive enterprise memory, which may or not increase the chances of access to debt finance (Hannan and Freeman, 1984). The relationship between firm age and access to debt finance, however, could also be spurious, in that firm age could be a proxy for other drivers of access to debt finance. For example, Evans (1987) found that access to debt finance decreases with firm age and that it does so at a diminishing rate.

Available empirical evidence suggests that firm age is not a significant predictor of access to debt finance. For example, a study was conducted by Le (2012) using World Bank data from 2009 with the aim of investigating the factors that determine SME access to credit. The results from the study indicated unexpected and unmatched findings and that firm age was not a significant predictor of access to debt finance. In addition, the explained variance of 39.54% suggested that firm age was not the only predictor of SME access to debt finance in Vietnam, but that there were a series of other factors that could explain the remaining variation of 60.46%.

Nonetheless, Le (2012) suggested that more research should be undertaken to focus on access to debt finance among SMEs in order to have a deeper understanding of the factors that facilitate this access, apart from firm age. Another related study was conducted in Libya by Zarook et al. (2013), with the aim of investigating the impact of demographic factors on access to debt finance among SMEs. The investigations were based on 557 survey questionnaires issued to SMEs operating across different sectors in Libya. The

findings revealed that firm age had the highest and most significant correlation of .76, at a level of 1%, among other predictor variables to explain SME access to debt finance.

Musamali and Kipkiron (2013) also conducted a survey on a sample of 103 Kenyan SMEs, with the aim of determining whether firm-specific factors influenced their ability to access finance. The findings of the multiple regression analysis revealed that firm age had a significant positive correlation of .32, at a level of 1%, on access to debt finance. This implies that the age of the enterprise indeed had a positive influence on SME access to debt finance. However, this study was criticised by ADB (2014), on the premise that it was conducted on the basis of a small sample size drawn from a homogenous environment, and was therefore not considered to be applicable to the majority of SMEs in Kenya.

Firm age could actually help firms become more efficient over time because firms tend to discover what they are good at and learn how to transact better as they stabilise in business operations (Barrow, 2012; Jensen, 2000; Ammar, 2003). Firm age enables enterprises to benefit from competitive advantage through specialisation, and unified, standardised, and coordinated activities, which enable improvement in quality and a reduction in the cost of production. The relevant literature refers to the theory of the firm; that old age may also make knowledge, abilities, and skills obsolete and induce organizational decay (Agarwal and Gort, 2002). From the literature and theory, it is therefore unclear whether firm age helps enterprises to prosper or whether it impedes their growth and potential. Thompson (2005) highlights that the biggest issue for enterprises at mature stages is how long they can support a negative cash flow and survive economic downturns.

2.3.5. Firm size

Firm size is measured by the average number of full time employees of an enterprise at a given point in time. It was categorised as a demographic factor by Pandula (2011), Johnson and Niño-Zarazúa (2009) and Kwenda (2014). The traditional neoclassical view of the firm and the economies of scale concept contend that firm size has an association with access to debt finance among enterprises (Jónsson, 2007). The focus on firm theories is wider than explaining the reasons for differences access to debt finance; therefore, Jónsson provides a narrower theoretical background, which state that firm size matters. First, the principal-agent theory, which suggests that separation of corporate ownership and control potentially, leads to self-interested actions by managers, who might expand the firm to increase their own benefits, such as more prestige, better pay, and stock options. Second, strategic theories which identify Porter's idea of three generic strategies that firms can use (to attain overall cost leadership, product differentiation and focus-based domination) to represent a useful starting point when considering strategic options such as growth and expansion.

The notions of 'firm size growth' and 'larger is better than smaller' are embedded in the institutional environment of organisations, giving larger firms easier access to debt finance than small and medium sized enterprises (Pagano et al., 1988). This is because larger firms will have established business resources, such as acceptable collateral, established finance networks and competent human resources to manage the business operations. This proposition tends to cast doubt on the abilities of SMEs, especially when most studies document that SMEs prefer to use their own personal finance (Cavusgil et al., 2002; Ayyagari et al., 2011; Chandler, 2009)

Empirical studies on the influence of firm size on access to debt finance have generated mixed results, ranging from those supporting a positive relationship, to those opposing the relationship as being insignificant or contrary, and reported as negative (Biggs

et al., 2002). Variations in reported empirical evidence on the association of firm size and access to debt finance could be explained by many factors; for example, the use of different samples, industry groups, time horizons, economic indicators and the business environment in which SMEs operate across different countries (Ayyagari et al., 2011; Biggs et al., 2002; Beck et al., 2008). Pandula (2011) conducted a study in south central Asia with the aim of examining what determines access to bank finance among SMEs in Sri Lanka. In this study, secondary data was used from the Investment Climate Survey carried out by the World Bank for Sri Lanka. The results of chi square statistics indicated that firm size was not associated with access to debt finance, which was contrary to the theoretical literature at the time. Pandula found this to be unexpected, so made recommendations for new investigations into the determinants of access to debt finance to be conducted; for example, the loan evaluation process to tailor new training programmes for entrepreneurs and develop relationships with business associations to improve access to debt finance.

In Zimbabwe, Kwenda (2014) investigated the factors that influence the use of trade credit based on the secondary data of 48 non-financial manufacturing enterprises listed on the Zimbabwean Stock Exchange (ZSE) for the period 2009-2012. Using random and fixed effects models, the findings revealed that firm size positively influenced the use of trade credit among manufacturing firms in Zimbabwe. Similarly, Johnson and Niño-Zarazúa (2009) conducted a study in Uganda and Kenya using secondary data from financial access surveys carried out in 2006 in the two countries. The study was approached from the perspective of institutional analysis to investigate the socio-economic, demographic, and geographical factors affecting access to bank finance, excluding other formal finance products and alternative finance. The findings revealed that demographic factors do not present underlying barriers to access to debt finance among SMEs in Uganda and Kenya. Therefore, based on the unanticipated findings, Johnson and Niño-Zarazúa suggested that

institutional theories be employed to understand the role of demographic factors in accessing finance among SMEs.

2.3.6. Industry

According to Storey (2002), Fraser (2010) and Han et al. (2008), industries can be classified in a variety of ways. For example, at the top level, an industry is often classified into sectors such as primary or agricultural, secondary or manufacturing, and tertiary or services. Some authors add human service firms, such as knowledge-based, culture and research sectors (Kon et al., 2001). All industries or markets reflect high levels of uncertainty; therefore, for enterprises to survive and stay in operation alongside business uncertainties, new resources become highly necessary. However, the influence of industry on access to debt finance has been the subject of scant empirical studies, which could be suggestive of both the unavailability of data and challenging statistical difficulties (Fraser, 2010; Myers, 1984). Industries have different unique characteristics from each other; therefore, the demand for access to external capital varies from one industry to another. According to the static trade-off theory of Myers (1984), firms in each industry choose an optimal capital structure, which has equality between the benefit attained from capital and the financial distress cost. However, in the same industry, unprofitable firms tend to choose a higher debt ratio than profitable ones, and if the debt ratio is sufficiently high to cause financial distress, firms will reduce it by issuing equity.

The theoretical literature suggests that SME industries, being small, are not able to rely on equity alone, so need external financing (Demirguc-Kunt; 2006; Barako, 2007; Barrow, 2006). In Scotland, a study was conducted by the Office of the Chief Economic Adviser (CEA) (2012), with the aim of establishing access to debt finance levels among SMEs. The findings revealed that industry was a significant predictor of access to debt finance among SMEs in Scotland. They implied that manufacturing firms were easily

issued credit because of the collateral in stock that was put as security against the loans. In addition, in the UK, a comparative survey using telephone interviews and questionnaires was conducted across a sample of 1,011 SMEs in the private sector by Bank of England (2014). The statistical results indicated that the agricultural industry was most likely to access credit, at a rate of 56%, followed by industries operating in "other services," at a rate of 39%. Further analysis indicated that the rejection rate was lowest across firms operating in the agricultural industry, at a rate of 6%, followed by manufacturing activities (11%) and service (83%).

Additionally, in Uganda, industries operating in the manufacturing sector were found to have high chances of accessing formal finance such as bank loans. Nanyondo et al. (2014) conducted a study across a sample of 75 SMEs operating in Kampala, the capital city of Uganda, using structured questionnaires. Their descriptive statistical results relating to industry and access to debt finance revealed that SMEs in the manufacturing industry accessed bank loans at a rate of 69.33%, whilst enterprises operating in the service sector only accessed them at a rate of 30.67%. The findings also revealed a negative relationship between industry and access to debt finance (-.198), which implied that enterprises belonging to the service sector are less likely to access finance, compared to those in manufacturing enterprises. Out of the SMEs that responded, the majority of 73.9% (163) belonged to the manufacturing industry, whilst 26.1% (57) were in the service sector. A possible explanation for the variation in access to debt finance across industries is given by Beck et al. (2008), in that manufacturing enterprises can offer security to the banks in terms of tangible assets, whereas service enterprises are unable to.

Similarly, in Zambia, industry was considered a significant determinant of access to debt finance among SMEs by Calice et al. (2012). This study was conducted using interviews with loan officers across a sample 13 different commercial banks in Zambia

located in urban centres. The findings revealed that SMEs operating in the agricultural industry accessed finance at a rate of 35%; followed by wholesale and retail enterprises at a rate of 18%; manufacturing industries at a rate of 16%; and the service sector, with the lowest access to debt finance rate of 3%. However, Calice et al. (2012) recommended that further investigations be conducted on a larger sample, including rural banks and SMEs, because the findings could not be generalised based on only 13 commercial banks from urban locations.

2.3.7. Ownership type

According to the theory of the firm of Jensen and Meckling (1976), separation of ownership and control often leads to information asymmetries, in which managers benefit personally at the expense of the enterprise. According the theory of the firm by Jensen (2000), ownership structure is considered to be part of firm governance, which helps to screen managerial behaviour. Nonetheless, among SMEs of which the majority are sole-owned, monitoring becomes difficult when ownership is discrete, especially when the proprietors take advantage of their freedom. It is argued that high concentration of ownership exposes the enterprise to high risks if sole appropriators act irrationally. When it comes to disclosure, sole-owned enterprises have many discretionary powers, which makes financiers more sceptical about extending credit to SMEs with such ownership due to the difficulties in estimating the default risk (Mahoney and Roberts, 2007).

In addition, the agency theory of Eisenhardt (1989) suggests that monitoring costs increase with enterprises that have high sole-ownership concentration, unlike corporations, in which managers may have incentives to disclose more business information as a way of minimising information asymmetry and subsequent monitoring costs (Cohen et al., 2003). In this respect, high sole-ownership concentration is considered disadvantageous and a contributing factor to information asymmetry, which may influence access to debt finance.

Similarly, the report by OECD (2012) highlights that SMEs with sole-ownership concentration are considered to have high default risk compared to corporations.

Furthermore, among UK firms, Hope, Wayne and Dushyantkumar (2009) found that those with a high ownership concentration disclosed less financial information, both quantitative and qualitative, which reduced the chances of access to formal finance. Moreover, entrepreneurs choose ownership structures mainly to ensure adequate financing because of the selection effect, whereby finance goes to firms with a legal ownership structure. Ownership structures in firms can influence the ability to have access to debt finance. For example, previous research by Harrison and McMillan (2003) and Beck et al. (2006) revealed that listed firms and foreign-owned firms face reduced financial constraints. Storey (1994) also found that the legal status of an enterprise influences the ability to access bank finance.

2.3.8. Financial transparency

Transparency is about seeking to be fully open; financial transparency requires enterprises to disclose financial information to users that reflects a true and fair view of the firm's performance (Epstein, 2007). According to Claressens (2005), transparency denotes "self-disclosure," or the opposite of secrecy. Demirguc-Kunt and Levine (2008) explain transparency as a mechanism that facilitates the release of information that pertains to policies, capabilities, finance, and preferences to interested parties, in this case banks. Transparency also implies the provision of clear, unambiguous information as well as accountability to interested parties (Barrow, 2012).

Financial transparency was found to be associated with access to debt finance in a study conducted in Uganda by Nanyondo et al. (2014). In this study, structured questionnaires were administered to 75 SMEs registered and operating in Kampala. The results, using ordinary least squares (OLS) multiple regression, indicated that there was a

significant positive relationship between the quality of financial statements and access to debt finance, at a level of 1%. Among the variables used to predict access to debt finance in this study, for example perceived risk and information asymmetry, financial transparency was found to be the highest predictor of access to debt finance. However, Nanyondo et al. recommended that future research be directed to finding other factors that determine access to debt finance by SMEs, including unregistered ones and SMEs operating in regions of Uganda apart from the central one. This was because the current model only explained 63.7% of the variation in access to debt finance.

In addition, Hope et al. (2009) conducted a study across 68 developing countries with the aim of examining the role of financial transparency in mitigating access to debt finance constraints across private SMEs, in which the largest shareholder owned on average 74% of the shares. The findings revealed strong significant evidence, which indicated that increased financial transparency reduces external financing constraints (both perceived constraints to financing and the cost of financing). Furthermore, they indicated a negative correlation at a level of 1% between financial transparency and access to debt finance constraints, which implied that financial transparency could play a greater role in reducing these constraints across private SMEs.

2.3.9. Collateral

Collateral is an extra form of security, which can be pledged against credit by a borrower to a lender for assurance as a second source of loan repayment in case of repayment contract violation. Assets such as plant, machinery, land, buildings, accounts receivable, and (in some cases) stock (finished or work in progress) are considered as possible sources of collateral that can be sold by the financiers in the case of default (OECD, 2014).

In Vietnam, collateral was found to have a significant association with access to credit (Le, 2012). Using World Bank Enterprise Survey data of 2009, Le investigated the

factors that determined SME access to credit in Vietnam. This database included not only SMEs but also large enterprises. The scope of the data was very wide, but to measure the determinants of SME credit availability the data was rather limited. The descriptive statistics indicated that 90% of banks in Vietnam depend very much on land as collateral to extend finance to SMEs. This demand is a limiting factor for the majority of SMEs to access finance because they have barely sufficient or acceptable land to pledge. The findings also indicate that SMEs with collateral borrow up to 41.3% of the proportion of bank debt finance. It is, however, unclear why they do not borrow up to 100%, which may imply that collateral alone may not fully explain access to debt finance. From the findings, Le (2012) suggests that further research should be focused on other determinants of access to debt finance in order to have a deeper understanding of other factors that facilitate SME access to bank loans, other than collateral. Nonetheless, Le's research had a limitation based on the data used, because it included large enterprises, which, according Beck et al. (2008), have different financing needs; therefore, the findings could not be generalised.

In Nigeria, collateral was found by Ololade and Olagunju (2013) to be a significant predictor of access to debt finance among the rural farmers in Oyo state. In this study, data was obtained using structured questionnaires, which were administered to 210 respondents by means of a multistage sampling procedure. Using a logit model, the findings revealed a significant positive relationship between collateral and access to debt finance among SMEs in Nigeria, at a level 1%. However, Ololade and Olagunju observed that there was a need for financial institutions to help look into the value of collateral requirements for SMEs, especially farmers, because they are less privileged than other sectors in Nigeria. They also highlighted that their findings may not be relevant to other SMEs operating in manufacturing or service industries, but limited only to the farming sector. Moreover, even

in farming, only one state is represented, therefore the conclusions of the findings may not be applicable to the whole of Nigeria.

In Spain, collateral was found by Lago et al. (2007) to be associated with access to trade credit. In this study, the research aim was to establish whether collateral was a key predictor of access to external finance for SMEs to develop, operate, and expand in the country. Collateral as a factor was used as a proxy for acquisition of trade credit, and the first hypothesis posited that collateral had a relationship with access to debt finance. Using dynamic panel data estimation techniques, a sample of 60,000 firms during the period 1992 to 2002 was investigated. The findings revealed that Spanish firms were dependent on collateral to acquire short-term trade credit, which made up about 65 per cent of total firm debt. Their descriptive statistics indicated that firms in Spain access more trade credit finance because it is less sensitive to firm characteristics such as size and age than in formal bank financing.

2.3.10. Education

The education and experience of the entrepreneur in terms of knowledge, skills, behaviours and attitudes contribute to increased or decreased access to debt finance (Reginald and Millicent, 2014). Past research has found a positive relationship between higher educational qualifications and business access to debt finance (Dunkelberg and Cooper, 1982; Johnson, 1993; Kozan, Oksoy and Ozsoy, 2006). The level of education has an influence on the motivation of an entrepreneur in terms of finding alternative finance sources; building finance networks; and planning for long term finance solutions for the enterprise (Smallbone and Wyer, 2000). Furthermore, education helps to enhance the enthusiasm, exploratory skills, communication abilities and foresight of entrepreneurs and ensure the enterprise exists as a going concern (Dobbs and Hamilton, 2007). It also enhances the skills that collectively have a positive effect when presenting a reasonable case for credit

applications, preparation of business plans, collateral appraisals and building good finance networks.

In Brazil, Kumar and Fransico (2005) found a significant relationship between entrepreneurial education and access to debt finance. In the UK, Irwin and Scott (2010) conducted a study across 400 SMEs using a telephone survey. Their findings indicate that entrepreneurs or managers who are graduates experienced minimum difficulties when accessing formal finance from banks. This implies that, first, entrepreneurs who are more educated have the ability to present positive financial information and strong business plans and to maintain a better relationship with financial institutions compared to less educated ones. Second, educated managers/owners have the skills to manage the factors of production and the functions of the business such as finance, marketing and human resources; these skills result in the high performance of the business, which helps those firms to access finance with little difficulty. The third reason develops from the supply side, whereby financiers in the credit scoring process attach great value to highly educated entrepreneurs or managers in the loan approval process.

Morton (1982) conducted a study across 600 SMEs located in Britain, France and West Germany to establish the determinants of access to debt finance. The findings revealed that financiers were more concerned with the managerial capability of the entrepreneur, other factors being constant, when extending finance. However, Han (2008) found that entrepreneurs with undergraduate degrees are more likely to be financially constrained than those without a formal education background. This argument is based on the premise that educated individuals are more likely to discard the traditional concept of loans or external credit as risky because of their ability to compute amortisation schedules; therefore, in such cases, educated entrepreneurs have a higher probability of using retained earnings (Ayyagari et al., 2010).

2.3.11. Experience

The literature suggests that entrepreneurial experience has a positive association with access to debt finance. An empirical study was conducted in South Africa by Reginald and Millicent (2014), with the objective of determining whether entrepreneurial experience was essential for success in access to debt finance among foreign-owned SMEs. Data was obtained based on a sample size of 50 foreign-owned SMEs, using closed and open-ended questionnaires and personal interviews, targeting managers and owners of non-indigenous SMEs operating in three towns (Alice, Fort Beaufort, and King Williams Town) in Eastern Cape Province of South Africa. The convenience random sampling technique was used, in which the sample elements were chosen based on the judgement of the researchers. Using ordinary least squares (OLS), the results indicated that entrepreneurial experience was a significant factor in explaining success in access to debt finance among foreign-owned SMEs. Descriptive statistics relating to entrepreneurial experience indicated a mean of 5.90 on a Likert scale of 7, which implied that respondents generally viewed the entrepreneurial experience factor to be important in accessing finance. In addition, the p-value relating to entrepreneurial experience and success in access to debt finance was significant at a level of 1%, from which it can be concluded that entrepreneurial experience is important in explaining access to debt finance among foreign-owned SMEs.

However, Reginald and Millicent (2014) highlight that the findings could not be generalised to apply to all SMEs in South Africa, because first they were centred on foreign-owned enterprises, ignoring the indigenous SMEs. Second, the three towns of Alice, Fort Beaufort, and King Williams Town may not give a representative sample of the entire picture of SMEs in South Africa. Last, the sample elements were chosen based on the judgement of the researchers by convenience random sampling due to the geographical dispersion of sample units, budgetary constraints, and access difficulties. Ayyagari et al.

(2010) recommend that, for research to be applicable, it must be diversified and representative, not discriminative.

In Eldoret Town, Kenya, Musamali and Kipkirong (2013) also found that entrepreneurial experience was significant in determining access to debt finance among SMEs. This study was conducted across 515 SMEs operating in the urban town of Eldoret, with a response rate of 39%. Primary data was collected using a five point Likert scale questionnaire of 1 strongly disagree to 5 strongly agree, in which the respondents had the choice depending on their perception. Using multiple regression analysis, Musamali and Kipkirong found that entrepreneurial experience indeed influenced access to debt finance among SMEs in the town.

Nonetheless, this research suffered from a non-response bias of 70%, which affected the reliability and validity of the study findings. According to Brick and Kalton (1996), if a survey achieves only a 30% response rate, the study suffers from a non-response bias of 70%. Brick and Kalton suggest that one way of dealing with lack of representativeness is to weight the study sample segments to reflect greater population attributes. In addition, Draugalis, Coons and Plaza (2008) recommend a response rate of approximately 60% for most questionnaire survey research to be regarded as representative.

2.3.12. Gender

The explicit concern of access to debt finance for women has received global intervention, especially in developing countries. This is because women entrepreneurs face many more access to debt finance barriers compared to their male counterparts (IFC, 2013). Gender parities, especially concerning access to debt finance, are a key issue in promoting economic growth and sustainable development in female-owned SMEs. Better delivery of finance to both female and male-owned enterprises without partiality will improve the performance of SMEs significantly.

Although at the household level women meet on-going basic needs and additional saving to invest and protect their families' future, they still receive very little financial credit support in their businesses (IMF, 2014). The challenge of women's access to credit was initially stressed at the first International Women's Conference, which was held in Mexico in 1975, which led to the constitution of the Women's World Banking network and in turn to the foundation of microfinance programmes in the early 1990s, specifically to target women entrepreneurs (DFID, 2013). There is now an established debate in the social sciences surrounding the notion of female subordination and the manner in which it is articulated. There is also a growing body of 'micro finance movements' managed by the World Bank, with the aim of bridging access to debt finance barriers for women entrepreneurs (World Bank, 2015). However, Carter et al. (2001) note that there is an absence of cumulative knowledge and a failure to adequately conceptualise and build explanatory theories on gender and access to debt finance among SMEs.

In Sri Lanka, a study conducted by the World Bank (2015) indicated that the main premise behind the micro credit movements was to focus on women entrepreneurs who have lower access to debt finance and are financially constrained. In Australia, Hulten (2012) also conducted a study on the level of access to debt finance across SMEs owned by male and female entrepreneurs. The findings revealed that female and male entrepreneurs differ in their access to debt finance aspirations and demand for credit due to denial, discouragement, financial constraint rates, and sources of finance. In this study, female entrepreneurs were found to have lower access to debt finance rates than male entrepreneurs, although both had similar demands for business credit.

This situation of women failing to access the desired finance does not occur because of an absence of ability or the industry in which women operate their businesses, but because of the more undesirable, complex, and multifaceted constraints arising from

gendered characterisations, which impose a further set of hurdles for many women entrepreneurs to negotiate for finance (DFID, 2013). Aterido et al. (2013), Buvinic and Berger (1990) and Beck et al. (2011) posit theoretically that there are several hypothetical reasons explaining a possible gender gap in access to debt finance services. First, there might be taste discrimination, in the sense that the financial system is dominated by men and the barriers to accessing financial services are consequently higher for women than men. Second, there might be statistical discrimination, in that the lower degree of education and involvement in the formal market economy is a barrier for women to access formal finance services. Third, this lower involvement in the formal market economy might also reflect a traditional role distribution in society, with women focused on household activities and men focused on market economies, which is reflected in the use of formal financial services.

However, the empirical literature suggests that women entrepreneurs are financially constrained due to many factors; for example, Torre et al. (2007) found that male-owned enterprises have a higher return on investment compared to female-owned ones. In a sample of 10 SMEs, the return on investment for male-owned firms was recorded to be on average 90%, whilst that of female-owned firms was 10% or negative. The effect of the low return on investment across female–owned firms was explained by the fact that women work in low return sectors due to gender constraints and operate micro to small sized businesses. In addition, women face legal discrimination and gender norms, which may also explain some of the cross-country variation in access to debt finance for them (Demirguc-Kunt et al., 2013).

In Morocco, a study conducted by the World Bank (2003) revealed that across enterprises owned by women, records indicated a diversion of much of their project profit to family budgets due to the greater pressure exerted on women by society than on men.

Diversion of profits to family cores may be another reason to hinder access to debt finance of such businesses owned by women in Morocco. A similar study in Vietnam of women entrepreneurs by the GEM (2006) documented that only 23 per cent from a sample of 500 SMEs owned by women were able to reinvest business earnings, with the remaining 77 per cent unable to reinvest due to family budgets. The World Bank Global Finance Index (2014) acknowledged that more than 1 billion women did not have access to credit services, which indicated an estimated worldwide financing gap across women entrepreneurs of $300 billion USD. This financing gap is coupled with nearly 70 per cent of female-owned small and medium sized enterprises documented with having inadequate or no access to credit financial services. Evidence from Uganda and Kenya shows that, in many instances, only the male heads of households are able to successfully receive formal credit (Johnson, 2004). Among institutional factors explaining gender differences in access to credit among female entrepreneurs in Uganda and Kenya might be property right restrictions for women. Such restrictions include requirements for married women to obtain their husband's signature for approval for all loan related transactions and the effect of a husband's adverse credit history.

On the demand side, the literature suggests that financiers consider gender across women to be a factor that could determine access to debt finance (Demirguc-Kunt et al., 2013; Hulten, 2012). According to Demirguc-Kunt et al. and Hulten, women are likely to lack financial capability and confidence to manage their finances, thus impeding them from being in a position to take advantage of available credit opportunities. Additionally, women are also likely to lack time due to their important role in the household and limited mobility in order to interact with credit service providers. Finally, women are often in a weaker position to take on funding for their microenterprises and SMEs as traditions and cultural bonds, combined with a lack of property rights, can discriminate women entrepreneurs

against their male counterparts in terms of access to property and lack of sufficient assets that can be accepted as collateral to access credit.

On the supply side, many constraints are valid, regardless of gender; however, some weigh more against women. Indeed, service delivery is not adapted to women and the limited physical outreach of financial institutions and their restricted opening hours are a particular constraint for women, since they are less mobile. Furthermore, insufficient data on the success of women entrepreneurs inhibits their potential to assume success without gender bias. Empirical data from IFC (2014) and the World Bank (2013) shows that there is generally low access to debt finance services by women entrepreneurs operating in the African continent. Within the regional context, men's access to financial services is consistently ahead of that of women, but disparities within the African continent remain evident. In Sub-Saharan Africa, the gender gap is relatively small compared to the MENA region: 27% of men and 22% of women report having no access to formal finance, compared to 23% of men and 13% of women in the MENA region. In the four North African countries where data is available (Algeria, Egypt, Morocco and Tunisia), with reference to the access to loans the statistics indicate that in Algeria only 0.5% of women access credit and 2.5% of men; 3.6% of women and 5.0% of men in Morocco; 0.2% of women and 1.2% of men in Egypt, and 8.1% of women and 12.1% of men in Tunisia. These findings were explained by the discriminatory aspects of legal and regulatory frameworks, particularly with reference to the land and property ownership that surrounds women entrepreneurs in Africa.

Table 2.2: Determinants of access to debt finance summarised

Author, Year & Country	Method and sample size	Target of the survey	Variables confirmed	Variables not confirmed
Nanyondo et al. (2014), Uganda	Cross-sectional and correlational. Use of Ordinary Least Squares (OLS). Questionnaire survey of 75 SMEs	SMEs registered and operating in Kampala	Quality of financial statements and information asymmetry	Perceived risk
Johnson and Niño-Zarazúa (2009), Kenya & Uganda	Data from financial access surveys carried out in 2006 in Kenya and Uganda	Farmers and employees	Employment, age, education, gender and poverty proxies	Industry, size, gender
Seluhinga, N (2013), Tanzania	Both primary and secondary, from three districts	Individual access (farmers)	Education, income and distance	Sex, age
Olawale and Akinwumi (2010), South Africa	Self-administered questionnaire from 417 respondents, out of which only 71 were able to access trade credit	SMEs in Eastern Cape Province	Managerial competency, the availability of a business plan, membership of trade associations, previous relationship, location, business size, insurance and incorporation	Gender
Lago, López and Saurina (2007) Spain	Dynamic panel data. A sample of 60,000 firms during the period 1992 to 2002	Spanish firms	Size, age and profitability	Collateral, ROI and liquidity
Mukiri (2013), Kenya	Survey of 218 small manufacturing enterprises in Nairobi	Small scale manufacturing enterprise in Nairobi	Entrepreneurial orientation, age of the entrepreneurs, start-up experience, training and having parents in business.	Innovativeness, proactiveness, risk-taking propensity, education, size
Musamali and Kipkiron (2013), Kenya	Sample of 103 SMEs was used in the study. Used multiple regression analysis	515 SMEs in Eldoret Town, 203 responded	Firm profile, such as ownership structure; size of the firm; business type; and age of the business	Industry
Zarook, Mafizur and Khanam (2013), Libya	557 survey questionnaires about SMEs in different sectors in Libya.	Service and manufacturing sectors	Demographic factors consisted of age, size, and which sector had a positive and significant impact on the accessing of finance by Libyan SMEs	Institutional factors
Diagne (1999), Malawi	Questionnaire on credit and savings was administered to 4,700 households	Village household access to and participation in alternative and formal credit markets	Knowledge of the existence of a credit club, land, male-headed	Population size

Ololade and Olagunju (2013), Nigeria	Multistage sampling technique to select 210 respondents and use of structured questionnaires	Rural farmers in Oyo State	Gender, marital status, guarantor and high interest rate	Collateral, lack of information and education
Lee, Sameen and Lloyd (2013) UK	A survey of almost 12,000 SMEs		Innovative firms	
Le (2012), Vietnam	World Bank Enterprise Data from 2009	Businesses in parts of Vietnam	Sales, collateral, industry, firm and financial characteristics, credit worthiness variables, industry dummies, and region	Legal status, size and age
Pandula (2011), Australia	The Investment Climate Survey in Sri Lanka undertaken by the World Bank (2004)	Nationally representative sample of 228 enterprises of Sri Lanka in 2004	Education of the entrepreneur and membership of business association	Size, age of the business, legal status and financial characteristics, such as profit, fixed assets base
Kwenda (2014), Zimbabwe	A sample of 48 non-financial firms listed for the period 2009-2012; secondary data of 48 firms listed on the Zimbabwe Stock Exchange		Firm size, investments in current assets and access to external funds	State of the economy and networking
Beck and Demirguc-Kunt (2006), USA	Theoretical underpinnings	Explanation of the SME sector in the USA	Size	
Kostov, Arun and Annim (2012), South Africa	2007 Finscope Data (3900 households) using face-to-face interviews	Low income households	Basic literacy, understanding financial terms.	Financial education

2.4. Limitations of the existing literature.

The importance of SME access to debt finance is reflected in the number of studies that have investigated the issue, as summarised in Tables 2.1 and 2.2 (e.g., Demirguc-Kunt and Levine, 2008; Barth et al., 2008; Arora, 2014). However, there are a number of limitations with the existing research, which may suggest that there is still limited understanding of SME access to debt finance and its determinants.

First, existing studies have measured access to debt finance differently. For example, a number of researchers measured access to debt finance using loan size and frequency of acquisition as proxies (e.g. Beck et al., 2008; Ayyagari et al., 2011 and Nanyondo et al., 2014). However, measuring the extent of access to debt finance this way has been criticised on the basis that it ignores the element of voluntary exclusion (i.e. those SMEs that do not want to borrow for any reason) and also that it takes the aggregate amounts lent out to SMEs without considering whether they all applied or not. Loan amounts may increase when just a handful of SMEs are benefiting from the source of finance (Arora, 2014; World Bank, 2013). In terms of the determinants of access to debt finance, there seems to be very limited understanding of what determines these, as current evidence is conflicting, and in some cases some determinants have only been investigated by a few researchers (Kostov et al., 2012; Johnson and Niño-Zarazúa, 2009; Le, 2012).

Second, many studies measure the extent of access to debt finance on the basis of bank loans to SMEs without considering other sources of finance available to them, such as trade credit, crowd-funding etc. (e.g. Demirguc-Kunt and Levine, 2008; Beck and Torre, 2006; Claessens, 2006). Consistent with this argument, the World Bank (2014) suggests that formal finance alone, especially bank loans, may not explain overall access to debt finance, as there are other forms of alternative finance; for example, trade credit, peer to peer finance, and crowd finance, which need to be considered to determine overall access. Therefore, any knowledge of the rates of SME access to debt finance based on formal finance and only on bank loans may be incomplete.

Third, the majority of studies rely on questionnaires administered only to SMEs to investigate the determinants of access to debt finance (Nanyondo et al., 2014; Seluhinga, 2013; Lago, López and Saurina, 2007; Wagema 2013; Musamali and Kipkiron, 2013; Zarooki, Mafizur and Khanam, 2013; Diagne, 1999; Ololade and Olagunju, 2013; Beck

and Demirguc-Kunt, 2006). Evidence on the consensus of both financiers and SMEs on the determinants of access to debt finance provides an important insight into the literature. Likewise, incorporating financiers in access to debt finance studies is important, because it gives a fuller picture of the determinants of access, given that the decision to advance finance is made by financiers (Honohan and King, 2009).

There is also a lack of theoretical linkages which explain the findings and discussions in the available literature. Fiedler (1997) highlights that the notion of the application and use of theories in discussion attaches a unique approach to coherently understand specific factors; for example, the determinants of access to debt finance. This study has therefore engaged multiple theories to explain these determinants among SMEs and financiers.

Moreover, the empirical findings in the literature above were obtained using perception-based questions. According to James and Vinnicombe (2002), triangulating perception and reality in studies of this nature is important, because sometimes perceptions are influenced by beliefs and assumptions, and the knowledge of that reality can therefore influence the research findings. This study is unique in the sense that it covers the reality and perception approach during data collection.

Finally, the existing findings are based on SMEs operating in urban towns and cities, for example; Nanyondo et al. (2014) and Johnson and Niño-Zarazúa (2009), and other developing countries (Wagema 2013; Musamali and Kipkiron, 2013; Zarooki et al., 2013; Diagne, 1999; Ololade and Olagunju, 2013; Kwenda, 2014; Ololade and Olagunju, 2013; Kwenda, 2014) and are limited to urban or registered SMEs. This is challenging, as rural people constitute the greater part of the population of developing countries, which is why this study is diversified to incorporate urban and rural SMEs across five regions of Uganda.

2.5. Conclusion

This chapter has presented an empirical literature review of studies conducted across various countries on the extent of access to debt finance and its determinants, such as effective lending rates, transaction costs, location, firm age, firm size, industry, financial transparency, collateral, gender, education and experience. The review focuses on SMEs and financiers (formal and alternative) and has facilitated the identification of gaps in the existing literature, which the current study intends to address. In doing this, the chapter has identified the access to debt finance rates of various forms of finance, both formal and alternative. The identified literature is diverse and with a wide in-depth perspective of access to debt finance among SMEs in different countries, both developed and underdeveloped, enabling provision of policy recommendations suitable to the Ugandan economic situation.

Having considered the determinants of access to debt finance, the chapter gives detailed coverage of selected quantitative studies. However, none of these examines the perspectives of both the suppliers and the users of credit, in terms of the factors that determine access to debt finance. The focus has been put on the demand side (SMEs) rather than financiers; however, Ayyagari et al. (2012) recommend that for access to debt finance to be improved, both the demand and supply factors must be considered.

Finally, the dependence on secondary data to study access to debt finance is considered unreliable by Claessens and Tzioumis (2006). They indicate that the use of financial data to study access to debt finance is only suitable for larger enterprises, not SMEs. Because of the element of voluntary disclosure, they are not mandated by the IFRS for full disclosure, therefore a primary data survey is recommended for access to debt finance studies of SMEs. Therefore, this study is a cross-sectional survey based on self-administered questionnaires to both SMEs and financiers.

CHAPTER THREE

SME ENVIRONMENT IN UGANDA

3.1. Introduction

The rationale for the positioning of chapter three immediately after the literature review in chapter two is intended to guide the reader in understanding the SME environment in Uganda. First, in terms of definition, small SMEs in Uganda have a minimum of 5-50 employees and medium ones over 51, without a defined upper limit (UIA, 2016) and with an annual turnover of 50 (upper limit for small) -360 (upper limit for medium) million Uganda shillings, equivalent to 12,837.3- 92,428.4 euros (Corporation, 2017). On the other hand, in the Eurozone, a small enterprise has fewer than 50 employees and a turnover/balance sheet total no greater than 10m euros. A medium-sized enterprise has fewer than 250 employees, a turnover no greater than 50m euros.

Therefore, in terms of the turnover of SMEs in Uganda, it is much lower than SMEs in Europe, which suggests that if the thesis is not clear about the definition of SMEs in Uganda, the reader is bound to rank them on the same scale and thus make unclear assumptions. Second, the banking environment within which SMEs operate is different; for example, the central bank does not provide an interest rate ceiling to cover borrowers (BOU, 2014b), whereas in Europe there is the provision of an inventory of interest rate restrictions, and clear mechanisms and levels at which interest rate ceilings are set within a regulatory structure (BOE, 2014). In addition, SMEs in Uganda are inclined to access short-term debt in the form of bank overdrafts because financiers are not able to predict the existence of such enterprises in order to offer long-term debt finance (BOU, 2014b).

This chapter also informs the discussions later on in chapter nine to make relevant policy formulations to provide policy framework to support SMEs out of the access to debt

finance challenge. In addition, for the extent of access to debt finance and its determinants to be reported reliably, forms of debt finance must be available in the country where the study is being conducted, that is why such information on Uganda's economy is relevant to guide the study. Moreover, literature discussed in chapter two suggests that there are conflicting results on the determinants of access to debt finance across the studies conducted in different countries, understanding the SME environment in Uganda will attach meaning to the discussion of why some factors are significant in explaining access to debt finance, whilst others are not.

The chapter starts by defining an SME in the Ugandan context, followed by a background to Uganda's economy, within which small and medium-sized enterprises (SMEs) function. Thereafter, the chapter describes the composition and ownership of SMEs in Uganda. It also discusses the financing trends among Ugandan SMEs and the obstacles faced by them in their efforts to access finance from either formal or alternative sources. The penultimate section of the chapter discusses government initiatives to alleviate the burden of access to debt finance faced by SMEs and the chapter ends with a summary and conclusion.

3.2. Definition of Ugandan SMEs

Authorities, for example the World Bank (2015), OECD (2015), IFC (2015), ACCA Global (2014) and IMF (2010), distinguish SMEs from large enterprises and add that their definition varies from country to country, depending on the level of economic development at a point in time. This implies that the economic conditions prevailing in a country will greatly affect the definition of what constitutes an SME. It also clearly means that a firm that is classified as an SME in one country may not qualify as one in another. In Uganda, SMEs are those enterprises that employ between 5-50 people, with an annual sales turnover or total assets of up to Ugandan shillings 360 million. A medium enterprise employs more

than 50 people without a clear upper limit, with an annual sales turnover or assets of between 360 million to 30 billion Ugandan shillings (UIA, 2015; USSIA, 2014; NSBS, 2003).

Research on SMEs indicates that they are widely defined in terms of their characteristics, which include value of assets, number of employees, sales/turnover, management style, location, and sometimes market share (Ayyagari et al., 2011; Beck, 2007; Demirguc-Kunt et al., 2004; Kassekende and Opondo, 2003). The UNCTAD (2002) offers guidelines to help define an SME. For example, number of employees implies the staff headcount, which is expressed in Annual Work Units (AWU). Anyone who works full-time within the enterprise or on its behalf during the entire reference year counts as one unit. However, part time staff, seasonal workers, and those who do not work the full year are treated as fractions of one unit.

3.3. Economy of Uganda

Uganda is one of the countries that forms the Sub Saharan Africa (SSA) region and is land locked. Its economy is dominated by the production of agricultural products, which range from crops grown mainly for subsistence purposes such as plantains, maize, beans, and potatoes, and exported cash crops such as coffee, tea, and tobacco (UEPB, 2014). The agricultural sector employs about 82% of the workforce (UIA, 2014). The reliance of the national economy on cash crops for foreign exchange is a legacy of Uganda's colonial period, when it was made a British protectorate (1894-1962) during the "scramble for Africa" by the imperialist European powers. According to Uganda Economy Profile (UEP) (2014), the country has substantial natural resources, including fertile soils, regular rainfall, small deposits of copper, gold, and other minerals, and recently discovered oil. Since 1986, the government, with the support of foreign countries and international agencies, has acted to rehabilitate and stabilise the economy by undertaking currency reform, raising producer

prices on export crops, increasing prices of petroleum products, and improving civil service wages. The policy changes have been especially aimed at reducing inflation and boosting production and export earnings. Since 1990, economic reforms have ushered in an era of solid economic growth based on the continued revival of the SME sector as an engine of growth through investment in infrastructure, improved incentives for production and exports, lower inflation and better domestic security.

Gross Domestic Product (GDP)

There are numerous economic indicators that are used to define the state of the economy or economic conditions. These include GDP growth rates, unemployment rates, and levels of inflation rates. The IMF (2014) describes Uganda's economy using the following parameters: GDP of US$27 billion (2015 estimate) with a GDP composition by sector of agriculture at 23.1%, industry at 26.9% and services at 50% (2013 estimate). The World Bank (2015) reports that Uganda's top individual income tax rate has increased from 30 to 40 per cent. The top corporate tax rate is 30 per cent and other taxes include a value-added tax and a property tax. Overall tax revenues equal 13.1 per cent of the domestic economy. Government expenditure is equivalent to 19.1 per cent of domestic production, and public debt equals 36 per cent of GDP. The small financial markets are dominated by commercial banks and regulated by the central bank. The economy is still largely cash-based, and the limited availability of financing options precludes more vibrant private-sector development. Uganda's GDP growth has largely recovered from the 2008 economic downturn due to the efforts of SMEs (UIA, 2015). GDP growth has also been enhanced by the recent developments in oil and gas revenues, in which SMEs participate actively. However, the efforts of SMEs are somehow frustrated by the very high cost of finance, unreliable power, high energy costs, inadequate transportation infrastructure, and

corruption, which constrain economic development and investor confidence (World Bank, 2014).

Employment

Uganda is characterised by serious unemployment; the overall regulatory labour framework has undergone a series of reforms, but the pace of reform has slowed. Despite some progress, the labour market lacks dynamism because of lingering rigidities. According to the International Labour Organization (ILO) (2014), statistics from 2013 reveal that young people (aged 15 to 24) in sub-Saharan Africa are twice as likely to be unemployed compared to any other age cohort. For Uganda, the Uganda Bureau of Statistics (UBOS) (2013) revealed that the share of the unemployed labour force (national definition, 18-30 years) among the total unemployed persons in the country was 64 per cent. Given the rapid growth of the Ugandan population, of which three-quarters are below the age of 30, and coupled with the fact that young people are receiving better education through higher access to primary and secondary education, a stronger focus on job creation for this group of people cannot be underestimated. The causes of youth unemployment (at 64%) are believed to be multifaceted, ranging from an inadequate investment/supply side of jobs, insufficient employable skills (i.e., a labour force possessing skills that are not compatible with available jobs) and high rates of labour force growth, at 4.7 per cent per annum. However, the existence of the SME sector in Uganda for the past decades has reduced the burden of unemployment by employing more than 2.5 million people (UIA, 2015; USSIA, 2014).

3.4. Composition and ownership of Ugandan SMEs

The SME sector comprises of 90% of the private sector, which is why it is one of UIA's national priority projects, aimed at promoting, attracting, and facilitating value adding investments and to improve the income of entrepreneurs (UIA, 2015). In addition, SMEs

have been documented to contribute to about 75% of GDP, which indeed justifies their existence as the backbone of Uganda's economy (PSF, 2015; Odongo, 2014; Badagawa, 2007). The structure of Ugandan SMEs is heterogeneous, implying that they are involved in a wide array of business activities, ranging from producing agricultural implements for the village market, operating coffee shops, running internet cafes in small towns and small sophisticated engineering or software firms which sell on the overseas markets, to medium-sized automotive part manufacturers selling to multinational auto part makers in both domestic and foreign markets (UBOS, 2011).

In terms of ownership, most SMEs are locally owned and managed by Ugandans; this was confirmed by a census conducted by UBOS (2011), whose findings indicated that 99 per cent of the SME businesses were owned by Ugandans, whilst those with combined ownership were found to be only 1 per cent. In terms of gender and ownership of SMEs, it was established that the majority of SMEs are male dominated. This is evidenced by information documented by UBOS (2011) on ownership of SME businesses, which showed that nearly 500,000 people owned businesses, out of which 56 per cent were male, whilst only 44 per cent were female, although the proportion of female business ownership increased in the past decade, from 37 per cent in 2001/02 to 44 per cent in 2010 /11.

3.4.1. Legal status

SMEs in Uganda are largely informal by choice, meaning that they choose not to become formalised businesses for fear of tax burdens (UIA, 2014). A survey by NSBS (2015) showed that one fifth of SMEs have not registered, and three quarters do not have a tax identification number, with the majority showing ignorance of the registration procedure and others complaining of its complexity. A study by the World Bank (2007) pointed out that lengthy and costly business registration procedures, for example long waiting times and complicated legal formalities, are to blame for the observed high level

of illegal SMEs in Uganda. In addition, a study conducted by UBOS (2011) substantiated previous research across a population of 458,106 SMEs and indicated that the majority of SMEs are sole owned (at 93 per cent) due to the formalisation environment, which is not favourable for businesses to thrive due to measures such as unaccommodative tax policies. This figure is followed by SMEs operating in partnerships and private limited companies at 2.4 per cent, as seen in Table 4 below:

Table 3.1: Legal ownership of SMEs

Ownership structure	Number of SMEs	Percentage
Sole Proprietor	429,715	93.8
Partnership	10,961	2.4
Private Limited	10,841	2.4
NGOs	1,063	0.2
Others	5,526	1.2
Total	458,106	100

Source: UBOS (2011)

3.4.2. Use of technology

Most SMEs in Uganda are slow to familiarise themselves with the use of software for record keeping and more particularly for the preparation of comparable financial statements (FINSCOPE, 2013). Most enterprises still practise manual book keeping, whose records tend to disappear with time. A study by UBOS (2011) found that 95 per cent of businesses did not own computers. Out of those businesses without computers, those in the trade sector dominated (at 53 per cent), while the majority (26 per cent) of those businesses that owned computers were in the real estate and business services sectors. Further analysis on internet usage also showed that only 3 per cent of businesses used the internet for business operations. This implies that investors may not be able to obtain reliable information from the business owners because of the lack of proper storage of records; the transfer of documents to investors may also be delayed if such information is not sent through computer systems.

3.4.3. Enterprise age

SMEs in Uganda are relatively young (UIA, 2014). A survey by NSBS (2015) documented that the majority (69%) of SMEs are aged between one and ten years old. A detailed census by UBOS (2011) across a population of 458,106 SMEs showed that more than 50 per cent of the businesses were less than 6 years old. Further analysis showed that 28.3 per cent of the businesses had only started in 2010 or 2011, while 16.4 per cent were more than 20 years old, as shown in Table 3.1 below:

Table 3.2: Enterprise age

Age in Years	Number of SMEs	Percentage
Started in 2010/11	129,429	28.3
2 to 5	121,769	26.5
6 to 10	70,120	15.3
11 to 20	51,696	11.3
21 to 50	75,264	16.4
> 50	403	0.1
Not Stated	9,425	2.1
Total	**458,106**	**100**

Source: UBOS (2011)

The results were based on SME businesses, with the majority operating in the trade sector (61%) across the five regions of Uganda, and most respondents from the central region (30%) and Kampala (29%).

3.5. Operation of SMEs

Most SMEs in Uganda operate underground, focusing on survival, and characterised by an irregular saving culture (UIA, 2015). They obtain most of their initial capital by various means, including the selling of property, the offer of casual labour and sometimes a few lucky ones are able to access high interest credit from MFIs, SACCOS and moneylenders (USSIA, 2014). Ugandan entrepreneurs are characterised by insufficient key skills, such as problem solving, business planning, goal setting, faith, confidence in what they do, and

above all insufficient business vision, which is very important for business success, as suggested by Nangoli et al. (2013). SMEs in Uganda over the years have developed business partnerships and linkages: for example, Business-to-Business (B2B) linkages, and partnerships with the private sector and diplomatic missions, aimed at strengthening capacity (PSF, 2014). The approach of collaborating and establishing linkages helps SMEs to obtain funding opportunities, skills, and exchange programmes with transnational or large domestic companies, as well as between SMEs themselves. The initiatives also support the creation of joint venture investments, improve access to appropriate technologies, and strengthen the transfer of technical and managerial skills (Ocici, 2006).

SMEs have diversified their business set-ups into ventures into oil and gas at a local level, while focusing on building the capacity to take advantage of the emerging business opportunities in these sectors, for example fresh markets (UIA, 2015). In order to enhance implementation of the ventures into oil and gas, SMEs have established innovation parks; for example, the Hoima Enterprise Centre, which was set up in partnership with Tullow Oil and Traidlinks at Bujumbura in Hoima Municipality (NSBS, 2015). Diversity into gas and oil has enabled enterprises to develop from small to medium size over the years thanks to access to a number of business-related support services; e.g. business mentoring, market information, and shared office facilities (UIA, 205). SMEs have also taken the initiative in industrial subcontracting and partnership exchanges programmes, which link domestic SMEs to the supply chains of large domestic or international companies, as well as across the SME sector. Such programmes help to develop their capacity to meet buyer needs and identify profitable business opportunities along the various value chains (FISCOPE, 2013; UIA, 2015; UMA, 2014).

Other initiatives and programmes in the operation of SMEs, as documented by NSBS (2015) and UIA (2015), include:

Cluster Development (Commodities and Service Clusters)

The cluster-based development approach enables domestic SMEs to integrate their business systems into global value chains by providing economies of scale and recognising the role of multiple stakeholders in the system. This approach seeks to address the challenges of isolation across SMEs by creating a critical mass of mutually beneficial business relations. The programme mainly focuses on developing sustainable clusters for priority commodities identified by the Government of Uganda, such as oil and gas. Clusters are an effective platform to enlarge the production base, trigger growth, alleviate poverty, and redress regional economic imbalances to take Uganda out of extreme poverty. Experience discussed by the World Bank (2007) shows that successful implementation of the cluster programmes helps SMEs improve their business performance, adopt appropriate technology, improve quality and productivity, and increase turnover and export. Joint initiatives nurtured under clusters could help the cluster firms go for value addition, product customization, brand building, improvement and marketing and export performance.

Regional exhibitions (access to markets and networking)

SMEs participate in exhibitions as one of the strategies to access new markets, demonstrate product usage, and obtain feedback from their customers. Exhibitions give consumers a chance to meet as many service providers as possible. They are fully funded by the government and are organised by the Ugandan Investment Authority in collaboration with Team Uganda members (e.g. Uganda Registration Services Bureau, Uganda Revenue Authority, the Immigration Department, Private Sector Foundation Uganda, Uganda National Chamber of Commerce and Industry, Uganda Small Scale Industries Association, Uganda National Bureau of Standards and Uganda Industrial Research Institute). The UIA

seeks to maximize the growth potential, prosperity and sustainability of small businesses through enhanced access to information and business advice.

Advocacy for and on behalf of SMEs

The UIA continues to engage with key stakeholders to improve the investment climate for SMEs. This is done through research and active participation in various activities that are geared towards improving the business environment. SMEs form groups at district levels, which comprise divisions that facilitate and support the formation of district SME investment committees and enable the private sector and local governments to actively participate in facilitating and supporting SME growth by taking the lead in attracting, promoting, facilitating and retaining both domestic and foreign financiers.

3.6. Trends in SME financing in Uganda

Access to debt finance is identified by Ugandan SMEs as the primary constraint on achieving full potential (Odongo, 2014). Access in this case focuses on SMEs' level of awareness of the available sources of finance (formal and alternative), and subsequent application for that finance and acceptance or not, as defined by World Bank (2014) and Arora (2014). In Uganda, Kassekende and Opondo (2003) indicate that the level of awareness of financial instruments among SMEs is low. They established that the smaller the size of the enterprise, and the further away from the city or urban centre the enterprise is, the less aware it is of the available financial products.

The majority of SMEs (about 65%) are located in rural areas, which makes them vulnerable to lending rate shocks because they are unlikely to bargain on the cost of finance below the rate set by the financier within their reach (Odongo, 2014). This explains why the turnover of a typical SME in Uganda is estimated at only 12 million Ugandan shillings per annum (UIA, 2015). A study of SMEs conducted by NSBS (2015) revealed that the

majority (86%) of start-up SMEs used their own funds, while less than 7% were financed through friends' and family funds; only in rare cases, less than 4%, were SMEs financed by banks. Moreover, the proportion of SMEs borrowing from microfinance institutions was found to be negligible (0.4%), especially at the medium enterprise level, although the majority of SMEs are presumed to access finance from MFIs (BOU, 2014b).

According to a FINSCOPE survey (2013), financing among enterprises is both formal (by banks), regulated by the central bank, and alternative, which is not regulated under the banking system at all; for example, credit supply unions and insurance companies. Formal finance providers are categorised by the central bank in four tiers: Tier 1 comprises 25 commercial banks with 564 branches; Tier 2 are Credit Institutions; Tier 3 Microfinance Deposit Taking Institutions (MDIs); and Tier 4 are Non Deposit Taking Financial Institutions such as Credit Only NGOs, SACCOs and MFIs. Alternative finance sources comprise all the other institutions, including village savings and rotating groups, Savings and Credit Associations (ROSCAs), Village Savings and Lending Associations (VSLAs), Accumulating Savings and Credit Associations (ACSA), Non-government organisations (NGOs), investment clubs, savings clubs, services by employers and other village groups such as burial societies and welfare funds. FINSCOPE (2009) considered other alternative finance services, including shops and investing through property, such as houses for rent; livestock, crop produce to be sold later or farm inputs to use later; and borrowing, such as credit from shops, schools, health centres, and individuals.

However, despite the various tiers of financial instruments available, the FINSCOPE (2013) report indicated that access to credit and borrowing is very low in Uganda, with only 4 per cent of the adult population accessing credit from formal bank institutions. A similar rate of 4 per cent accessed credit from non-bank formal financial institutions, while 20 per cent accessed credit from alternative sources. The findings further

showed that a significant proportion, 52%, of young people between the ages of 18-24 claimed that loans were unaffordable. The average loan size was relatively small, with 73 per cent of borrowers taking small loans that did not exceed 500,000 Uganda Shillings. In terms of gender and access to business finance, male borrowers were almost twice as likely to take a loan in excess of 1,000,000 Uganda Shillings (18 per cent) compared to their female counterparts (8 per cent) (FINSCOPE, 2013).

According to BOU (2014b), UIA (2014) and ADB (2013), the financial system is small and with minimal linkage to the real economy, characterised by a shortage of money for supply to SMEs. A study by ABD (2000) revealed that money supply from the banking sector in Uganda is constrained, with total assets of the banking sector at only at 26%, compared to 50% in neighbouring Kenya. Moreover, Calice et al. (2012) and Johnson and Niño-Zarazúa (2009) indicated that the total loan portfolio, as a percentage of GDP, is only 6% of bank finance issued to SMEs. This implies that the domestic banking system is not financing much real economic activity among SMEs. In addition, GEM (2009) documented that 62% of Uganda's entrepreneurs have no access whatsoever to financial services, although it is ranked among the most entrepreneurial countries in the world, with Ugandans starting businesses in all spheres of operations; for example, setting up and managing carpentry workshops, boutiques, general merchandise shops, operating health clinics, selling fresh foods, selling telecoms, mobile money, airtime vending and restaurants. However, operations of these SMEs unfortunately shut down before even completing a year due to failure to access finance (Kakuru, 2008; Kazooba, 2002; Nangoli et al., 2013).

3.7. Obstacles to accessing finance

Difficulties connected with lending to SMEs depend on the level of economic development of a country, although private sector firms consider lack of access to debt finance an important constraint for their operations (Kostov et al., 2012; Kendall et al., 2010; Beck,

2007; OECD, 2004). In a study conducted in the USA by the IFC on overcoming business obstacles, SME access to debt finance was found to be a major problem (IFC Doing Business USA Report, 2012). In Uganda, SMEs face an estimated financing gap of $2.1 to $2.6 trillion, which is equivalent to 30% to 36% of current outstanding SME credit. In addition, a study by the World Bank (2014) revealed that more than 50% of SMEs in emerging markets are credit constrained, 70% do not use external financing from formal financial institutions and out of the 30% who do receive credit, 15% are underfinanced from formal sources.

Hence, it is important to understand why credit markets are constrained in order to identify specific channels to relieve these constraints. It is also necessary to distinguish between firms lacking access to debt finance and those that choose not to seek any (OECD, 2004). SME financing obstacles emanate from market failures to bring supply (financiers) and demand (SMEs) into equilibrium (Altman, 2000; Claessens and Tzioumis, 2006; Mullineux, 2010; Cressy, 2006); affordability hitches (lending rates and transaction costs) (Beck and Demirguc-Kunt, 2006; Beck, 2007 Kumar et al., 1999; Inessa and Mylenko, 2003); and acceptable collateral (Zarook et al., 2014; Lambert et al., 2007).

However, in Uganda, SMEs have barriers to accessing finance from either formal or alternative sources (NSBS, 2015). Research by FINSCOPE (2015) highlighted that nearly 31 per cent of entrepreneurs had never accessed a loan during the previous 12 months. Advocates of SME financing, for example, UIA (2014) and USSIA (2015), cite many financing obstacles from both the supply and demand sides.

3.7.1. Supply side obstacles

According to UIA (2015) and NSBS (2015), supply-side refers to all financiers (formal and alternative) that offer debt to SMEs. Obstacles from the financiers are external access to

debt finance barriers are beyond control of the SMEs. UIA (2015) describes such barriers in Uganda mainly to include default risk associated to SMEs and shortage of debt facilities.

3.7.1.1. Default risk associated with SMEs

Most financiers in Uganda are not able to ascertain the level of risk associated with lending to SMEs due to information asymmetry, among other factors. This level of uncertainty causes financiers to increase the effective lending rate and collateral requirements, which again causes worse negative effects, such as adverse selection and moral hazard risks (Beck and Torre, 2006). Adverse selection is an ex-ante risk exposure that happens before money is borrowed or invested (Modigliani, 1982; Myers, 1984), whilst moral hazard is an ex-post risk, which often follows after the financial transaction has been completed due to failure on the part of the financier to supervise the borrower (Atif, 2006; Miller and Rojas 2004; Petersen et al., 1995).

Information asymmetry occurs both on the supply and demand side; on the supply side (financiers' side) it is caused by the opaqueness created by information technology in the use of the recent computerised credit scoring models that banks have adopted in their lending decision making, which leaves most SME operators with limited knowledge of what actually determines SME access to debt finance. On the demand side (SMEs), it is due to information gaps that exist between the SMEs and lenders; in this case, the SMEs are known to possess information relevant to the lenders, but they conceal it (Kakuru, 2008; Nakamura, 2007; Ocici, 2006). Unlike the popular view that collateral is the most important factor in accessing finance by Beck (2007), a study conducted in Uganda by Nanyondo et al. (2014) on access to debt finance among SMEs using the AR_a revealed that effective lending rates, transaction costs and financial transparency were significant predictors of access to debt finance, among other factors.

In addition, most commercial banks prefer selected customers such as governments and large enterprises because the default rate for Ugandan SMEs is 78% (BOU, 2014b). From the commercial banks' point of view, lending to SMEs involves high transaction costs due to the small amounts needed, which involve large amounts of time and effort, cumbersome administrative procedures, lack of understanding of SME needs, inability to assess creditworthiness, poor financial information, unreliable accounting, unrealistic business plans and lack of financial information, which increase the transaction costs of banks, coupled with the uncertainty of evaluating default risk. Even worse, SME owners and managers do not have the information they need for management purposes because SMEs sometimes keep more than one set of financial statements; for example, one for the taxman, and one for themselves or the financiers, which makes it difficult to ascertain the true and fair view of financial performance (UNCTAD, 2002, USAID, 2012).

3.7.1.2. Credit supply

An analysis of the loans extended also confirms that the amount of credit extended to Ugandan SMEs has reduced over time (ADB, 2013). A study by BOU (2014b) indicates that the credit extended by all depository-taking institutions stood at 2.4 billion Uganda Shillings in 2015, lower than the loan recoveries for the same period by 163 billion Uganda Shillings. Moreover, in the previous quarter, 2.7 billion Uganda Shillings was extended to SMEs in 2014, which was lower than the 10.2 billion Uganda shillings in 2013 and less than the loans that were recovered during that period. The lower credit extension versus credit recovery is most likely due to increased risk aversion by the banks following lower loan quality concerns and information asymmetry among SMEs. Private sector credit growth has been declining since 2013 and stood at minus 2.3%, compared to plus 1.5% in neighbouring Kenya due to the influence of mobile money. The number of mobile money registered customers exceeds half of the total population of Uganda, which is 35Million

people (UBOS, 2014). However, in terms of extending access to financial services, mobile banking has made a much larger contribution than any other recent innovation.

The regular FINSCOPE surveys (2009, 2013) reveal that the share of the population with access to formal financial services increased from 28 per cent in 2009 to 54 per cent in 2014 and that almost all of this increase was due to access to mobile banking. However, although the growth of mobile banking amongst the previously financially excluded has been impressive, we should also bear in mind that the range of financial services available through mobile banking is very narrow. In addition, mobile money is seeing considerable money exchanging hands without passing through banks, which has depleted banks' deposits, threatening liquidity (FINSCOPE, 2013). Uganda needs more personal banking to bring lending rates down, therefore agency banking allows people even in the remotest villages to access banking services through their shopkeepers. A larger bank customer base will enable the banking sector to move from premium based pricing, as even low levels of interest will be able to deliver larger profits. Currently, in order to lend, banks are borrowing from the National Social Security Fund (NSSF) fixed deposits at high rates, which then increases the cost of bank finance (BOU, 2014b).

3.7.2. Demand side obstacles

According to NSBS (2015), demand side obstacles refer to such access to debt finance obstacles faced by SMEs by virtue of in the nature of the business environment of Uganda. Such factors include; debt affordability due to high effective lending rates, infrastructure, industry, internal weakness for example in preparation of accounts, entrepreneurial experience and education.

3.7.2.1. Affordability factors

The high cost of finance and limited access to credit remain key impediments to private sector growth in Uganda. Commercial banks' average lending rates have been over

23 per cent for the past three years despite the reduction in the central bank lending rate to 11.5 per cent in 2014 (BOU, 2014b). These rates compare unfavourably with those of neighbouring East African partner states. Indeed, very few private businesses in Uganda can achieve an internal rate of return as high as 25 per cent to justify borrowing from Uganda's commercial banking sector (BOU, 2014b). In addition, poor information sharing between banks and SMEs, whereby the information shared is not adequate, also escalates the cost of borrowing and constrains access to the required credit (Opondo and Kasekende, 2012; Mugume, 2008). Commercial bank lending rates in Uganda are the highest in East Africa, leading to lower than projected credit growth and climbing non-performing loan ratios (FINSCOPE, 2013). The average shilling commercial bank lending rate in Uganda hit 23% in July, from 22% (BOU, 2014b), whilst Kenya's average commercial bank lending rate for the six most dominant banks is 17% for the country's 43 licensed commercial banks, and in Tanzania it usually averages between 12% and 15% (ADB, 2015).

3.7.2.2. Infrastructure available to SMEs

Infrastructure in terms of access roads, electricity and structural issues are partly to blame for the high lending rates and the failure of access to debt finance among SMEs in Uganda (Mugume, 2012). Research by FINSCOPE (2013) indicated that only 20% of the entire Ugandan population has interfaced with a bank; this is because alternative saving mechanisms, for example village saving groups (VSG), hold relatively small shilling amounts per household, instead of handing it over to banks that are located miles away from the villages. This poor saving culture due to poor infrastructural development has therefore contributed to low deposit mobilisation in banks and hence kept lending rates high. As a consequence, the non-performing loans ratio in Uganda has gradually climbed to 4.7% of all issued loans, and the weighted average lending rate on shilling loans averaged

24% in 2014, up from 23% in 2013 (BOU, 2014). In addition, due to limited access to electricity around the country, a semi-developed road network and the uneven distribution of commercial banks, Ugandans spend about $4.2b (sh11.4 trillion) annually to access banking facilities (Global Financial Inclusion Indicators, 2011).

3.7.2.3. Industry within which SMEs operate

The SME sector is diverse in terms of business operations; however, some sectors, for example building, mortgages, construction, real estate and trade sectors, have borrowed the largest amounts of money from banks, accounting for nearly 55% of the total non-performing loans stock (BOU, 2014). Bank lending is concentrated on the building and construction sector (69.4 per cent), followed by trade (20.4 per cent) and other services (10.2 per cent). Financial sector development strategies for the short and medium term also include implementation of the Microfinance Outreach Plan (MOP) and its associated Rural Financial Services Programme (RFSP) to promote access to credit for SMEs and rural households. Alternatively, financiers are interested in SMEs that operate in the oil and gas industries, because these offer new business innovation with considerable profits, which can lead to quicker loan recoupment by commercial bank lenders. The oil sector borrows about $2billion (approximately 5.2 trillion Uganda Shillings) from the Ugandan economy every year (IMF, 2016).

Collateral requirements

Ugandan SMEs face the challenge of sufficient acceptable collateral required by financiers to offer security against credit (UIA, 2015). A study conducted by OECD (2015) revealed that in Uganda land is the most commonly used form of collateral; 39% of businesses take out loans using land as collateral and one in five using machinery. In addition, studies conducted by BOU (2014b) and NSBS (2015) revealed that 90% of banks in Uganda depend on land for collateral to extend finance to SMEs. This is because land

appreciates and is liquid, especially if located in urban areas. However, land could also sometimes cause gender bias with regard to women accessing finance, because of social cultural ties against women, which implies that they do not have sufficient land ownership rights, hence causing more finance access obstacles for women entrepreneurs (World Bank, 2014).

3.7.2.4. Quality of accounting information

Enterprises in Uganda justify failure to maintain proper accounting records by referring to literacy levels and external user pressure (Nalukenge et al., 2013). Accounting information is an obstacle for SMEs to access finance because financiers use this information from financial statements to ascertain the financial performance of the firm and assess the risk associated with the borrower (Demirguc-Kunt and Levine, 2008). A study by Nanyondo et al. (2014) indicated that the quality of financial statements had a positive significant relationship with access to debt finance. The positive relationship between access to debt finance and financial transparency suggests that if SMEs prepare financial statements in accordance with IFRS, and reflect qualitative characteristics of reliability and comparability, this could improve access to debt finance.

Ugandan SMEs are associated with poor accounting and financial records, which denies investors information upon which to make decisions to extend finance because the terms of the loan (interest rate, term, security, and repayment details) depend on the risk involved (UIA, 2014). Moreover, SMEs in Uganda are documented as seldom having a long history or successful track record, both of which are useful for financiers when making investment decisions because, unlike larger companies that are required to publish financial information, SMEs have voluntary disclosure, which increases their opacity (Nalukenge et al., 2013). Additionally, Nangoli et al. (2013) highlight that on average Ugandan SMEs tend to mix personal financial affairs with business in the case of sole proprietors, to the

extent of operating the same bank accounts. This habit leads to the diversion of business funds into unplanned personal needs and poor tracking of expenses and revenues, which are examples of moral hazard behaviour that limit financiers from investing in SMEs.

3.7.2.5. Entrepreneurial education and experience

In adequate entrepreneurial education and experience could limit access to debt finance among SMEs in Uganda; if possessed by entrepreneurs and managers they represent a unique resource to an enterprise, which cannot be purchased on the market, and at the same time are difficult to copy because firms invest considerable time to nurture their human resources through training in order to attain the required financial literacy skills. SMEs in Uganda can benefit from well-established entrepreneurial orientation; for example, the knowledge, skills, experience and education of their human resources, which can improve their competencies, establish credit networks and tap into resources from their existing business relations. Entrepreneurial experience and education are two key acquired traits that interact to make human resources proactive in accessing the finance required by an enterprise. Therefore, the empirical literature suggests that education and experience have a positive bearing on the acquisition of finance among SMEs (Musamali and Kipkirong, 2013; Nangoli et al., 2013).

In Uganda, most sole proprietors are relatively well educated; over half have had a secondary education or higher, but there are very few degree holders (NSBS, 2015; FINSCOPE, 2009). The education and experience of the business, for example the possession of knowledge and skills, contributes to access to debt finance (Reginald and Millicent, 2014; Dess and Lumpkin, 2005; Boso et al., 2012). Entrepreneurs who are educated with relevant experience find it easy to access finance for many reasons; first, relationships with financiers at their level. Second, such entrepreneurs possess knowledge of various financing instruments and make use of them. Third, they are also confident,

which aids in negotiations for cheaper finance. However, according to NSBS (2015), the majority of SME owners and human resources in general have had limited education and have the minimum or just on the job training experience, which could be an obstacle to access to debt finance. With this kind of low education and experience, entrepreneurs are not able to build a strong credit network or even manage the enterprises internally; for example, by making sure that financial statements are prepared in the acceptable format, which further decreases the chances of acquiring finance.

3.8. Government initiatives towards SME access to debt finance

Available evidence shows that SMEs constitute a large part (90%) of the private sector and contribute to poverty reduction by employing over 2.5 million Ugandans, thus helping achieve the first MDG of eradicating extreme poverty (UIA, 2015). Therefore, efforts have been taken by the Ugandan government to help SMEs achieve their growth potential. SMEs have proved their economic worth by contributing to the economy, despite the state of financial constraint; for example, they are a prime source of new jobs and contribute to approximately 75% of Uganda's Gross Domestic Product (GDP) (UIA, 2015). The government of Uganda has therefore made various efforts to help SMEs access the desired finance; for example, through a partnership with the US government, in which a loan guarantee scheme aimed at waiving collateral barriers by offering 50% security to SMEs was established by the USAID.

However, even with loan guarantee scheme fewer than 20% of SMEs are able to access finance, which could imply that other factors, apart from collateral, have an influence (Uganda Small Scales Industries Association (USSIA) Report, 2014). The African Development Bank (ADB, 2014) also provided US$75million to be lent to SMEs, but only 17.5% (or 22,000 out of 128,000 SMEs) have benefited from the scheme (Private Sector Foundation (PSF), 2014). Other schemes aimed at alleviating SME access to debt

finance problems are available in the public domain; for example, the Private Sector Foundation, which administers the BUDS, Uganda National Chamber of Commerce and Industry (UNCCI), Uganda Small Scale Industries Association (USSIA), Export Promotion Board (EPB), and Uganda Manufacturers Association (UMA) (PSF, 2015; UIA, 2014; BOU, 2014; IFC, 2014; ADB, 2014).

3.8.1. SME policies and programmes

The government has fashioned comprehensive plans to act as a framework for the development of the economy; one of these plans is the revised Poverty Eradication Action Plan (PEAP), which has become the national planning framework to guide SMEs to work within the national guidelines. In addition, derived from the PEAP is the Plan for the Modernisation of Agriculture (PMA). The PMA aims at modernising agriculture by commercialising it and supporting information dissemination, especially in the field of new technology and techniques of production, aimed at improving productivity, even for the majority of SMEs in the agriculture sector. The third and equally important policy framework originating from the revised PEAP is the Medium-Term Competitiveness Strategy (MTCS) for the private sector, in which SMEs are housed in an enabling environment to increase their profits, have a higher capacity to create more jobs, operate in a free and fair environment, attract private sector investment and also have a strong export base.

In addition, with donor assistance, the government is implementing focused programmes such as Rural Financial Services (RFS), which aim at expanding the outreach of sustainable microfinance, school leavers, Youth Enterprise Schemes, and Business Uganda Development Services (BUDS). In addition, a Micro and Small-Scale Enterprises Policy Unit (MSSEPU) has been established in the Ministry of Finance, Planning and Economic Development to specifically fine-tune SME policies to enable them to achieve

full potential. In addition, the Commercial Division of the High Court (CDHC) has been established to expedite disposal of commercial cases concerning SMEs because it is considered that they have different needs from larger enterprises and are vulnerable to abuse in the business environment; for example, debtors may deliberately refuse to pay and get away with it because small sized business owners cannot afford legal fees. It is hoped that the operationalisation of these policy initiatives will result in the rapid development of SMEs.

Moreover, measures to enhance the capacity of commercial banks to carry out better risk analysis of SME borrowers and reduce the impact of non-performing assets include the effort to establish a credit reference bureau at the Institute of Bankers to help SMEs overcome financing obstacles. The Bank of Uganda (BOU) through its Financial Support Schemes (FSS) also operates a number of credit schemes and support programmes on behalf of itself, the government, and donors. The credit schemes provide loans to small and medium size enterprises in the private sector through licensed banks, while the support programmes are for building the capacity of financial institutions, including MFIs. Credit schemes include:

- Apex Private Sector Loan Scheme (Apex), which was designed to support small and medium scale private sector enterprises in manufacturing, agro-processing and services, including tourism;

- Export Refinance Fund (ERF), which was designed to provide working capital in support of the export of non-traditional goods;

- Distressed Flower Project Fund (DFPF), which was established to rescue flower firms recently found to be facing distress, especially with regard to working capital and replacement of greenhouses;

- Export Promotion Fund (EPF), which is part of the Apex credit line, established to assist SME exporters to promote their exports and identify new markets;

- Development Finance Fund (DFF), which was established mainly to support increased production in the agricultural sector. It is, however, being phased out because of its poor performance.

Other credit schemes administered in the past include:

- Investment Term Credit Refinance Fund (ITCRF);

- Cotton Sub-Sector Development Project (CSDP; and

- Rehabilitation of Public Enterprises (RPE) project.

The support programmes include:

- Export Credit Guarantee Scheme (ECGS), launched in December, 2000 to support the export of non-traditional products originating from Uganda with 35% Ugandan content;

- African Rural and Agricultural Credit Association (AFRACA);

- DANIDA funded Rural Financial Services Component (RFSC); and

- Capacity Building Programme (CBP), which was wound up in December 2000, having been established to build the capacity of MFIs in rural areas to enhance their capacity to deliver rural financial services to SMEs.

3.9. Summary and conclusion

This chapter has described the nature of Uganda's economy, and the characteristics and composition of Ugandan SMEs. It has also discussed the operation of SMEs, financing trends and the obstacles faced by SMEs which impede access to debt finance. Finally, the chapter has highlighted efforts undertaken by the government of Uganda to lift the burden of access to debt finance failure among SMEs. All efforts are being made to help them achieve their full potential and help take Uganda out of extreme poverty.

CHAPTER FOUR

THEORETICAL FRAMEWORK

4.1. Introduction

This chapter reviews the various theoretical underpinnings to explain access to debt finance and its determinants. As mentioned in chapter one, the majority of studies in this field have not considered theories to explain the phenomena. Therefore, the rationale of this chapter is to offer a review of the theoretical literature that attempts to explain ATDF, and why some firms access finance while others do not. This is based on the premise that theory gives rigor to empirical evidence and attaches meaning to the explanation of access to debt finance and its determinants from both the supply and demand perspectives.

This chapter comprises two parts; the first, 4.2, discusses the credit rationing theory, relating it to the extent of access to debt finance among SMEs. The second part, 4.3, discusses the theories that explain the determinants of access to debt finance and why factors such as effective lending rates, transactions costs, firm age, firm size, ownership, financial transparency, collateral, education, experience and gender may determine this. Finally, section 4.4 provides the summary and conclusion of the chapter.

4.2. Credit rationing theory

Access to credit is explained by credit rationing theory (Stiglitz and Weiss, 1981; Bester, 1985; Cressy, 1996; Baltensperger and Devinney, 1985). According to Stiglitz and Weiss, credit rationing is said to occur when some borrowers receive a loan, while others do not. Credit rationing takes place at either financier level due to loan markets imperfection and information asymmetry or voluntarily by the borrowers (voluntary exclusion). At financier level, credit rationing occurs in a situation where demand for credit exceeds supply at the prevailing interest rate (Stiglitz and Weiss, 1981). There is scant literature on self-rationing,

however, in situations where credit rationing is voluntary, Arora (2014) describes such borrowers as non-credit seekers due to personal, culture or social reasons or could be in the bracket of discouraged borrowers. Findings later on of this study in chapter seven indicated that, majority of SMEs (52%) are non-debt seekers which suggests that the access to finance problem at some extent is not a supply problem but rather a situation of voluntary exclusion and discouraged borrowers.

Bester (1985) suggests that financiers may choose to reject some borrowers because of negative enticement effects. For example, for given collateral, an increase in the rate of interest causes adverse selection, since only borrowers with riskier investments will apply for a loan at a higher interest rate. Similarly, higher interest payments create an incentive for investors to choose projects with a higher probability of bankruptcy (Afonso and Aubyn, 1997, 1998; Matthews and Thompson, 2014). On the other hand, for a fixed rate of interest, an increase in collateral requirements may also result in a decline in the lender's profits (Cressy, 1996). Stiglitz and Weiss (1981) show that this happens if the more risk-averse borrowers, those that choose relatively safe investment projects, drop out of the market. According to Bester (1985) and Wette (1983), if financiers set collateral requirements and the rate of interest to screen investors' riskiness, then no credit rationing will occur at equilibrium. This is because increasing collateral requirements tends to result in adverse selection, even with risk-neutral investors (Bester, 1984a, 1985). This assumption is based on the premise that financiers, either from formal (banks) or alternative (trade creditors, crowd funders, peer to peer, B2B) sources, decide upon the rate of interest and the collateral of their credit offers independently (Bougheas et al., 2005). Therefore, credit rationing takes place at different levels with different requirements because lenders have no unified contracts to serve as a selection tool for borrowers (Wette, 1983).

According to Afonso and Aubyn (1998), Swank (1996) and Jaffee et al. (1976), investors with a low probability of economic failure are more inclined to accept an increase in collateral requirements for a certain reduction in the rate of interest than those with a high probability of failure. The perception is that if some investors with a low probability of repayment do not receive the loan they prefer, then they will apply for those contracts that are chosen by less risky borrowers (Gale and Hellwig, 1989). Therefore, the concept of credit rationing equilibrium sets in (Bester, 1985; Jaffee and Modigliani, 1969). Credit rationing equilibrium is characterised by a separation of borrowers at different risk levels (Jaffee, 1971; Jaffee and Russell, 1976). Equilibrium always pools good, tolerable and high risk borrowers together (Bester, 1985). However, pooling of different risks in one contract is not viable against competition whenever there are no unified self-selection mechanisms in place (Wette, 1983). At equilibrium, there exists another credit offer that is profitable because it attracts only the tolerably risky borrowers from the pooling contract (Gale and Hellwig, 1989). Borrowers with high probability of default tend to go for a contract with a higher interest rate and lower collateral than borrowers with a low probability (Jaffee and Rusell, 1976; Williamson, 1986). Stiglitz and Weiss (1984) indicate that under certain circumstances, lenders will not use their bargaining power to raise interest rates because of adverse selection, which outweighs any direct effect on the lender's payments.

According to Afonso and Aubyn (1997, 1998), Jaffee and Modigliani (1969), Jaffee (1971) and Jaffee and Russell (1976), the effect of credit rationing on access to debt finance among SMEs is not readily measured unless there are genuine statistics of enterprises that apply for finance and either receive funds or are rejected by financiers (Arora, 2014). However, in principle, the amount of credit rationing could also be measured as the demand for credit minus the supply of credit. However, we generally only observe the quantity of credit that is transacted (or that is outstanding), not the amount that is demanded or supplied

(Modigliani, 1982; Myers, 1977; Myers and Majluf, 1984; Bester, 1985). Therefore, such measurement raises the question that if funds are so scarce as to require rationing, why do lenders not raise the interest that they demand. In the case of credit rationing, the price of credit (interest rate) does not fully adjust, so demand is not completely satisfied (Swank, 1996).

Practically, Jaffee and Modigliani (1969) explain the concept of credit rationing as the process whereby financiers classify borrowing enterprises or individuals into small numbers of groups based on many score factors, such as purpose of borrowing, industry or collateral. After classification, each finance provider determines a single interest rate for each group, even though the enterprises or individuals within a group may be diverse with respect to risk and the level of loan requested (Jaffee and Modigliani, 1969). Financiers handle assortment by rationing those enterprises or individuals within the group which have a loan demand that exceeds the credit supply (Stiglitz and Weiss, 1984, 1986, 1987a, 1987b; Swank, 1996). There are a number of different types of credit rationing depending on how excess demand is defined, on whether the excess demand is provisional or continuing, and most importantly, on the factors that cause the loan rate to be depressed (Williamson, 1986). Given the number of possible variations, there needs to be a distinction between the forms of credit rationing (Afonso and Aubyn, 1998).

Credit rationing takes place under two categories, namely the micro and macro, depending on how excess demand is defined; for example, on whether the excess demand is temporary or continuing, and most importantly, on the factors that cause the debt finance lending rate to be volatile (Gale and Hellwig, 1984). Micro credit rationing is the type of rationing that places credit limits on borrowers, whereby SMEs receive a smaller proportion of debt finance applied for (Stiglitz and Weiss, 1981). This type of rationing originates from the debt finance market of demand and supply which causes financiers to segment

borrowers and give less than the funds applied for to minimise default risk (Baltensperger and Devinney, 1985).

On the contrary, under macro credit rationing financiers arbitrarily deny access to debt finance to a portion of SMEs due to information asymmetry. Therefore, the access to debt finance challenge in Uganda is both a supply and demand problem: a supply problem in terms of debt market imperfections for example, adverse selection (when demand exceeds supply, banks increase interest rates which attract bad credit risks (firms which have poor investment channels and high inherent risks) become more probable to acquire loans than good credit risks (firms with better investment opportunities and less inherent risks) and a demand problem in terms of information asymmetry for example where SMEs divert into moral hazard behavior. Hansen and Thatcher (1983) present an argument which suggests that under normal equilibrium debt finance markets, there exists no credit rationing. Although, if, on the other hand it is a borrower's choice to choose to be in the bracket of non-debt seekers or discouraged borrowers, then it would be misleading to say that debt finance markets are rationing borrowers. Matthews and Thompson (2014) also supports the notion that competitive equilibrium debt finance markets are not characterised by credit rationing. However, effective lending rates provides a means for a bank to manage its risk. If the bank feels its debt are too heavily directed to a particular borrower at a posted interest rate, it can achieve a greater degree of diversification by increasing the effective lending rate, a decision which exposes the financier to adverse selection *(explained in section 4.2.2.2.2 of this chapter)*.

Other forms of credit rationing described by Williamson (1986), Ghosh et al. (1999), Modigliani (1963), Cowling (2010) and Bougheas et al. (2005) include the following:

- Interest rate (or price) rationing. In this category, the borrower may receive a loan of a smaller size than desired at a given loan rate (Bougheas et al., 2005). To obtain a larger loan, the borrower has to pay a higher rate. With interest rate rationing, the borrower has to pay a higher rate on a larger loan since the probability of default tends to be higher (Ghosh et al., 1999). The borrower would feel they are being rationed out of the credit market with high interest.

- Pure credit rationing (Modigliani, 1963). This occurs in instances whereby some individuals obtain loans, while apparently identical individuals, who are willing to borrow at precisely the same terms, do not. This is the purest form of credit rationing (Stiglitz and Weiss, 1981), which arises due to imperfect information. When it does occur, changes in the availability of credit, rather than changes in the interest rate, may determine the extent of borrowing (Afonso and Aubyn, 1998).

- Redlining rationing (the term redlining originally referred to the crosshatched maps used by urban mortgage lenders to designate neighbourhoods in which they would not lend) occurs when the borrower cannot satisfy the lender's required rate of return. Given the risk classification, a lender will refuse to grant credit to a borrower when the lender cannot obtain its required return at any interest rate (Cowling, 2010). Moreover, loans which are viable at one required rate of return (as determined by the deposit rate), may no longer be viable when the required return rises. Our use of the term does not imply any type of discriminatory behaviour. With redlining, lenders classify borrowers into a large number of groups so that each group has a small number of borrowers. In this case, borrowers in a redlined group may have nearly the same features as the borrowers in a group that does obtain loans (Bester, 1985; Keeton, 1979, Gale and Hellwig, 1984).

4.2.1. Credit rationing within imperfect loan markets

Access to debt finance can be explained by credit rationing due to the existence of various credit market imperfections, which make lenders redline borrowers based on factors such as default risk, loan size, borrower classification, and customer relationships (Matthews and Thompson, 2014; Akerlof, 1970; Smith, 1966; Jaffee and Russell, 1976; Hansen and Thatcher, 1983).

Default risk

Borrowers are credit rationed through the tenet of the default risk factor in the process of loan appraisal. Lenders are interested in loan repayment, which is why Modigliani (1963) places emphasis on the direct relation between credit rationing and the scope of credit risk. As much as financiers aim to maximise profits in their credit activity, they are equally concerned about the relative riskiness of the borrower and will only lend to one who has the likelihood of paying back the loan, depending on objective and subjective factors. Therefore, defining the volume of credit availability to a borrower is subject to the level of risk that the lender is willing to take. This is supported by Smith's (1966) notion that an increased loan amount lowers the probability of its full repayment, also that for very small loans the certainty of their repayment is assumed. Financiers are not only interested in loan repayment, but also in the ability of the borrower to meet the targets or repayment as obliged rather than paying at their jurisdiction. Assuming that the borrower repays the loan amount whenever he or she is objectively able to, that means a breakdown in credit repayments and the lender making a loss on the time value of money. Therefore, with default risk, financiers will finance the project with an above average risk of failure, leading to a contraction in the supply of credit (Marshall and Gordon, 1965; Akerlof, 1970; Hansen and Thatcher, 1983).

Loan size

Loan size causes a shift to the left of the loan supply curve when demand is higher than supply (Jaffee and Russell, 1976; Hodgman, 1960; Freimer and Gordon, 1965). It is assumed that banks aim at optimization of loan size depending on the level of interest rate to earn more interest income. Thus, regardless of the size of the offered interest rate, borrowers will not be granted loans which exceed the maximum amount available in a particular bank. In the case of limited capital resources in banks allocated for loan activity, the size of deposit supply will determine loan supply. Diminishing bank capital resources in the face of continuously growing loan demand must finally lead to credit rationing. An additional argument by de Meza and Webb (1987) for shifting to the left of the loan supply curve stems from the individual nature of bank loan activity, in which an increase in lending rate by the bank may cause a decrease in loan accessibility by the borrower.

Borrower classification

The third loan market imperfection is based on borrower classification, whereby financiers categorise borrowing firms or individuals into a small number of groups based on objective factors such as industry orientation and firm size. Each financier (usually formal banks) determines a single interest rate for each group, even though the firms within a group may be diverse with respect to risk and the amount of their loan demand. Banks deal with this diversity by rationing those firms within the group which have a loan demand that exceeds the loan supply. Jaffee and Modigliani (1969) demonstrate that even when the group loan rate is selected to maximise bank profits (over the group), some firms in the group still face credit rationing because the bank recognises that they have above average demand or above average risk, therefore the size of the loan offered to these firms is smaller than the loan applied for. However, a firm might prefer to pay a higher interest rate to obtain a larger loan, but this would conflict with the purpose of the classification scheme, namely to simplify rate-setting with just one rate for each group.

Customer relationships

Loan market imperfection can be due to customer relationships, which motivate lending in terms of why formal financiers (banks, MFIs) will set a low lending rate, below that of the market (Jaffee and Modigliani, 1969). According to Hodgman (1960), firms build and establish relationships with financiers; for example, by providing banks with deposits on a continuing basis and in return the firms receive priority status for their loan applications. Once firms attain this status, they can negotiate for lending rates below that of the market because of the past relationship that exists between the financier and borrower. Consequently, access to debt finance becomes easier and affordable for such firms compared to their counterparts without any past credit relationship (Akerlof, 1970; Marshall and Gordon, 1965). Customer relationships imply the failure of market forces to attain an equilibrium because banks set loan rates below the market interest rate, and then give priority to borrowers with established bank relationships (Shapiro and Stiglitz, 1984).

4.2.2. Credit rationing under imperfect information

Credit rationing also occurs in loan markets with imperfect information, because financiers usually have little evidence of the default risks of the applicant (Swank, 1996; Afonso and Aubyn, 1997). Credit markets without sufficient information are an example of information asymmetry (Wette, 1983). In the credit market with unreliable information, lenders are forced to raise interest rates as a screening device for borrowers; however, this incentive causes adverse selection in situations where demand for credit exceeds supply (Matthews and Thompson, 2014; Ghosh et al., 1999). Moreover, borrowers with imperfect information tend to divert the purpose for which the loan was taken out to other risky projects, a situation referred to as "moral hazard" (Cowling, 2010; Bougheas et al., 2005).

4.2.2.1. Information asymmetry

Information asymmetry is a phenomenon which explains why credit rationing can occur in loan markets (Jappelli and Pagano, 2005; Jaffee et al., 1976). With information asymmetry, one group of participants has better or more opportune information than other parties (Berger and Udell, 1988). Typically, the source of information asymmetry is the superior knowledge that managers and owners have about the enterprise's prospects, business plans and cash flow, while the financiers comprise the uninformed group, which impairs the extension of finance (Bushee and Leuz, 2005). Information asymmetry causes credit rationing from the financiers' point of view because adequate and reliable information serves as an anchor to influence access to debt finance (Ball, 2006). This is based on the premise that a reduction in the level of information asymmetry enables the bank to estimate the default risk and the loan size, and to classify the borrower appropriately (Verrecchia, 2001). Not only will it mean that a large number of SMEs which have good growth potential have no access to either formal and alternative finance, but it will also make financiers reluctantly refuse to lend to SMEs (macro rationing) (Berger and Udell, 1992). Information asymmetry causes suppliers of finance to incur the costs of investigating information about corporate financial status to minimize the risk associated with adverse selection and effective lending rates (Baltensperger and Devinney, 1985; Matthews and Thompson, 2014).

According to Griffins (2002), inadequate information and low information quality inhibit SMEs from accessing formal finance. More specifically, Nanyondo et al. (2014) argued that SMEs that disclose information of a higher quality rely more heavily on liabilities, which is consistent with having greater access to external finance. A substantial reduction in the cost of either formal or alternative finance can be realised if SMEs disclose adequate information that relates to their operating activities, collateral and all other details

that the financiers require before extending credit of any form, as this will reduce information asymmetry risks (Williamson, 1986; Bester, 1985). In addition, Kassekende and Opondo (2003, 2014) assert that SMEs face a higher cost of debt because they are considered riskier since bank managers base their lending decisions on the quality of information that is released by the SMEs. Therefore, Bushee and Leuz (2005) and Barth and Lang (2008) established that adequate enterprise information is important because it mitigates information asymmetry between the management of the enterprise and the financiers, which in turn influences reductions in the cost of finance. Without certification of relevant credit information, firms who want to borrow from the public debt and loan markets may not be able to do so. For example, in the presence of information asymmetry, investors would not only face adverse selection problems, but would also incur high costs from credit analysis and monitoring. Thus, credit rationing will occur in such situations where there is insufficient information because investors would be reluctant to lend money to the firm (Healy and Palepu, 2001; Gibbins et al., 1990; Verrecchia, 2001). Information imperfection is the foundation for financiers to increase interest rates and the value of collateral to guard against default risk, which instead causes the negative effects of adverse selection and moral hazard (Barth and Lang, 2008; Popa et al., 2009; Kassekende and Opondo, 2003).

4.2.2.2. Adverse selection

The adverse selection concept also explains how firms are credit rationed. It occurs in loan markets with imperfect information, which leads to credit rationing for borrowers (Stiglitz and Weiss, 1981). Adverse selection happens under two main assumptions: first, that lenders cannot differentiate between borrowers of diverse risk levels; and second, that loan contracts are subject to limited liability (i.e., if project returns are less than debt obligations, the borrower bears no responsibility to pay out of pocket) (Ghosh et al.,1999).

The analysis embedded in adverse selection is that the restriction is voluntary, implying that borrowers repay loans when they have the means to do so (Hellwig et al., 1987; Swank, 1996; Jaffee et al., 1976). According to Deegan (2002), adverse selection originates directly from the residual imperfect information which is present in credit markets. Before financiers extend credit, an evaluation of the applicant's identification is made to minimise the default risk (Deegan and Rankin, 1996; Gray, Kouhy and Lavers, 1995). In the case of SMEs, because they do not have mandatory disclosure, they lack public transparent information, so financiers, especially formal banks, spend much more time finding information and incur high transaction costs in processing and verifying it (Besley and Levenson, 2010; Tweedie, 2010). However, Petersen and Rajan (1995) and Berger and Udell (1995) argue that small banks are more suitable for servicing SMEs because adverse selection can be handled with small size clients. Adverse selection is a risk exposure that exists before the money is lent or invested (Modigliani, 1963). Financiers are faced with the challenge of selecting whom to give credit to and how to adequately minimize risk (Myers, 1984).

An adverse selection situation takes place when there is insufficient information about the borrower, which means the lender charges an average price for credit, which in turn means low risk borrowers shun credit (Besley and Levenson, 2010), while those with higher risks will seek the offer, resulting in adverse selection (Modigliani, 1963). Baltensperger and Devinney (1985) state that the presence of the limited liability of borrowers imparts a preference for risk among them, and a corresponding aversion to risk among lenders in a business environment with simple debt contracts between tolerable risk borrowers and lenders. This is because limited liability on the part of borrowers implies that lenders bear all the downside risk (Bester, 1985). On the other hand, all proceeds above the loan repayment obligation accrue to borrowers (Gray et al., 1995). Therefore, raising

interest rates subsequently greatly affects the profitability of low risk borrowers, causing them to drop out of the application pool (Stiglitz and Weiss, 1984). This leads to an adverse selection effect, whereby higher interest rates increase the average riskiness of the borrower (Jaffee and Russell, 1976). At very high interest rates, the only applicants are borrowers who could potentially generate very high returns but presumably have a small probability of repayment (Gale and Hellwig, 1984). Excess demand in the credit market may persist even in the face of competition and flexible interest rates (Deegan and Rankin, 1996).

Therefore, the credit rationing theory of Stiglitz and Weiss (1981) was designed to apply quite generally, rather than in the specific context of alternative credit, especially among SMEs (Bester, 1985). Although credit theory has also often been criticised for its underlying assumption that lenders are not aware of borrower characteristics in this context, SMEs have unique characteristics, for example a lower number of employees, family ownership, and distribution of profits which are never equitable in the case of husband and wife businesses. All such characteristics tend to increase default risk among SMEs (Cressy, 2006; Besley and Levenson, 2010). According to Huang et al. (2014) and Stiglitz and Weiss (1981), information asymmetry leads to moral hazard. Moral hazard is a risk which often occurs after the financial transaction has been made. In financial markets it occurs when the borrower has already acquired the loan (Atif, 2006; Miller and Rock, 1982; Petersen et al., 1995). Most often, financiers are unable to supervise enterprises all the time and obtain effective information about the borrowers, which causes a diversion of resources to risky projects.

4.2.2.3. *Moral hazard*

Moral hazard is an ex-post behaviour, which occurs when borrowers deviate from the original business plans, which can lead to the introduction of projects that are riskier although with higher returns (IFC, 2014). The deviation of projects sometimes occurs with

consent of field officers who do not communicate such changes to the risk mangers because they have been bribed. The issue of corruption, Uganda being ranked in a position of 142 out of 174 countries in the 2014 Global Corruption Perception Index (GCI) report released by Transparency International (BOU, 2014b) has affected the debt finance market to the extent that risk managers or insurance companies cannot closely ascertain the risk associated with borrowers.

In such a dilemma, Cressy (1996) recommend that the best predictor of future creditworthiness is past creditworthiness which again relates to social capital. Consequently, recommends that checking the history of the fund applicant reduces both adverse selection and moral hazard Nonetheless, due to corruption levels, social capital is not regarded as a valuable resource according to BOU (2014b) because nearly a high percentage of decision makers can be bribed. Therefore, (Claessens and Feijen, 2007) support the notion of securitisation just like Matthews and Thompson (2014) requiring collateral to reduce such risks associated with information asymmetry risks.

4.3. Theories that explain the determinants of access to debt finance

4.3.1. Financing constraint theory

The financing constraint theory advanced by Evans and Jovanovic (1989) stipulates that enterprises have the choice of increasing or decreasing the amount of external capital they can acquire if they overcome their borrowing constraints. Financiers limit access to debt finance depending on the capacity of the enterprise; for example, the value of collateral against the loan, sales turnover and profit, the number of years the enterprise has been running and size (Inessa and Mylenko 2003; Jappelli and Pagano, 2005). The seminal paper by Evans and Jovanovic (1989) generated investigations, for example by Parker (2002) and Cressy (2002), into the role of collateral in solving credit constraints. Collateral can

influence the amount of credit issued to a new enterprise, either by affecting the finance cost (interest rate), or simply reducing the level of credit offered (Cressy, 2006). Financing constraints on the demand (from SMEs) include factors such as informational asymmetry, collateral, age of the firm, and size, which produce credit constraints that in particular reduce access to debt finance and exploitation of investment opportunities (Beck et al., 2006; Levine, 2005). On the supply side, financing constraints can be initiated by financiers by increasing transaction costs and effective lending rates, among other factors (Beck, 2007).

However, Levine (2005) highlights that while to a tolerable-risk borrower this is a simple matter, to SMEs, which are associated with opaqueness in their financial reporting, this increases transaction costs. The complexity of risk assessment interplays with information asymmetry to inflate borrowing costs and risks in credit markets (Beck and Demirguc-Kunt, 2006, Kumar et al., 1999; Inessa and Mylenko 2003). Furthermore, given information asymmetries, the ranking of borrowers according to, for example, expected returns and riskiness, is different depending on whether it is done on the basis of collateral requirements, enterprise size or age, or business income (Atif, 2006; Miller and Rojas, 2004; Petersen et al., 1995). Thus, the demand and supply of finance cannot be equal for all financiers and borrowers because of the differences in the credit scoring scales with their diverse criteria (Buera, 2008; Kerr and Nanda, 2009). However, financing constraint theory (Evans and Jovanovic, 1989) highlights factors that influence a decrease or increase in access to debt finance, including owners' financial position, and firm age and size on the demand aside, and transaction cost constraint on the supply side, as explained below.

Regarding SME owners' financial position, the entrepreneur's net income and wealth could for example cause financial constraint (Cressy 2002; Kerr and Nanda, 2009). This is because SMEs barely separate individual income and business income, especially

in cases of sole entrepreneurs (Buera, 2008). Financiers consider the entrepreneur to be a net borrower, obliged to repay at the end of the period and not expected to default, no matter how his business turns out (Coase, 1937). Even when collateral is put against the loan, in the event of failure to pay, the financier claims the individual owner's assets (Fazzari et al., 1988). Therefore, financial constraint theory assumes the factor of proportionality, whereby each person can borrow up to an amount that is proportional to his wealth or net income (Evans and Jovanovic, 1989; Petersen et al., 1995). The entrepreneur therefore faces a liquidity constraint, in which individual wealth and income do not meet the criteria for credit scoring (Chen, 2014; Beck and Torre 2007).

Firm age could also cause access to debt finance difficulties (Evans and Jovanovic, 1989). The financing constraint theory posits that as firms grow over time, the importance of the initial liquidity constraint will diminish (Cressy, 2006; Beck and Demirguc-Kunt, 2006). This is because the elasticity of earnings with respect to firm age is positive and statistically significant (Kumar et al., 1999; Inessa and Mylenko, 2003). The financing constraint model also illustrates that most new businesses are likely to face even more severe constraints, which makes them resort to personal savings and loans from friends and relatives, particularly in business formation (Beck, 2007). Once the firm is established, the role of personal savings diminishes, as financiers perceive less risk and become more willing to provide capital (Buera, 2008; Kerr and Nanda, 2009). Therefore, young businesses are liquidity constrained and the amount of capital available to them is limited to personal assets (Buera, 2008; Chen, 2014; Fazzari et al., 1988). Firm age will determine access to debt finance in that the older the firm is, the more it builds capacity, which may attract investors. However, Jensen and Meckling (1976) point out that there is a tendency of firms to become complacent with age and therefore miss their competitive advantage.

Additionally, Cressy (2006) and Beck and Demirguc-Kunt (2006) indicate that when firms are at the infant stage, it may be hard to access finance in form of equity or increase their credit portfolio because they then may not be in possession of acceptable collateral and may not even have built enough business relationships to find guarantors in the case of relationship bank finance. Similarly, Kumar et al. (1999) and Inessa and Mylenko (2003) reason that the elasticity of earnings with respect to firm age is positive and statistically significant with firm age, implying that the older the firm becomes, the more it increases its potential to access external finance. Beck (2007) and Bougheas et al. (2005) add that enterprises at the infancy stage are only beginning to grow and financiers cannot easily ascertain the level of risk associated with such young enterprises, therefore it is difficult to extent any form of credit to such firms without a credit record.

Another perspective is given by Chandler (2009), that the longer a firm has existed, the more it signals that it can withstand harsh economic conditions. Furthermore, by staying in business, a firm can signal that it does not adopt opportunistic behaviour. This also signifies that the firm, and in particular the owners or managers, are mature enough to deal with business challenges. Older firms can provide a résumé, from which lenders can gauge their credit worthiness, unlike young firms, for whom it is often difficult and expensive to access bank financing, due in large part to information asymmetry between the banks and enterprises. In addition, Katz (1982) states that in the adoption of the theory of the firm to explain access to external finance, emphasis is put on the history built by a firm, which may affect its access to debt finance in the future. Arguably, older SMEs have a heavier and more restrictive enterprise memory, which may or may not increase the chances of access to debt finance (Katz, 1982; Loderer et al., 2009; Hannan and Freeman, 1984).

In addition, financing constraint theory states that firm size can be a hindrance in accessing finance (Evans and Jovanovic, 1989). Studies on firm size (Berger and Udell,

2006; Daske and Gephardt, 2006; Schiffer and Weder, 2001; Lago et al., 2007) have used total assets, total sales or number of employees to measure size. For the purpose of this study, size will be limited to number of employees, as it has been popularly operationalised by many authors; for example, Berger and Udell (2006); Daske and Gephardt (2006); Schiffer and Weder (2001); Lago et al. (2007) and Beck (2007). In particular, SME lending is more affected by the greater inability to manage risk compared to larger firms due to size. Firm size in this case refers to the number of qualified employees who perform various tasks; for example, accountants who prepare financial statements that reflect transparency, reliability and completeness characteristics (Ayyagari et al., 2007). Compared to large firms, SMEs are commonly more opaque, less likely to be able to post collateral and often do not have audited financial statements that allow a better picture of the enterprise and its projected profits (Beck, 2007). These features of the SME lending market imply that financiers must develop credit-scoring technologies that enable them to choose SMEs with tolerable risk and able to make repayments (Beck et al., 2005). To select such SMEs, financiers must compare various aspects, such as the total costs of lending, expected returns, risk associated with the lending, and willingness to repay (Beck, 2007; Cressy, 2002; Inessa and Mylenko 2003). SMEs are constrained in terms of meeting the credit scoring criteria, unlike larger firms (Baltensperger and Devinney, 1985; Bester, 1984a; Bougheas et al., 2005).

Moreover, SMEs tend to score less on acceptable collateral than larger firms; cautious lenders would rather not offer loans at a higher interest rate if they are not reasonably sure of their ability to appropriately measure costs, determine the risks for a given expected return, and identify expected returns for a given risk (Beck and Torre, 2006; Beck, 2007). The demand for loanable funds is a positive function of expected returns on investible projects and a negative function of the lending interest rate and voluntary self-

exclusion (Klapper and Richmond, 2009; Beck, 2007). Financing constraint theory assumes that financiers would rather risk funds with larger firms, given the risk versus return phenomena and loan supply being positive functions of the nominal lending interest rate, a relationship that is non-linear and might turn negative beyond a threshold. Lenders will therefore not satisfy all the loan demand, but rather ration it at an interest rate below the market-clearing rate (Bester, 1985; Baltensperger and Devinney, 1985; Ayyagari et al., 2006). According to financing constraint theory, firm size could explain why some enterprises are able to access finance and others are not. For example, Beck (2007) found that larger firms tend to be more diversified, which could be an incentive to attract external finance. In addition, Cassar (2004) contends that with information asymmetry among small-sized enterprises, it is relatively more costly for smaller firms to resolve these asymmetries with debt providers, given the fact that they usually borrow lower amounts, which increases transaction costs. Moreover, small-sized enterprises have fewer opportunities to raise capital because most of them do not have a legal status, therefore capital markets may be out of reach for them to raise equity through shares. Lastly, in terms of quality of employees, large-sized firms are inherently more efficient than small ones due to their superior management, which gives assurance to the financiers on the financial and intellectual ability of the firm to service debt, hence giving them greater access to debt finance.

From the supply side, financing constraint theory illustrates the burden of fixed transaction costs (Evans and Jovanovic, 1989). These costs in credit assessment, processing and monitoring tend to be lower as the size of the loan increases (Beck and Torre, 2006). SMEs tend to borrow smaller amounts than larger firms, which increases transaction costs (Beck, 2007). Assessing an individual loan request entails costs that are partially independent of the loan amount; for example, loan processing fees, administrative

expenses, communication charges, and transport (Ayyagari et al., 2006). In addition, the costs of maintaining client relationships over time across different financial products, including loan, deposit and savings services, are partly independent of the number and amount of financial transactions with the client (Beck and Demirguc-Kunt, 2006). Transaction costs can be fixed at the level of the financial system, for example in terms of regulatory operations, which tends to make the financier incur extra costs, such as dealing with SMEs if the regulatory framework of the institution does not favour these firms (Kumar et al., 1999). The effect of fixed costs on financial service provision can be reinforced by network externalities, in which the marginal benefit to an additional customer is determined by the number of customers already using the service (Claessens et al., 2006). High fixed costs can trap small-scale financiers at a low-level equilibrium because of the system's inability to reap the necessary scale economies and network externalities (Beck, 2007; Beck and Levine, 2005).

Additionally, across developing and developed economies, and comparing formal and alternative financiers, smaller credit transactions show higher operating costs, which indicate a financing constraint (Demirguc-Kunt, Laeven and Levine, 2005). In summary, fixed costs can constitute an important limitation to outreach in the provision of finance, especially to SMEs, and are therefore a key barrier to the broadening of access to debt finance (Griffins, 2002). SMEs are advised to exploit economies of scale either by increasing the loan amount requested or by increasing the volume of transactions in terms of deposits to increase the competitiveness in credit scoring by specialising in large-value payments and savings services (Beck and Levine, 2005; Demirguc-Kunt et al., 2004).

Fixed transaction costs constitute the funding costs of financial institutions and the lending rate they charge borrowers. In a world of uncertain returns on investments, higher transaction costs and the resulting higher lending costs can increase the likelihood that

borrowers cannot repay, due to the excessive repayment burden (Beck, 2007; Beck and Torre, 2006). Rather than increasing the interest rate to the market-clearing rate, SMEs might be credit rationed by a higher interest rate than the market equilibrium rate, because higher interest rates would discourage borrowing and hence lower expected bad debts (Swank, 1996; Jaffee et al., 1976; Williamson, 1986). High transaction costs therefore do not only increase the cost of borrowing, but can also restrict access to external finance, especially for SMEs. Their diverse characteristics and relative opaqueness increase assessment and monitoring costs. Unlike other credit categories, such as consumer credit or mortgage lending, SME lending is still considered a high-cost lending product. More specifically, unlike other lending products that can be reduced to simple transactions, SME lending often still depends heavily on the relationships between borrowers and lenders (Berger and Udell, 1998, 2006).

4.3.2. Resource based theory (RBT)

The main tenet of RBT is to help enterprises identify any attributes of valuable and rare resources that can lead to competitive advantage in the business environment and increase access to external resources (Coase, 1937; Barney, 1986a; Castanias and Helfat, 2001; Alvarez and Busenitz, 2001). RBT helps enterprises identify resource characteristics such as collateral and human resource capabilities that can improve creditworthiness and ease the acquisition of external finance (Coff, 1999; Bhaird and Lucey, 2010; Bougheas et al., 2005). All enterprises are endowed with unique resources that offer competitive advantage once utilised (Barney, 1986b; Bougheas et al., 2005). Barney (1991) argued that sustained competitive advantage derived from resources and capabilities are valuable and unique to enterprises. Therefore, such resources and capabilities can be viewed as bundles of tangible and intangible assets; for example, the firm's management skills, organizational processes and routines, and the information and knowledge it controls.

RBT explains why some firms will be able to access finance based on the following reasons. First, Coase (1937) highlights the value of the number of years an enterprise has existed, which can influence access to debt finance; for example, a well-established and secure firm has built-in internal resources and capabilities and is assumed to have established relationships with financiers, public approval, and brand royalty, which are likely to attract it to financiers. Second, the theory asserts the value of intellectual capital to improve access to debt finance; resources such as managerial competence in leadership qualities and experience are fundamental resource-based characteristics that can allow enterprises to build relationships to attract finance, especially in the case of relationship lending (Coase, 1937; Coff, 1999; Bhaird and Lucey, 2010). Third, RBT emphasises the element of proper presentation of tangible assets, for example equipment, plant and machinery (collateral), asserting that if such resources are well-valued and presented to financiers, then access could be made easier (Bhaird, 2010b). According to Barney (1991), such resources are unique, scarce and exceptional to enterprises, which is why some in the same industry can access finance, whilst their counterparts are denied credit. This implies that the internal resources explained by RBT, either tangible or intangible, improve firm performance and provide competitive advantage once fully utilised and attract external resources. Therefore, management of these intangible (valuable capabilities, intellectual capital, good will) and tangible (plant, machinery and equipment) resources creates a signalling effect to the public on the operations of the firm and can attract financiers to invest in the enterprise (Popa et al., 2009; Castanias and Helfat, 2001; Alvarez and Busenitz, 2001).

RBT suggests that these tangible and intangible resources can increase access to debt finance based on two aspects indicated by Barney (1991). First, resources are valuable, and second, they are unique to different firms. However, Barney's concept of 'valuable' is

an unclear criterion in measuring the competitive advantage of a firm. Whether the resource is valuable or not should be measured by its profitability, and thus it ought to take the form of an economic asset, regardless of how tangible or intangible it is. The value of any resource should be measured by the reduced value of the expected future income stream that can be attributed to it (Akio, 2005). In RBT, the valuable attribute of a firm is taken as a given, in that the enterprise is considered to have capacity to continually reconfigure its competitive advantage (Barney et al., 2001; Castanias and Helfat, 2001; Alvarez and Busenitz, 2001). However, the theory suggests that the resources, dynamic capabilities, and knowledge for planning and investment necessary to build up such resources are internal (Conner, 1991). This implies that RBT will overstate the profitability of firms exploiting these internal resources, because it ignores the cost of acquisition and accumulation (Akio, 2005). In addition, it recommends that enterprises realise their competitive advantage or maximize their profits from the resources they possess to be able to attract external resources, although taking into account the demand-supply side characteristics that influence the market structure (Alvarez and Busenitz, 2001; Priem and Butler, 2001a; Kraaijenbrink et al., 2010). The value of resources is determined by demand and supply characteristics, and these are also exogenous to the RBT model (Priem and Butler, 2001a). Therefore, RBT calls for emphasis on how to sustain such valuable resources in the long term without depreciation in the economic value they bring to the enterprise (Helfat and Peteraf, 2003; Barney et al., 1991; Coase, 1937).

RBT focuses on the role of dynamic capabilities; that is, the specific processes that firms use to alter their resource base, as sources of competitive advantage (Kraaijenbrink et al., 2010; Conner, 1991). Even with start-ups, RBT provides identification of unique resources that enable them gain competitive advantage. These resources include the entrepreneur's business and functional expertise, customer and supplier contacts, abilities

in recruiting key executives, and setting up human resource management policies (Subramanian, 2010). However, the firm's dynamic capabilities and perspective on competitive advantage contradict RBT (Kraaijenbrink et al., 2010; Barney, 2002). For example, Eisenhardt and Martin's (2000) argument suggests that dynamic capabilities have been widely described in several different industries, and have even become codified in the form of best practices, so they cannot be a source of competitive advantage. Therefore, the only way these dynamic capabilities can be a source of competitive advantage is if they are applied sooner and more wisely (Kraaijenbrink et al., 2010). Clearly, the ability to apply dynamic capabilities "sooner or more astutely" is itself a capability (Eisenhardt and Martin, 2000). Traditional RBT logic can be used to evaluate whether this ability to apply the use of dynamic resources quickly and wisely can be a source of competitive advantage (Barney, 2002). In conclusion, Eisenhardt and Martin (2000), along with Kraaijenbrink et al. (2010), assert that competitive advantages cannot be sustained, especially in dynamic and rapidly changing business environments.

RBT benefits SMEs in the sense that choosing a more resourceful financier entails the entrepreneur utilising and presenting internal resources properly (Subramanian, 2010). However, when resources such as available collateral, specialisation, managerial capabilities, and relationships are utilised properly (RBT) then SMEs can attract resourceful financiers who will not exploit them (Subramanian, 2010). The cost of finance increases with small, young and risky firms because at that level they have not established the strength of internal resources, for example financial relationships, collateral and human capital resources (Ciocca et al., 1996). RBT (Barney, 1991, 2001) suggests how enterprises actually operate, on the assumption that resources are equally distributed. RBT emphasises that the enterprise's use of tangible (collateral) and intangible (human resource skills, good will) assets improves bargaining power and increases access to debt finance (Coff, 1999).

According to Kraaijenbrink et al. (2010), RBT does face criticism, for instance from Connor (1991), who argues that it applies only to large firms with significant market power. Connor's argument is diluted because small firms may have unique competitive advantage generating capabilities, for example windows of opportunity (Coff, 1999). RBT includes the individual resources and capabilities of the entrepreneurs that constitute the firm, therefore making it relevant to SMEs (Barney, 2002). RBT is also very helpful to SMEs because they seem to face turbulent finance access obstacles (Beck, 2007).

In light of these, Bartoli et al. (2013) recommend that small firms should have the ability to apply RBT to be able to identify, build, manage and exploit critical internal resources, which will be the basis for developing capacity to attract external finance. RBT (Barney 1991, 2001) therefore underlines the inside resources of enterprises as attractive to external financiers. For example, if the management of SMEs improves financial reporting to show transparency, then financiers will be happy to invest in enterprises in which the risks are minimal or predictable (Eisenhardt and Martin, 2000; Kraaijenbrink et al., 2010).

4.3.3. The structure of ownership and the theory of the firm

According to Jensen and Meckling (1992), ownership means possession of a decision, along with the right of alienation. They contend that the combination of the right to make a decision and the right of alienation refer to what is generally meant by the term "property right", which is frequently used in economics (Coase, 1937). In contrast to markets, organisations generally do not delegate both decision rights and the alienability of those rights to the agent (Fama and Jensen, 1983). In the absence of alienation rights, organisations must solve both the rights assignment and control problems by alternative systems and procedures (Kumar et al., 1991). Agency problems are caused by failure to separate specialisation of decision management and residual risk bearing between decision agents and residual claimants (Berle and Means, 1932). The theory of the firm of Jensen

and Meckling (1992) suggests that there are two actions of special importance that are an integral part of ownership of a resource: the right to sell the resource (more accurately called "to sell rights in the resource"), and the right to capture the proceeds of the sale.

In theory, the rights to use and control of retained earnings could be held by different persons (Jensen and Meckling, 1976). However, in practice, such rights to use and control finances are combined to be held by one person who is the entrepreneur (Berle and Means, 1932). Control in the theory of firm denotes authority over precisely those aspects of firm policy that cannot be specified ex ante in a contract, but rather must be left to the discretion of those to whom the authority is granted because of high transaction costs or bounded rationality (Grossman and Hart, 1986; Hansmann, 1980). In principle, the owners of enterprises would simply have the right to control the firm and to appropriate its (positive or negative) residual earnings (Courtenay, 2000). However, ownership is commonly allocated to persons who have some transactional relationship with the enterprise, for example the entrepreneur (Mahoney and Roberts, 2007; Carter, Anderson and Shaw, 2001; Heracleous and Lan, 2011). Clearly, the reason for allocating ownership to persons with a transactional relationship with the enterprise is that the ownership relationship can be used to mitigate some of the agency costs, for example monitoring costs, which can be managed through simple market contracting (Fama and Jensen, 1983; Heracleous and Lan, 2011). However, ownership itself involves substantial costs; for example, decision-making itself can have high transaction costs in the face of diverse interests (Verrecchia, 2001). Because there is a strong incentive for individuals to form coalitions to shift benefits in their direction, efforts to form and break such coalitions may take substantial effort (Noreen, 1988).

Ownership structure could influence access to debt finance; for example, in cases of sole proprietorship, partnership and companies. For example, Fama and Jensen (1983)

and Dietmar et al. (1998) established that incorporated firms under limited liability which have higher chances of obtaining external finance because of their legal nature can be trusted, unlike unincorporated firms. Numerous factors could explain the association between incorporated firms and access to debt finance. First, corporations have the ability to issue stock and their stockholders have the freedom to resell it to raise equity because they are a legal entity. Second, Cassar (2004) observed that lenders might perceive incorporation as a sign of trustworthiness and formality of operations. Similarly, Abor (2007) argues that the form of ownership could affect the debt-equity decisions of SMEs, in the sense that, in the case of sole-owned enterprises, they never like to share control with external parties, so they prefer not to seek any outside equity finance. Therefore, corporations and limited liability enterprises may be more likely to finance their projects with equity, whilst sole proprietors are more likely to employ debt financing.

4.3.4. Relational gender theory (RGT)

Bem's (1981) RGT suggests that the phenomenon of gender is generally linked to sex type, on which the potential of women and men is measured. RGT postulates that men are superior to women. The theory demonstrates that men's denial and disregard of physical discomfort, risk and health care needs are all means of demonstrating deference to women, who are presumed to symbolise feminine characteristics (Courtenay, 2000). Masculine behaviours in men serve both as proof of their superiority over women and as proof of their ranking at the top of society, which gives women a subordinated status (Morris and Meyer, 1993). Women tend to be disadvantaged in the finance access stream not only because of their feminine nature, but also their limited property rights, low engagement in formalised economic activity and the social barriers to women's mobility and interactions with men (Aterido et al., 2013). Current feminist theorists (Courtenay, 2000; Bem, 1981; Marlow and Patton, 2005; Heilman and Chen, 2003) explain the notion of gender specifically with

reference to entrepreneurship category, with consideration of how liberal and social feminist analysts look at men and women. Courtenay (2000) and Marlow and Patton (2005) argue that the issue of gender interlinks with the business environment to cause a disadvantage for women in access to debt finance.

Advocates of gender theory contend that it influences access to debt finance at three levels (World Bank, 2011). First, at the macro-level, where women could be charged higher interest rates on overall availability and distribution of financial services across sectors (particularly formal versus alternative finance) (Naidoo and Hilton, 2006). In addition, gender bias in the distribution of financial services and the financing environment (e.g. changes in banking laws and the regulatory system) that directly sideline women in access to debt finance are based on aggregate investment and savings patterns (Johnson, 2004). Second, at the meso level, women are charged higher transaction costs because they borrow smaller amounts and usually do not reveal everything about the financial performance of the enterprise to lobby for finance (Aterido et al., 2013). Third, at the micro-level, women entrepreneurs are often deprived of credit based on changes in the patterns of savings, borrowing and lending that affect creditworthiness compared to male entrepreneurs (Holt and Ribe, 1991; Hilhorst and Oppenoorth, 1992; Baydas et al., 1994).

Marlow and Patton (2005) argue that while both men and women entrepreneurs face similar barriers in access to debt finance; these barriers are higher for women. In the context of Uganda for example, due to social cultural ties women do not have the privilege to own assets. In cases where a married woman is seeking a business loan, the husband needs to approve this, because all assets are assumed to be male owned. Women are also characterised by lower overall financial literacy, which hampers their access to debt finance, and finally, women tend to have lower incomes than men, which means they apply for smaller loans (World Bank, 2007).

4.3.5. Industrial location theory (ILT)

Another theory that could explain why SMEs in Uganda access finance is the industrial location theory. Weber's (1909, 1937) Industrial Location Theory highlights that firms which are strategically located close to the factors of production can easily tap into a pool of resources. ILT provides a complete distinction between the specifically locational decisions of the firm and all its other economic decisions (Weber, 1909; Hotelling, 1929; Greenhut, Melvin and Plant, 1956; Cyert and March, 1963). Weber's (1909) ILT has diverse schools of thought; one of the more prevalent is the advancement of Hotelling (1929), which is the first school of thought after Weber (1909) and mainly focuses on a small number of firms in locational interdependent situations. The second school of thought is a more behavioural approach, focusing on the development of monopoly capital and stemming from the work of Cyert and March (1963). This is a more recent locational approach in response to both changing concrete conditions and contradictions within previous approaches. The third theoretical approach is that of Losch (1954), which started from an analysis of the individual firm, focusing on an examination of the complete economic landscape of industries.

Despite the schools of thought, the theory of industrial location is intended to focus on the importance of firms, taking into careful consideration the nature of the geographical location in which they operate and following the principle dynamic of the optimum or least-cost location (Mackenzie and Ross, 1934; Losch, 1954; Mccann and Sheppard, 2003). Weber (1909) defines the term "least cost location" with reference to three factors: transportation costs (a direct and indirect expense incurred due to the distance an item is moved), labour costs, and accumulation of economies and diseconomies of scale. Scholars of ILT, for example Losch (1954), Hotelling (1929) and Cyert and March (1963), agree with Weber (1909) and state that transportation costs are believed to have the most

fundamental influence on industrial locations, other factors being regarded almost as causes of peculiarity across different firms. Therefore, the transport factor and other transfer factors whose costs are functionally related to distance influence the cost of external resources, such as finance. This is based on the premise that firms which are located in easily accessible urban places enjoy economics of scale, specialized labour and the growth of knowledge in relevant fields; moreover, commercial facilities in general tend to be in more advanced industrial areas in and around the city, which is also the repository of capital. Therefore, firms' careful choice of location may bring them closer to external resources (Hotelling, 1929; Greenhut et al., 1956; Cyert and March, 1963).

ILT explains why the location of SMEs in Uganda could affect their chances of accessing finance. For example, those in the urban areas can easily access finance because development occurs first in towns, at the point where overall costs, comprising transport and communication, are lowest. Because transport costs escalate the cost of finance, lenders tend to minimise distant clients in order to reduce monitoring costs and other distance-related expenses. Therefore, this element could mean SMEs in rural areas are sidelined in terms of access to debt finance, with urban SMEs prioritised. This argument is supported by Evans and Jovanovic (1989), who state that transport expenses increase the overall transaction costs of accessing resources. In addition, financiers consider urban SMEs to be more profitable because they are close to the market, and they do not incur many transport expenses in sales and marketing, which increases sales turnover by a relatively higher degree compared to rural SMEs. This again contributes to access to debt finance, which is why Losch (1954) advises firms to save on costs and locate strategically to enjoy economies of scale. In addition, Weber (1909) adds that normal profits are earned when costs are subsidised, even though total costs rise because of market expansion; however, as expansion occurs, the firm will benefit from economies of scale as a result of

savings on transportation. In terms of access to debt finance, Weber (1937) advises firms to be closer to resources, because usually access is determined by the market forces of demand and supply.

Additionally, Weber's industrial location theory mentions that the least cost principle not only saves on the transaction costs that can arise due to transport charges to and from external resource centres, but also that there are a variety of factors which may contribute to spatial variations in the availability of finance for small firms, especially those located in rural areas (Beck, 2007). These factors include the fact that there may be an absence of financial institutions in these rural areas. Occasionally, there may be a single bank branch available in the location, which may enjoy monopoly powers in the area, and small firms may not have many financing options available (Beck and Demirguc-Kunt, 2006).

Moreover, financiers may be reluctant to lend to small firms located in rural areas, as the assets offered as collateral by these firms may have less market value (Claessens et al., 2006). The idea of Weber's (1909) least-cost principle seems to be a concerted effort to educate entrepreneurs that profits are highest where costs are lowest. For example, with manufacturing enterprises, optimum location is the point where it will be possible for such firms to minimize factors of production costs and maximize profits by commanding the largest share of the market possible. However, there are disadvantages of ILT, which detract from its adoption in the present context. In particular, the initial abstractions tend to be too restrictive. For example, the premise that resources are of a uniform character throughout a region is grossly unrealistic when industries that use raw materials of a highly irregular occurrence are emerging. The Weberian model is also based on simplification of assumptions, which are open to criticism, because resources and costs vary spatially, and

the predominant concern of the manufacturer is to find that location which will allow costs to be minimized and profits maximized.

4.3.6. Signalling theory (ST)

Signalling theory can be used to explain the precept of why firms choose to be financially transparent in their disclosure (Morris, 1987). It is also known as information problem theory (IPT) and is similar to agency theory in that it is based on the principal-agent connection (Ross, 1973). Signalling theory focuses on addressing information asymmetry hiccups (Popa et al., 2005). It shows how this asymmetry can be reduced partly by more information being freely released to an interested public. Although the theory was developed in the labour market, signalling is a general phenomenon applicable in any market with information asymmetry (Tauringana and Mangena, 2006).

Promoters of this theory (Chithambo, 2013; Morris, 1987; Ross, 1973) postulate that managers (agents) solve the information problem by sending signals using various means, such as audited financial statements, dividend policy or the choice of a particular capital structure. Such practices are believed to reveal relevant information for investors and the market to enhance informed decision-making (Popa et al., 2008; Ross, 1973; Spence, 1973). Advocates of signalling theory contend that enterprises with greater performance use transparent information as signals to voluntarily disclose private information, which can be used by potential investors (financiers) as a good indication of the wish to invest in or be part of a successful enterprise (Watts and Zimmerman, 1986; Deegan and Carroll, 1996; Gray et al., 1995; Prabowo, 2006).

Potential investors' need for information is more advanced; they ask for more information than that provided by financial statements (Deegan and Unerman, 2011). Currently, investors value the enterprise not only by financial numbers, but also by its

nonfinancial and strategic performance (Gray et al., 1995). Financial statements and annual reports are now seen as the primary source of corporate information disclosure (Chithambo, 2014). Enterprises use transparency as a signal of an efficient disclosure process that meets the needs of the stakeholders and of the interests of the management of corporations (Prabowo, 2006). Transparency in disclosure is a crucial element in ensuring the true and fair view of the enterprises' financial position to enable effective allocation of resources and diminish information asymmetry tendencies between the enterprise and its stakeholders (Morris, 1987; Ross, 1973; Popa et al., 2005, 2008a).

SMEs choose transparency in the preparation of financial accounts to send signals to investors which indicate a true and fair view of performance and as a result may attract investors. Signalling operates through the release of voluntary information in financial statements and annual reports (Morris, 1987). According to Tauringana and Mangena (2006), company managers are assumed to possess more information about the prospects of their company than the public (investors in the market). They argue that, from a managerial point of view, voluntary disclosure is to the advantage of the enterprise because investors make financial decisions regarding the performance of the company based on the information available. Therefore, enterprises carry out signalling by releasing transparent information which shows the clear financial position of the enterprise through voluntary disclosure, and which enables investors to predict better future prospects of the company (Deegan and Unerman, 2011; Prabowo, 2006; Popa et al., 2009). In the business world of uncertainty and competition for scarce resources, especially finance, signalling helps enterprises to have a competitive edge over many other firms seeking to tap into the same pool of external finance (Popa et al., 2008; Ross, 1973; Spence, 1973).

Signalling theory therefore advocates information asymmetry to lessen the burden of the cost of finance (Morris, 1987). The information asymmetry theory of Berger and

Udell (1988) stipulates that transparent, adequate and reliable information serves as an anchor to influence access to debt finance. This is based on the premise that a reduction in the level of information asymmetry enables financiers (both formal and alternative) to estimate the risk and extend finance to SMEs (Afonso and Aubyn, 1998). Information asymmetry also leads to adverse selection and moral hazard, which in turn lead to credit rationing among enterprises (Stiglitz and Weiss, 1981; Bester, 1985; Cressy, 1996). According to Ball (2006), Morris (1987) and Tauringana and Mangena (2006), in a world of uncertainty, transparency in a firm's disclosure reduces risk and improves its probability of attracting external investors. Furthermore, if other factors are constant, improved disclosure tends to increase the relative importance that investors attach to a firm; for example, transparent information could reduce the cost of finance and lower the demand for desired collateral (Choi, 1973; Spence, 1973; Horngren, 1957).

The relationship between transparency and cost of capital was illustrated by Elliott and Jacobson (1994). They demonstrated that the cost of capital varies with the extent of information disclosed. According to them, the information risk premium (the cost of transacting without full informative disclosure) naturally decreases access to debt finance. Scholars such as Morris (1987), Tauringana and Mangena (2006), Popa et al. (2008a) and Prabowo (2006) assert that the only way the investor or financier can assess default risk is through transparent information, which is obtained through adequate disclosure. However, the theory has been criticised by Watts and Zimmerman (1990), Popa et al. (2008b) and Deegan and Unerman (2011) for being more biased towards voluntarily disclosure and reliant on hidden methods and means, as well as for being excessively investor based, thus favouring studies based on capital market settings.

4.4. Summary and Conclusion

Based on theory, an attempt has been made to explain the possible reasons behind access to debt finance. Credit rationing theory explains why some SMEs will secure access to debt finance, whilst others fail. The chapter has also highlighted that enterprises are credit rationed due to loan market imperfections, which mean demand for credit exceeds supply and also in situations of information imperfections where the financier is not able to ascertain the level of risk associated with the borrower. Second, the chapter has also described theories that could explain why some enterprises have higher or lower access to external finance.

5.1. Introduction

Empirical literature and various theories for understanding access to debt finance and its determinants have been discussed in chapter three and four. The rationale for the hypotheses chapter is to assemble conditional logical arguments based on theories and empirical evidence to explain why some factors are associated with access to debt finance in Uganda. The chapter is organised as follows: determinants of access to debt finance are discussed in sections 5.2 to 5.11, comprising 11 hypotheses based on the factors of effective lending rates, transaction costs, firm age, firm size, industry, ownership, collateral, financial transparency, education, experience, and gender. The chapter ends with section 5.5, the summary and conclusion.

5.2. Effective lending rate

The effective lending rate is measured as an affordability barrier that determines the cost of finance, and is possibly even more important than physical access barriers (IFC, 2014). The rate is defined as the interest rate plus a premium over and above it (ECB, 2013). It is classified by Arora (2014) as a price barrier to accessing finance, especially among SMEs. Lending rates are theorised to have a negative relationship with money demand by Keynes' monetary theory of interest (1923, 2005 and Fisher, 1930). Keynes and Fisher contend that the cost of finance largely depends on the motive behind the demand for credit; for example, to take care of daily transactions, for precautionary purposes or for speculative reasons. Conditional on the motive for the demand for credit, effective lending rates vary for many reasons; for example, risk associated with the loan; the nature of security against the loan; services in addition to the loan itself; lack of free competition among lenders or borrowers; duration of the loan; and other grounds which most economists refer to as "economic

friction". Keynes (1923) and Fisher (1930) postulate that excessive lending rates increase the borrower's burden in terms of loan repayment because demand for credit is sensitive to changes in these rates. For example, in situations when the lending rate fluctuates depending on inflationary tendencies, it is difficult for borrowers to cope with such adjustments in the repayment of the principal and interest, therefore in conditions of such uncertainty, they will withdraw their applications for external finance.

In contrast, however, Friedman (1956) does not support the notion of lending rates affecting money demand. He believed that the correlation between interest/lending rates and money demand is weak, since relative incentive to hold money does not change very much. Friedman's philosophy is supported by Ciocca et al. (1996) and Degryse and Cayseele (2013), who also argue that the idea of lending rates influencing money demand is not compelling. This is based on the premise that customer relationships between lenders and borrowers tend to counteract the rigidity of traditional arguments for why money demand depends on the interest rate. In the customer-borrower relationship, there can be negotiation of favourable rates if other factors such as collateral and information asymmetry are kept constant, because the effective lending rate is not generally defined by legal or regulatory authorities or financiers (FRB, 2007; ECB, 2013). Although Berger and Udell (2001) approve of the importance of these relationships in terms of offering competitive advantage to the borrower, they argue that such relationships tend to be exclusive (when a borrower has a single lender); both at a moment in time and over time continuing lending relationships provide cost savings for lenders, who make a sequence of loans to the same borrower, since information obtained on one date may also be used to assess risk at a later date.

Lending rates were found to be negatively associated with access to formal finance among Ugandan SMEs by Odongo (2014). This could have been due to the nature of SME

borrowing, which is mostly confined to MFIs and commercial banks (BOU, 2014). The interest rate with commercial banks is at 22.74%, whilst with MFIs, which are meant to be a remedy for SMEs, they range from 24% to 36% (BOU, 2014b). With such an escalation in lending rates, external finance tends to be excessively expensive for SMEs. This is because it drains the business of retained earnings as the entrepreneur has a huge repayment bill to cover the principal and lending rate charges. Therefore, when the lending rate is high, desire for formal bank finance is low. Other international bodies, for example OECD (2014), show that high lending rates have a negative relationship with access to debt finance among SMEs. When the lending rate is high, SMEs will demand less external bank finance.

In addition, in Nigeria Ololade and Olagunju (2013) found that the lending rate was negatively and significantly associated with access to bank finance among SMEs. The findings were based on perception responses that the effective lending rate is usually high and meant to safeguard against default risk caused by information asymmetry. The study established that due to information asymmetry among SMEs, it is more likely that they will be overcharged because they are considered to be associated with high default risk, unlike larger firms in Nigeria. Similarly, Beck and Torre (2007) assert that the higher the anticipated default risk, the higher the effective lending rate, which negatively influences access to bank finance. They argue that lending rate disadvantages are prevalent among SMEs due to high default risk. Occasionally, financiers are faced with the challenge of selecting whom to give credit to and how to adequately minimize risk. This is because lenders cannot differentiate between borrowers of diverse risk levels. Again, high lending rates lead to moral hazard and adverse selection, making the SME lending business more risky.

There are variations in the theories about lending rate phenomena affecting money demand; the Keynes (1923) school of thought suggests that lending rates influence money

demand, whilst Fisher (1930) contends that the power of relationship lending overrides the magnitude of lending rate effects on money demand. However, empirical evidence suggests that lending rates negatively influence access to debt finance (Odongo, 2014; Beck and Torre, 2007; Ololade and Olagunju, 2013). On the basis of this theoretical inconsistency, it can be hypothesised that

H_1: High effective lending rates could discourage SMEs from accessing finance.

5.3. Transaction costs

The financing constraint theory of Evans and Jovanovic (1989) describes transaction costs as including time, service fees, transportation expenses, communication, and opportunity costs, which increase the cost of finance to the borrower. They illustrate that when such costs are high on the borrower's side, access to debt finance becomes low. This is based on the notion that borrowers are assumed to be financially constrained by the time they choose to seek finance, therefore excessive costs incurred before the money is issued usually scare off would be borrowers, thus causing them to withdraw from applying for such finance. In addition, the transaction cost theory proposed by Liedholm (1985) and North (1992) can be considered as the basic theoretical link between the service provider and the customer (financier and borrower). It does not differ much from the financing constraint theory of Evans and Jovanovic (1989), although it goes further by explaining the coordination of economic activities, which creates transaction costs (for example time, service fees, transport, meetings and opportunity costs). Liedholm (1985) and North (1992) also advise borrowers to always reveal all information about the firm to the lender so that it can reduce the cost and time of trying to discover such information from external sources when assessing loan applicants.

Transactions costs are described as high for SMEs by Beck (2007) for three main reasons: first, SMEs tend to borrow small amounts, although irrespective of the loan size,

assessing a loan request entails costs that must be incurred by the borrower; with large amounts the burden is lessened. Second, due to information asymmetry, which increases monitoring costs, failure by the financier to monitor the borrower's activities leads to moral hazard. Third, the geographical location of SMEs in terms of distance in kilometres from the financiers, for example banks. In the context of Uganda, a study conducted by BOU (2009) on the extent of access to credit among agricultural firms found that the majority (90%) of SMEs could not access formal finance due to the transaction costs associated with bank finance. The explanation for this huge access to debt finance failure is that the majority of Ugandan SMEs are agricultural based and are known to incur huge transport and monitoring costs due to their location in remote areas. This isolation increases the transaction costs of loan administration on the part of the credit supplier, who needs to make frequent movements back and forth to the remote area throughout the loan application and repayment period.

Moreover, such SMEs are hard to monitor due to the distance and in cases of default, if the collateral against the loan is located in a remote area, its value is usually less and it is hard to sell to obtain cash quickly. Therefore, with such barriers, financiers tend not to prioritise SMEs located in rural areas because it becomes excessively expensive for them to meet transaction costs. Additionally, the majority of SMEs do not use computerised systems to provide financial reports because even electricity is not a priority, let alone computers, which means that if entrepreneurs need bank finance, they have to incur extra costs to hire an auditor and accountant to prepare the accounts. In most cases, the entrepreneur does not have that kind of money, which consequently hinders access to debt finance.

Studies conducted elsewhere, for example by Beck and Demirguc-Kunt (2006), Claessens et al. (2006) and Demirguc-Kunt et al. (2004) have revealed that high fixed costs

can trap small scale financiers at a low equilibrium level because smaller credit transactions are associated with higher transaction costs, which implies a financing constraint. Overall, transaction costs can constitute an important limitation of outreach in the provision of finance, especially to SMEs, because of the opaqueness that increases assessment and monitoring costs (Berger and Udell, 2006). Beck and Torre (2006) argue that higher transaction costs increase the likelihood that borrowers will withhold loan applications, especially if the costs are to be incurred before the loan is finally issued. In addition, high transaction costs tend to increase default risk because of the massive initial expense that individuals have to cover from the pool of borrowed funds, which causes a deficit and moral hazard on the original intentions of the loan. Beck and Torre add that high transaction costs not only increase the cost of borrowing, but can also restrict access to external finance, especially for SMEs.

Empirical studies conducted in countries other than Uganda by Masuko and Marufu (2013), Ayyagari et al. (2008) and Zarooki et al. (2013) indicate that SMEs will borrow less when the transaction costs associated with finance acquisition are very high. However, these findings were based on large enterprises; the results could be different for SMEs. Large enterprises are different from SMEs mainly because they tend to borrow large amounts, so the burden of transaction costs is not felt in the same way as SMEs, which borrow lower amounts. However, Claressens (2005), Demirguc-Kunt (2006), Hill (2001) and McCormick and Kinyanjui (2004) claim that transaction costs can be negatively associated with access to debt finance. This is based on the notion that lending to SMEs is a risky business due to information asymmetry and the fact that SMEs do not have mandatory disclosure, which tends to increase transaction costs.

With the increase in transaction costs, for example the cost of appraising a loan application, or of conducting a due diligence exercise, financiers hesitate to lend to SMEs,

which are unwilling to incur such prior expenses. Theory justifies the influence of transaction costs and access to debt finance; however, scant empirical evidence justifies further investigation into the relationship between transaction costs and ATDF in Uganda from the demand and supply perspective. Therefore, it can be hypothesised that

H₂: Transaction costs negatively influence SME access to debt finance.

5.3. Firm age

The theory of the firm of Jensen (2000) postulates that the older the firm is, the more it builds capacity, which may influence access to external finance. Katz (1982) states that in the adoption of the theory of the firm to explain access to external finance, emphasis should be put on the history of a firm, which may affect its access to debt finance in the future. Arguably, older SMEs have a heavier and more restrictive enterprise memory, which may or may not increase the chances of access to debt finance (Katz, 1982; Loderer et al., 2009; Hannan and Freeman, 1984). However, Jensen (2000) also points out that there is a tendency of firms to become complacent with age, therefore losing out on competitive advantage. Cressy (2006), Beck and Demirguc-Kunt (2006) and Beck (2007) also assert that when firms are at the infant stage, it may be hard for them to convince external financiers to extend credit to them, because at that stage they may not be in possession of acceptable collateral and may not even have built enough business relationships to find guarantors in the case of relationship bank finance, thus hindering access to debt finance.

Similarly, Kumar et al. (1999) and Inessa and Mylenko (2003) argue that the elasticity of earnings with respect to firm age is positive and statistically significant with firm age. This is based on the assumption that, the older the firm is, the more it accumulates retained earnings to be self-sustaining and to acquire property that acts as collateral to access external finance. This is consistent with the financing constraint theory of Evans and Jovanovic (1989), quoted by Beck (2007), which posits that enterprises at the infancy stage

are only beginning to grow and financiers cannot easily ascertain the level of risk associated with such young enterprises, therefore it is difficult to extent any form of credit to such firms without a credit track record.

In Uganda, SMEs are relatively young enterprises; the majority (69%) are aged between one and ten years old. Nearly a third are still in their first five years, almost three quarters are less than ten years old, while less than 10% of these businesses have operated for more than 20 years (NSBS, 2015). However, there is little empirical evidence for the influence of age on access to debt finance, although Barako et al. (2006) conducted a study across SMEs in Kenya and Uganda. The findings of this national survey indicated that firm age is a key factor in explaining access to formal financial services. The findings pertaining to Uganda could be due to the fact that SMEs usually do not survive, therefore financiers risk losing all their money by lending to them. Firm age was mediated with competency by Nangoli et al. (2013) to have an influence on access to debt finance; this implies that older firms are considered viable for the issuance of external finance once proven competent, but because SME life span cannot be predicted by financiers, access to debt finance is challenging. Moreover, when a firm survives for a long time, it builds capacity that could attract investors. SMEs in Uganda do not unfortunately build capacity; either they maintain a status quo or die (UIA, 2015).

Elsewhere, empirical evidence also indicates that there is a relationship between firm age and access to debt finance. For example, Evans (2010) found that there is a negative relationship between them. According to Evans, access to debt finance decreases with firm age and does so at a diminishing rate. This is based on the concept that when firms grow to maturity, they are assumed to have built the capacity to be self-sustaining and therefore will not seek external finance.

In Vietnam, however, Le (2012) found that firm age was not significantly associated with SME access to debt finance. This is because in Vietnam SMEs tend not to mature; some of them remain small without the intentions to grow, while others die without achieving full potential, therefore age was not found to be a predictor of access to debt finance. On the contrary, in Libya Zarook et al. (2013) found that firm age had a significant relationship with access to debt finance. They interpreted their results on the assumption that older SMEs build strong relationships that ease access to debt finance, unlike new SMEs. Moreover, the older a firm is, the more acquainted it becomes with the financing system, so builds capacity and attracts financiers. In addition, Buera (2008), Chen (2014) and Fazzari et al. (1988) found that young enterprises are likely to be credit constrained and that the amount of capital available to them is limited to personal savings. Therefore, a combination of mixed results gives the premise to investigate the association of firm age and access to debt finance. It may consequently be hypothesised that

H_3: Firm age has an influence on SME access to debt finance.

5.4. Firm size

Firm size in terms of number of full time employees could influence access to debt finance (Subramanian, 2010). The link is explained by the RBT (Coase, 1937; Barney, 1991, 2001a, 2001b, 2002; Castanias and Helfat, 2001; Alvarez and Busenitz, 2001), which focuses on the dynamic capabilities of human resources (an internal resource) to influence the acquisition of external resources. The RBT applauds the importance of human resources, especially in relationship lending among SMEs (Rocha et al., 2011; Wagner, 2001; Torre et al., 2010; Jónsson, 2007). If human capital, just like any other resource, for example collateral, is utilised properly in relationships and specialisation, then SMEs can attract resourceful financiers (Subramanian, 2010; Modiglini and Miller, 1958; Pagano et al., 1998). They can utilise the expertise endowed in human resources; for example, to prepare

acceptable financial statements that can act as tools for risk assessment and then ease access to debt finance (Bartoli et al., 2013; Tweedie, 2010; Duggleby, 1995).

The RBT also postulates that the cost of finance increases for firms which have not established the strength of internal resources, for example financial relationships and human capital resources (Ciocca et al., 1996; Barney, 1991, 2001). Lucas (1978) uses a neoclassical model to study firm size and assumes that the "talent of managing" is unevenly distributed among enterprises; when an enterprise manages its talent, then it may also attract external finance. In addition, the traditional neoclassical view of the firm and the concept of economies of scale of Jónsson (2007) posit that firm size is related to access to debt finance. According to Jónsson (2007), the "*business growth and larger is better than smaller*" stereotype is embedded in the institutional environment of firms, which means larger firms are able to access finance more easily than SMEs. There is the argument that access to debt finance is mostly associated with larger firm size (Pagano et al., 1988). This is because larger firms will have the necessary collateral; this proposition by Jónsson (2007) tends to cast doubt on the abilities of SMEs because of their insufficient collateral and strong lending relationships.

Evidence from the World Bank (2007) suggests that the smaller the size of the firm, the less access it has to finance. This is because smaller firms are less likely to have the resources they can use as security when they need to access finance. In Uganda, the SME sector in terms of human capital can hardly compete with larger enterprises, because in most cases the majority of employees are part time or seasonal; 5-50 for small enterprises, and above 50 for medium enterprises (UIA, 2014).

A study conducted in Uganda across registered SMEs operating in Kampala by Nangoli et al. (2013) established that firm size has a relationship with access to debt finance and the survival of SMEs. In the opinion of Nangoli et al. (2013), firms that had stayed in

business for more than one year were capable of accessing finance and hence were deemed to have survived. In addition, Nanyondo et al. (2014) conducted a study in Uganda on access to debt finance in which firm size was treated as a control variable. The findings revealed that there was a significant positive relationship between access to debt finance and company size. The correlation coefficient implied that medium sized firms are more likely to access finance than small enterprises. This is possibly because small enterprises' value of total assets for collateral stands at a maximum of Ugandan Shillings 360 million for small enterprises, and more than Ugandan Shillings 360 million for medium sized enterprises, and with possession of annual sales/revenue turnover of maximum Ugandan Shillings 360 million for small enterprises and more than Ugandan Shillings 360 million for medium enterprises (UIA, 2015).

Elsewhere, studies have mentioned several reasons why firm size could have an influence on access to credit among SMEs. First, in the UK, Binks and Ennew (1996) conducted a study on the relationship between UK banks and SME customers. Their findings revealed that firm size had a negative influence on access to debt finance. In their opinion, because of their size, value of assets and sales turnover, SMEs tend to borrow smaller sums than larger firms, which make financiers sideline them. Also, due to the size of SMEs, there is much information opacity, because most of the time SMEs are owned and operated by sole entrepreneurs and there is no legal requirement to regularly report financial information, so many firms do not maintain audited financial accounts, which makes financiers prefer larger enterprises. Due to their size, SMEs also have fewer assets to offer as collateral (Beck, 2007; Demirguc-Kunt et al., 2004). In order to reduce the anticipated risk and moral hazard associated with lending, banks use collateral as an instrument to guard against default risk.

On the contrary, in Ghana, firm size was not found to have a relationship with access to debt finance among SMEs, according to Abor and Biekpe (2006). This is because SMEs do not survive long enough to study the trend to access to debt finance from the infant stage to growth and maturity. This is consistent with the findings of Schiffer and Weder (2001), that firm size among SMEs is hard to benchmark as a determinant of access to debt finance because results indicate that small firms do not survive to celebrate their first birthday and are thus more risky compared to larger firms. In contrast, Lago et al. (2007) proposed a different explanation, stating that the size of an SME itself could limit its financial structure, with the aim of avoiding the need to share control of the business with others. The theories and diversity of empirical findings motivate further investigation into the relationship between firm size and access to debt finance among SMEs. Therefore, it may be hypothesised that

H4: Firm size has an influence on SME access to debt finance.

5.5. Industry

The concentration of industry varies from country to country due to the different levels of economic development (World Bank, 2014). Desire for external finance and average debt ratios differ from industry to industry because of factors such as asset risk, asset type, and need for external funds (Myers, 1984). Miller and Modigliani (1961) explain why the industry orientation of a firm matters when it comes to the acquisition of external resources. In their opinion, industry is a proxy for the target capital structure of the firm, in the sense that its activities will determine the demand for credit, either for transactional motives, or for speculative or precautionary purposes.

Moreover, Maksimovic and Phillips (1998) argue that the industry orientation of a firm is a key factor in asset redeployment. For example, in the case of firms such as accountants and solicitors, they rarely hold much capital in the form of physical assets,

unlike manufacturing firms, which own a considerable amount in the form of plant, machinery and equipment. Therefore, the rate at which industry variation will influence access to debt finance will depend on the nature of the industry, the type of finance and the motive for the demand for credit. Due to the scarcity of resources, firms in the same industry are faced with the tendency of industrial average pressure, especially industries that are concentrated in the same line of production, which causes unprofitable firms in the same industry to end up with a relatively high debt ratio by trying to compete with their counterparts (Myers and Majluf, 1977).

According to Nangoli et al. (2013), formal financiers tend to favour industries based in the manufacturing sector. This is because, in Uganda, although the country is agro-based, most of the agricultural products, which contribute about 80 per cent of total exports, are exported in a finished or semi-finished form. The most important export is coffee, at 22 per cent of total exports, followed by tea, cotton, copper, oil and fish. Uganda's main export partners are Sudan (15 per cent), Kenya (10 per cent), DR Congo, Netherlands, Germany, South Africa and UAE (UIA, 2014). Therefore, this justifies why manufacturing firms are known to receive most of the credit they apply for, compared to service industries, because as the country is a developing economy, there is little activity in the service sector (BOU, 2014b). Industries, for example manufacturing or services, tend to have different characteristics from each other, therefore the demand for external finance also differs. Consistent with static trade-off theory (Myers, 1984; Miller, 1977; Porter, 1980), firms in each industry will choose the optimal capital structure in which there is equality between the benefit attained from capital and the financial distress cost.

It is commonly hypothesised that manufacturing firms tend to receive credit from financiers mainly because they have visible stock to display that can be converted into cash, unlike service firms (Porter, 1980; Rumelt, 1991). Among service enterprises in the USA,

McGahan and Porter (1997) conducted a study and established that industry had direct and indirect influences on the access to external resources. In terms of access to debt finance, they found that industrial effects were significant in determining whether enterprises would be able to access finance or not. This is due to the fact that industry controls the market share of the firm, profitability and the resources it may attain from external financiers. For example, it was established that industry effects account for a smaller portion of access to debt finance variance in manufacturing, but a larger one in the service sector, which offers facilities such as lodging/entertainment services, wholesale/retail trade, and transportation. McGahan and Porter (1997) reported a negative relationship between manufacturing firms and access to external resources, whilst it was positive for service firms.

However, Goyal et al. (2002), in their examination of the US defence weapon manufacturing industry during the 1980-1995 period, found that it received most of the external finance it applied for from banks. This is because defence in the USA is a priority and enterprises manufacturing weapons can obtain finance easily. Likewise, in Uganda, Nanyondo et al. (2014) found that manufacturing firms were more likely to obtain finance than service firms. This is because manufacturing industries have collateral to offer to banks as security in the case of default. These mixed findings call for further investigation into the relationship between industry and access to debt finance among SMEs in Uganda. Hence, it can be hypothesised that

H_5: *The type of industry has an association with SME access to debt finance.*

5.6. Ownership type

Ownership differs from ordinary contracts, because it bestows on the proprietor the residual rights of control over the asset (Rumelt, 1987). The power associated with the common ownership of physical assets is what makes enterprises different from each other, and categorised, for example, as sole proprietorships, ventures, partnerships or limited

companies (Ringleb and Wiggins, 1990). The theory of the firm of Jensen (2000) considers ownership structure as part of firm governance and helps to screen managerial behaviour. Nonetheless, the majority of SMEs have a sole ownership orientation, in which monitoring becomes difficult when ownership is discrete, with owners taking advantage of their freedom. It is argued that a high concentration of ownership exposes the enterprise to high risks if sole proprietors choose to act irrationally in fulfilling personal interests (Gibb and Scott, 2000; Hellriegel, 2004).

According to Jensen and Meckling (1976), separation of ownership and control often leads to information asymmetries and moral hazard, especially when managers benefit personally at the expense of the enterprise. In addition, sole owner enterprises have many discretionary powers, which makes financiers more sceptical about extending credit due to their inability to estimate the default risk and to reach firms for monitoring purposes (Mahoney and Roberts, 2007; Hill, 2001; Hung and Subramanyam, 2004). In the case of corporations, managers may have incentives to offer to financiers; for example, more information as a way of minimising information asymmetry and subsequent monitoring costs (Barrow, 2012; Ball, 2006). In this respect, high sole ownership concentration is considered harmful to enterprises as it increases agency costs in terms of monitoring and evaluation, which may influence access to debt finance (Ball, 2006).

In Uganda, the findings of a study conducted by NSBS (2015) revealed that nearly three out of four SME owners had registered their businesses as sole proprietorships (74%), leaving 12% that are registered as limited companies, and just one in ten as partnerships. SMEs are run and typically managed by owners, although fewer than 31% of sole owned businesses have managers who are in charge of operations. The ownership structure in firms can influence the ability to have access to debt finance. For example, research by Harrison and McMillan (2003) and Beck et al. (2006) revealed that listed firms and foreign

owned firms face fewer financial constraints thanks to adequate disclosure. This is based on the premise that these firms tend to hire competent staff, who deal with business matters professionally; for example, filing tax returns, preparing financial statements and ensuring audit is carried out. All these activities increase transparency in the enterprise and reduce information asymmetry, therefore increasing the chances of access to formal finance.

Similarly, Storey (1994) found that firms with a legal status ownership influence bank lending decisions, in the sense that legal status gives a guarantee to the lender that the enterprise is a legal entity, separate and distinct from its members. In cases of default, the lender has complete authority to claim any asset that was secured as business collateral without interference from the owners or managers. The legal existence of an enterprise offers a signaling effect, which also gives it a competitive edge; for example, in the form of trust from investors that it does not operate secretively and that its activities are in the public domain, which all increase the chances of access to external finance. Storey (1994) adds that corporate status at startup appears to be associated with a greater likelihood of bank lending. Therefore, it may be hypothesised that

H$_6$: *Ownership influences access to debt finance.*

5.7. Financial transparency

Transparency can be explained mostly by signalling theory, because it focuses on addressing information asymmetry hiccups (Morris, 1987). Enterprises use transparency as a signal of efficient disclosure practice, which meets the needs of the stakeholders, public interests and management of the corporation (Prabowo, 2006). Transparency in disclosure is a crucial element in ensuring that a true and fair view of the enterprises' financial position is specified to enable effective allocation of resources and a reduction in information asymmetry tendencies between the enterprise and its stakeholders (Popa et al., 2008a; Morris, 1987). Transparency is one of the qualitative characteristics of financial statements,

alongside reliability, objectivity, understandability, completeness, relevance and comparability, as stipulated by IFRS, IASB and the GAAPS (Ball, 2006).

Financial transparency requires that information is made as accessible as possible, in a timely, meaningful and reliable way, to the intended users of this financial information (Daske et al., 2008; Epstein, 2007). This means that the fair presentation of financial statements reflects the financial position, cash flows and revenue projections of SMEs and encourages financiers to make informed decisions on extending finance (Lee, 2013). Transparency and increased information symmetry between the directing shareholders and managers can create a more secure and stable financing environment for long-term investment strategies (Anderson et al., 2009). Intuitively, transparency reduces information asymmetry and therefore leads to greater access to debt finance, allowing financiers to invest more because the risk of default is reduced. However, Gerald, Lander and Auger (2008) and Chen et al. (2011) argue that SMEs are more careful with transparency in weighing its costs and benefits with regard to the tax burden. Although a company that predicts heavy reliance on external funding will opt for high transparency to reassure investors of the enterprise's financial position, this also increases the firm's tax burden in the long run.

In Uganda, transparency among SMEs is largely a matter of choice; because there is no mandatory disclosure, firms are free to exceed the disclosure requirements, provide management commentary information or adopt strict accounting rules and hire independent auditors to certify their accounts, or list their shares on exchanges with demanding disclosure standards (UIA, 2015; BOU, 2013). However, an empirical study conducted by Nanyondo et al. (2014) among SMEs in Kampala revealed that financial transparency has a positive association with access to bank finance. This implies that when SMEs disclose all relevant financial information that indicates the true and fair view of the enterprise, this

will then reduce information asymmetry, which will in turn influence access to bank finance. The findings could be positive, indicating that the higher the transparency, the higher the access to external bank finance, however this may not be the same with alternative finance. Moreover, the positive association could be because the SMEs included in the survey were urban based, with access to computers and accounting software and able to recruit auditors.

Elsewhere, authors such as Ellul et al. (2012), Chen et al. (2011), Botosan (1997) and Botosan and Plumlee (2002) have stated that transparency is a "double-edged sword." This term denotes that, on one hand, transparency enhances external investor confidence, by enabling enterprises to attract funding and reduce the cost of capital. It thus follows that transparent financial statements are very useful in the accessing of credit from formal financial institutions (Ellul et al., 2012). Banks often require audited financial statements before granting credit. For example, Tweedie (2012) found that lenders in the UK pay much attention to accounting information in order to deal with the loan applications of small firms. In addition, given that audited financial statements offer reduced information risk, potential lending institutions are likely to offer low lending rates to such borrowers. In other words, financial transparency improves a borrower's credibility and therefore increases access to debt finance. In a study conducted by Olawale and Akinwumi (2010) in Cape Town, South Africa, financial transparency was also found to have an influence on access to trade credit. Their findings revealed that SMEs which did not have proper financial statements were denied trade credit, on the basis of being regarded as high risk due to information asymmetry, whilst their counterparts that had financial records displaying a true and fair view of the business easily received trade credit. Therefore, on the basis of the theory and available empirical evidence, it can also be hypothesised that

H7: The level of financial transparency influences access to debt finance.

5.8. Collateral

The financing constraint theory of Evans and Jovanovic (1989) specifies that access to credit is limited to the proportion of business assets (collateral). Collateral serves as an anchor to determine the amount of external credit that enterprises can acquire (Inessa and Mylenko 2003; Cressy, 2006; Parker, 2002). It mitigates the negative influence of credit rationing because it acts as security in the case of default (Beck et al., 2006; Levine, 2005; Beck and Torre, 2007). Depending on the category of borrowers, Ghosh et al. (1999) point out that high risk ones might choose a contract with a higher interest rate and a lower collateral requirement (because there is a higher probability they will default and lose their collateral), whilst low risk borrowers might choose a contract with a lower interest rate and higher collateral requirement (because it is unlikely they will default and lose their collateral).

Stiglitz and Weiss (1981) show that although increasing collateral requirements has a positive incentive effect, it could also have a negative selection effect. They argue that even if all enterprises or individuals in society had the same utility functions, wealthier enterprises or individuals would, in general, be willing to take greater risks. Moreover, among those with large amounts of collateral value, there is likely to be a larger proportion of risk-takers. Thus, as a result of such adverse selection effects, it may not be desirable to require collateral to the point where credit rationing is eliminated. In addition to Stiglitz and Weiss' (1981) emphasis on the value of collateral to minimize credit rationing, the RBT by Coase (1937) also posits that collateral is among the rare and valued internal resources of enterprises. It emphasises the proper presentation of tangible assets, for example equipment, plant and machinery, asserting that if such resources are well-valued and presented to financiers, then access to debt finance could be made easier (Bhaird, 2010b).

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In context, the key finance constraint among SMEs in Uganda is collateral (UIA, 2015). The survey conducted by NSBS (2015) indicates that nearly 74.3 per cent of SMEs in Uganda have limited access to bank finance, citing collateral as a fundamental challenge. Commercial banks and other financial institutions have stringent requirements around security (collateral mainly in form of land), which SMEs are not able to meet. Insufficient collateral was the main reason why businesses saw loan applications rejected. Among those whose loan applications were rejected, most (56%) mentioned a lack of collateral as the reason. Land was the most commonly used form of collateral; 39% of businesses take out loans using land as collateral, with one in five using machinery. Considering the use of collateral by SMEs, land is more likely to be pledged as security against loans by entrepreneurs, at a rate of 32% of small enterprises and 35% of medium sized enterprises. A study conducted by DANIDA (2015) on access to debt finance among SMEs in the agricultural sector also revealed that SMEs are not able to access bank loans due to insufficient collateral. Therefore, DANIDA recommended micro leasing as an innovative way to improve farmers' access to financing for equipment among SMEs. Collateral is a key factor in Uganda because of the common challenge of perceived default risk associated with SMEs. Therefore, in case of default the leased object acts as collateral and remains the property of the bank until such time as the lease if fully paid, thereby reducing the risk from the banks' point of view. At the same time, leasing allows farmers who lack collateral to acquire the technologies and equipment they need. Likewise, Kassekende and Opondo (2003) found that among all the details that banks require before extending finance, collateral is the first priority, and guarantees loan security. The higher the value of the collateral, the higher the size of the loan issued.

Berger and Udell (2006) expanded on other studies and found that external financing will depend upon whether the lender can mitigate the risk with the value of the

collateral secured against the credit or not. When the lender is able to moderate the risk against collateral, chances are high that finance will be issued, and vice versa. Additionally, Johnson (2004) states that other factors being constant, service firms with more intangible assets find the acquisition of external finance harder than manufacturing firms, because of the collateral factor. In other empirical studies, for example in Vietnam, collateral (in the form of land) has been found to have a significant positive association with access to bank credit (Le, 2012). This is because in Vietnam banks also see land as a valuable asset to mitigate default risk. Therefore, SMEs that offered land as collateral in their financial statements were likely to receive bank credit.

Similarly, in Nigeria collateral was found by Ololade and Olagunju (2013) to determine access to debt finance among the rural farmers in Oyo state. Their findings revealed a significant positive relationship between collateral and access to debt finance. Enterprises with a high value of collateral against their loan applications were considered first in the issuance of loans. Likewise, in Spain Lago et al. (2007) found that Spanish firms were relatively dependent on collateral to acquire short-term trade credit, which makes up the largest part of total firm debt. Collateral was found to be associated with access to trade credit because it minimises default risk, since enterprises work hard to redeem their assets. Therefore, it can be hypothesised that

H_8: There is a significant positive association between collateral and access to debt finance.

5.9. Education

Entrepreneur-related factors, for example education and experience, in the case of sole proprietors could be considered for credit scoring and influence the lending decision (Bougheas et al., 2005). Entrepreneurial skills were found to have a positive bearing on the diversion of funds among SMEs by Musamali and Kipkirong (2013) in Kenya. This is

because most SMEs are sole proprietorships and partnerships, for which ownership is inseparable from control. Even in the case of limited liability companies, where there exists a separate legal entity, ownership can rarely be separated from control. The education and experience of either the entrepreneur or the employees in an enterprise is a valuable and rare resource, which is accompanied by capabilities that lead to a competitive advantage in the business environment (Barney, 1991; Castanias and Helfat, 2001; Alvarez and Busenitz, 2001). If an enterprise has educated and skilled human resources, it is likely that performance will increase in both terms of quality and quantity.

In Uganda, most entrepreneurs who own businesses are relatively well educated; over half have secondary education or higher (NSBS, 2015). The education and experience of the business owner in terms of knowledge, skills, behaviours and attitudes contribute to access to debt finance (Reginald and Millicent, 2014). This is based on the notion that, with knowledge, the entrepreneur will seek available finance sources, and behaviours and attitude may be of help in terms of relationship lending, in which finance is issued basing on relationships built with clients. Similarly, with education and experience, the entrepreneur is likely to overcome other financing obstacles, for example information opacity, by ensuring that financial statements are prepared in the acceptable format, which increases the chances of acquiring finance.

Research by McKenzie and Baker (2012) found a positive relationship between higher educational qualifications and business growth in terms of increases in capital (internal and external). This was based on the premise that enterprises that are assumed to grow usually attract external investors. Education and experience positively encourage the entrepreneur's motivation to explore the various financing opportunities available, and painting a good picture of the enterprise increases the chances of attracting external investors. Exploratory skills improve communication abilities and foresight (Dobbs and

Hamilton, 2007). In Brazil, Kumar and Fransico (2005) found a significant positive relationship between education and experience effects with regard to access to debt finance among enterprises. This implies that the higher the education and experience of the entrepreneur, the higher the chances of acquiring external finance.

Research by Irwin and Scott (2010) across SMEs in the UK also revealed that graduate entrepreneurs had the fewest difficulties in raising finance from banks. They gave three interpretations for this finding. First, more educated entrepreneurs have the ability to present positive financial information and strong business plans, and also to maintain a better relationship with financial institutions, compared to less educated entrepreneurs. Second, educated managers/owners have the skills to manage the other functions of the business, such as finance, marketing and human resources, and these skills result in the high performance of the business and help those firms to access finance with little difficulty. The third reason stems from the supply side, where financiers value the higher education level of the owner/manager in the loan approval process as an important criterion. Additionally, the study conducted across 600 SMEs in Britain, France and West Germany by Watkins and Morton (1982) revealed that financiers were more concerned with managerial capability in terms of the education level and experience of the owner in order to issue finance, giving this first rank in France, and second in Britain and West Germany. However, in contrast, Han et al. (2009) in the US found that entrepreneurs with undergraduate degrees were more likely to be financially constrained than those without a formal education background. This was based on the argument that educated individuals were more likely to discard the traditional concept of a loan as risky, and thus would have a higher probability of borrowing from formal financial institutions. It can be hypothesised that

H9: Education is associated with SME access to debt finance.

5.10. Experience

Entrepreneurial experience is a key driver in the search for broader and affordable finance, the formation of fundable business plans and innovative new ventures (Reginald and Millicent, 2014). The absence of experience among entrepreneurs and managers of SMEs typically prevents new investors (financiers) from investing in innovative projects, improving the productivity of SMEs, covering working capital obligations and meeting the finance demands of the enterprise. The resource-based theory of Coase (1937) suggests that the experience of an entrepreneur or manager is a valuable and rare resource, which consistently benefits the emergence of new ideas that foster interventions in collaboration with other firms in the private sector to minimise access to debt finance barriers. Entrepreneurial experience is obtained when managers or entrepreneurs operate similar activities or become exposed to new managerial styles for a reasonable period of time. Unlike other economies, in Uganda the NSBS (2015) highlighted that the majority of SMEs are usually managed by family members in the case of sole-owned enterprises, whilst SMEs that have partnership or corporate ownership tend to employ inexperienced staff, without established networks that can be helpful to ease access to debt finance barriers.

Entrepreneurial experience has a positive bearing on the acquisition of finance in SMEs (Musamali and Kipkirong, 2013). This is because most SMEs are mainly sole proprietorship and partnership forms of business, in which ownership is inseparable from control. Even in the case of limited liability companies, where there exists a separate legal entity, ownership can rarely be separated from control (Musamali and Kipkirong, 2013). To determine whether entrepreneurial experience is a determinant of access to debt finance, researchers have measured this variable using the skills, behaviours and attitudes which interact to contribute to access to debt finance. In a study conducted in the Eastern Cape Province of South Africa using a survey questionnaire across a sample size of 50 foreign

SMEs, Reginald and Millicent (2014) found that entrepreneurial experience is positively associated with success in acquiring finance for foreign-owned small businesses. In addition, the experience of the business owner was found to be an important predictor of access to debt finance among SMEs in Kenya (Musamali and Kipkirong, 2013). Therefore, it can be hypothesised that

H_{10}: Experience is associated with SME access to debt finance.

5.11. Gender

Gender is explained by the contemporary feminist theory of Bem (1981) and the rational theory of gender of Fay and Williams (1993), Baden (1996) and Brush (1997). Feminist theory specifically relates to women's entrepreneurship, with consideration of how liberal and social feminist analysts add to the understanding of gender across women entrepreneurs. On the other hand, rational theory postulates that men are superior to women, hence explaining the feminist and masculine characteristics that influence entrepreneurship among men and women. Advocates of gender, for example Courtenay (2000) and Marlow and Patton (2005), argue that the issue of gender interlinks with the business environment to cause a disadvantage in access to debt finance among women. Moore and Buttner (1997) and Heilman and Chen (2003) also contend that the notion of gender among women refers to women who have initiated a business, are actively involved in its management, and own a majority share of the enterprise, but still face challenges in accessing external finance. Using this definition, female entrepreneurs have often been categorized into two distinct types of entrepreneurs, "traditional" and "new modern" (Baden, 1996; Brush, 1997).

Traditional entrepreneurs are identified as those women who have limited educational and/or training qualifications and who turn to self-employment because it is their best chance of achieving career and social mobility. In these circumstances, the type

of self-employment is often governed by an individual's context and businesses are typically developed in low margin trades, with low yields and slow growth (Moore and Buttner, 1997). However, new modern entrepreneurs are associated with more educated and professionally trained women, who have chosen entrepreneurship as self-employment from a variety of options. This new modern entrepreneur typically has a history of successful employment within a large organisation and uses the skills, experience, and networks gained in this employment to develop their own business; they should ideally be able to access finance, other factors being constant (Heilman and Chen, 2003).

Gender effects on access to debt finance take place at three levels: the macro (interest rate variations between men and women entrepreneurs); the meso (collateral requirements); and the micro (credit worthiness variations) (IFC 2011; Holt and Ribe, 1990; Hilhorst and Oppenoorth, 1992; Morris and Meyer, 1993; Baydas et al., 1994; Aterido et al., 2013). At the macro level, gender issues focus on the impact of changing interest rates on the overall availability and distribution of finance across sectors and the implications of this for gender biases. At this level, financiers are monitored to see if they charge higher or lower interest rates to men and women. Second, at the meso level, issues are examined concerning changes in the structures and functioning of the financial sector that put women at a disadvantage when accessing finance due to limited property rights and low engagement in formalised economic activities. Third, the micro level concerns changes in patterns of creditworthiness for female-owned enterprises and the degree to which control over credit/savings is contested within the household. When considering the gender issue in access to debt finance, scholars therefore consider it at three (macro, meso and micro) different levels; for example, if women are sidelined in terms of being charged higher interest rates (the macro level); if the property (collateral) that women are required to present is of a higher value security than that of men (the meso level); or at the micro level

if the patterns of creditworthiness between male and female entrepreneurs are different. At each level of the loan application, gender is considered to ensure that there is equal treatment for men and women applicants.

According to NSBS (2015), the business environment of Uganda is male dominated. The majority of enterprise owners are male (76%), across business size and sectors. Across sectors, ownership of businesses in the utilities sector is purely male (100%); however, in some sectors ownership is almost equally balanced, for example in the education and health (56% male, 44% female) and accommodation sectors (58% male, 42% female). Gender bias in Uganda takes place at both the meso and micro levels. At the micro level, women's creditworthiness is sidelined and they are not considered to have the capacity to manage their business like men; for example, in cases where a debtor fails to pay, women are known to take no aggressive path to reclaim the debt, whilst men will go to the courts of law to force the debtor to pay. Women are therefore given credit after the potential male entrepreneurs have all been dealt with (USSIA, 2015).

Empirical evidence from Africa suggests that only male heads of households are able to successfully receive formal credit (Johnson, 2004; Buvinic and Berger, 1990). Across the MENA region, findings show that on average women receive smaller loans than men do, although this could be due to women actually requesting smaller loans, rather than to credit rationing by banks (Baden, 1996; Demirguc-Kunt et al., 2013; Hulten, 2012). Across Africa and the MENA region, findings regarding the association of gender with access to debt finance is based on the premise that men are known to be risk takers, which is a good trait of entrepreneurship according to Baden (1996), unlike women, who are thought to be risk averse (Courtenay, 2000). Marlow and Patton (2005) support the notion that women entrepreneurs entering self-employment are disadvantaged by their gender, arguing that while both men and women entrepreneurs face similar barriers in access to

debt finance, these barriers are higher for women. The reasons for this include culture; for example, in the majority of SSA countries women traditionally lack ownership of collateral (such as land or property) and they tend to have lower incomes than men. This traditional stereotype perception is reinforced by the available estimates on women's access to debt finance documented in the literature (Baden, 1996; Bem, 1981; Moore and Buttner, 1997; Marlow, 2002; Heilman and Chen, 2003).

In Sub-Saharan Africa, Aterido et al. (2013) found that gender has a negative influence on access to debt finance. Women who sought finance were mostly denied credit, whilst men were frequently issued with it. This is because women tend not to have collateral and also because of the influence of male domination in households. Additionally, women are documented to increasingly face difficulties in enforcing repayment from debtors, which encourages bad debts among female-owned enterprises. The restriction of credit to one particular sector or output (e.g. cash crops) can also exclude women, who tend to have multiple activities, or to be concentrated in subsistence production. Therefore, it may be hypothesised that

H$_{11}$: Gender influences SME access to debt finance.

5.12. Summary and conclusion

The chapter has discussed the hypotheses to be tested in this study. A total of eleven hypotheses comprising the variables of effective lending rates, transaction costs, firm age, firm size, industry, ownership type, financial transparency, collateral, education, experience and gender have been presented, and their suitability justified through various theoretical frameworks, with the backing of prior literature. The following chapter describes the methodology used to test the hypotheses.

<div align="center">**CHAPTER SIX**</div>

<div align="center">**RESEARCH METHODOLOGY**</div>

6.1. Introduction

This chapter outlines the methodology and overall design that was used to achieve the research objectives. The chapter is divided into four main parts. It starts by discussing the research paradigm/philosophy, data collection and analysis methods. This is followed by a section on population and sample and then different aspects of primary data methodologies are discussed, based on their suitability for the study. The final part discusses the data collection mechanisms, particularly the survey questionnaire design. The chapter concludes with an ethical consideration, summary and conclusion.

6.2. Research methods/philosophy

According to Rajasekar, Philominathan and Chinnathambi (2013), research methods are the various procedures, schemes and algorithms used in research. All the methods used by a researcher during a research study are termed as research methods. They are essentially planned, scientific and value-neutral and include theoretical procedures, experimental studies, numerical schemes and statistical approaches. Research methods help to collect samples and data and find a solution to a research problem. In particular, scientific research methods call for explanations based on collected facts, measurements, and observations, and not on reasoning alone. Scientific research accepts only those explanations, which can be verified especially by use of experiments.

Research methodology is the science of studying the procedure of how the research is to be carried out. It outlines the techniques which investigators use while exploring, describing, explaining and predicting research phenomena (Rajasekar et al., 2013). It is therefore probable that each research study clearly sets out the philosophical assumptions and procedural framework from the start of the project so that a plan is prepared on how

the findings will be explained. Research methods also help to find solutions to research problems, and are particularly concerned with answers to the following questions: (a) why is a particular research study undertaken? (b) how was the research problem formulated? (c) what type of data was collected? (d) what particular method was used? (e) why was a particular data analysis technique used? (Rajasekar et al., 2013). According to Saunders et al. (2009), the way a researcher chooses to answer the research questions is guided by an understanding of the research philosophy and approach, the research strategies, choice of research method, period over which the research project will be undertaken, and techniques and procedures for data collection and analysis.

Research philosophy denotes development of knowledge and the nature of that knowledge (Sanders et al., 2009). There are a wide range of philosophical assumptions, but the ones commonly used in social sciences and management are ontology (realism vs. nominalism) and epistemology (positivism vs. anti-positivism or post-positivist) (Rajasekar et al., 2013). Ontology is concerned with the nature of reality, which raises questions over the assumptions researchers have about the way the world operates and the commitment to particular views. The two aspects of ontology have their devotees among business and management researchers. In addition, both are likely to be accepted as producing valid knowledge by many researchers. The first aspect of ontology is objectivism; this portrays the position that social entities exist in reality (legal persons), external to social actors concerned with their existence.

The second aspect is subjectivism, which posits that social phenomena are created from the perceptions and consequent actions of those social actors concerned with their existence (Saunders et al., 2009). In this respect, two contrasting positions are identified: realism and nominalism (Clark and Johnson, 2009). Realism posits that objects exist independently of individual knowledge, which is opposed to idealism. It is a branch of

epistemology, which is similar to positivism in that it assumes a scientific approach to the development of knowledge. This assumption underpins the collection of data and the understanding of those data (Saunders et al., 2009). Therefore, realism argues that the social world is real and made up of tangible structures, whilst nominalism contemplates that the social world is just a product of constructs or labels that provide a basic structure for reality (Clark and Johnson, 2009). In this case, research conducted based on the nominalist view requires clear identification of the objectives that help form structure for reality. On the other hand, epistemology is generally a theory of knowledge largely concerned with the parameters that constitute knowledge in a social reality (Clark and Johnson, 2009).

The debate on ontology and epistemology is competitive in terms of the choice between either the positivist or the interpretivist research philosophy (Bryman and Bell, 2007). In positivism (realism), the principles or methods of natural science are applied to the study of social science and hence, just as in natural science, the role of research is to test theories or further develop them (Bryman and Bell, 2007). In addition, with the positivist paradigm, the researcher is often independent of the study object and knowledge; conclusions are discovered or drawn through observation or measurement of the phenomenon (Saunders et al, 2009). On the other hand, interpretivist philosophy highlights the importance of the researcher in understanding differences between humans and social actors and does not emphasise generalisation of results (Saunders et al., 2009; Bryman and Bell, 2007).

It is worth mentioning that other philosophical approaches to research exist; for example, deterministic vs. voluntarist, which with the relationship between humans and their environment, with the former arguing that humans have no control over their environment and that environment determines what humans should do, while the latter presents humans as masters of their destiny, creating the environment in which the social

world should be understood (Saunders et al., 2009). In addition, methodology (nomothetic vs. ideographic) relates to the methods used in understanding the social world, with the nomothetic encouraging the systematic implementation of research involving rigorous testing of hypotheses. The ideographic approach interprets research as being subjective, and that truth or knowledge can only be obtained by having the investigator imbedded in the research. Furthermore, radical change philosophy prefers new ways of doing things and hence changes and assumptions are made that bring about fundamental changes to the present order of things. Lastly, regulation philosophy posits that the status quo is maintained and reinforced with a set of rules, and where possible suggestions for improvements are made, but within the existing structure (Saunders et al., 2009; Clark and Johnson, 2009; Bryman and Bell, 2007).

6.3. Research paradigms

According to Denzin and Lincoln (1994), research paradigms are interpretative frameworks, which are guided by a set of beliefs and feelings about the world and how it should be understood and studied. Those beliefs include ontology, which deals with the question of what is real; epistemology, which studies the nature of knowledge and the process by which knowledge is acquired and validated; and methodology, which questions how we know the world, or gain knowledge about it (Clark and Johnson, 2009). The key paradigms often used in management are positivist (the epistemological position that advocates working with an observable social reality (Bryman and Bell, 2010).

6.3.1 Positivism

According to Saunders et al. (2009), the positivist approach postulates that physical and social reality is independent of those who observe it. Positivism involves working with an observable social reality and the testing of hypotheses developed from existing theory; therefore, it is empirical in nature. Positivism assumes an external and independent

existence from a social world, which then enables knowledge to be obtained through observations and which can in turn lead to explanations of the phenomena. To obtain valid knowledge, positivism relies on quantitative methods such as surveys, experiments and statistical analysis (Clark and Johnson, 2009). Thus, research from a positivist perspective often follows a structured methodology so as to enable replication, and the emphasis is on quantifiable observation that leads to statistical analysis (Creswell, 2003).

6.3.2. Interpretivism/constructivism

Interpretivists argue that the social world is simply too complicated to be understood within a set of rules that lead to generalities (Bryman and Bell, 2010). The interpretivist paradigm epistemologically advocates for the need of the researcher to understand the differences between humans and social actors. Generally, the understanding is that humans play a part in the social world and as such they interpret their social roles in accordance with the meaning given to them. This consequently means that from an interpretivist perspective there are multiple realities of the social world (Denzin and Lincoln, 1994). In this respect, understanding of knowledge is often from people's own interpretation of the realities they are facing, based on their experiences. It is inductive or theory building in nature (Clark and Johnson, 2009). There is no simplification from this perspective, as the emphasis is on what people think or feel and on how they communicate, and hence it is often associated with qualitative methods of data collection (Saunders et al., 2009).

6.3.3. Realism

Realism proposes that reality exists independent of the human mind. It is in line with positivism to the extent that it assumes a scientific approach to the development of knowledge, but is less deterministic than positivism. It also draws from interpretivism, in that, although it is concerned with the existence of things and how these things behave, it also recognises that things may just exist without science or observation, hence the need to

pay attention to them as well (Blaikie, 1993). Thus, while realists articulate the interpretivist position that social reality is pre-interpreted, it also goes along with the positivist notion that science should be empirically based, with clear rationales and objectives, rather than normal reliance on language or discourse. Hatch and Cunliffe (2006) explain that in realism reality seems to appear in a stratified form, in which surface events are shaped by underlying events, and that what is observed is only partial, rather than comprehensive.

6.4. Research methods

The choice of research method in a study is informed by the ontological or epistemological position taken by the researcher. However, two broad research methods are often discussed in the literature: the quantitative and qualitative. The quantitative strategy is used in this study as recommended by Saunders et al. (2009). because of the nature of the data, which is required to test the hypotheses.

6.4.1. Quantitative method

According to Creswell (2003), quantitative strategy is sometimes called the "scientific method" or doing "scientific" research. It is also called positivist or post positivist research, which generates empirical science (Creswell, 2003). In quantitative studies, researchers advance the relationship among variables and pose this in terms of questions or hypotheses. The quantitative strategy also involves the testing of a theory or theories. Therefore, quantitative research methods attempt to exploit the objectivity, replicability and generalisability of findings, and are typically interested in the prediction of results (Lincoln and Tierney, 2004). Integral to this approach is the expectation that researchers will set aside their experiences, perceptions and biases to ensure objectivity in the conduct of the study and the conclusions that are drawn (Clark and Johnson, 2009). Key features of many quantitative studies are the use of research instruments, such as tests or surveys, to collect

data, and reliance on probability theory to test statistical hypotheses that correspond to answering the research questions of interest (Denzin and Lincoln, 1994). Quantitative methods are frequently described as deductive in nature, in the sense that implications from tests of statistical hypotheses lead to general inferences about the characteristics of a population (Bryman and Bell, 2010). Quantitative methods are also frequently characterised as assuming that there is a single "truth" that exists, independent of human perception (Lincoln and Tierney, 2004).

6.4.2. Qualitative method

Qualitative research methods focus on discovering and understanding the experiences, perspectives and thoughts of participants; therefore, qualitative research explores meaning and purpose, or reality (Saunders et al., 2009). In other words, the process of qualitative research is largely inductive, with the inquirer generating meaning from the data collected in the field (Denzin and Lincoln, 1994) Central to this inquiry is the presence of multiple "truths" that are socially constructed; for example, qualitative research is usually described as allowing a detailed exploration of a topic of interest in which information is collected by a researcher through case studies, ethnographic work and interviews (Clark and Johnson, 2009; Bryman and Bell, 2010). Inherent in this approach is the description of the interactions among participants and researchers in naturalistic settings with few boundaries, resulting in a flexible and open research process (Creswell, 2003). These unique interactions imply that different results could be obtained from the same participant, depending on who the researcher is, because results are created by a participant and the researcher in a given situation (Lincoln and Tierney, 2004).

6.5. Approach in the current study

As this study aims to investigate the extent of access to debt finance and the determinants of increases or decreases in such finance among SMEs in Uganda, it therefore takes a positivist approach. In the study, access to debt finance is defined as the dependent variable measured using two approaches: the AR_a and R_a. Existing empirical literature has been used to inform the researcher of the appropriate epistemological stand to adopt. The study uses data obtained from two sets of questionnaire surveys of both SMEs (the demand side) and financiers (the supply side). It also developed 11 hypotheses, which were tested using multiple binary logistic regression models. These models were used because access to debt finance was measured using the AR_a and R_a dichotomously, in which "1" represented 'access' and "0" represented 'no access' for both approaches.

6.5.1. Multiple logistic regression approach

Data satisfied the assumptions for adoption of multiple logistic regression analysis as recommended by Field (2009) and Saunders et al. (2009). First, the dependent variable in the study (access to debt finance) was measured on a dichotomous (binary) scale i.e. "1" 'success in access' and '"0' 'no success in access. Second, while testing the conditional hypotheses shown in chapter five of this thesis, multiple logistic regression offered a predictive analysis to explain the relationship between access to debt finance and independent variables of; Effective lending rates (ELR), Transaction Factors (TRC), Ownership (OWN), Firm age (FAG), Firm size (FSZ), Industry (IND), Financial Transparency (TSP, Collateral (CLT), Education (EDU), Experience (EXP) and Gender (GEN).

However, the other alternative approach was the analysis using Ordinary Least Squares (OLS) analysis whereby, access to debt finance is measured on a ratio scale (the

percentage of finance received). Although both regression approaches were tested, nonetheless, multiple logistic regression provided better results in terms significance of independent variables, confirmation of the hypotheses and provided higher percentage of the explained variance in the models.

6.6. Population and Sample

The study is cross-sectional and covers SMEs and financiers (formal and alternative) which are registered, operate, and located in the five regions of Uganda, namely East, Central, West, South, and North. A cross-sectional research design was considered suitable because of the nature of the study, which required information on enterprise characteristics, which change over time. These included location, age, number of employees, choice to operate a loan account at a point in time, level of minimum balance maintained in a deposit account and purpose for borrowing. Justification for adopting a cross-sectional research design approach is given by Saunders et al. (2009) and Field (2009), who highlight that, unlike longitudinal studies, which are primarily observational without involvement of the subjects of the study in any form, a study that requires the use of current data requires self-administration of the questionnaires in a cross-sectional study. In addition, Raaijmakers et al. (2009) suggest that cross-sectional studies provide a general picture of the outcome and the characteristics associated with the study at a specific point in time.

National statistics indicate that there are approximately 128,000 SMEs in Uganda (Uganda Bureau of Statistics (UBOS), 2013; UIA, 2014; USSIA, 2014). Based on sample size determination random tables by Sekaran (2010) and the formula as stated below, a maximum number of 384 SMEs was considered appropriate for this study. For the main study, financiers from both formal and alternative sources, namely all the 25 commercial banks (BOU, 2014), 22 insurance companies (Insurance Regulatory Authority (IRA), 2014), 10 credit service bureaus, 50 credit supply stores (USSIA, 2014), 10 MFIs and 10

SACCOs were surveyed. The population was divided into non-overlapping groups (districts), from which a proportionate number of SMEs and financiers were randomly selected from each region. Table 6.1 gives details of the respective sample sizes, which were arrived at using the formula, below:

$$n = \frac{X2 * N * P * (1 - P)}{(ME2 * (N - 1)) + X2 * P * (1 - P)}$$

Where:

X^2 = Chi-square (2.869) for the 95% confidence interval at 1 degree of freedom

N= Population size (384 SMEs)

P = Population proportion (100%) (384 SMEs)

ME^2 = Desired Margin of Error (+1.96 to -1.96)

Table 6.1: Sample size

Unit of analysis				
SMEs	Population	Sample	Response	Percentage
Manufacturing	128,000	384	163	74.0
Service			57	26.0
Total			**220** (inclusive of 115 SMEs for the AR$_a$)	**100.0**
Financiers				
Banks	25	25	16	20.3
Insurance companies	22	22	7	8.9
Credit service bureaus	10	10	8	10.1
Trade credit suppliers	50	50	40	50.6
MFIs	10	10	5	6.3
SACCOs	10	10	3	3.8
Total	**127**	**127**	**79**	**100.0**

6.7. Data collection sources

Data sources are generally categorised into secondary data and primary data (Sekaran and Bougie, 2013)

6.7.1. Secondary data

According to Bryman and Bell (2010), secondary data is the type of data that is readily available, although published for reasons other than the research phenomena in context. Secondary data is known to be cost effective as it is gathered from different sources; for example, textbooks, company annual reports, media sources, and government publications (Saunders et al., 2009). The nature of secondary data may permit longitudinal analysis, for example by observing the trend of events over a period of time. According to Bryman and Bell (2003), in cases of measuring access to debt finance, financial statements are very convenient. However, because SMEs are not obliged to make corporate reporting and full disclosure, such information is not readily available. Therefore, in the absence of such reliable secondary data, primary data collected by a survey is considered appropriate. It is also worth mentioning that secondary data may have loopholes; Saunders et al. (2009) highlight the problems of lack of control over data quality, familiarity with data and sometimes the dataset might be incomplete.

6.7.2. Primary data

Primary data is often obtained after the researcher has gained some insight into the research phenomena through a review of the existing literature or by analysing previously collected primary data. It can be gathered with the help of various methods, which include questionnaires, interviews and direct observations (Onwuegbuzie and Johnson, 2006), involves the generation of new data sets specifically for the research problem at hand, and is intended to achieve the research objectives of the study (Creswell, 2003). In the present study, the questionnaires are limited to the respondents' category due to their suitability, particularly targeting SMEs and financiers. According to Saunders et al. (2009), when a study requires data about respondents' perceptions on an anchored scale of either 5

or 7, ranging from strongly disagree to strongly agree, administering a questionnaire is ideal. In this respect, therefore, primary data is collected using survey questionnaires.

6.8. Survey questionnaire

According to Onwuegbuzie and Johnson (2006), survey questionnaires are ideal for studies involving large sample sizes and large geographic areas. This study covers the five regions of Uganda, namely Central, East, West, South and North. Therefore, written questionnaires are very cost effective, considering the number of research respondents across SMEs and financiers. Survey questionnaires can be administered in four ways: by post, on-line, by face to face interviews or by telephone interviews (Chithambo, 2013).

In this study, the questionnaires are written and self-administered because the written form of questionnaire is familiar to most people (Onwuegbuzie and Johnson, 2006). Nearly everyone has had some experience of completing questionnaires and they generally do not make people hesitant (Saunders et al., 2009). Moreover, written questionnaires reduce bias, as the researcher's own opinions will not influence the respondents' answers in any manner. There were no verbal or visual clues to influence the respondents' perception, as advised by Lincoln and Tierney (2004). The questionnaires followed a structured approach and the questions were constructed after a careful review of theory and prior evidence and hence were characterised as being positivist (Saunders et al., 2009; Lincoln and Gobi, 2000). When questionnaires are of a positivist research paradigm in nature, then the questions are of the closed type, whereas in cases where questions are open, they are then considered to be directed towards an anti-positivist approach (Creswell, 2003). In this study a face to face questionnaire delivery was used due to the nature of the target sample.

According to Bryman and Bell (2003), when questionnaires are administered face to face it creates a researcher-respondent relationship, making it more convenient for the

respondents. However, self-administered questionnaires have the limitation of absence of control by the researcher over the completion process, which may lead to low response rates (Bryman and Bell, 2003). According to Clark and Johnson (2009), questionnaires administered by email are likely to yield high response rates and are of low cost in nature, although they are limited to respondents with adequate and stable access to the internet. Therefore, because of the characteristics of the Ugandan economy, business environment and nature of the respondents, few people regularly check emails as it is a developing economy and information technology devices are limited, which again justifies the use of self-administered questionnaires.

6.8.1. Questionnaire design

In this study, the questionnaires were designed according to the recommendations of Acharya et al. (2010) and those to both SMEs and financiers included all the variables that appear in the hypothesis development and literature review chapters. The questionnaire design was clear, focusing on the intended objective of determining the extent to which Ugandan SMEs access formal and alternative finance, and whether effective lending rates, transaction costs, location, firm age, firm size, industry, financial transparency, collateral, education experience and gender determine such access. Furthermore, Parts A and B of the questionnaires were divided into sections, which made it more practical and easy to administer, as recommended by Saunders et al. (2009). According to Saunders et al. questionnaire design may determine the response rate and have a high impact on the validity and reliability of the data collected.

Question validity regulates the accuracy of data collected, whereas question reliability ensures consistency of the data that is collected (Saunders et al., 2009). In order to achieve questionnaire validity and reliability and to attract high response rates, Acharya et al. (2010) and Ghauri et al. (2012) among others, recommend that researchers should

ensure that a number of issues such as layout, appearance, length, font and paper colour are properly addressed. However, guidelines for questionnaire design may differ depending on the standards set by different authors (Ghauri et al., 2012). Nonetheless, Miller and Salkind (2002) suggest that a well-designed questionnaire should be visually attractive, look short, look interesting, and be easy to complete and return to the researcher without any cost to the respondent.

In this study, the questionnaires were adapted and modified from the Global Findex Database (GFI) World Bank (2014), which examined the extent of access to debt finance in developing countries. The rationale for adapting the World Bank (2014) questionnaire was that the instrument was tested and approved by international standards. Despite the adaption and modification of the questionnaires, caution was exercised when choosing the questions to be altered, ensuring that their quality and meaning were not changed. The questionnaire was mainly composed of close-ended questions of both the reality and perception type, anchored on a five point Likert scale. To a small extent, open-ended questions were used to generate more details, especially on the extent of access to various forms of finance. This design using a mix of questions is supported by Saunders et al. (2009) and Acharya et al. (2010) who state that closed questions provide a number of alternative answers from which a respondent is instructed to choose. Such questions are deemed easier to answer and convenient for the respondents, which may increase the response rate.

6.9. Questionnaire content

The study employed two sets of questionnaires, the first administered to SMEs (the demand side) and the second to financiers (the supply side) in the fields of both formal and alternative finance. Both questionnaires (see Appendices 1 and 2) were adapted from the World Bank (2014) and modified to make them suitable for the Ugandan setting. Both

comprised two parts (A and B). Part A covered sections 1 and 2; section 1 asked about the respondents' details and company characteristics, which was intended to obtain reality responses on the demographic characteristics of the enterprises, for example location, firm age, firm size, and industry. Section 2 of the SME questionnaire asked for information on the extent of access to debt finance; SMEs had to tick 'yes' or 'no' as appropriate from the 18 forms of finance in the columns of awareness, applied, received and convenient.

There were also six further questions in Part A, Section 2, which asked SMEs, among other things, whether they operated a loan account (question 10), and a deposit account (question 13). For the purposes of this study, responses to question 10 were used to measure access to debt finance under the R_a, similar to existing studies (e.g., BIS, 2012), for purposes of comparison to specific research question 2. Part B of both questionnaires (see Appendices 1 and 2) consisted of perception questions relating to determinants of access to debt finance, covering effective lending rates, transaction costs, firm age, firm size, industry, ownership, financial transparency, collateral, education, entrepreneurial experience and gender, with all factors anchored on a five-point Likert scale ranging from "1", strongly disagree, to "5", strongly agree. A five-point Likert scale was considered appropriate according to the recommendations of Raaijmakers et al. (2009), who suggest that such a scale minimises bias on perception-oriented questions because of the provision for neutrality (not sure) among responses.

6.9.1. Questionnaire development

The questionnaires (see Appendices 1 and 2) were adapted from a previous study by the World Bank (2014) on the extent of access to debt finance. The questions were modified in line with the main research objective, which was to determine the extent to which Ugandan SMEs access formal (e.g. loans, overdrafts, leasing, insurance) and alternative (e.g. trade credit, crowd financing, insurance companies, peer to peer finance, partnership

loans, money lenders, private placements) finance, and whether effective lending rates, transaction costs, location, firm age, firm size, industry, financial transparency, collateral, gender, education and experience determine such access. The questions in this study were adapted based on the gaps identified in the literature, and suggestions provided by previous authors. For example, the questionnaire used in the World Bank (2014) survey of access to debt finance focused on formal finance. However, the literature by Arora (2014) suggests that for the extent of access to debt finance to be determined, alternative finance sources have to be examined, which is why the questionnaire in this study comprises common forms of alternative finance.

However, in the adaption process, modifications were made to make the questionnaire suitable for the Ugandan setting. Therefore, the researcher modified the questionnaires and they were initially reviewed by the two project supervisors. After incorporating their initial comments, the draft questionnaires were inspected by two independent academics with considerable experience in survey design. Comments from the reviewers were considered according to their relevance to the study. The draft versions were reviewed by the two supervisors involved in the project before the trial run and pilot study to ensure that subject-specific content had not been relegated, with advice obtained from other academicians. The questionnaires were finally submitted to the ethics committee for approval before the survey.

6.9.2. Questionnaire administration

The study employed two questionnaires, one administered to SMEs (demand side) and the other to financiers (supply side). On the demand side, one questionnaire was hand delivered to the premises of each individual SME. For every questionnaire delivered to the SME, the following persons were eligible to answer the questionnaire: the accountant, or manager or owner of enterprise. Upon delivery, the questionnaire was received and stamped by the

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receptionist and the research assistant had to wait to speak with either of the designated persons.

The questionnaires were divided according to the population of SMEs per region, as indicated by the National Small Business Survey (NSBS) (2015). According to the NSBS, over one third of SMEs are located in the Central region (35%), under a quarter (23%) in the Western region, fewer than one in five (18%) of the businesses are located in the Southern region, 14% are located in the Eastern region and only 9% in the Northern region. Therefore, the distribution of questionnaires was guided by the population of SMEs located in the regions, as shown in Table 6.2 below.

Table 6.2: Questionnaire administration by region

Region	Population of SMEs registered in the region (%)	Questionnaires administered per region
Central	35	135
Western	23	90
Southern	18	70
Eastern	14	53
Northern	10	36
Total	**100**	**384**

Similarly, on the supply side (financiers), the questionnaire was hand delivered to each category of financier, for example commercial banks, SACCOs, MFIs, insurance companies, credit service bureaus and trade credit suppliers. Unlike SMEs, which required regional distribution, financiers have central offices in the central region, where all financing decisions are made. No regional offices are autonomous, therefore one questionnaire was hand delivered to one financier. For consistency in responses, answers to the questionnaires were restricted to loan officers in various financing agencies because they were assumed to have close hands-on experience of credit scoring criteria, as recommended by the World Bank (2014). In terms of feedback, for both questionnaires an

allowance of a day or two was permitted before the questionnaire was collected; thereafter, in rare cases, a third visit was made and in the worst cases, a telephone follow up was made to minimise non-response rates.

6.9.3. Pilot testing

Before the pilot study, a trial run was carried out on 10 SMEs, five of which were rural based and five from the urban centre to test for understandability, as advised by Saunders et al. (2009) and Zikmund (2000). Trial-run pre-testing procedures are conducted to ensure content validity at the initial stages of the questionnaire development. Hence, the trial run in this study helped establish the suitability of the questionnaire to obtain the required data and structure. Thereafter, a pilot study was conducted across 384 SMEs, in which the questionnaires were hand delivered, which yielded responses from 220, giving a response rate of 57%.

The rationale for the pilot study was to allow for an evaluation in terms of acceptance and understanding of the questionnaire by the respondents. Authors such as Saunders et al. (2009), Creswell (2003) and Bell and Bryman (2010) contend that a pilot study is ideal to ensure the quality of the questions and the perspective of the respondents. Therefore, they recommend that before the questionnaire is used in the survey for data collection it should be pilot tested. In addition, Lincoln and Tierney (2004) and Onwuegbuzie and Johnson (2006) suggest that pilot testing enhances the questionnaire so that respondents will have no problems answering, and also reduces data recording problems. Pilot testing also helps to improve the reliability and validity of the questionnaire (Saunders et al., 2009). Binary logistic regression was considered appropriate for data analysis due to the nature of the study, by which access to debt finance was measured dichotomously, with "1" representing 'access' and "0" 'no access' (Field, 2009).

6.9.3.1. Results of the pilot study

The pilot study was conducted across 384 SMEs distributed across the five regions of Uganda. It yielded a response rate of 57%. The findings on the extent of access to debt finance were based solely on formal finance (bank loans, overdrafts, credit cards, debt securities, hire purchase, insurance, invoice discounting, participation loans, shareholder loans and subordinate loans). With respect to the determinants of access to debt finance, the pilot results were based on several variables investigated, using the AR_a and R_a. In the pilot study, one subsidiary objective was partially achieved. The objective to investigate the effect of different approaches to measuring the rate of access to formal and alternative finance among Ugandan SMEs on both the extent and determinants of access to debt finance was partially achieved from the formal finance perspective.

Access to debt finance under the AR_a is the number of SMEs that received debt funding scaled by the number that applied. The descriptive statistics results indicate that when access to debt finance is measured on the basis of the R_a the extent of SME access to bank overdrafts is only 11.42%, as opposed to 60.87% when the AR_a is used. The binary logistics regression results showed that effective lending rates, transaction costs and collateral security were significant determinants of access to debt finance, irrespective of the approach used to measure it. However, the results also show that firm size and financial transparency are also significant determinants, but only when measured using the AR_a. Firm age was found to be insignificant, irrespective of the measurement approach. The results guided further analysis and investigation of access to alternative finance by SMEs and examined the determinants of access to debt finance from the supply side.

6.10. Validity and reliability

Both questionnaires were tested for reliability and construct validity according to the recommendations of Joppe (2000) and Wainer and Braun (1998). Validity was intended to

determine whether the research questions truly measured the extent of access to debt finance and its determinants among Ugandan SMEs. Reliability was intended to examine the extent to which the simple random sampling technique or analysis procedures yielded findings consistent with the literature. Data was cleaned to eliminate data entry errors, which were identified through analysis of the descriptive statistics, as suggested by McEvily and Marcus (2005) and Saunders et al. (2009). In addition, the internal consistency of both questionnaires was measured using the Cronbach Alpha coefficient, as recommended by Field (2009). The result of the Cronbach Alpha coefficient relating to the financiers' questionnaire was 0.93, whereas the result relating to the SME one was .82. The obtained values of the Cronbach Alpha coefficients were acceptable and appropriate since they were above the threshold of .70, as suggested by Cohen et al. (2003) and Field (2009).

6.11. Measurement and definition of variables
6.11.1. Access to debt finance

Unlike previous research that has used various proxies, for example 'frequency of acquisition' by Nanyondo et al. (2014); 'loan size' by Zarook et al. (2013); and the R_a applied in many studies by BIS (2012), this study measures access to debt finance using the AR_a. This measure of access to debt finance focuses on the aspect of voluntary exclusion, as suggested by the World Bank (2014). In this approach, consideration is given to SMEs that are actively seeking external finance (Arora, 2014). Access to debt finance is measured on a binary scale, where "1" represents 'access' for SMEs that have applied and received, whilst "0" represents 'no access' for those SMEs that have applied but been unsuccessful. However, one of the limitations of this approach is that it does not differentiate between those SMEs that applied and received the full amount, and those that received a proportion of what they applied for.

This study borrows from Arora's (2014) dimensions to measure access to debt finance among SMEs in order to offer an improvement over the existing literature on the topic. Arora further highlights that access is a very broad concept and refers to the awareness of SMEs of the available forms of finance. He includes current consumers and those not using finance at that point in time, whether voluntarily or involuntarily. Usage dimensions, for example frequency of acquisition and loan size (Akudugu et al., 2009; Mukiri, 2013; Musamali and Kipkiron, 2013; Lago et al., 2007; Olawale and Akinwumi, 2010), excludes non users, who may be facing access to debt finance barriers, and only takes into consideration current users of credit.

6.11.2. Determinants of access to debt finance

Many studies have surveyed SMEs to determine the perceived determinants of access to debt finance (e.g. Kostov et al., 2012; Nanyondo et al., 2014; Arora, 2014). A summary of these studies is presented in Table 2.2 of chapter two. However, given that access to debt finance involves the supply side (finance providers) as well as the demand side (e.g. SMEs) it is important to try to reconcile the perceptions of what determines access to debt finance from both sides in order to improve our understanding of the determinants. Honohan and King (2009) suggest that if access to debt finance is to be understood, financiers must be involved, given that they are at the centre of decision making to advance finance to SMEs or not. Knowledge of the determinants of access to debt finance helps reduce access to debt finance barriers. For example, Beck et al. (2006) argue that collateral is essential in bank financing; awareness of such a requirement will make SMEs work towards improving collateral levels and hence be able to access finance more easily. SME access to debt finance is contingent on a number of micro-and macro-economic factors. In broad terms, they can be outlined as effective lending rates, transaction costs, ownership, firm age, firm

size, industry, financial transparency, collateral, education, experience, gender and location (categorical variables) (Katz, 1982; Loderer et al., 2009; Apoga, 2013).

Table 6.3: Definition and measurement of variables

Variable	Measurement	Definition
β_0	Intercept	
$\beta_1 \ldots \beta_{11}$	Coefficients	
Access to debt finance (AR_a/ R_a)	Dichotomously on a binary scale of "Yes" for '1' implying 'access' and "No" for '0' implying 'no access' (Arora, 2014; World Bank, 2014; Kostov et al., 2012).	"Applied and Receive" (AR_a): number of SMEs that received debt funding scaled by the number that applied. Received' approaches (R_a): SMEs operating a loan account on the balance sheet.
β_1 =Effective lending rates (ELR)	Effective lending rate measured by 5 perception questions anchored on a five-point Likert scale of (1) strongly disagree to (5) strongly agree.	Interest rate, hidden fees, opaque conditions of maturity, and high loan insurance amounts.
B_2 =Transaction factors (TRC)	Transactions costs measured by 5 perception questions on fees, administrative expenses, opportunity costs and time, anchored on a five point Likert scale of (1) strongly disagree to (5) strongly agree	Non-interest-rate related conditions (e.g. maturity, covenants, etc., high debt/turnover ratio, cost of loan administration, transport, fees, communication and valuation of assets).
B_3 =Ownership (OWN)	Respondents' mean rank of 5 items of information included in the questionnaire on a five-point Likert scale.	Sole proprietor businesses, partnerships and companies.
B_4 =Firm age (FAG)	Respondents' mean rank of 3 items of information included in the questionnaire on a five-point Likert scale.	Number of years the enterprise has been in operation.
B_5 =Firm size (FSZ)	Respondents' mean rank of 5 items of information included in the questionnaire on a five-point Likert scale.	Number of employees.
B_6 =Industry (IND)	Respondents' mean rank of 5 items of information included in the questionnaire on a five-point Likert scale.	Manufacturing and service.
B_7 =Financial transparency (TSP)	Financial transparency measured by respondents' mean rank of 4 items of information included in the questionnaire on a five-point Likert scale.	Disclosure, use of IFRS and audited financial records.
B_8 =Collateral (CLT)	Collateral measured by a mean rank of 4 questions anchored on a five-point Likert scale with questions on the fixed assets of the enterprise, plant, property, and equipment.	Assets including property, plant and equipment.
B_9 =Education (EDU)	Mean rank of 6 perception questions relating to entrepreneurial education and access to debt finance, anchored on a five-point Likert scale.	Education level of an entrepreneur or manager.
β_{10} =Experience (EXP)	Mean rank of 4 perception questions relating to entrepreneurial experience and access to debt finance, anchored on a five-point Likert scale.	Knowledge, skills and capabilities of an entrepreneur or manager in dealing with credit over a number of years.
β_{11} =Gender (GEN)	"1" male and "0" female and 5 perception questions on the effect of gender on access to debt finance, anchored on a five-point Likert scale.	Male or female
Location (LOC) (categorical variable)	5 perception questions on the effect of location, anchored on a 5-point Likert scale of (1) strongly disagree to (5) strongly agree.	"1" Urban and "0" Rural.
ε	Error term	

6.12. Binary logistic regression model

The study used binary logistic regression to predict the association between access to debt finance (dependent variable) and its determinants, such as effective lending rates, transaction costs, ownership, firm age, firm size, industry, financial transparency, collateral, education, experience and gender. The rationale for using binary logistic regression is justified by the approach used to measure access to debt finance on a dichotomously scale of "1" 'access' or "0" 'no access'. The measure of access to debt on a binary scale fulfilled the major underlying assumption given by Field (2009) and Arndt (2008) for logistic regression to be carried out alongside other assumptions discussed in section 6.4.1.

The following binary logistics regression models are specified:

$$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \varepsilon \tag{1}$$

$$ATDF_R = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \varepsilon \tag{2}$$

6.13. Robustness checks

The purpose of a robustness check is to test for structural validity, as recommended by White and Lu (2010). According to White and Lu, robustness checks are conducted to observe how certain core regression coefficient estimates behave when the regression specifications are modified by adding or removing a variable or variables. If after adding or removing a variable in the main regression model and the coefficients are reasonable and robust, this is commonly interpreted as evidence of structural validity. In addition, Steiger (2000) suggests that robustness checks are done to describe quantitatively the effect of a small change in statistics due to the addition or removal of some variables. If the results

of the main model change statistically, then that could imply rejection of the model for insufficient evidence for structural validity. However, Hausman (1978) contends that before rejection of a model, additional diagnostics can be conducted to explain why robustness test rejection occurs. Prior studies on access to debt finance in Uganda using the R_a report that maintaining a deposit account and recommended minimum balances in business accounts influences access to bank loans (Calice et al., 2012; McCormick and Atieno, 2002; Okurut et al., 2002). Therefore, this study includes controls for deposit accounts (DepAcc) and minimum balances (Minbal) to observe changes in structural validity.

$$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \beta_{12} DEPACC + \varepsilon \qquad (2)$$

$$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \beta_{12} DEPACC + \beta_{13} MINBAL + \varepsilon \qquad (3)$$

6.14. Multicollinearity

With respect to the correlations among the independent variables, the highest correlation was between experience and gender, at .537 (see Table 7.4) under the AR_a. According to Field (2009), multicollinearity occurs when independent variables are highly correlated with each other, causing correlation of independent variables of above 0.80, which is a cause of concern. Hence, the correlation between industry and experience in the R_a is considered to have less impact on the overall results. Nonetheless, according to Myers (1990), a certain degree of multicollinearity can still exist, even when none of the correlation coefficients is very large. In this study, there was no such case of high correlations between independent variables. Therefore, there was no cause to examine the variance inflation factors (VIF) in the models to further test for multicollinearity or even introduce dummy variables into the models, as recommended by Field (2009).

6.15. Outliers

In this study, careful inspection of the existence of outliers outside standardised residuals of two was made to ensure that the regression was not significantly influenced by any such

circumstances. According to Field (2009), regression analysis is run twice, with the first preliminary trial aimed at identifying outliers. Outliers could be identified by monitoring the standardised residuals using case wise diagnostics, values of Cook's distance and Mahalanobis distance. Thus, any cases with standardised residual values of above three or two depending on the scaling down by the researcher could be an outlier. In addition, any case whose Cook's distance value is above one is deemed to have an influence on the regression and is regarded as an outlier.

6.16. Ethical consideration

The research acknowledged all information sources; for example, journal articles and textbooks. The preferences of participants regarding the use of their own information was honored, such as anonymity and office address of the enterprises. The opinions of the participants are used in good faith and only for this thesis. Due care, diligence, protocol and reasonable skills were employed when collecting, examining, reporting and recommending information relating to the research to avoid any prejudice to participants or legal liability. Bournemouth University and any parties involved in the research are duly recognised. The researcher took an ethics quiz, and in addition read, understood and promised to abide by the Research Ethics Policy and Procedures of Bournemouth University. In addition, the research proposal was submitted to the ethics review committee in compliance with university requirements. Health and safety issues were well thought out and the research did not cause any impairment to the researcher, the university or the public, and no risks have been recorded in this research project.

6.17. Summary and conclusion

This chapter has discussed the research philosophy/paradigms, methods, sample and data, as well as the analysis techniques used to achieve the main objective and the three subsidiary objectives of the study. It has also discussed at length the reliability and validity

assessment applied to the data collection instrument used in this study, both during adaptation and administration. Steps undertaken to modify and implement the survey questionnaire have also been explained. The study is positivist and deductive in nature and uses survey questionnaires administered to both SMEs and financiers. It exclusively uses primary quantitative data from questionnaires that were self-administered to help in the analysis of testing the 11 hypotheses in order to achieve the intended research objectives.

CHAPTER SEVEN

EXTENT OF ACCESS TO DEBT FINANCE AND DETERMINANTS AMONG

SMES IN UGANDA

7.1. Introduction

The main objective of this chapter is to report the results of the investigation into the extent of access to debt finance among SMEs in Uganda and the determinants of access to such finance, such as effective lending rates, transaction costs, firm size, firm age industry, financial transparency, collateral, education, experience, and gender. Specifically, the results are intended to address the extent to which SMEs are aware of the available formal and alternative finance. It also shows the effect of measuring access to debt finance using the AR_a on both the extent and determinants of access to debt finance among Ugandan SMEs.

The remainder of the chapter is organised as follows. Section 7.2 presents descriptive statistics on the extent of SME awareness of the available sources of finance. Section 7.3 provides descriptive statistics on the determinants of access to debt finance, while Section 7.4 presents the results of the Pearson correlation coefficients. Section 7.5 discusses the multiple logistic regression results and Section 7.6 presents the results of the results. Sections 7.7 and 7.8 describe the control variables and robustness checks and section 7.9 presents the summary and conclusion of the chapter.

7.2. Access to debt finance

Access to debt finance in the AR_a focuses only on SMEs that are actively seeking finance. In other words, this measure of access to debt finance includes voluntary exclusion and discouraged borrowers, as recommended by the World Bank (2014) and Arora (2014). According to Arora, before examining the extent of access to debt finance, SMEs need to

be asked if they are aware of the available sources. Table 7.1, therefore, provides the descriptive results that show the extent of SME awareness of the available sources of finance in Uganda.

7.2.1. SME awareness of available finance

The results in Table 7.1 indicate that with regard to formal finance SMEs are aware of the availability of bank loans at a rate of 68.7%. This figure is followed by insurance cover finance at 64.35%; bank overdrafts at 53.04%; shareholder loans at 53.1%; credit cards at 48.70%; leasing (hire purchase) at 46.09%; invoice discounting (factoring) at 40.87%; and equity finance at 43.48%. Finally, SMEs are aware of subordinate loans and debt securities at the levels of 32.17% and 29.57% respectively.

Table 7.1: Extent of SME awareness of available finance

Finance	Awareness				
Formal debt	Mean	Rate of Awarenes s (%)	Std.dev	Skew	Kurt
Bank overdrafts	0.53	**53.04**	0.50	-0.12	-2.02
Bank loans (excluding overdrafts)	0.69	**68.70**	0.47	-0.82	-1.36
Factoring (invoice discounting)	0.41	**40.87**	0.49	0.38	-1.09
Leasing or hire purchase	0.46	**46.09**	0.50	0.16	-1.01
Credit line or credit cards	0.49	**48.70**	0.50	0.05	-1.03
Debt securities	0.30	**29.57**	0.46	0.91	-1.20
Other loans (related company or shareholders)	0.54	**53.91**	0.50	-0.16	-1.01
Subordinated loans	0.32	**32.17**	0.47	0.77	-1.43
Participation loans or similar financing instruments	0.40	**40.00**	0.49	0.41	-1.06
Insurance	0.64	**64.35**	0.48	-0.61	-1.66
Alternative debt					
Debts from business angels	0.44	**43.48**	0.50	0.27	-1.06
Trade credit	0.61	**60.87**	0.49	-0.45	-1.03
Private placement finance	0.32	**32.17**	0.47	0.77	-1.03
Crowd financing	0.12	**12.17**	0.33	0.34	1.06
Peer to peer finance	0.22	**21.74**	0.41	1.01	-0.07
Grants or subsidies	0.31	**31.30**	0.47	0.82	-1.36
SACCOs	0.61	**60.87**	0.49	-0.45	-1.03
Friends and family	0.75	**74.78**	0.44	-1.01	-0.68
n=115, min=0, max=1, N=115					

In relation to alternative finance, the descriptive statistics indicate that 74.78% of SMEs are aware of the availability of finance from friends and family, followed by trade credit and SACCOs at 60.87%, private placement finance at 32.17%, and subsidised finance (grants) at 31.30%. Lastly, peer-to-peer finance and internet finance (crowd finance) have low levels of awareness, at 21.74% and 12.17% respectively. Descriptive statistics relating to awareness are meant to provide guidance for further analysis of the extent of access to debt finance. The results indicate that SMEs have knowledge of all the listed forms of finance, which suggest that using the AR_a can be reliably employed, as recommended by Arora (2014).

7.2.2. Extent of access to debt finance

This section is intended to achieve the first part of the main research objective, which is to investigate the extent of access to debt finance among SMEs in Uganda. The descriptive statistics in Table 7.2 show the results relating to the extent of access to debt finance using the AR_a. These statistics in relation to the extent of access to formal finance are as follows: overdrafts 60.87%; bank loans 56.94%; bank credit cards 30%; debt securities 42.86%; hire purchase 30.43%; insurance finance 23.53%; invoice discounting 29.03%; participation loans 19.05%; shareholder loans 26.09%; and subordinate loans 30.77%. Access to debt finance rates relating to alternative finance are equity issuance (external equity investors) 21.05%; trade credit 63.64%; private placement finance 22.73%; crowd financing 14.29%; peer to peer finance 28.57%; grants and subsidies 18.75%; SACCOs 42.50 %; and family and friends 68.49%.

Previous studies conducted in Uganda by ADB (2012), Calice et al., (2012) and Johnson and Niño-Zarazúa (2009) based on the R_a indicate that SME access to debt finance

is below average, at 42%. This study, which measures access to debt finance based on the AR$_a$, has found that SMEs access bank loans at a rate of 57%. In addition, the findings provide useful insights in relation to the diversity of various forms of finance. For example, Calice et al. (2012) indicate that SMEs in Uganda access bank loans as the major source of finance. The findings in this study reveal that, with formal finance, SMEs access more bank overdrafts, at a rate of 60.87%. The higher access to bank overdrafts among SMEs in Uganda could be explained by the nature of the overdraft system, which is based on agreement with the bank and other factors such as faster processing speed; the fact that funds are available for emergency cash needs; and permission for multiple disbursements (Centenary Rural Development Bank (CERUDEB), 2015). Ayyagari et al. (2010) argue that bank overdrafts offer greater financial flexibility, whereby allowance is given to the entrepreneur to temporarily spend more than the funds available on the account to cover short-term financing needs.

Therefore, bank overdrafts in Uganda offer more flexible debt to help overcome the hierarchical obstacles associated with the loan application process. Furthermore, the terms associated with bank overdraft facilities are convenient for the majority of SMEs in Uganda. For example, an affordable commitment fee of only 2% is charged; the loan term is up to a maximum of 12 months, which is suitable for short-term financing; the repayment procedure is made through good account deposits; and interest is linked to the bank's prime lending rate and charged on the declining balance (CERUBED, 2015). Similarly, overdrafts are quick to arrange and do not attract transactional charges and hidden costs once the obligations are honoured in a timely fashion.

However, according to National Small Business Survey (NSBS) (2015) in Uganda and the studies conducted by Degryse and Cayseele (2013) and Beck et al. (2004), overdrafts should not be used as long-term sources of finance, because using an overdraft

persistently may cause the bank to question the financial stability of the enterprise. The descriptive statistics further indicate that subordinate loans are the least popular form of finance, accessed by 19.05% of SMEs. Subordinate loans are recommended for businesses with high growth potential and with established cash inflows, which are expected to reach a positive operating income within a year (CBE, 2015). However, SMEs in Uganda normally do not have established cash generating activities for sustainable inflows of revenues and do not forecast income for over a year, so do not qualify for subordinate loans (Nangoli et al., 2013).

Table: 7.2: Extent of ATDF

Forms of finance	Extent of access to debt finance								
Formal finance	Mean of Applied	Std.dev	Skew	Kurt	Mean of Received	Extent of ATDF (%)	Std.dev	Skew	Kurt
Bank overdrafts	0.20	0.40	1.00	0.32	0.12	**60.87**	0.33	0.34	0.56
Bank loans (excluding overdrafts)	0.63	0.49	0.53	-1.00	0.36	**56.94**	0.48	0.61	-1.00
Factoring (invoice discounting)	0.26	0.44	1.00	-0.80	0.08	30.00	0.27	0.18	0.27
Leasing or hire purchase	0.37	0.48	0.57	-1.01	0.16	**42.86**	0.37	0.92	1.01
Credit line or credit cards	0.40	0.49	0.41	-1.06	0.12	30.44	0.33	0.34	0.56
Debt securities	0.15	0.36	0.90	0.08	0.04	23.53	0.18	0.15	0.91
Other loans (related company or shareholders)	0.27	0.45	0.91	-0.91	0.08	29.03	0.27	0.18	0.27
Subordinate loans	0.18	0.39	0.97	0.79	0.04	19.05	0.18	0.15	0.91
Participation loans or similar financing instruments	0.20	0.40	0.52	0.32	0.05	26.09	0.22	0.08	0.91
Insurance	0.23	0.42	0.33	-0.24	0.07	30.77	0.26	0.43	0.93
Alternative finance									
Business angels	0.17	0.37	0.83	1.36	0.04	21.05	0.18	0.15	0.91
Trade credit	0.48	0.50	0.09	-1.03	0.30	**63.64**	0.46	0.86	-1.00
Private placement finance	0.19	0.40	0.59	0.54	0.04	22.73	0.21	0.54	0.91
Crowd financing	0.06	0.24	0.72	1.06	0.01	14.29	0.09	0.72	0.01
Peer to peer finance	0.12	0.33	0.34	0.56	0.04	28.57	0.18	0.15	0.91
Grants or subsidies	0.14	0.35	0.11	0.51	0.03	18.75	0.16	0.03	0.91
SACCOs	0.35	0.48	0.65	-0.61	0.15	**42.50**	0.36	0.01	0.08
Friends and family	0.64	0.48	-0.57	-0.71	0.44	**68.49**	0.50	0.27	-1.00
*Min=0, Max=1,N=115, **average ATDF=78%***									

In terms of alternative finance, the descriptive statistics indicate that SME access to debt finance from family and friends is at a level of 68.493%, which is the highest form of finance accessed by SMEs, followed by trade credit at 63.636%. These findings are consistent with the empirical literature (NSBS, 2015), which indicates that 86% of SME start-ups are funded by their own capital, friends and families. The findings can be explained on the premise that, at start-up, financiers are not willing to finance enterprises without a record of accomplishment of credit from any finance provider. Hence, a proportion of SMEs would wish to borrow from microfinance institutions because MFIs are intended to finance start-ups. However, the high effective lending rates charged by MFIs make it even more expensive for SMEs to access such finance (BOU, 2014b). In addition, the extent of access to trade credit finance among Ugandan SMEs relates to the findings by Olawale and Akinwumi (2010) among SMEs in South Africa, who found that in Cape Town SMEs accessed trade credit more than other alternative forms of finance.

7.3. Determinants of access to debt finance

This section covers the descriptive statistics relating to the eleven hypotheses underlying the determinants of access to debt finance, as described in chapter five of this thesis. The descriptive statistics in Table 7.3 below indicate that effective lending rate (ELR) has the highest mean, at 3.72, followed by financial transparency (TSP), with a mean of 3.62. The other variables are firm age (FAG), with a mean of 3.56; collateral (CLT), with a mean of 3.48; transaction costs (TRC), with a mean of 3.44; ownership, with a mean of 3.41; education (EDU), with a mean of 3.35; gender (GEN), with a mean of 3.34; firm size (FSZ), with a mean of 3.33; and industry (IND) and experience (EXP), with means of 3.32 and 3.26 respectively.

Table: 7.3: Determinants of ATDF

Panel A *"Applied and Received" approach*						
	N	Min	Max	Mean	Std. Dev	Skewness	Kurtosis
ATDF	115	0.00	1.00	**0.78**	0.42	-1.08	-0.08
ELR	115	1.00	5.00	3.72	0.65	-1.17	3.87
TRC	115	1.00	5.00	3.44	0.66	-0.06	0.32
FAG	115	1.00	5.00	3.56	0.69	-0.29	0.45
FSZ	115	1.00	5.00	3.33	0.85	-0.16	0.29
IND	115	1.00	5.00	3.32	0.65	-0.15	1.33
OWN	115	1.00	5.00	3.41	0.75	-0.35	0.20
TSP	115	1.00	5.00	3.62	0.66	-0.56	1.63
CLT	115	1.00	5.00	3.48	0.75	-0.77	2.00
EDU	115	1.00	5.00	3.35	0.59	0.06	2.31
EXP	115	1.00	5.00	3.26	0.81	-0.31	-0.26
GEN	115	1.00	5.00	3.34	0.81	-0.35	0.19
Definition of variables: ATDF (access to debt finance), ELR (effective lending rates), TRC (transaction costs), FSZ (firm size) IND (industry), OWN (ownership), TSP (financial transparency), CLT (collateral), EDU (education), EXP (experience), GEN (gender)						

7.3.1. Discussion

The mean rank of 3.72 in relation to effective lending rates implies that SMEs perceive these rates to be higher than the quoted ones, which increases the cost of finance. Similarly, SMEs believe that effective lending rates are inconsistent, change over time and are not regulated at all by the central bank, which makes loans very expensive. Furthermore, they consider that the lending rates are not negotiable and only favourable to enterprises with high value collateral, and that even MFIs have extreme interest rates, which strengthens the access to debt finance barriers for SMEs.

Concerning financial transparency, the mean rank of 3.62 implies that on average SMEs perceive transparency in terms of financial disclosure to be important in access to debt finance, as well as the use of IFRS in preparation of financial statements, and the presentation of audited financial records as components of financial transparency, which interact to increase access to debt finance. In relation to firm age, the mean rank of 3.56

indicates that on average SMEs believe that enterprise age matters in access to debt finance, as the longer the enterprise has stayed in operation, the easier it is to obtain finance. Financiers prefer SMEs that have been in operation for more than one year, but preferably finance is issued to those SMEs that have existed for over five years.

The mean rank of 3.48 in relation to collateral suggests that SMEs perceive that possession of collateral or guarantees is instrumental in access to debt finance. Likewise, they consider that the value of collateral determines the percentage of credit received in relation to what was applied for, and that without acceptable collateral, no credit can be issued, either from formal or alternative sources. The descriptive statistics in relation to location, with a mean rank of 3.45, denote that SMEs perceive that the location of the business in terms of being rural or urban is significant in access to debt finance, especially in cases where the enterprise is not easily accessible geographically by financiers.

The mean rank of 3.44 in relation to transaction costs indicates that SMEs perceive the conditions of loan maturity to be unfavourable; for example, extra fees, charges, transport and communication, high loan insurance amounts, and loan administration charges, which increase the cost of finance, therefore hindering access to it. In term of SME ownership, the mean rank of 3.41 suggests that SMEs believe that the legal status of the enterprise has a significant influence on access to debt finance. For example, sole owner businesses are not readily considered for finance, whilst partnerships and corporations stand a higher chance. In terms of education, the mean rank of 3.35 suggests that on average SMEs consider that the skills of an entrepreneur in dealing with credit determine access to debt finance, as educated entrepreneurs were assumed to be well-informed about the financier's requirements and also able to negotiate for better credit terms. With regard to gender, the mean rank of 3.34 indicates that SMEs believe gender to be an important predictor of access to debt finance. They contend that enterprises owned by men are usually

trusted with finance, and that financiers give priority to applications from male entrepreneurs.

The mean rank of 3.32 in relation to the industry variable suggests that SMEs perceive the industry in which the business operates is important for access to debt finance. They believe that manufacturing businesses obtain finance easily, while enterprises that offer services are usually rejected. SMEs also perceive that agriculture businesses are considered to be highly risky by financiers. Finally, the variable of experience loads with a mean of 3.26, which implies that the experience of an entrepreneur in dealing with credit services increases the chances of acquiring finance. In addition, SMEs consider that experience of over a year is recommended for an entrepreneur to access finance, while five years or more is even better to qualify for finance.

7.4. Correlation analysis

The results in Table 7.4 below comprise of the correlation matrix for all the continuous variables for the possible presence of multicollinearity. The correlation results specified in the table indicate that none of the variables had coefficients greater than the threshold of 0.70, as suggested by Field (2009). The correlation matrix indicates strong negative associations between ATDF, effective lending rates (ELR) and transaction costs (TRC), at a level of 1%. Similarly, the findings indicate a strong positive relationship at a level of 1% between financial transparency (TSP), collateral and ATDF. A strong negative relationship between (ELR) and ATDF implies that when effective lending rates (ELR) are high, for example above the quoted interest rate, the extent of access to debt finance among SMEs will be low. At the same time, if the lending rate is low and regulated by the central bank, access to debt finance will increase, because SMEs will be certain that no abrupt lending rate changes will occur, which minimises losses and consequently improves access to debt finance.

In relation to transaction costs, a strong negative relationship with ATDF implies that when the ex-ante costs associated with credit, such as administration fees, insurance charges, transport, communication, and unaffordable initial fees, are unfavourable, SME access to debt finance will decrease. This is because such ex-ante costs increase the cost of finance and hence discourage ATDF. Likewise, the positive strong significant relationship between financial transparency and collateral, at a level of 1%, signifies that when SMEs prepare financial statements that follow the guidelines of IFRS and subject such statements to external audit, then access to debt finance will increase. In relation to collateral, the positive relationship implies that if SMEs have an acceptable form, such as plant, property, equipment or stock (for manufacturing SMEs), then access to debt finance could increase because such assets are pledged as security against credit.

Furthermore, the findings in relation to other factors such as firm age (FAG), education (EDUC) and experience (EXP) show weak positive relationships, at a level of 5%, with access to debt finance. In respect to firm age, a positive correlation coefficient implies that age matters in access to debt finance, as the longer the enterprises stay in operation, the easier it becomes for them. This is because, over time, SMEs establish strong finance networks, negotiate better credit terms, and improve access to debt finance. Moreover, the positive relationship implies that for SMEs that have stayed in operation for at least one year and up to five years, access is easier. The rationale is that SMEs that have stayed in operation for this length of time are considered resilient to financial pressures and therefore stand a better chance to access finance. The weakness in the relationship could be explained by the fact that the majority of SMEs in Uganda do not stay in business for over a year, let alone five years, as reported by NSBS (2015). Similarly, the positive relationship between the education of the entrepreneur and experience implies that this level could increase access to debt finance. This finding could be explained by the BIS (2012) report,

which found that with education, the entrepreneur has the skills to read and interpret the loan eligibility requirements before applying for the loan. Moreover, with education, the entrepreneur has the ability to communicate effectively and negotiate for better credit lines and terms, hence increasing access to debt finance. Finally, entrepreneurial experience with a positive relationship implies that SMEs perceive that when an entrepreneur is knowledgeable on how to manage external finance, for example streamlining amortisation schedules, or timely payments of the principal and interest, access to debt finance can increase. This is because financiers can easily trust such an entrepreneur to repay subsequent loan obligations on account of previous experience.

Table 7.4: Correlation coefficients

	ATDF	ELR	TRC	FAG	FSZ	IND	OWN	TSP	CLT	EDUC	EXP	GEN
	This table reports the values of the correlation coefficients for all variables adopted in estimating the relationship between ATDF and ELR (effective lending rates), TRC (transaction costs), FSZ (firm size), IND (industry), OWN (ownership), TSP (transparency), CLT (collateral), EDU (Education), EXP (experience), and GEN (gender) (N=115).											
ATDF	1.000											
ELR	-.588**	1.000										
TRC	-.573**	.399*	1.000									
FAG	-.451*	.345*	.436*	1.000								
FSZ	.146	.256**	.295*	.371*	1.000							
IND	-.101	.244*	.403**	.480*	.387*	1.000						
OWN	.035	.242*	.374*	.403**	.373*	.524**	1.000					
TSP	.509**	.234*	.283**	.355**	.372*	.474**	.414**	1.000				
CLT	.512**	.307**	.359**	.349**	.285**	.364**	.421**	.467**	1.000			
EDU	.467*	.156	.285**	.350**	.314**	.302**	.228*	.424**	.252**	1.000		
EXP	.485*	.267*	.459*	.370**	.371**	.414*	.415*	.267*	.397*	.319*	1.000	
GEN	.045	.256*	.449**	.367**	.307**	.438*	.300**	.284**	.396**	.498*	**.537***	1.000
**Correlation is significant at the 0.01 level (two tailed). *Correlation is significant at the 0.05 level (two tailed).												

7.5. Multiple logistic regression analysis

Results presented in Table 7.5 below were obtained using the forward -2log likelihood (-2LL) ratio statistic, as recommended by Firth (1993). According to Firth, the -2LL ratio statistic is superior to the forced entry method (FEM) of logistic regression analysis in terms of being able to control for confounding variables in the model and to estimate how well the model fits the data even in cases of small sample bias. The multiple logistic regression results presented in Table 7.5 indicate that the model is correctly specified; the goodness-of-fit (GOF) generated a high *p-value* of .453, which is acceptable.

However, a low *p-value* (say, below .05) leads to rejection of the model on the premise that it does not pass the test of goodness-of-fit (Hosmer and Lemeshow, 1980). The findings in Table 7.4 indicate that the model explains a variation of 73.3% in access to debt finance among SMEs. There were no observed outliers in the data; all cases had studentized residuals greater than or outside the standard deviation, at a level of 2.000, which again fulfilled the assumption for logistic regression recommended by Firth (1993) and Cohen (1998).

Table: 7.5: Multiple regression analysis

Table 7.5 presents the cross sectional data on the strength of the relationship between ATDF (dependent variable) and the explanatory variables (effective lending rates, transaction costs, firm age, firm size, industry, ownership, financial transparency, education, experience and gender) using the following model: $ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + LOC (cat) + \varepsilon$

Variables	Expected sign	β (SE)	Hypotheses	Wald	95% C.I.for EXP(B) Lower	Exp(B)	Upper
ELR	-	-4.806(1.543)**	**Conf**	9.153	4.768	1.734	13.113
TRC	-	-3.473(1.359)**	**Conf**	4.184	3.381	1.052	10.864
FAG	+	2.376(1.091)**	**Conf**	2.762	.367	.113	1.197
FSZ	+	1.752(0.872)*	**Conf**	4.400	.402	.172	.942
IND	+	.565 (1.022)	Rej	.192	.774	.246	2.438
OWN	+	.226(1.002)*	**Conf**	3.236	2.54	.920	7.010
TSP	+	5.017(1.826)**	**Conf**	3.817	.276	.076	1.004
CLT	+	1.849(0.821)**	**Conf**	2.804	.468	.193	1.138
EDU	+	1.199 (1.404)	Rej	.560	.859	.246	3.003
EXP	+	3.997(1.307)*	**Conf**	4.785	2.87	1.116	7.383
GEN	+	-0.686 (0.889)	Rej	.440	.899	.335	2.413
LOC(cat)		-2.514 (1.923)		.724	.413	.054	3.162
No of orbs	115						
Constant (-2LL)	38.556						
Model X2	64.994**						
Hosmer-Lemeshow (GOF)	.453						
Nagelkerke R^2	73.3%						
Overall fit	91.7%						
**Significant at 1% (two tailed) * Significant at 5% (two tailed)							

7.6. Discussion of results

Overall, the confirmatory multiple logistic regression results show that the effective lending rates (ELR) and transaction costs (TRC) variables have a negative significant association with access to debt finance, at a level of 1%. The results indicate confirmation of hypotheses H_1 and H_2. Further, the results show that collateral and financial transparency have a significant positive association, also at a level of 1%. Similarly, the results relating to collateral and financial transparency indicate confirmation of H_7 and H_8. Moreover, the results in Table 7.5 show that the variables of firm age, ownership, and entrepreneurial

experience have a significant positive association with access to debt finance, at a level of 5%. Therefore, the results indicate that hypotheses H_3, H_6, and H_{10} are confirmed. However, the findings relating to industry, education, and gender indicate no levels of significance associated with access to debt finance. Therefore, this study rejects the null hypotheses that industry, education and gender have a positive association. Therefore, the results imply that hypotheses H_5, H_9, and H_{11} are not confirmed as determinants of access to debt finance using the AR_a.

Effective lending rates and transaction costs

The finding of a significant negative association between effective lending rates and access to debt finance suggests that when effective lending rates are high, access by SMEs will be low. This is consistent with Odongo (2014) and Ololade and Olagunju (2013), who found that effective lending rates were negatively and significantly associated with access to debt finance. SMEs that apply for finance find effective lending rates a major hindrance to access because such rates are usually above the quoted interest rate. In addition, SMEs indicated that the effective lending rate is not regulated by the central banks and is only dependent on negotiation skills and business relationships, which makes SMEs vulnerable to losses if the rate changes when the loan service period is still ongoing.

MFIs charge lending rates higher than planned at 30%, compared to banks at 23% (BOU, 2014b) due to failure of group accountability, moral hazard and high default risk associated with SME lending. Higher lending rates have diverted the agenda and approach of MFIs in Uganda which was intended to bridge the gap within the financial services industry by offering small securitised debt finance to SMEs incapable of accessing conventional debt finance services. The lending rate of the MFIs was intended to be much lower to only support simple operations compared to commercial banks (Jeanty, 2017).

Therefore, this has created a negative impact of pushing entrepreneurs into absolute poverty which suggests a rethink to policy and practice in this area to get MFIs back to founding principles and the intended agenda. Possible solutions might be revising and strengthening the group method, whereby entrepreneurs are held accountable to individual loans not group liability. Within groups however, MFIs should nurture mentors to provide educational and supportive interactions among members to equip with basic financial literacy. However, the challenge of corruption (discussed in comment 8 above) is still a major hindrance to MFI's agenda because desperate entrepreneurs offer bribes to field loan officers to approve applications, the extent at which MFIs can deal with corruption is subject to debate.

Similarly, the finding of a negative association between transaction costs and access to debt finance implies that when transaction costs, for example; fees, opportunity costs, and administrative charges are high, SMEs are unlikely to access finance due to affordability difficulties. The findings in relation to transaction costs are consistent with Masuko and Marufu (2013), Zarooki et al. (2013) and Ayyagari at al. (2012), who state that transaction costs in terms of fees, transport, communication and minimum balances prior to the issue of finance are unaffordable for SMEs, which has a negative impact on access to debt finance.

Financial transparency and collateral

In relation to financial transparency and collateral, the findings indicate a positive significant effect on access to debt finance among SMEs in Uganda. This is consistent with Nanyondo et al.'s (2014) work on SMEs in Kampala, where financial transparency was found to have a positive association with access to bank finance. This implies that when SMEs disclose all relevant financial information that indicates a true and fair view of the enterprise, this will reduce information asymmetry, which will in turn influence access to

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debt finance. These findings are also consistent with Olawale and Akinwumi (2010) in Cape Town, South Africa, who also found that financial transparency has an influence on access to trade credit. The findings revealed that SMEs that did not have proper financial statements were perceived to be denied access to credit on the basis of being regarded as highly risky borrowers due to information asymmetry. At the same time, counterparts who had financial records displaying a true and fair view of the business were perceived to access credit easily.

Additionally, a strong positive association between collateral and access to debt finance is consistent with the findings of Kassekende and Opondo (2003) in Uganda, who found that among all the details that the banks require before extending finance, collateral is the first priority as it guarantees loan security. The higher the value of the collateral, the higher the loan size issued. Johnson (2004) also stated that, other factors being constant, service firms with more intangible assets find acquisition of external finance harder than manufacturing firms, because of the collateral factor. The findings are also consistent with the study conducted by Le (2012) in Vietnam, where collateral (in form of land) was found to have a significant positive association with access to bank credit. This is because in Vietnam banks also consider land as a valuable asset to mitigate default risk. Therefore, SMEs that present land as collateral in their financial statements are likely to receive bank credit in Vietnam. Similarly, in Nigeria, collateral was also found by Ololade and Olagunju (2013) to determine access to debt finance among rural farmers in Oyo state. Their findings revealed a significant positive relationship between collateral and access to debt finance. Enterprises with high collateral value against their loan applications were given priority in the issuance of loans. Likewise, in Spain, Lago et al. (2007) found that Spanish firms are relatively dependent on collateral to acquire short-term trade credit, which makes up the biggest part of total firm debt.

Firm ownership

Ownership was also found to have a significant positive association with access to debt finance, at a level of 5%. The findings imply that SMEs perceive that enterprises with a legal status separate and distinct from its members is important in access to debt finance. Therefore, this suggests that sole owner businesses are not readily considered for finance, whilst partnerships stand a high chance of obtaining it, and registered companies are also perceived to be in a much better position to access finance. These findings are consistent with Harrison and McMillan (2003) and Beck et al. (2006), who found that listed and foreign owned firms face fewer financial constraints due to their ownership category as legally registered enterprises. In addition, Storey (1994) established that firms with a legal status ownership influence bank lending decisions, in the sense that legal status gives a guarantee to the lender that the enterprise is a legal entity, separate and distinct from its members. In cases of default, the lender has complete authority to claim any asset that was secured as business collateral, without interference from the owners or managers. Storey (1994) adds that corporate status at startup appears to be associated with a greater likelihood of bank lending. Therefore, legal status is a significant requirement to be met by SMEs to increase access to debt finance.

Firm age and size

The findings with respect to firm age and size suggest a positive significant association at a level of 5%, which implies that, for firm age, when an enterprise has been in operation for a minimum of one year and up to five years, it is assumed to be resilient to economic financial pressures, and therefore financiers consider it worthy of investment. This is consistent with Barako et al. (2006), who conducted a study across SMEs in Kenya and Uganda and found that firm age is a key factor in explaining increases in access to formal finance services. The significance at a level of 5% in the case of Uganda could be

explained by the fact that SMEs usually do not survive for long enough to be considered resilient, therefore financiers risk losing all their money when lending to them. Firm age was also mediated with competency by Nangoli et al. (2013) to influence access to debt finance, which implies that older firms are considered more viable for issuance of external finance once proven competent.

Similarly, in Libya, Zarook et al. (2013) found that firm age had a positive significant relationship with access to debt finance. According to them, older SMEs build strong relationships that ease access to debt finance. Also, the older a firm becomes, the more familiar it is with the financing system, with building capacity and attracting financiers. Buera (2008), Chen (2014) and Fazzari et al. (1988) also found that young enterprises are likely to be credit constrained and the amount of capital available to them limited to personal savings. However, on the contrary, Evans (2010) found a negative relationship between firm age and access to debt finance. According to Evans, access to debt finance decreases with firm age and does so at a diminishing rate. This is based on the notion that when firms grow to maturity, they are assumed to have built capacity to be self-sustaining and therefore will not seek external finance.

The findings relating to firm size suggest that SMEs that employ full-time workers can access finance. This may be due to the expertise that the full-time workers contribute to the enterprise, which eases access. This is consistent with Kwenda (2014) in Zimbabwe, Johnson and Niño-zarazua (2009) in Kenya, and Le (2012) in Vietnam, who found that firm size has a positive significant relationship with access to debt finance. However, the nature of the SME sector in Uganda, on average employs about 14 people, with a minimum number of 1 and a maximum of 15 full time employees. Therefore, it is probable that SMEs in the category still encounter access to debt finance barriers.

Entrepreneurial experience

In terms of entrepreneurial experience of access to debt finance, the findings revealed that when the entrepreneur has relevant experience in dealing with credit and loan servicing for a period of over a year and five years or more, access to debt finance could be easier. This idea is based on the notion that, with experience, the entrepreneur will be actively attempting to find available finance sources. The entrepreneur or SME manager is also likely to overcome other financing obstacles, for example information opacity, by making sure that financial statements are prepared following the guidelines of IFRS; this improves credit scoring, so increases the chances of access to debt finance. These findings are consistent with research in Brazil by Kumar and Fransico (2005), who found a significant positive relationship between previous entrepreneurial experience and access to debt finance among enterprises. This implies that the greater the experience of the entrepreneur, the greater the chances of acquiring external finance. This finding offers a new insight into SMEs in Uganda, as there has been no previous study on the effect of experience on access to debt finance.

7.7. Control variables

This study controls for bank deposit accounts and bank minimum balances. The rationale for controlling for these is based on the literature; the determinants of access to debt finance under the R_a by BIS (2012) suggests that deposit accounts and maintaining minimum balance influence access to debt finance. However, Ayyagari et al. (2011) state that high minimum balances required to open and maintain bank accounts and high annual fees can constitute barriers to increases in access to debt finance. In addition, research by OECD (2014) and the World Bank (2014) indicates that deposit accounts are often an expensive package, with hidden service fees and deposit charges, which exclude nearly 50% of SMEs from accessing the required finance. Therefore, this study seeks to control for deposit

accounts and minimum balances to establish if there are structural validities in models 2 and 3 to explain the variation in access to debt finance among SMEs.

7.8. Robustness checks

Further analysis to test for structural validity has been the use of robustness checks, as recommended by White and Lu (2010). Table 7.5 shows the robustness checks and contains models 1, 2 and 3. Model 1 comprises variables of the original regression model; model 2 comprises the variables stated in the original model, with the addition of new deposit account (DepAcc) variable, and model 3 comprises variables from model 2, plus another minimum balance (Minbal) variable. The rationale is to observe how certain core regression coefficient estimates behave when the regression specification is modified by adding or removing a variable or variables. If the coefficients are reasonably robust after this addition or removal in the main regression model, this is commonly interpreted as evidence of structural validity (White and Lu, 2010). In addition, Steiger (2000) describes robustness quantitatively, as the effect of small changes in statistics due to the addition or removal of some variables. If the results of the main model change statistically, that could imply rejection of the model because of insufficient evidence of structural validity.

Table 7.6: Robustness checks

		Model (1) β (SE)	Model (2) β (SE)	Model (3) β (SE)
Table 7.6 presents the results of further analysis of the strength of the relationship between ATDF (dependent variable) and independent variables, controlling for confounding variables of deposit account (DepAcc) and minimum balance (Minbal)				
Variables	Expected sign			
ELR	-	-4.806(1.543)**	-1.484(.302)**	-1.804(.62)**
TRC	-	-3.473(1.359)**	-1.283 (.071)**	-1.721(.411)**
FAG	+	2.376(1.091)**	1.794(.955)**	4.669(.591)**
FSZ	+	1.752(0.872)*	1.014 (.562)*	4.780(.591)*
IND	+	.565 (1.022)	3.227 (.290)	.412(.363)
OWN	+	.226(1.002)*	3.587(.143)*	.792(.475)*
TSP	+	5.017(1.826)**	3.753(.123)*	1.711(.047)*
CLT	+	1.849(0.821)**	1.206(.308)**	5.516(.384)**
EDU	+	1.199 (1.404)	3.947(.341)	1.151(.897)
EXP	+	3.997(1.307)*	2.182 (.377)**	.819(.947)**
GEN	+	0.686 (0.889)	1.190 (.584)	.516(.562)
Loc (Cat)	+	-2.514 (1.923)	-1.495(.135)	-1.302(.926)
DepAcc	+		2.639(.436)	5.401(.610)
Minbal	+			2.496(.102)
No of orbs		115	115	115
-2LL		38.556	30.195	29.821
Model X^2 (Chi-square)		64.994**	76.207**	91.914**
Nagelkerke R^2		73.30%	80.10%	80.60%
Overall fit		91.70%	95.4%	81.10%

**Significant at 1% (two tailed) * Significant at 5% (two tailed)

$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + LOC\ (cat) + \varepsilon$ (1)

$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \beta_{12} DEPACC + \varepsilon$ (2)

$ATDF_{AR} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \beta_{12} DEPACC + \beta_{13} MINBAL + \varepsilon$ (3)

7.8.1. Discussion

The findings in Table 7.6 above indicate no changes in the structural validity of model 1 after the addition of the deposit account (DepAcc) and minimum balance (Minbal) variables. Nevertheless, the explained variance increases from 73.3% to 80.1% and 80.60% on addition of these variables. The findings imply that, other factors being constant, SMEs can still increase their chances of access to debt finance if they have a deposit account and

a good minimum balance level. However, for SMEs that apply for finance, the deposit account and minimum balance variables are not significant predictors of ATDF.

The findings could be associated with the poor saving culture and the nature of Uganda's business environment, in which the majority of entrepreneurs make use of alternative saving mechanisms; for example, village saving groups (VSG) (NSBS, 2015). In addition, the influence of mobile money transactions has reduced SME involvement with deposit-taking financiers. SMEs transact business and deposit much of their money in mobile money accounts, which limits possession of bank deposit accounts and minimum balances (Kamukama and Tumwine, 2012). In Uganda, FINSCOPE (2013) indicated that the number of mobile money registered customers exceeded half the total population of the country, which implied a great amount of money is exchanging hands without passing through banks.

7.9. A comparison of the R_a and AR_a on the extent and determinants of access to debt finance

Access to debt finance rates are presented in Table 7.7, and figures 7.1 and 7.2 below under both approaches (AR_a and R_a). From Table 7.7, there are noticeable variations in the reported extent of access to debt finance using the R_a and AR_a, such as: overdrafts 11.42% and 60.87%; bank loans 35.62% and 56.94%; factoring (invoice discounting) 8.22% and 30%; debt securities 3.65% and 23.53%; hire purchase 15.98% and 42.86%; insurance finance 6.39% and 30.77%; participation loans 5.02% and 26.09%; shareholder loans 7.76% and 29.03%; and subordinate loans 3.65% and 19.05%, respectively. In addition, the descriptive statistics with respect to alternative finance indicate the same pattern, of much lower access to debt finance rates when access is operationalised using the R_a, compared to those using the AR_a. The access rates using the R_a and AR_a are: business angels 3.20% and 21.05%; trade credit 31.05% and 63.64%; private placement finance 4.11% and

22.73%; crowd financing 0.00% and 14.29%; peer to peer finance 3.20% and 28.57%; grants and subsidies 2.74% and 18.75%; SACCOs 15.07% and 42.50 %; and family and friends 45.21% and 68.49% respectively.

The findings in Table 7.7 (*on page 191 below*) and Figures 7.1 and 7.2 (*on page 192*) indicate that the extent of ATDF is much lower using the R_a compared to the AR_a. The disparities in the rates of access to debt finance suggest that if voluntary exclusion for SMEs that are not actively seeking finance is not taken into account, the rates of access to debt finance are severely understated. This perhaps partly explains why there is continued debate on whether SMEs are accessing the finance that they need or not. The R_a has been criticised on the basis that it ignores voluntary exclusion and discouraged borrowers (Kostov et al., 2012; World Bank, 2014; IFC, 2014). Voluntary exclusion refers to SMEs that do not seek finance for personal, culture or social reasons. Whilst discouraged borrowers (self-rationing/denial) want funds but do not seek them because they contemplate refusal (Kon and Storey, 2003). As a result, Arora (2014) suggested that determining access to debt finance on the basis of whether the SME received a loan without asking whether it applied for the loan in the first place may be an inappropriate way to measure access.

A more appropriate way to measure access to debt finance, as suggested by some literature, is the success registered by SMEs that apply for and receive finance (Arora, 2014; Beck and Torre, 2007). This approach implies that all SMEs that do not apply for debt finance should be excluded for the purposes of determining the extent of access to it (World Bank, 2014; IFC; 2014; ACCA Global, 2014). In the AR_a, SMEs that apply for and receive finance are deemed to have access and those that apply and are unsuccessful are deemed to have no access to debt finance. The main strength of this approach is that it takes into consideration only active borrowers, those SMEs that apply for debt. However, one of

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its limitations is that it does not differentiate between those SMEs that applied for and received the full amount, and those that just received part of the loan amount applied for. Second, the degree at which discouraged borrowers can be excluded is subject to discussion because the category of discouraged borrowers want debt but do not seek it because they think it will be denied (Kon and Storey, 2003).

Table 7.7: Comparison of the extent of ATDF using the Ra and ARa

| Formal finance | "Received" approach (N=220) | | | | "Applied and Received" approach (N=115) | | | | | | |
| | | | | | *Applied* | | | Received | | | |
	Mean	Extent of ATDF (%)	Skew	Kurt	*Mean*	*Skew*	*Kurt*	Mean	Extent of ATDF (%)	Skew	Kurt
Bank overdrafts	0.11	**11.42**	0.44	4.01	*.200*	*1.001*	*.315*	.122	**60.87**	.344	.557
Bank loans (excluding overdrafts)	0.36	**35.62**	0.61	-1.65	*.626*	*.528*	*-1.002*	.357	**56.94**	.607	-1.000
Factoring (invoice discounting)	0.08	**8.22**	0.06	7.45	*.261*	*1.004*	*-.796*	.078	**30.00**	.182	.270
Leasing or hire purchase	0.16	**15.98**	1.00	1.51	*.365*	*.567*	*-1.008*	.157	**42.86**	.916	1.009
Credit line or credit cards	0.13	**12.79**	0.24	0.07	*.400*	*.414*	*-1.862*	.122	**30.44**	.344	.557
Debt securities	0.04	**3.65**	0.98	0.96	*.148*	*.901*	*.079*	.035	**23.53**	.145	.908
Other loans (related company or shareholders)	0.08	**7.76**	0.18	0.18	*.270*	*.905*	*-.909*	.078	**29.03**	.182	.270
Subordinated loans	0.04	**3.65**	0.98	0.96	*.183*	*.966*	*.785*	.035	**19.05**	.145	.908
Participation loans or similar financing instruments	0.05	**5.02**	0.15	1.07	*.200*	*.520*	*.315*	.052	**26.09**	.081	.914
Insurance	0.06	**6.39**	0.59	0.99	*.226*	*.327*	*-.244*	.070	**30.77**	.429	.928
Alternative											
Business angels	0.03	**3.20**	0.36	0.96	*.165*	*.827*	*1.361*	.035	**21.05**	.145	.908
Trade credit	0.31	**31.05**	0.83	-1.00	*.478*	*.088*	*-2.028*	.304	**63.64**	.862	-1.004
Private placement finance	0.04	**4.11**	0.66	0.85	*.191*	*.590*	*.539*	.043	**22.73**	.537	.909
Crowd financing	0.00	**0.00**	0.00	0.00	*.061*	*.722*	*1.063*	.009	**14.29**	.724	.011
Peer to peer finance	0.03	**3.20**	1.00	0.96	*.122*	*.344*	*.557*	.035	**28.57**	.145	.908
Grants or subsidies	0.03	**2.74**	0.83	0.29	*.139*	*.113*	*.509*	.026	**18.75**	.025	.911
SACCOs	0.15	**15.07**	1.06	1.04	*.348*	*.647*	*-.609*	.148	**42.50**	.011	.079
Friends and family	0.45	**45.21**	0.19	-1.00	*.635*	*-.567*	*-.708*	.435	**68.49**	.267	-1.003
min=0, max=1					*min=0, max=1*						

Figure 7.1: Extent of access to formal finance
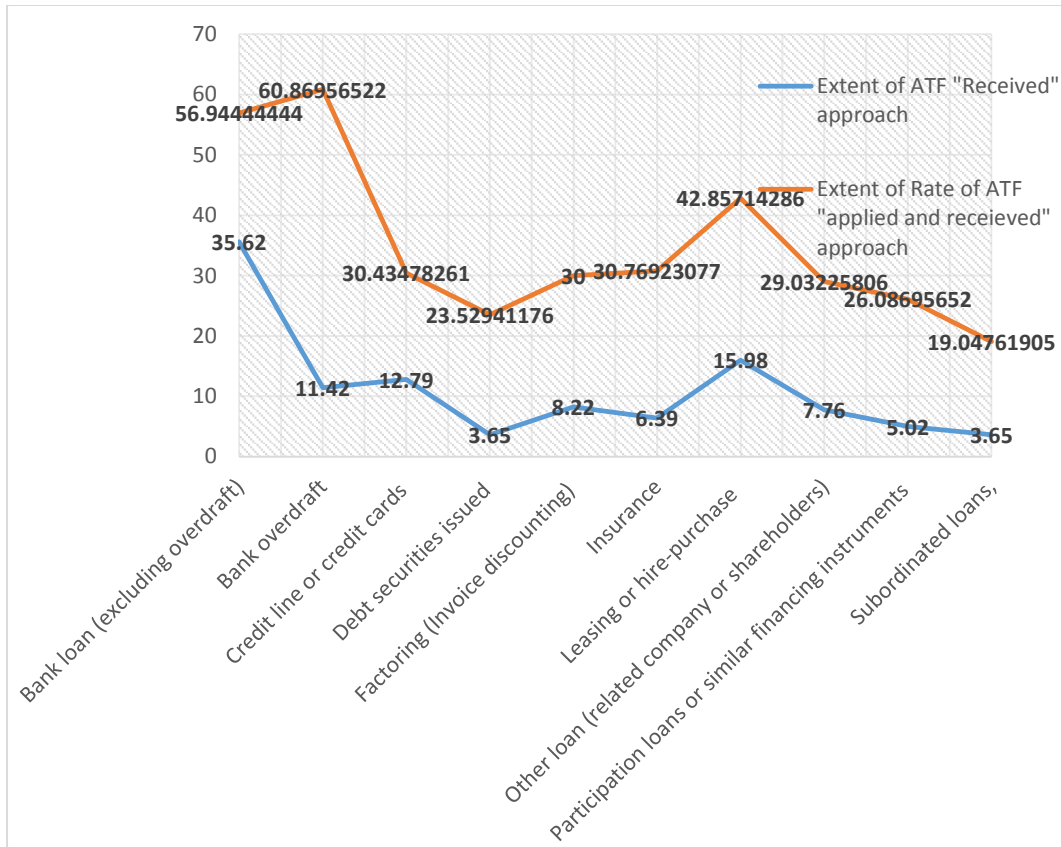
Figure 7.2: Extent of access to alternative finance
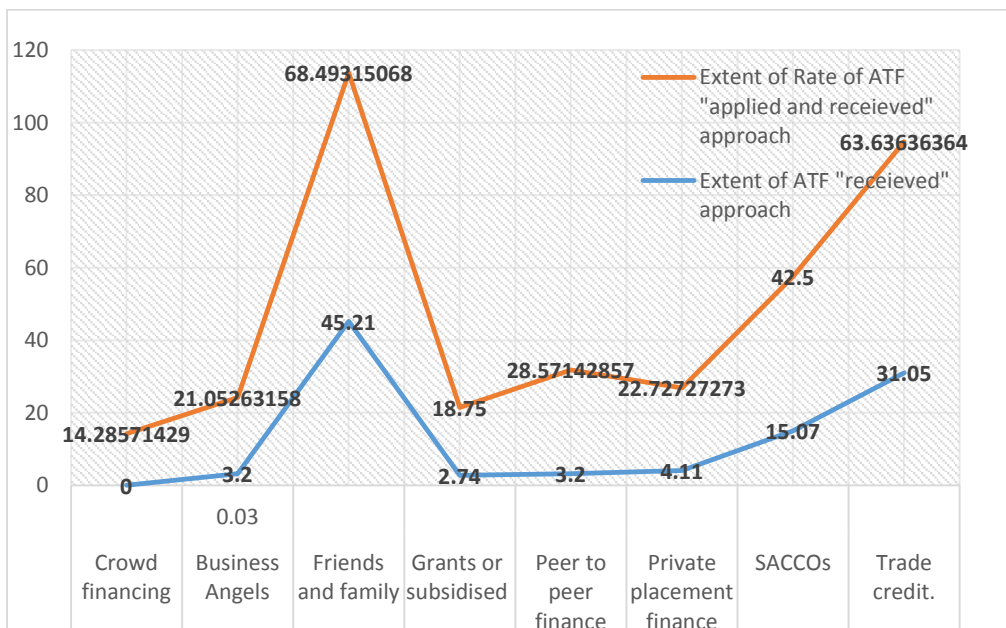
7.9.1. Comparison of approaches on the determinants of access to debt finance

This section provides descriptive statistics on the determinants of access to debt finance using both approaches. The rationale is to compare and contrast the mean ranks associated with the listed variables that explain ATDF. Descriptive statistics are presented in Table 7.8 below in panels A and B. Panel A shows the results for 220 SMEs using the R_a, whilst panel B presents those using the AR_a for 115 SMEs. In terms of the average rate of access to debt finance, Panel A for the R_a indicates that the mean rank of access to debt finance is low, at .48, whilst for the AR_a access has a higher mean rank of .78. The results relating to the determinants of access to debt finance in table 8.2 also indicate that using the AR_a, effective lending rates (ELR) has the highest mean of 3.72; financial transparency (TSP) has a mean of 3.62; firm age (FAG) 3.56; collateral (CLT) 3.48; transaction costs (TRC) 3.44; ownership 3.41; education (EDU) 3.35; gender (GEN) 3.34; firm size (FSZ) 3.33; and industry (IND) and experience (EXP) with means of 3.32 and 3.26 respectively.

A somewhat different pattern is reflected in the results in Panel B for SMEs using the R_a (operating a loan account); in which effective lending rates (ELR) and firm age (FAG) have the highest means of 3.65 and 3.56 respectively. These are followed by collateral (CLT), with a mean of 3.51; ownership (OWN) and transparency (TSP) with means of 3.49; transaction costs (TRC) 3.45; experience (EXP) 3.41; firm size (FSZ) 3.35; education (EDU) 3.34; and industry (IND) and gender (GEN) with means of 3.33 and 3.30 respectively.

From the analysis, in terms of the determinants of access to debt finance, both panels show that effective lending rates (ELR) has the highest mean rank, at 3.72 and 3.65. The higher mean rank of effective lending rates using both approaches could be explained by the fact that in Uganda effective lending rates are not regulated by the central bank (BOU, 2014). Moreover, commercial banks and lenders have the mandate to change

lending rates according to the riskiness of the borrower. Normally, the lending rates are increased to screen out borrowers; however, in most cases SMEs withdraw from borrowing when the effective lending rate is higher than the acceptable quoted interest rate. More discussion on the descriptive statistics relating to the determinants of access to debt finance is provided in section 7.6 above.

Table 7.8: Descriptive statistics relating to independent variables

Panel A "received" *approach (N=220)*						
	N	Min	Max	Mean	Std. dev	Skew	Kurt
ATDF	220	0.00	1.00	**0.48**	0.22	-1.05	-0.22
ELR	220	1.00	5.00	**3.65**	0.60	-1.17	3.85
TRC	220	1.00	5.00	**3.45**	0.67	-0.12	0.23
FAG	220	1.00	5.00	**3.56**	0.69	-0.33	0.39
FSZ	220	1.00	5.00	**3.35**	0.83	-0.17	0.35
IND	220	1.00	5.00	**3.33**	0.64	-0.25	1.39
OWN	220	1.00	5.00	**3.49**	0.77	-0.74	1.25
TSP	220	1.00	5.00	**3.49**	0.77	-0.65	1.31
CLT	220	1.00	5.00	**3.51**	0.72	-0.64	1.56
EDU	220	1.00	5.00	**3.34**	0.59	0.02	2.27
EXP	220	1.00	5.00	**3.41**	0.72	-0.47	0.34
GEN	220	1.00	5.00	**3.30**	0.85	-0.29	-0.14
Panel B "Applied and Received" approach (N=115)						
ATDF	115	0.00	1.00	**0.78**	0.414	-1.08	-0.074
ELR	115	1.00	5.00	**3.72**	0.65	-1.17	3.87
TRC	115	1.00	5.00	**3.44**	0.66	-0.06	0.32
FAG	115	1.00	5.00	**3.56**	0.69	-0.29	0.45
FSZ	115	1.00	5.00	**3.33**	0.85	-0.16	0.29
IND	115	1.00	5.00	**3.32**	0.65	-0.15	1.33
OWN	115	1.00	5.00	**3.41**	0.75	-0.35	0.2
TSP	115	1.00	5.00	**3.62**	0.66	-0.56	1.63
CLT	115	1.00	5.00	**3.48**	0.75	-0.77	2.00
EDU	115	1.00	5.00	**3.35**	0.59	0.06	2.31
EXP	115	1.00	5.00	**3.26**	0.81	-0.31	-0.26
GEN	115	1.00	5.00	**3.34**	0.81	-0.35	0.19
Definition of variables: ATDF (access to debt finance), ELR (effective lending rates), TRC (transaction costs), LOC (Location), FSZ (firm size), IND (industry), OWN (ownership), TSP (transparency), CLT (collateral), EDU (Education), EXP (experience), GEN (gender)						

7.9.2. Correlation analysis

The results of the Pearson correlation coefficient test are presented in Table 7.9 below in Panels A and B, relating to the R_a and AR_a. In both panels, there is no element of multicollinearity between the independent variables. All the correlation values are below 0.70, as recommended by Field (2009). With respect to the correlations amongst the independent variables, the highest correlation value is .537** in the R_a between collateral and gender, whilst in the AR_a the highest correlation value is .537*, between experience and gender. According to Field (2009), correlation between independent variables above 0.8 is a cause for concern. However, Myers (1990) also states that a certain degree of multicollinearity could still exist, even when none of the correlation coefficients is very large. Nonetheless, in this case all the correlation values were less than .80, which does not require examination of the variance inflation factors (VIF) in the models to further test for multicollinearity.

According to Cohen (1998), correlation coefficient values between .50 and .90 between the dependent and independent variables are interpreted as very strong, whilst coefficients between .10 and .40 are considered to be weak. In Table 7.9, Panel A, the R_a, shows that there are weak negative relationships between access to effective lending rates and transaction costs, at a level of 5%. The relationship is negative, which suggests that when effective lending rates are high, the SME level of access to debt finance will be low. In addition, in the R_a gender has a positive relationship with access to debt finance, at a level of 1%. This implies that the SMEs that do not apply for finance have the perception that financiers to tend to prefer male entrepreneurs than female ones. Finally, the education and experience variables have a positive relationship with access to debt finance, at a level of 5%. The findings imply that the higher the level of education and experience of the

entrepreneur, the more likely they are to operate a loan account, hence increasing access to debt finance.

From Table 7.9, it is also observed that in the AR_a the variables of effective lending rates and transaction costs have strong correlation coefficient values of above .50. This is a good sign, in that SMEs which are actively seeking finance perceive effective lending rates and transaction costs to have a strong negative relationship with access to debt finance; the higher the effective lending rates and transaction costs, the less SMEs will borrow because such factors increase the cost of capital and form affordability barriers to access to debt finance. In the R_a, the highest correlation value is .249 at a level of 1%, which suggests that SMEs that operate loan accounts perceive male entrepreneurs to have higher chances of access to debt finance than female entrepreneurs. Overall, the AR_a presents strong relationships among variables, whilst the R_a presents weak correlation values, which suggests that the AR_a could be the better approach for measuring ATDF and its determinants.

Table 7.9: Correlation analysis

	ATDF	ELR	TRC	FAG	FSZ	IND	OWN	TSP	CLT	EDUC	EXP	GEN
Panel A "Received" approach (N=220)												
ATDF	1.000											
ELR	**.209***	1.000										
TRC	**-.216***	.389*	1.000									
FAG	0.29	.346*	.432**	1.000								
FSZ	-0.55	.224**	.293*	.364**	1.000							
IND	0.12	.207*	.398*	.472**	.384*	1.000						
OWN	-.056	.194*	.354*	.236**	.358*	.434*	1.000					
TSP	.108	.369*	.348**	.358*	.318*	.353*	.282*	1.000				
CLT	-.018	.322**	.321**	.385**	.322**	.295**	.386*	.538**	1.000			
EDU	-.164*	.194**	.293**	.337**	.301**	.291**	.424**	.241*	.361**	1.000		
EXP	.153*	.177**	.397**	.422**	.316**	**.522***	.328**	.182*	.369*	.426*	1.000	
GEN	.249**	.226**	.440**	.376**	.278**	.400**	.343**	.369**	**.537***	.511*	.490*	1.000
Panel B "Applied and Received" approach (N=115)												
ATDF	1.000											
ELR	-.588**	1.000										
TRC	-.573**	.399*	1.000									
FAG	-.451**	.345*	.436*	1.000								
FSZ	.146	.256**	.295*	.371*	1.000							
IND	-.101	.244*	.403**	.480*	.387*	1.000						
OWN	.035	.242*	.374*	.403**	.373*	.524**	1.000					
TSP	.509**	.234*	.283**	.355**	.372*	.474**	.414**	1.000				
CLT	.512**	.307**	.359**	.349**	.285**	.364**	.421**	.467**	1.000			
EDU	.467**	.156	.285**	.350**	.314**	.302**	.228*	.424**	.252**	1.000		
EXP	.485**	.267*	.459*	.370**	.371**	.414*	.415*	.267*	.397*	.319*	1.000	
GEN	.045	.256*	.449**	.367**	.307**	.438*	.300**	.284**	.396**	.498*	**.537***	1.000

**Correlation is significant at the 0.01 level (2-tailed). *Correlation is significant at the 0.05 level (2-tailed).

7.9.3. Regression results

This section presents the results of the multiple logistic regression obtained using the likelihood ratio statistic (the forward: *LR* method), as recommended by Field (2009). According to Field, the -2LL ratio statistic is superior to the forced entry method (FEM) of logistic regression analysis in terms of being able to control for confounding variables in the model to estimate how well the model fits the observed data. The multiple logistic regression results are presented in Table 7.10, categorised under Panel A, the R_a, and Panel B, the AR_a. The results from both approaches show that the models were statistically significant at a level of 1% for the AR_a and at 5% for the R_a. With the AR_a, the model explains 73.3% of the variation in access to debt finance among SMEs, whilst with the R_a, the model explains 40.20%. There are no outliers in the data; all cases had studentized residuals greater than the standard deviation at a level of 2.000, which fulfilled the assumption for logistic regression as recommended by Cohen (1998). The results of the Hosmer-Lemeshow (HL) (GOF) test for logistic regression for both models are *P= .453* for the AR_a and *p=.194* for the R_a. The values of the HL test (*p > .05)* imply that both models are correctly specified to fit the data (Cohen, 1998).

From the findings indicated in Table 7.10 below, the AR_a model is better at explaining the determinants of access to debt finance among SMEs based on the fact that the -2 LL is lower at 38.556, compared to that of 165.948 in the R_a. According to Field (2009), lower values of the -2LL indicate that the model is predicting the outcome variable more accurately. However, in both models the -2LL is not significant, which implies that the amount of unexplained data is minimal (Field, 2009, pg. 179). In addition, the model chi-square value (omnibus test) for the AR_a is significant at a level of 1%, which implies that measuring access to debt finance by the AR_a provides a better model than that of the R_a which is significant at a level of 5%.

In addition, the overall fit of 91.7% (AR_a) compared to 77.6% (R_a) from the classification tables indicates how well the AR_a model explains the extent of access to debt finance and its determinants among SMEs. Similarly, with both models, the Wald statistic[2] shows that the *beta (β)* coefficient values are significantly different from zero, which implies that the predictor variables are making a significant contribution to explaining the determinants of access to debt finance. However, Menard (1995) and Field (2009) provide caution on the use of the Wald test in cases of determining variable significance because when the regression coefficients are large, the standard error (*S.E*) is inflated, which underestimates the results of the Wald test, leading to rejection of a predictor variable as being insignificant. Therefore, in such cases, Field (2009) recommends the use of the -2LL to provide more accurate significant predictor values, which this study adopts.

Table 7.10: Multiple logistic regression results

This table presents the cross sectional data on the strength of the relationship between ATDF (dependent variable) and the explanatory variables (effective lending rates, transaction costs, firm age, firm size, industry, ownership, financial transparency, education, experience and gender) using the R_a (Panel A) and the AR_a (Panel B) and the following model: $ATDF\ R_a/AR_a = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta_{11} GEN + \varepsilon$

| | | Panel A "Received" approach | | | | | | PANEL B "Applied and Received" approach | | | | | |
| | | | | | 95% C.I.for EXP(B) | | | | | | 95% C.I.for EXP(B) | | |
Variables	Expected sign	β (SE)	Hypotheses	Wald	Lower	Exp(B)	Upper	β (SE)	Hypotheses	Wald	Lower	Exp(B)	Upper
ELR	-	-.711(.295)*	Conf	5.814	0.276	0.491	0.875	-4.806(1.543)**	Conf	9.703	4.768	1.734	13.113
TRC	-	-.373(.291)*	Conf	1.646	0.821	1.452	2.569	-3.473(1.359)**	Conf	6.532	3.381	1.052	10.864
FAG	+	.263 (.290)	Rej	0.822	0.737	1.301	2.297	2.376(1.091)**	Conf	4.739	0.367	0.113	1.197
FSZ	+	.210 (.220)	Rej	0.909	0.801	1.234	1.899	1.752(0.872)*	Conf	4.038	0.402	0.172	0.942
IND	+	.583 (.339)	Rej	2.956	0.922	1.792	3.485	.565 (1.022)	Rej	0.306	0.774	0.246	2.438
OWN	+	.281 (.255)	Rej	1.211	0.458	0.755	1.245	.226(1.002)*	Conf	0.051	2.54	0.92	7.01
TSP	+	.008 (.259)	Rej	0.001	0.597	0.992	1.649	5.017(1.826)**	Conf	7.551	0.276	0.076	1.004
CLT	+	.378(.299)*	Conf	1.601	0.382	0.685	1.231	1.849(0.821)**	Conf	5.074	0.468	0.193	1.138
EDU	+	.117(.341)*	Conf	0.118	0.456	0.889	1.735	1.199 (1.404)	Rej	0.730	0.859	0.246	3.003
EXP	+	.321(.296)*	Conf	1.18	0.772	1.379	2.463	3.997(1.307)*	Conf	9.348	2.87	1.116	7.383
GEN	+	.714 (.263)*	Conf	7.368	1.219	2.042	3.419	.686 (0.889)	Rej	0.595	0.899	0.335	2.413
LOC(cat)	+	-.382(.867)		0.104	0.144	0.376	0.980	-2.514 (1.923)		1.710	0.413	0.054	3.162
No of orbs		220						115					
Constant (-2LL)		165.948						38.556					
Model X^2		60.896*						64.994**					
Hosmer-Lemeshow (GOF)		0.194						0.453					
Nagelkerke R^2		40.20%						73.30%					
Overall fit		77.60%						91.70%					
**Significant at 1% (two tailed) * Significant at 5% (two tailed)													

7.9.4. Discussion

The overall results in Table 7.10 above show that when using both the R_a and AR_a the variables of effective lending rates (ELR) and transaction costs (TRC) have a significant negative association with ATDF. However, the level of significance in both variables differs; with the AR_a, ELR and TRC are significant at levels of 1% and 5% under the R_a. The findings imply that hypotheses H_1 and H_2 are confirmed using both approaches. Further, the results show that collateral has a positive association with ATDF. However, the levels of significance vary depending on the approach; with AR_a, CLT is significant at a level of 1%, whilst with the R_a it is 5%. The findings with respect to collateral indicate that H_7 is confirmed with both approaches. Similarly, experience is found to have a significant positive association with ATDF at a level of 5% with both approaches. The findings with respect to entrepreneurial experience and ATDF indicate that H_{10} is confirmed using both approaches.

However, the findings indicate a difference in the confirmed variables between the two approaches; the variables of firm age, firm size, ownership, financial transparency and experience have a positive association with access to debt finance with the AR_a approach, while the same variables are not significantly associated with access to debt finance using the R_a. This therefore implies that hypotheses 3 (firm age), 4 (firm size), 6 (ownership), 7 financial transparency and 10 (experience) are confirmed based on the AR_a, whilst on the R_a approach they are not. Similarly, the variables of education and gender are found to have a positive association with access at a level of 5% with the R_a implying that H_9 and H_{11} are confirmed only in relation to this approach. Nonetheless, the results with respect to industry show that this variable is not a significant predictor of access to debt finance, irrespective of the way access to debt finance is operationalised. This therefore suggests that hypothesis H_5 is not confirmed with either approach. From the results it can therefore be observed that

there are similarities and differences in the confirmed variables. Therefore, variables that show similarity with both approaches are assumed to have the same explanation given in section 7.6. More discussion follows on variables (education, gender and industry) which were not found to be significant with the AR_a in chapter seven.

Education

The significant positive association of education and ATDF at a level of 5% with the R_a implies that the higher the education level, the easier it is for entrepreneurs to access finance. In Uganda, most entrepreneurs are relatively well educated; over half have advanced secondary education (NSBS, 2015). The findings indicate that highly educated entrepreneurs have the relevant skills to manage their business activities and to build strong networks that could ease access to debt finance. With the state of education among Ugandan entrepreneurs, SMEs will be more likely to be credit constrained because the majority have no degree to ease access to debt finance, as past literature suggests. The findings are consistent with research by McKenzie and Baker (2012), who found a positive relationship between higher educational qualifications and access to debt finance. This was based on the premise that enterprises that have managers or owners with high education profiles are assumed to attract external investors. Education positively encourages the motivation of the entrepreneur to explore the many financing opportunities available and to draw up fundable business plans to increase the chances of attracting external investors.

Moreover, the research on SMEs by Irwin and Scott (2010) in the UK revealed that graduate entrepreneurs had the fewest difficulties in raising finance from banks. Additionally, the study conducted across 600 SMEs in Britain, France and West Germany by Watkins and Morton (1982) revealed that financiers were more concerned with the managerial capability in terms of education level and experience of the owner in order to issue finance, which was given first rank in France, and second rank in Britain and West

Germany. However, in contrast, Han et al. (2009) in the US found that entrepreneurs with undergraduate degrees were more likely to be financially constrained than those without a formal education.

Gender

The results relating to gender based on the R_a indicate that it is positively significant in determining increases or decreases in access to debt finance. The findings imply that men are usually trusted with finance and that in the case of two applications, an application for finance from a man will be processed before that of a woman. The findings are consistent with Johnson's (2004) and Buvinic and Berger's (1990) studies on Africa, which suggested that only male heads of households were able to successfully receive formal credit. In addition, across the MENA region, Baden (1996), Demirguc-Kunt et al. (2013) and Hulten (2012) found that women entrepreneurs receive smaller loans on average compared to their male counterparts. However, this could be due to women requesting smaller loans, rather than credit rationing by banks. Marlow and Patton (2005) also conceptualised the notion that women entrepreneurs entering self-employment are disadvantaged by their gender, and argue that, while both men and women entrepreneurs face similar barriers in access to debt finance, these barriers are higher for women.

Industry

The logistic regression results indicate that whatever approach is used to measure access to debt finance, industry is not a significant predictor. The findings on industry are contrary to many studies, which found a positive association between industry and access to debt finance. For example, Nangoli et al. (2013) conducted a study on SME access to debt finance and found that banks tend to favour industries based in the manufacturing sector. This is because although Uganda is agro-based, most of the agricultural products are exported in a finished or semi-finished form, which contribute to about 80 per cent of

total exports. Manufacturing firms tend to access finance mainly because they possess a tangible inventory that can be converted to cash, unlike service firms (Porter, 1980; Rumelt, 1991). Likewise, in the USA, McGahan and Porter (1997) found that industry had a direct and indirect influence on access to external resources. Similarly, in Uganda, Nanyondo et al. (2014) found that manufacturing firms were more likely to obtain finance than service firms. This is because manufacturing industries have collateral to offer to banks as security in the case of default. The findings of a positive insignificant association between access to debt finance and industry could be explained by the recent contribution of oil and gas to the economy. It is no longer about manufacturing or service; financiers are more inclined to finance SMEs operating in the oil and gas sectors (NSBS, 2015).

7.9.5. Robustness checks

Robustness analysis was carried out to compare how the variables of deposit account (DepAcc) and minimum balance (Minbal) regression specifications performed when each of the variables was added or removed. The rationale was to test for structural validity, as recommended by White and Lu (2010). Table 7.11 shows the robustness checks and comprises models 1, 2 and 3, categorised under panels A and B for the AR_a and R_a respectively. Model 1 contains variables in the original, whilst model 2 contains variables from model 1 with an addition of a new variable of minimum balance (Minbal), whilst model 3 contains variables from model 2, plus deposit account (DepAcc).

Whatever the approach used to measure access to debt finance, the findings indicate that the variables of deposit account and minimum balance are not significantly associated with access to debt finance. However, they also indicate that the explained variance increases from 40.20% to 48.60% when the variable of deposit account is added to the original model, and 48.70% when the variable of minimum balance is added to the R_a model. In the UK, BIS (2012) reported that deposit accounts and maintaining minimum

balances influence access to debt finance among SMEs. This is based on the premise that financiers are able to track deposit details to ascertain cash flows and estimate the financial risk associated with an SME. However, according to Ayyagari et al. (2011), high minimum balances to open and maintain bank accounts and high annual fees can constitute high barriers to increases in access to debt finance. In addition, deposit accounts are often an expensive package, with hidden service fees and deposit charges, which exclude nearly 50% of entrepreneurs from holding these (IFC, 2014, World Bank, 2014).

The results relating to deposit accounts and minimum balances and ATDF in Uganda could be associated with the poor saving culture and the nature of Uganda's business environment, in which the majority of entrepreneurs make use of alternative saving mechanisms, for example village saving groups (VSG) (BOU, 2014b). In addition, the influence of mobile money transactions has posed a liquidity threat to most Ugandan commercial banks. Liquidity ratios are reported to be falling short of the central bank threshold ratio of 20% across commercial banks, which is a result of considerable mobile money transactions, which account for 36.7% of liquidity variance (Kamukama and Tumwine, 2012).

According to FINSCOPE (2013), the number of mobile money registered customers exceeds half the total population of Uganda, which is seeing a large amount of money exchanging hands not necessarily going through the banking system. Most SMEs tend to borrow from commercial banks; however, commercial banks obtain most of their money from deposits. Therefore, if not much is deposited, then a liquidity crisis is bound to occur, which constrains bank lending capacity. Inadequate deposits have increased the lending rate to 23% because commercial banks are borrowing from the National Social Security Fund (NSSF) fixed deposits at high rates in order to lend, which then increases the cost of bank finance (BOU, 2014b).

Table 7.11: Robustness checks

This table presents the results of further analysis of both approaches on the strength of the relationship between ATDF (dependent variable) and independent variables, controlling for the confounding variables of deposit account (DepAcc) and minimum balance (Minbal)

Variables	Expected sign	Panel A "Received" approach			Panel B "Applied and Received" approach		
		Model 1	Model 2	Model 3	Model1	Model2	Model3
		β (SE)	β (SE)	β (SE)	β (SE)	β (SE)	β (SE)
ELR	-	-.711(.295)*	1.636(0.44)	1.583(.449)	-4.806(1.543)**	-1.484(.302)**	-1.804(.62)**
TRC	-	-.373(.291)*	1.401(0.409)	1.466(.428)	-3.473(1.359)**	-1.283 (.071)**	-1.721(.411)**
FAG	+	.263 (.290)	-0.87(0.418)	-.894(.422)	2.376(1.091)**	1.794(.955)**	4.669(.591)**
FSZ	+	.210 (.220)	-0.605(0.337)	-.593(.335)	1.752(0.872)*	1.014 (.562)*	4.780(.591)*
IND	+	.583 (.339)	-0.369(0.479)	-.408(.484)	.565 (1.022)	3.227 (.290)	.412(.363)
OWN	+	-.281 (.255)	-0.675(0.373)	-.677(.372)	.226(1.002)*	3.587(.143)*	.792(.475)*
TSP	+	.008 (.259)	-0.891(0.371)	-.854(.375)	5.017(1.826)**	3.753(.123)*	1.711(.047)*
CLT	+	.378(.299)*	0.192(0.443)	.197(.442)	1.849(0.821)**	1.206(.308)**	5.516(.384)**
EDU	+	-.117(.341)*	-1.219(0.585)	-1.236(.582)	1.199 (1.404)	3.947(.341)	1.151(.897)
EXP	+	.321(.296)*	1.611(0.465)	1.584(.464)	3.997(1.307)*	2.182 (.377)**	.819(.947)**
GEN	+	.714 (.263)*	0.198(0.375)	.220(.379)	.686 (0.889)	1.190 (.584)	.516(.562)
DepAcc	+		0.593(0.756)	.321(.553)	2.514 (1.923)	2.639(.436)	5.401(.610)
Min bal	+			.618(.756)			2.496(.102)
Loc (Cat)		-.382(.867)	-1.813(0.454)	1.964(.530)	-2.514 (1.923)	-1.495(.135)	-1.302(.926)
No of orbs		220	220	220	115	115	115
-2LL		165.948	149.048	148.707	38.556	30.195	29.821
Model X^2 (Chi-square)		66.896	83.796*	75.761*	64.994**	76.207**	91.914**
Nagelkerke R^2		40.20%	48.60%	48.70%	73.30%	80.10%	80.60%
Overall fit		77.60%	77.60%	84.90%	91.70%	95.4%	81.10%

**Significant at 1% (two tailed) * Significant at 5% (two tailed)

$ATDF_{Ra/ARa} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta 11 GEN + LOC (cat) + \varepsilon$ (1)

$ATDF_{Ra/ARa} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta 11 GEN + \beta 12 DEPACC + \varepsilon$ (2)

$ATDF_{Ra/ARa} = \beta_0 + \beta_1 ELR + \beta_2 TRC + \beta_3 FAG + \beta_4 FSZ + \beta_5 IND + \beta_6 OWN + \beta_7 TSP + \beta_8 CLT + \beta_9 EXP + \beta_{10} EDU + \beta 11 GEN + \beta 12 DEPACC + \beta 13 MINBAL + \varepsilon$ (3)

7.10. Summary and conclusion

The main objective of this chapter was to investigate the extent of access to debt finance and the determinants of such access among SMEs in Uganda using the AR_a and comparing the AR_a with R_a on the extent and determinants of access to debt in Uganda. The descriptive statistics relating to access to debt finance indicate that when access to debt finance is measured using the R_a, the rates of access to various forms of finance are underestimated, whilst with the AR_a the extent of access to debt finance is considerably higher because this approach allows for voluntary exclusion.

In relation to the determinants of access to debt finance, there are similarities and differences in the observed variables. For example, with both approaches, effective lending rates, transaction costs, collateral and entrepreneurial experience variables are found to be associated with access to debt finance, irrespective of the approach used in measuring it. This therefore confirms hypotheses 1, 2, 7 and 8 using both approaches. However, variables such as firm age, firm size, ownership and financial transparency are only significant when ATDF is measured using the AR_a, therefore confirming hypotheses 3, 4, 5 and 6. Gender is only significant when access to debt finance is measured using the R_a, hence confirming H_{11}. Finally, industry is insignificant irrespective of how access to debt finance is measured.

CHAPTER EIGHT

DETERMINANTS OF ACCESS TO DEBT FINANCE: SURVEY OF THE CONSENSUS BETWEEN SMEs AND FINANCIERS

8.1. Introduction

The chapter intends to fulfil subsidiary objective two of investigating the consensus between SMEs and financiers on the determinants of access to debt finance. The rationale is to compare and contrast the findings in order to improve understanding of the knowledge of the determinants such access from the supply and demand perspectives.

The chapter is organised as follows: section 8.2 provides a sample description of the characteristics of SMEs and financiers. Section 8.3 presents descriptive statistics of the rating of each determinant of access to debt finance. Section 8.4 presents the *t-test* results and section 8.5 discussion of the results, with suggestions of possible implications of the similarities and differences. Finally, section 8.6 provides a summary and conclusion to the chapter.

8.2. Sample characteristics

8.2.1. SME characteristics

The descriptive statistics relating to the questionnaire on SME characteristics in Part A section 1 (See Appendix 1) indicate that, in terms of location, the majority (59.1% - 130) of SMEs are concentrated in the Central region, followed by the Western region at 18.3% (40), the Northern region 9.6 % (21), the Southern region 7.0% (16) and the Eastern region 6.0 (13). In terms of ownership, the majority of SMEs, 53.9% (119), were sole owned, followed by 20.9% (46) with joint-venture ownership (partnership), 11.3% (25) that have shareholding with predominantly foreign shareholders, 9.6% (21) SMEs have shareholding

with predominantly domestic ownership, and only 4.3% (10) SMEs are state owned. With regard to core business, the majority of SMEs, 73.9% (163), are part of the manufacturing industry, whilst 26.1% (57) are in the service sector. In terms of location, most, 87.8% (193), operate in urban areas, whilst only 12.2 (27) operate in rural areas. As for firm age, the majority, 83.0% (182), were found to be relatively young, in the age bracket of 1-10 years old, followed by 13.9% (31) who were in the 11-20 years old bracket, and only 3.1% (7) SMEs had been in operation for between 41-50 years. Regarding firm size, the majority on average employ about 14 people, with a minimum of 1 and a maximum of 15 full time employees. In terms of reasons for borrowing, most of the SMEs, 82.6% (182), indicated that they borrow to finance working capital, followed by 11.3% (25) that borrow for asset acquisition, whilst 5.2% (12) borrow for equity and 0.9% (2) preferred not to disclose this information.

8.2.2. Financier characteristics

In terms of financier characteristics, as indicated in Part A section 1 of the questionnaire (see Appendix 2), the descriptive statistics indicate that in terms of the legal ownership of financiers (formal or alternative), the majority are privately owned. Out of 79 respondents, 48.1% (38) are privately owned, followed by a category of other financiers that chose not to disclose the legal state of ownership, at 30.4% (24); foreign investment bank financiers stood at 11.4% (9); shareholdings with domestic ownership at 8.9% (7); and state own at 1.2% (1). In terms of formal and alternative financiers, the majority in the alternative category were identified to be trade credit suppliers, at 50.6% (40), followed by commercial banks at 20.3% (16), insurance companies at 10.1% (8), credit service bureaus at 10.1% (8); and MFIs and SACCOs at 6.3% (5) and 2.6% (2), respectively.

The majority of financiers (see Appendix 2, Part A: Section 1, question 3) expressed a preference to lend to large enterprises, with a response rate of 63% (50 out of 79), whilst

37% (29 out of 79) preferred to lend to SMEs. In terms of the share of credit to SMEs, the majority (40%) reported that this was increasing; followed by 33% who indicated that this was significantly increasing, and 20%, who indicated that it was unchanged from 2013 to 2014. 3% indicated that the share of credit to SMEs was decreasing, whilst 4% indicated a significant decrease.

8.3. Rating of determinants of access to debt finance

Table 8.1 provides descriptive statistics on the mean ranks relating to the perceptions of SMEs and financiers on the determinants of access to debt finance. Panel A in Table 9.1 indicates that financiers perceive collateral as the main determinant of access to debt finance, with the highest mean rank of 3.40. This rank suggests that financiers perceive that the value of collateral influences the credit amount issued to an SME, as collateral provides security in case of default. Second, financiers believe that financial transparency impacts on access to debt finance among SMEs as it has a higher mean rank of 3.38 following the effective lending rate variable. Financiers consider that if SMEs adopt IFRs in the preparation of financial statements, for example the statement of financial position and comprehensive income, this would improve credit scoring and hence increase the chances of access to debt finance. In addition, it is perceived that SMEs need to possess audited financial statements because such statements provide authenticity of a true and fair view of the enterprises' performance and therefore also increase access to debt finance.

SME ownership takes the third position in mean ranking, with a value of 3.37, following financial transparency. This implies that financiers perceive that the legal proprietorship of the SME matters in access to debt finance; for example, sole owner businesses are not immediately considered for finance because normally such enterprises do not separate business financial operations from individual affairs and hence are associated with high default risk. On the other hand, enterprises in the form of partnerships

stand a high chance of obtaining finance, and corporations are in an even better position. Financiers perceive effective lending rates to be the fourth most popular factor that influences access to debt finance among SMEs, with a mean rank of 3.35. This is based on the premise that they quote higher effective lending rates for SMEs to cover the risk associated with lending to them. The remaining variables, education, industry, transaction costs, firm age and experience in panel A have lower mean ranks of 3.23, 3.23, 3.22, 3.22 and 3.21. This implies that financiers may not recognise such factors as ranking highly as determinants of access to debt finance compared to the more important factors discussed above.

Panel B shows the mean ranks for the SME perceptions of the determinants of access to debt finance. Unlike financiers, SMEs perceived effective lending rates as a factor that determines access, with a mean score of 3.75, higher than the other factors. This implies that SMEs consider effective lending rates to be far above the quoted rates, which increases the cost of finance. In addition, they note that effective lending rates are not controlled by the central bank, which leads to exploitation of SMEs by financiers by extreme lending rates. Second, SMEs consider financial transparency to be an important factor in determining access to debt finance, with a mean rank of 3.62. This indicates that SMEs are aware that once financial statements are prepared in accordance with IFRS, then access is increased.

Firm age has a mean rank of 3.56, which suggests that SMEs perceive that the number of years in business operation has an influence on access to debt finance. Following this, collateral has a mean rank of 3.48, which suggests that SMEs consider that possession of acceptable collateral in the form of plant, property and equipment increases access. The transaction costs variable has a mean rank of 3.44, which suggests that it is believed that these costs, for example administrative fees, opportunity costs, high loan insurance charges

and conditions of loan maturity, lead to finance affordability barriers, which decrease access to debt finance. The remaining variables, ownership, education, gender, firm size, industry and experience, have lower mean ranks of 3.41, 3.35, 3.34, 3.33, 3.32 and 3.26 respectively. This implies that SMEs do not perceive such factors to have such a great impact on access to debt finance as effective lending rate, financial transparency, firm age, collateral and transaction costs. The variations in the perception of the factors that determine access to debt finance influence the extent of access because SMEs will constantly fail to meet the credit scoring criteria to qualify for finance because they simply do not know what financiers are looking for in the credit scoring process. Financiers could be looking for factors apart from the experience of the entrepreneur; for example, SMEs may constantly perceive firm size and experience of the entrepreneur to be important, yet such factors do not even feature on the credit score list. Therefore, such variations are bound to prolong the access to debt finance debate among SMEs and financiers in Uganda.

Table 8.1: Determinants of access to debt finance

Panel A				*Financiers (supply side)*			
Variables	N	Min	Max	Mean	Std.dev	Skew	Kurt
ELR	79	1	5	**3.35**	0.77	-0.61	0.84
TRC	79	1	5	3.22	0.69	-0.84	0.85
FAG	79	1	5	3.22	0.65	-0.76	1.12
FSZ	79	1	5	**3.27**	0.79	-0.76	0.51
IND	79	1	5	3.23	0.77	-0.38	-0.33
OWN	79	1	5	**3.37**	0.84	-0.75	0.11
TSP	79	1	5	*3.38*	0.78	-1.02	0.99
CLT	79	1	5	**3.40**	0.89	-1.15	0.90
EDU	79	1	5	3.23	0.81	-0.59	0.16
EXP	79	1	5	3.21	0.84	-0.48	0.30
GEN	79	1	5	**3.29**	0.81	-0.66	0.53
Panel B				*SMEs (demand side)*			
	N	Min	Max	Mean	Std.dev	Skew	Kurt
ELR	115	1	5	**3.75**	0.65	-1.17	1.87
TRC	115	1	5	**3.44**	0.66	-0.06	0.32
FAG	115	1	5	**3.56**	0.69	-0.29	0.45
FSZ	115	1	5	3.33	0.85	-0.16	0.29
IND	115	1	5	3.32	0.65	-0.15	1.33
OWN	115	1	5	3.41	0.75	-0.35	0.2
TSP	115	1	5	**3.62**	0.66	-0.56	1.63
CLT	115	1	5	*3.48*	0.75	-0.77	1.80
EDU	115	1	5	**3.35**	0.59	0.06	2.31
EXP	115	1	5	3.26	0.81	-0.31	-0.26
GEN	115	1	5	**3.34**	0.81	-0.35	0.19

ELR (effective lending rates), TRC (transaction costs), FSZ (firm size) IND (industry), OWN (ownership), TSP (financial transparency), CLT (collateral), EDU (education), EXP (experience), GEN (gender)

8.4. Consensus and variations in the determinants of access to debt finance

The independent samples *t*-tests in Table 8.2 above, panels A and B indicate that there are significant differences in the way SMEs and financiers perceive effective lending rates, transaction costs, firm age, size, industry, financial transparency, collateral, education, experience and gender as determinants of access to debt finance. The results of the *t-tests* are grouped according to the median cut-point, as recommended by Cohen

(1998). The cut-point is normally used to dichotomise variables, separating the cases into two categories. Specifically, these results are based on variables analysed as significant when equal to or above the cut-point of mean >= 3.29 for financiers and mean >= 3.44 for SMEs.

The statistics in Table 8.2 panels A and B indicate that the assumption of homogeneity of variances was tested and satisfied by Levene's test for all variables. According to Levene (1960), for the homogeneity of variables to be satisfied in the data, the *p values* for the test must be above the threshold of .05 *(p<.05)* for the null hypothesis to be rejected. Therefore, based on Levene's independent samples *t-test*, the null hypothesis concerning the variables is rejected because all the *p-values* are above the threshold of 5% in both panels A and B. Therefore, independent samples *t-test* results for both financiers and SMEs are as follows: effective lending rates (.825, .514); transaction costs (.232, .782); firm age (.347, .924); firm size (.289, .562); industry (.472, .718); ownership (.304, .771); financial transparency (.476, .539); collateral (.690, .848); education (.799, .974); experience (.601, .114); and gender (.618, .267).

In addition, the independent samples *t*-test indicates that some variables with both financiers and SMEs are at a level of 1% of statistical significance, causing an effect on access to debt finance. Among the determinants of access, the independent samples *t-test* indicates that there is consensus between financiers and SMEs on variables such as effective lending rates (ELR) *(t (78)=38.214, p=.000); (t(114)=*60.034, *p=.000)*; firm age (FAG) *(t(114)=43.109, p=000); (t(78)=54.586,p=.000)*; financial transparency (TSP) *(t(78)=38.040, p=000); (t(114)=57.854,p=.000)*; and collateral (CLT) *(F(78)=33.536, P=.000); (t(114)=48.758, P=.000)* which are significant enough to cause an increase or decrease in access to debt finance among SMEs. The independent samples t-test with respect to SMEs also indicates that additional variables of transaction costs (TRC) and firm

age (FAG) are significant at 1%, whilst firm size, ownership and experience are significant at a level of 5%. Furthermore, the *t- test* results with respect to financiers in Panel A indicate that ownership (*t (78) =34.647, p=.000)* is a significant predictor of access to debt finance at 1% level.

Table 8.2: Independent samples t-tests relating to financiers and SMEs

				Levene's Test for Equality of Variances		t-test for Equality of Means			
Variables	Mean	Std. dev.	S.E Mean	F	Sig.	t	df	Sig. (2-tailed) Cut point >=3.29;3.44	95% Confidence Interval of the Difference Lower	Upper

Panel A: Supply side (Financiers, N=79)

Variables	Mean	Std. dev.	S.E Mean	F	Sig.	t	df	Sig. (2-tailed) Cut point >=3.29;3.44	Lower	Upper
ELR	3.35	0.769	0.087	0.150	0.825	38.214	78	0.000	3.132	3.477
TRC	3.22	0.689	0.078	1.478	0.232	40.879	78	0.303	3.018	3.327
FAG	3.29	0.654	0.074	0.906	0.347	43.109	78	0.000	3.02	3.316
FSZ	3.27	0.789	0.089	1.156	0.289	36.232	78	0.338	3.039	3.393
IND	3.23	0.774	0.087	0.527	0.472	36.467	78	0.240	3.002	3.350
OWN	3.37	0.838	0.094	1.085	0.304	34.647	78	0.000	3.079	3.450
TSP	3.38	0.775	0.087	0.518	0.476	38.040	78	0.000	3.144	3.491
CLT	3.40	0.888	0.099	0.162	0.690	33.536	78	0.000	3.149	3.548
EDU	3.23	0.809	0.091	0.065	0.799	34.908	78	0.180	2.997	3.359
EXP	3.21	0.837	0.094	0.278	0.601	33.534	78	0.229	2.971	3.347
GEN	3.28	0.810	0.091	0.253	0.618	35.536	78	0.638	3.057	3.420
Panel B: Demand side (SMEs, N=115)										
ELR	3.75	0.688	0.069	3.878	0.514	60.037	114	0.000	3.544	3.786
TRC	3.44	0.675	0.067	3.159	0.782	55.388	114	0.000	3.271	3.513
FAG	3.56	0.690	0.069	0.009	0.924	54.586	114	0.003	3.38	3.636
FSZ	3.45	0.844	0.084	0.338	0.562	41.572	114	0.059	3.126	3.439
IND	3.32	0.653	0.065	0.131	0.718	53.871	114	0.179	3.149	3.390
OWN	3.45	0.750	0.075	0.085	0.771	48.007	114	0.035	3.217	3.494
TSP	3.62	0.653	0.065	0.379	0.539	57.854	114	0.000	3.44	3.687
CLT	3.48	0.769	0.076	0.037	0.848	48.758	114	0.000	3.291	3.569
EDU	3.25	0.564	0.056	0.001	0.974	60.179	114	0.437	3.195	3.413
EXP	3.46	0.774	0.0769	2.540	0.114	42.711	114	0.040	3.059	3.358
GEN	3.34	0.772	0.0769	1.243	0.267	43.775	114	0.739	3.140	3.438

8.5. Discussion

The results in Table 8.2 above address the third specific research objective, to establish if there are significant differences in the way SMEs and financiers perceive determinants of access to debt finance. The results of the t-tests relating to financiers in Panel A indicate that 5 out of 11 factors (effective lending rates, firm age, ownership, financial transparency and collateral) are statistically significant to explain access to debt finance. On the other hand, the remaining 6 factors, transaction costs, firm size, industry, education, experience and gender, scored below the cut-point of 3.29, and hence were not found to be significant predictors. However, in the results relating to SMEs in Panel B, 8 out of 11 variables, effective lending rates, transaction costs, firm age, firm size, ownership, financial transparency, collateral and experience, were found to be statistically significant above the cut-point of 3.44, and consequently were found to predict access to debt finance.

The findings indicate that there is limited consensus among SMEs and financiers on the factors that determine access to debt finance in Uganda. From table 8.2 it is clear that only 5 out of 11 factors are common to both SMEs and financiers, i.e. effective lending rates, ownership, firm age, financial transparency and collateral. The findings with respect to effective lending rates are consistent with Odongo (2014) in Uganda, Ololade and Olagunju (2013) in Nigeria and BIS (2012) in UK, where it was established that effective lending rates determine increases or decreases in access to debt finance. This could be explained by the fact that effective lending rates are not regulated by the central bank in Uganda, therefore lenders vary such rates depending on the risk associated with the SME or the nature of the security against credit. However, there is no documented empirical literature on financiers' perception of effective lending rates as a determinant of these increases or decreases.

In addition, the findings in relation to financial transparency as a determinant of access to debt finance are consistent with Nanyondo et al. (2014) in Uganda and UNDP (2011) in Malawi, where it was established that financial transparency determines access to debt finance from the financiers' point of view in Malawi and from that of SMEs in Uganda. Moreover, the findings on collateral as a significant predictor of access to debt finance are consistent with Beck et al. (2006), Levine (2005) and Beck and Torre (2007), who conducted studies from the financiers' perspective and established that collateral mitigates the negative influences of credit rationing because it acts as security in case of default. From the SME perspective, the findings are also consistent with empirical evidence from Le (2012) in Vietnam and Lago et al. (2007) in Spain, where collateral was found to have a significant positive association with access to bank finance.

However, financiers, unlike SMEs, perceive firm age to be a significant predictor of access to debt finance. This perception could be explained by the recent findings of NSBS (2015), from which it was established that SMEs in Uganda are relatively young enterprises, the majority (69%) being aged between 1 and 10 years old. Therefore, financiers categorise such enterprises as being associated with a high default risk because they have not been tested by hard financial recessions. The finding of firm age on the demand side (SMEs) is inconsistent with the empirical evidence from Le (2012) in Vietnam, who found that firm age was significantly associated with SME access to debt finance. This was because in Vietnam SMEs tend not to reach full growth potential; some of them remain small without intentions to grow. In addition, previous studies by Barako et al. (2006) in Kenya and Uganda, Nangoli et al. (2013) in Uganda and Zarook et al. (2013) in Libya found that firm age is also positively associated with access to debt finance. However, Evans (2010) found that there was a negative relationship between firm age and

access. This was based on the concept that when firms grow to maturity, they are assumed to have built the capacity to be self-sustaining and therefore will not seek external finance.

Unlike previous findings by Beck et al. (2007), these results indicate a discrepancy across financiers and SMEs; for example, financiers are keen on ownership of the enterprise to be in terms of either sole proprietary ownership, state-owned, joint-venture, shareholding with predominantly domestic or with predominantly foreign shareholders. On the other hand, SMEs consider transaction costs in terms of administrative fees, transport costs, service charges, communication expenses, hidden fees, and firm age as determinants of access to debt finance. However, the results from both SMEs and financiers in panels A and B indicate that education and gender are insignificant factors to determine an increase or decrease in access.

8.6. Summary and conclusion

The main objective of this chapter was to report the results of the investigation into the consensus between SMEs and financiers on the determinants of access to debt finance. They indicate that both SMEs and financiers perceive effective lending rates, financial transparency, ownership, firm age and collateral to be determinants. However, the results also indicate a variation in perception and no consensus on the remaining factors listed, which can explain why the access to debt finance debate has been ongoing, with no sign of a unified conclusion on what actually determines access to debt finance in Uganda.

CHAPTER NINE

SUMMARY, CONCLUSION, LIMITATIONS AND RECOMMENDATIONS

9.1. Introduction

This chapter begins by summarising the main research objective and two subsidiary objectives in section 9.2. This is followed by a summary of the methodology and findings in sections 9.3 and 9.4. Section 9.5 discusses the contributions of the study and Section 9.6 presents its policy implications. Section 9.7 discusses the study limitations and finally section 9.8 provides recommendation for further research.

9.2. Research objectives

The main research objective was to investigate the extent of access to debt finance and its determinants using the AR_a among SMEs in Uganda. Supplementary to the main objective, the thesis had two subsidiary objectives: (1) to examine the effect of measuring access to debt finance and it determinants by comparing the R_a and AR_a and (2) to examine consensus and variations in the way SMEs and financiers perceive effective lending rates, transaction costs, firm age, firm size, industry, financial transparency, collateral, education, experience and gender as determinants of access to debt finance.

9.3. Research methodology

The research questions were investigated through a positivist approach, in which a quantitative method was used to measure the extent of access to debt finance (dependent variable) on a binary scale of "1" access and "0" no access and its determinants (independent variables), with perception questions anchored on a five point Likert scale of "1" strongly disagree to "5" strongly agree. The study was cross-sectional, conducted on SMEs and financiers operating within five regions of Uganda, namely Western, Central,

Eastern, Northern and Southern. From the demand side, a population of 128,000 SMEs registered and operating in the five regions was taken from the statistics offered by the Uganda Bureau of Statistics (UBOS) (2014), the Uganda Small Scale Industries Association (USSIA) (2014) and the Uganda Investment Authority (UIA) (2014).

A simple random sampling technique was employed, through which every SME in each region had an equal chance to be selected in the sample. From the financier side, a population of 25 commercial banks, 22 insurance companies, 50 registered trade credit suppliers, 10 credit service bureaus, 10 MFIs and 10 SACCOs were issued questionnaires. These were tested for structural validity and reliability; the result of the Cronbach Alpha coefficient relating to the financiers' questionnaire was 0.93, whereas that of SMEs had a value of .82. As advised by Saunders et al. (2009), both questionnaires were pilot tested to make provision for evaluation, acceptance and understanding of them by the respondents. Finally, the response rates from the main study were 57% from SMEs and 62% from financiers.

9.4. Summary of the findings

The findings in relation to the main research objective indicated that using the AR_a, on average the extent of access to debt finance was at a rate of 78%. In terms of the determinants of access, the variables of effective lending rates, transaction costs, firm age, firm size, ownership, financial transparency, collateral and entrepreneurial experience were loaded as significant predictors among SMEs in Uganda. Eight out of the eleven hypotheses of this study, i.e. H_1 (effective lending rates), H_2 (transaction costs), H_3 (firm age), H_4 (firm size), H_6 (ownership), H_7 (financial transparency), H_8 (collateral), and H_{10} (entrepreneurial experience) were confirmed as determinants of access to debt finance among SMEs in

Uganda. In terms of the individual eighteen forms of finance listed (formal and alternative), SMEs mostly access debt in the form of bank overdrafts, at a rate of 60.87%, followed by bank loans at a rate of 56.94% and hire purchase finance at a rate of 42.86% on the formal finance side. From the alternative finance perspective, SMEs mostly access finance from family and friends, at a rate of 68.49%, followed by trade credit at a rate of 63.64% and from SACCOs at a rate of 42.50%.

The findings with respect to the first subsidiary objective indicate that using the R_a to measure access to debt finance severely underestimates its extent among SMEs, at a rate of 48%. In addition, regarding the determinants of access to debt finance, only six out of the eleven hypotheses were confirmed, i.e. the variables of effective lending rates (H_1), transaction costs (H_2), collateral (H_8), education (H_9), entrepreneurial experience (H_{10}) and gender (H_{11}). In terms of access to individual forms of finance, R_a shows very low levels of access; for example, bank overdrafts at a rate of 11.42%, bank loans at a rate of 35.62% and hire purchase at a rate of 15.62%. However, when access to debt finance was measured using AR_a, the rate of access to bank overdrafts, bank loans and hire purchase were 60.87%; 56.94% and 42.86% respectively. Nonetheless, type of industry was not significant, irrespective of the approach used.

Finally, the findings with respect to the second subsidiary objective show that there was consensus of up to 45% between SMEs and financiers on the determinants of access to debt finance. For example, SMEs and financiers perceive effective lending rate, firm age, ownership, financial transparency and collateral to be determinants. However, there is a 55% variation between them concerning other factors; for example, in addition to effective lending rate, firm age, ownership, financial transparency and collateral, SMEs

also perceive firm size and entrepreneurial experience to have an influence on access to debt finance, whilst financiers also consider the education of entrepreneurs as a significant predictor, although at a lower level of 5%.

9.5. Contribution of the research

This research makes three new contributions and extends literature on the extent of access to debt finance and its determinants among SMEs in Uganda as indicated in chapter one. First, the overall contribution of the research is to document that the conventional measures ("Received", "loan size" and "frequency of acquisition" approaches) have understated the extent of access to debt finance, while the AR_a is a superior measure of the extent of this among SMEs in Uganda. This is because the AR_a focuses on active borrowers and not discouraged borrowers or those SMEs that have voluntarily excluded themselves from external credit. Second, concerning the determinants of access to debt finance among SMEs in Uganda, the study provides empirical evidence for the first time in Uganda where such evidence was previously unknown. Third, the study documents significant differences in the perceptions of the determinants of access to debt from the SMEs and suppliers of debt finance.

9.6. Policy implications

There are many implications of the results reported in the thesis. First, SMEs need to be encouraged to apply for finance. A study conducted by the NSBS (2015) documented that SMEs in Uganda are in the category of discouraged borrowers (self-rationing) and the majority of them voluntarily exclude themselves from access to external finance due to socio-political or other factors. Therefore, this study, using the AR_a, has identified that most SMEs that apply for finance receive it. For example, among SMEs that applied for bank

overdrafts, the extent of access was documented at 60.87%, for bank loans it was 56.94% and for leasing or hire purchase, it stood at 42.86%. Policy makers should encourage SMEs to meet the credit scoring criteria; for example, by improving the quality of financial statements to reflect transparency, by reporting a true and fair value of collateral (assets), and by encouraging legal ownership of businesses separate from owners.

Second, the findings with respect to objective two indicate that there are major differences in reported access rates using the two approaches, which suggests that there is a need for the Ugandan authorities to define which method should be used to measure access to debt finance, since the two methods produce drastically different results. For example, the extent of access to bank overdrafts and bank loans in the R_a is 11.42% and 35.62%, whilst in the AR_a for bank overdrafts and bank loans it is 60.87% and 56.94%. The variation in the extent of access to debt finance reported by the two approaches implies that if policy makers and academicians assume the R_a, as employed by ADB (2013) and Calice et al. (2012), to measure access to debt finance, then access will be reported at a low level and the problem is bound to have no conclusive end. However, the fact that most SMEs access bank overdrafts, at a rate of 60.87%, should be a point of concern for policy makers such as the Uganda Investment Authority (UIA), Uganda Small Scale Industries Association (USSIA) and Private Sector Foundation, because accessing debt in the form of frequent overdraft financing is not a good financing ratio for SMEs. This is because overdrafts are a temporary short-term funding facility to meet short-term cash requirements. SMEs need to bear in mind that such a facility exposes inefficiencies and exploitation from financiers, because overdrafts come at a high cost. Hence, overdraft finance should only be used by SMEs for emergency activities, rather than as a routine funding mechanism. Consequently, higher dependence on overdrafts for working capital

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management indicates liquidity constraint issues and poor working capital management by SMEs, which affect creditworthiness and eventually access to debt finance.

Third, the findings with respect to objective three indicate that, although there are similarities in terms of consensus across SMEs and financiers on the determinants of access to debt finance, there are also discrepancies. For example, financiers and SMEs first perceive firm age and ownership to be factors that determine access. This is because financiers tend to have confidence in SMEs which have operated their businesses for a long time, say 10-50 years (Nalukenge et al., 2013). Moreover, SMEs that have existed for more than 10 financial years are considered to be resilient to economic pressures and therefore worthy of investment. This is a big limitation for SMEs, because the descriptive statistics reveal that the majority of SMEs, 83%, were found to be relatively young, in the age bracket of 1-10 years old, followed by 13.9% who were in the bracket of 11-20 years old and only 2.6% of SMEs had been in operation for between 41-50 years. These statistics tend to suggest that SMEs in Uganda are branded as infant and not close to the bracket that financiers consider for investments. Therefore, SME advocators should encourage and support existence of SMEs as going concerns by providing tax incentives, educative programmes that offer chain advice services and awards such as 'investor of the year' to encourage SMEs to stay in business.

On the other side, SMEs consider other factors such as transaction costs and entrepreneurial experience as determinants of access to debt finance. With such variations, policy makers should intervene to educate financiers on understanding the operations of SMEs; for example, in terms of experience, by which most entrepreneurs ideally learn on the job without much academic experience or even orientation, as most businesses are inherited. Furthermore, in relation to transaction costs, such as administrative fees,

transport charges and communication charges, policy makers such as the Private Sector Foundation (PSF) and Uganda National Chamber of Commerce and Industry (UNCCI) should develop partnerships with financiers to reduce the burden of excessive transaction costs, to set bare minimum transaction costs and communicate such information to SMEs in order to minimise the percentage of discouraged borrowers. On the positive side, SMEs and financiers agree on effective lending rates, firm age, ownership, financial transparency and collateral as determinants of access to debt finance. Therefore, policy makers should ensure that SMEs and financiers are put on the same platform to ascertain the magnitude of such factors on both sides, which will improve SME access to debt finance in Uganda.

9.7. Limitations of the study

Although the research findings have important implications, like in any other empirical study, they may suffer from limitations, which need to be acknowledged. First, the "Applied and Received" approach has limitations; for example, the degree to which discouraged borrowers can be excluded is open to debate. This is because, unlike voluntary excluded borrowers (not seeking funding at all), discouraged borrowers want debt but do not seek it because they think it will not be granted.

Second, the thesis only compared two approaches in measuring access to debt finance, i.e. the AR_a and R_a; however, as indicated, there are other documented approaches to operationalising access, such as the 'frequency of acquisition' approach (Berger and Udell, 2006) and the 'loan size' approach (Zarook et al., 2013). Therefore, variation in the proxies used to measure access to debt finance among SMEs shows that a single measure or comparison of two measures cannot represent a complete picture of SME access to debt finance in Uganda, and therefore the results should be interpreted with due care.

Third, another limitation of this thesis is that it has focused mainly on SMEs that are registered and documented on three lists, namely the Uganda Bureau of Statistics (UBOS), Uganda Investment Authority (UIA) and Uganda Small Scale Industries Association (USSIA). A study by NSBS (2015) documented that one fifth of SMEs are not registered, three quarters do not have a tax identification number and approximately a quarter say they do not know how to register, or that it is too complicated to do so. This means that the results cannot be generalised to apply to other non-registered SMEs operating in Uganda. This is because the characteristics and features of SMEs registered by UBOS, USSIA and UIA may be different from the unregistered ones. Such differences include the ability of a registered SME to have unlimited access to debt finance and exposure to business angels, whilst unregistered SMEs are limited to owners' equity and finance from friends and families. In addition, SMEs that are registered tend to comply with statutory regulations, especially to maintain proper accounting, because of external user pressure from the UIA and revenue authorities (Nalukenge et al., 2013). This improves access to debt finance, unlike in the case of unregistered SMEs, which are in full management of their own operations.

Fourth, the one-year period taken to conduct this research could be considered short. Given the time constraint of the research and the non-availability of data, this time period of only one year was utilised. This is, however, common to most research on SMEs conducted by renowned researchers such as Diagne (1999), Beck and Demirguc-Kunt (2006), Johnson and Niño-zarazua (2009), Ayyagari and Demirguc-Kunt (2012) and Beck et al. (2012). The rationale for cross-sectional studies across SMEs is the life-span of small-medium sized enterprises, which is documented to be short in African countries. For example, in Uganda the United Nations (2007) reported that 78% of established SMEs do

not live to see their first 'birthday'. Therefore, researchers could be discouraged to conduct a trend analysis study because of fear that the previous SMEs included in the sample may be found to have closed down by the next phase of the research.

Fifth, the 384 sampled SMEs, which generated a total of 220 responses from the questionnaires, represents only 17.18% of the total population of SMEs spread across the five regions of Uganda. This is seemingly a low percentage to form a generalised discussion on the 128,000 SMEs registered and operating in Uganda (UBOS, 2014; USSIA, 2014; UIA, 2014). According to Saunders et al. (2009), the larger the sample, the better the legitimacy attached to the results. Therefore, the results in this thesis should be interpreted in light of the sample size deficiency.

Finally, only self-administered questionnaires were used to collect data from both SMEs and financiers. Triangulation of data collection techniques can give accurate and comparative results, which give rigour to discussions. Saunders et al. (2009) criticise the possibility of relying on a single method, on the premise that it may adversely affect the reliability and validity of the results. However, they recommend use of one extra method of data collection, for example interviews alongside self-administered questionnaires, to provide ultimate conclusions and to help cross-check findings for comparison purposes.

9.8. Further research

Although the study has contributed to the literature and policy formulations, the researcher has identified some areas for further research. First, the thesis did not investigate access to equity, which is another form of finance that could be interesting to ascertain the ratio of debt to equity among SMEs. The thesis was limited to access to debt finance, justification for which was given by Mullineux and Murinde (2014) and Paul et al. (2007), who state

that SMEs tend to have a 'pecking order' of financing choices, from which they prefer to use debt finance to equity finance because of fear of loss of control. However, research comparing debt to equity access among SMEs would be very informative, given that the extent and determinants of access to equity and debt are different.

Second, Arora (2014) suggests that for access to debt finance to be measured reliably there is the need to investigate the extent of availability of such finance under study. This is based on the premise that there is a diversity of debt finance advertised on the market. In addition, different countries have different forms of finance available to SMEs. Therefore, there is a need to ascertain availability of the forms of finance before investigating the extent of access. Further research will be useful in establishing the forms of finance available to SMEs in Uganda. This study was limited to the extent of awareness by SMEs of the available forms of finance. Arora (2014) criticises this approach, because not all financiers are willing to extend all forms of credit, despite SME awareness of the existence of such forms.

Finally, as discussed in the background , many studies have used different approaches to measure access to debt finance; for example Nanyondo et al. (2014) used the "frequency of acquisition" approach, Zarook et al. (2013) measured it on the basis of the "loan size" approach; and BIS (2014) and Arora (2014) used the R_a, while this study used the AR_a. Therefore, considering the diversity of the available measures of access to debt finance, there is need for research to document the best approach to operationalise access to debt finance among SMEs. Although this study compared two approaches, the findings could have been different if the AR_a had been compared with other approaches.

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Appendix 1

To SMEs

Dear Respondent:

This survey questionnaire is for academic purposes ONLY. All the information provided will be treated with utmost confidentiality. No individual will be identified. Thank you for your participation and if you have any questions please do not hesitate to contact me directly on Tel. No. (0705- 866 148 or +447990406829).

Part A: Section 1: Background information

1. Name of the organization (Optional): …………………………….
2. Location of the business (e.g. Central, Eastern): ……………………

Please, tick the box that best represents your response or clearly write your response in the provided space

3. **Which best describes the ownership of your enterprise?**

Sole proprietary ownership ☐ state-owned ☐ Joint-venture ☐ Shareholding with predominantly domestic ☐ Shareholding with predominantly foreign shareholders ☐ others (Specify)…………………………………

4. **Which best describes your core business sector?**

Manufacturing ☐ Services ☐

Others (Specify)……………………………………………………..

5. **Where are you located?**

Rural ☐ Urban ☐

6. **Does your location affect your access to debt finance?**

Yes ☐ No ☐

7. **If the answer is yes above please give a reason?**

....

8. **How many years have you been in business?...............years**
9. **Number of full time employees?.......................staff**

Section 2: Forms of finance

With respect to the financing structure of your firm, either formal or informal financing. Please tick as appropriate

		Awareness		Applied		Received		Convenient	
		YES	NO	YES	NO	YES	NO	YES	NO
A	**Formal**								
1	Bank overdraft								
2	Bank loan (excluding overdraft)								
3	Factoring (Invoice discounting)								
4	Leasing or hire-purchase								
5	Credit line or credit cards								
6	Debt securities issued								
7	Other loan (e.g. from a related company or shareholders, excluding trade credit; from family and friends)								
8	Subordinated loans,								
9	Participation loans or similar financing instruments								
10	Insurance								
B	**Alternative**								
11	Business Angels								
12	Trade credit.								
13	Private placement finance								
14	Crowd financing								
15	Peer to peer finance								
16	Grants or subsidised finance								
17	SACCOs								
18	Friends and family								

Other (specifty)...

   10. Does this enterprise operate a loan account?

Yes ☐   No ☐

If Yes, please tick appropriate

		YES	NO
A	**Formal**		
1	Bank overdraft		
2	Bank loan (excluding overdraft)		
3	Factoring (Invoice discounting)		
4	Leasing or hire-purchase		
5	Credit line or credit cards		
6	Debt securities issued		
7	Other loan (e.g. from a related company or shareholders, excluding trade credit; from family and friends)		

8	Subordinated loans,		
9	Participation loans or similar financing instruments		
10	Insurance		
B	**Informal**		
11	Business Angels		
12	Trade credit.		
13	Private placement finance		
14	Crowd financing		
15	Peer to peer finance		
16	Grants or subsidised		
17	SACCOs		
18	Friends and family		

11. Please indicate where you operate your credit account

Bank ☐   Non-Bank financial intermediary ☐ Credit service bureau ☐

Others (please specify) ....

12. Does this enterprise operate a deposit account?

Yes ☐ No ☐

13. Is minimum balance required before issue of finance?

Yes ☐ No ☐

14. How much is required?

<10% of the loan amount ☐ 11%-20% ☐ 21- 30% ☐ 31- 40% ☐ 41% - 50% ☐ >51%

☐

15. What do you use finance for?

Equity ☐ Working capital ☐ Asset Acquisition ☐

Others (please specify) …………………………………………………….

PART B: Determinants of access to debt finance
State your opinion on the following statements by ticking the most appropriate response as follows:

1. Strongly disagree   2. Disagree   3. Not sure   4. Agree   5. Strongly agree

A	**Effective lending rates**					
1	Quoted interest rate charged on finance is too high	1	2	3	4	5
2	The effective lending rate too high than quoted rates	1	2	3	4	5
	The lending rate changes over time and not regulated which makes loans very expensive					
3	The lending rate is not negotiable and only favourable to enterprises with high value collateral	1	2	3	4	5
4	Even MFIs have extreme interest rates which leaves an SME simply without options to get finance					

B	Transaction costs					
1	The conditions of loan maturity are unfavourable E.g. paying fees, charges, transport and communication	1	2	3	4	5
2	High loan insurance amounts	1	2	3	4	5
3	Fees of loan administration are not affordable					
4	The debt/turnover ratio is too high to qualify for a loan	1	2	3	4	5
5	Low loan amounts which increase cost of administration	1	2	3	4	5
C	Location	1	2	3	4	5
1	Our location of the business is important to access finance	1	2	3	4	5
2	The location of the enterprise is accessible to financiers	1	2	3	4	5
3	Because the enterprise is strategically located access to debt finance is easier	1	2	3	4	5
4	Location has nothing to do with access to debt finance	1	2	3	4	5
D	Firm age					
1	Enterprise age matters in access to debt finance	1	2	3	4	5
2	The longer it has stayed in operation the easier it is to get finance	1	2	3	4	5
3	Financiers prefers SMEs that have at least been in operation for more than 1 Year	1	2	3	4	5
4	Finance is issued to those SMEs that have stayed for over 5 years	1	2	3	4	5
E	Firm size					
1	The size of the business matters in access to debt finance	1	2	3	4	5
2	Large number of employees is an indicator that the business is reputable therefore can access finance	1	2	3	4	5
3	Size does not matter at all as long as other requirements are met	1	2	3	4	5
F	Industry					
1	Industry in which the business operated is important for issue of finance	1	2	3	4	5
2	Manufacturing business easily get finance	1	2	3	4	5
3	Service businesses are usually rejected	1	2	3	4	5
4	Agriculture business is highly risky	1	2	3	4	5
5	Industry does not matter as long as other requirements are met	1	2	3	4	5
G	Ownership	1	2	3	4	5
1	The legal status of the SME matters in access to debt finance	1	2	3	4	5
2	Sole owner businesses are not easily considered for finance	1	2	3	4	5
3	Partnerships stand a high chance to get finance	1	2	3	4	5
4	Companies are even in a much better position to access finance	1	2	3	4	5
5	Legal status has does not matter as long as other requirements are met	1	2	3	4	5
H	Financial transparency					
1	Transparency and disclosure is important in access to debt finance	1		3	4	5
2	Use accounting standard required access to debt finance will be easier	1	2	3	4	5
3	Audited financial records ease access to debt finance	1	2	3	4	5
4	Transparent and disclosure does not matter as long as other requirements are met	1	2	3	4	5
I	Collateral					
1	Collateral or guarantee is key if credit is to be rendered	1	2	3	4	5
2	Value of collateral determines the fraction of the credit amount	1	2	3	4	5
3	No collateral, no credit	1	2	3	4	5

4	Collateral does not matter as long as other requirements are met	1	2	3	4	5
J	**Education**					
1	The skill of an entrepreneur in dealing with credit determines access to debt finance	1	2	3	4	5
2	Whether skilled or not as long as other requirements are met issue of finance is possible	1	2	3	4	5
3	Skill of the entrepreneur has nothing to do with access to debt finance	1	2	3	4	5
4	Education level of an entrepreneur matters in issue of finance	1	2	3	4	5
5	Educated entrepreneurs are access finance easily because they are aware of the requirements	1	2	3	4	5
6	Whether educated or not it does not matter all entrepreneurs can access finance	1	2	3	4	5
K	**Experience**					
1	Experience of an entrepreneur in dealing with credit increases chances of acquiring finance	1	2	3	4	5
2	Experience of over a year is recommended for an entrepreneur seeking finance	1	2	3	4	5
3	5 years or more are even better to issue such an entrepreneur finance	1	2	3	4	5
4	Experience has nothing to do with issue of finance, as long as other requirements are met	1	2	3	4	5
L	**Gender**					
1	Gender is important in access to debt finance	1	2	3	4	5
2	Men are usually trusted with finance	1	2	3	4	5
3	Women are equally trusted with finance	1	2	3	4	5
4	On two applications a man's application for finance will be processed before hat of a woman	1	2	3	4	5
5	Gender has nothing to do with issue of finance once other requirements are met	1	2	3	4	5

Source: World Bank (2014)

Appendix 2
Questionnaire to SMEs (Financiers)

<div align="right">

No..............

</div>

Questionnaire to Formal and Informal finance providers[1]on access to debt finance
among SMEs[2]

Which of the followings best describes your company?

Bank ☐ Insurance company ☐ Credit service bureau ☐ Trade credit supplier ☐ MFI

☐ SACCO ☐ others (please specify) ....

Name of your Company……......…………………………………………….....

Address……………………………. Telephone…………….............................

Fax…………………………………Email………………………………....

Contact person………………………………………………………………….

Part A: Section 1: Background information

1) **Which of the followings best describes your ownership?**

State owned ☐ privately owned ☐ Shareholding bank with predominantly

domestic ☐ Shareholders ☐ Foreign invested bank ☐ Shareholding bank with

predominantly foreign shareholders ☐

2) **Level of experience in dealing with SME loan requests.**

Very experience ☐ somewhat experienced ☐ Neutral ☐ Not very

experienced ☐ Not at all experienced ☐

3) **What is your lending preference in terms of your customer base?**

SMEs ☐ Large enterprises ☐

4) **Which SMEs are likely to access credit?**

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[1]*By alternative financial institutions are the finance providers that do not rely on formal contractual obligations enforced through a codified legal system such as credit cooperatives, moneylenders, informal credit and insurance, rotating saving, crowd funders, peer to per networks and credit associations, etc.*

[2] *SMEs officially mean small and medium sized enterprises in this survey. Small enterprises are those employing maximum 50 people with annual sales/revenue turnover of maximum Ugandan Shillings 360 million and total assets of maximum Ugandan Shillings 360 million. Medium Enterprise employ more than 50 people; annual sales/revenue turnover of more than 360 million Ugx and total assets of more than 360 million Ugx (UIA, 2014).*

Sole proprietor ☐ Partnership ☐ private limited companies ☐ Cooperative ☐ Others (specify)..

5) **For sole ownership does gender of the owner matter.**

Yes ☐ No ☐

6) **If yes, which one is likely to access credit?**

Male ☐ Female ☐

7) **Does marital status of the owner matter?**

Yes ☐ No ☐

8) **If yes? Please Tick appropriate**

Married ☐ Single ☐ Divorced ☐ Widowed ☐

Section 2: Access to debt finance

9) **Share of loans your company has made to SMEs in the total credit**

<10% ☐ 11-20% ☐ 21%-30% ☐ 31%-40% ☐ 41%-50% ☐ > 51%

10) **In recent period (say 2013-2014), this share is**

Increasing significantly ☐ increasing ☐ almost unchanged ☐ decreasing ☐ significantly decreasing ☐

11) **Of total loans to SMEs, long-term lending (defined as over 2 years) account for:**

<10% 11%-20% ☐ 21%-30% ☐ 31%-40% ☐ 41%-50% ☐ > 50% ☐

12) **Default rates on loans made to SMEs are higher than those made to large enterprises.**

Very high ☐ High ☐ they are equal ☐ No they are lower ☐ No answer ☐

13) **Ratios of non-performing debts on SMEs lending are higher than the ratio on large enterprises lending**

Very high ☐ High ☐ They are equal ☐ No, they are lower ☐ No answer ☐

Section B. Determinants of access to debt finance

Section1: *Please state your opinion on the following statements by ticking the most appropriate response as follows:* **1. strongly disagree 2. Disagree   3. Not sure   4. Agree   5. Strongly agree**

A	Effective lending rates	1	2	3	4	5
1	SMEs often complain of high interest rates	1	2	3	4	5

2	In your opinion the interest rates are affordable	1	2	3	4	5
3	In your opinion the interest rate charged covers the risk of lending to SMEs	1	2	3	4	5
B	**Transaction costs**					
1	SMEs are costly in terms of loan administration	1	2	3	4	5
2	SMEs usually take low loan amounts which increase cost of administration	1	2	3	4	5
3	This company has a separate arrangement of credit to suit SME needs	1	2	3	4	5
4	SMEs lack of assets to meet collateral requirements.	1	2	3	4	5
5	More costly to gather reliable information on SMEs	1	2	3	4	5
D	**Firm age**					
1	The longer it has stayed in operation the easier it is to get finance	1	2	3	4	5
2	Firm age does not matter as long as the SME qualifies to get finance	1	2	3	4	5
3	Our company prefers SMEs that have at least been in operation for more than 1 Year	1	2	3	4	5
4	Finance is issued to those SMEs that have stayed for over 5 years	1	2	3	4	5
5	In this enterprise we issue finance to new SMEs as well	1	2	3	4	5
6	Firm age is not our concern to issue finance	1	2	3	4	5
E	**Firm size**					
1	Size of the SME matters in access to debt finance	1	2	3	4	5
2	Large number of employees is an indicator that the business is reputable therefore can access finance	1	2	3	4	5
3	Size does not matter at all as long as other requirements are met	1	2	3	4	5
4	Firm size is not a concern to issue finance	1	2	3	4	5
F	**Industry**					
1	Industry in which the business operated is important for issue of finance	1	2	3	4	5
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3	Partnerships stand a high chance to get finance	1	2	3	4	5
4	Companies are even in a much better position to access finance	1	2	3	4	5
5	Legal status has does not matter as long as other requirements are met	1	2	3	4	5
K	**Transparency**					
1	Transparency and disclosure is important in access to debt finance	1		3	4	5
2	If SMEs use accounting standard required access to debt finance will be easier	1	2	3	4	5
3	Audited financial records ease access to debt finance	1	2	3	4	5
4	Transparent and disclosure does not matter as long as other requirements are met	1	2	3	4	5
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1	The skill of an entrepreneur in dealing with credit determines access to debt finance	1	2	3	4	5
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Thank you very much for your time.