FINANCIAL MARKET FAILURE CONSTRAINTS AND ACCESS TO FINANCE BY SMALL AND MEDIUM ENTERPRISES IN KENYA

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DOCTOR OF PHILOSOPHY

(Business Administration)

JOMO KENYATTA UNIVERSITY OF

AGRICULTURE AND TECHNOLOGY

2016

Financial Market Failure Constraints and Access to Finance by Small and Medium Enterprises in Kenya

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Thesis Submitted in Partial Fulfilment for the Degree of Doctor of Philosophy in Business Administration (Finance) in the Jomo Kenyatta University of Agriculture and Technology

2016

DECLARATION

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

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This thesis has been submitted for examination with our approval as the University supervisors.

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DEDICATION

This thesis is dedicated to my Mother, Serah for denying herself all for the sake of my education when my father passed on when I was in standard six; you are such a blessing to me.

ACKOWLEDGEMENTS

I would wish to thank the Almighty God who has seen me through this long journey of research, His Grace has been sufficient for me. My sincere appreciation goes to my supervisors Dr. Willy Mwangi. Muturi and Dr. Patrick Mwangi. Ngumi who supported me to ensure that I achieve my academic pursuit. Your professional guidance went along way to making this document what it is now. In you I have found academic mentorship a valuable gift that I will always treasure. I acknowledge my patient dear wife Nancy for the support and encouragement she has gave me throughout my studies. I appreciate my ever smiling daughter and my very innovative son Victor for the understanding they gave me when I was not available for them when they needed me.

I also cannot forget special mention to Dr. Cecilia Ritho of University of Nairobi who sacrificed her precious time to read my document and recommend changes which really improved my document. I appreciate the prayers and other support from my pastors, Bishop Kamiri, Rev.Kirugara, pastor Gatu (CCI Joy Family Church) and Rev.Njuguna Muchai (Ndakaini P.E.F.A. Church) together with friends and family members. I appreciate my research assistants and all the respondents who participated in this study without whom the study would be incomplete. I also acknowledge JKUAT for giving me the opportunity to pursue this degree. Many other people have walked with me through this academic journey that includes my PhD lecturers and classmates; I may not mention all of you but I just wish to say a thank you for your assistance.

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ACRONYMS AND ABBREVIATIONS

ANOVA	Analysis of Variance
CGS	Credit Guarantee Scheme
EAPP	Enhancing Agriculture Productivity project
FSD	Financial Sector Deepening
ILO	International Labour Organization
KMO	Kaiser-Meyer-Olkin
KYC	Know Your Client
MENA	Middle East and North Africa
MFI	Micro-finance Institution
MMR	Moderated Multiple Regression
NESC	National Economic and Social Council
PROFIT	Program for Rural Outreach for Financial Innovations and Technology
SACCO	Savings and credit co-operative
SMEs	Small and Medium Enterprises
SPSS	Statistical Package for Social Sciences
UNIDO	United Nations Industrial Development Organization
USAID	United States Agency for International Development
VIF	Variance Inflation factor

DEFINITION OF KEY TERMS

Access to Finance: Refers to the ability of SMEs to obtain financial services including credit. (Demirgüç-Kunt, Beck & Honohan, 2008).

Collateral: Refers to a security deposited with the bank by the borrower as a guarantee to cover the risk of default (Voordeckers & Steijvers, 2006).

Credit Guarantee Scheme: Refers to an arrangement between a financial institution and a funding organization where the bank is requested to offer loans to SMEs with a guarantee of refund of a given percentage of the loan offered in case of default (Chandler, 2012).

Credit Restriction: Refers to the banks tendency to limit loan issuance to the SMEs owing to lack of information on their creditworthiness (Levenson & Willard, 2000).

Financial Additionality: Refers to an increase in commercial bank loans to credible clients (small enterprises) who previously did not have access to credit as a result of lacking or inadequate collateral (Guiso &Minetti, 2010**).**

Information Asymmetry: Refers to a situation where one party has more or better information than the other (Jones, 2016).

Lending Relationship: Refers to confidence established between the lender and the borrower due to a repeated interaction (Boot & Thakor, 2000).

Market Failure Constraints: Refers to economic constraints which results to a situation where, in any given market, the quantity of a product demanded by consumers does not equate to the quantity supplied by suppliers. (Armstrong, 2006).

Medium Enterprise: Refers to business enterprises that employs between 50-149 employees and has an annual turnover of above KSh5 million. (SMEs Act, 2012).

Small Enterprise: Refers to business enterprises that employs between 10-49 employees and has an annual turnover not exceeding KSh500,000, small enterprises between Kshs 500,000 and Kshs 5 million (SMEs Act, 2012).

ABSTRACT

SMEs experience unique constraints in accessing finances from banks and other institutions. The main objective of the study was to establish the effects financial market failure constraints on access to finance by Small and Medium Enterprises in Kenya. The specific objectives of the study were to: examine the effects of information asymmetry on `access to finance by SMEs in Kenya, evaluate the effects of collateral requirement on access to finance by SMEs in Kenya, assess the effects of lending relationship on access to finance by SMEs in Kenya analyse the effects of credit restriction on access to finance by SMEs in Kenya and to analyse the moderating effects of Credit Guarantee Schemes on the effects of market failure constraints on access to finance by SMEs in Kenya.

The study used correlational and descriptive design. Questionnaires were used to collect data from the respondents. The target population of the study was 120,000 SMEs who had applied for loans in Co-operative bank, Equity bank and Kenya Commercial bank in the last two years (2014-2015). Purposive, stratified and simple random sampling were used to draw a sample size of 384 SME owners. The SMEs were stratified into small and medium enterprises where 288 were small while 96 were medium. The study used both qualitative and quantitative data. Content analysis was used to analyse the qualitative data where the texts were categorized into themes corresponding to the study's objectives and interoperated accordingly. The quantitative data was analysed using Statistical Package for Social Science Version 21 which generated descriptive statistics and inferential statistics. Multiple linear regression analysis was used to establish the effects of the market failure constraints on access to finance by SMEs in Kenya. Moderated Multiple Regression analysis was used to establish the moderating effect of CGS on the effects of market failure constraints on access to finance for SMEs. The results indicated that the market failure constraints determined access to finance by SMEs in Kenya. The study indicated that the SMEs faced challenges in

accessing finance due to information asymmetry between them and banks, lack of collateral required by banks, poor lending relationship between the banks and SMEs and credit restriction by banks. The study indicated that there is a negative correlation between information asymmetry, collateral requirements, credit restriction and access to finance by SMEs in Kenya, while there is a positive correlation between lending relationship and access to finance by SMEs in Kenya. Regression analysis showed that variation in access to finance by SMEs in Kenya can be explained by information asymmetry, collateral requirements, lending relationship and credit restriction. The overall multiple regression model indicated that all the four market failure constraints affects access to finance by SMEs in Kenya. Credit guarantee schemes were found to have a moderating effect on the relationship between market failure constraints and access to finance by SMEs in Kenya. The study concluded that availability of information required by banks, availability of collateral required by banks, improvement of lending relationship between the banks and SMEs and relaxation of credit restriction by banks can improve access to finance by SMEs in Kenya. The study recommended the use of partnerships by increasing the number of intermediaries between the SMEs and the banks to reduce information asymmetry. The study recommends that as the SMEs acquire assets for their use, they should consider the type of assets required by the banks in order to increase their access to credit from banks. The study concluded that there is a moderating effect of credit guarantee scheme on market failure constraints. The study recommends the government to provide technical assistance to the financial institutions which advance credit to SMEs. The study recommends that SMEs should be encouraged to take loans through CGS in order to reduce the negative effects of the market failure constraints.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Small and medium enterprises (SMEs) play a major role in economic development in every country, including in African countries. Studies indicate that in both advanced economies and developing countries SMEs contribute on average 60 percent of employment especially in the manufacturing sector (Ayyagari, Demirgüç-Kunt & Maksimovic, 2011). A crucial element in the development of the SME sector is the access to finance, particularly to bank financing, given the relative importance of the banking sector in serving this segment. The SMEs would like to access finance for expansion purposes and to take advantage of any available business opportunity. However, a number of studies have shown that financing is a greater obstacle for SMEs than it is for large firms, particularly in the developing world, and that access to finance adversely affects the growth of the SME sector more than that of large companies (Mumani, 2014; Quainoo, 2014; Kapepiso, 2015; Ayyagari, Demirgüç-Kunt & Maksimovic, 2011)

The obstacle to access finance exist when there is a need for finances from a client with an investment project that warrantees financing, but there is impeded access to external financing. This occurs due to the gaps that exist between the suppliers of external financing and the demand for financial resources. This financing gap which is the difference between the demand for funds by SMEs and the supply of funds occurs because of SMEs characteristics and market failure on the supply side (Park, Alhotra, Chen, Criscuolo & Qimiao, 2008). Specifically, Deakins, Barry, Carron and Elisabeth (2008) advanced four reasons that constrain access to small enterprises which include: asymmetric information, lack of collateral, poor lending relationship and the subsequent credit restriction.

One of the constraints for credit rationing is asymmetric information. A prerequisite for the efficient allocation of resources by market forces is that all participants share the same relevant information (Guiso &Minetti, 2010). This is not the case in financial markets. Borrowers will always know more about the viability of their projects and their ability and willingness to repay than lenders. The lenders are thus faced with uncertainty both with respect to the expected rates of return of the project they are financing and with respect to the integrity of the borrower. The problem of asymmetric information is more acute for small businesses than for larger ones because of lower information standards and the greater variability of risk (Boot, 2000). Because information on small businesses is limited and costly to gather, financiers may overprice the cost of capital, demand excessive collateral cover, or withdraw altogether from serving small firms (Beck, Demirguc-Kunt & Martinez, 2008; Guiso & Minetti, 2010).

SMEs are also constrained to access finances due to lack of collateral. Due to information imperfections and costly control mechanisms, banks use collateral as the criteria for loan selection (Green, 2003). Financial institutions are more likely to approve loans to firms that are able to provide collateral. Due to the existence of asymmetric information, banks base their lending decisions on the amount of collateral available. Collateral acts as a screening device and reduces the risk of lending for commercial banks. By pledging an asset, a borrower signals the quality of the project to be financed and the intention to repay. In the case of default, collateral serves to put the lender into a privileged position with regard to other creditors (Green, 2003). Small firms are disadvantaged in this regard, due to the fact that they lack collateral security and also they lack a proven credit track record. Therefore, SMEs may be constrained to access finance due to the fact that they may fail to furnish collateral security (Guiso & Minetti, 2010).

A strong lending relationship between the bank and the borrowers is one of the avenues available for banks to overcome information asymmetry. Boot (2000) explains that

good a lending relationship leads to provision of financial services by a bank on the basis of long-term investment in obtaining firm-specific information through multiple interactions with diverse financial services. The extension of credit limits is another advantage that firms in relationship lending get. As the bank- client relationship increases, the firm's opaqueness from the point of the bank diminishes and hence they become attractive to the bank. The effectiveness of relationship lending is time dependent as duration of the bank-borrower relationship. Nam (2004) posits that with a long duration there will be sufficient time to accumulate customer information through repeated interactions, and is largely non-transferable to those outside of the relationship. The SMEs are often shunned by the banks in regard to provision credit. This means that SMEs rarely have a chance to create any meaningful lending relationship with the bank. Without a lending relationship the information asymmetry persists constraining the access by SMEs to access finance.

Credit restriction resulting from credit rationing behaviors of the banks restricts access to finance for SMEs. Stiglitz and Weiss (1981)'s credit rationing theory identify information asymmetry gap and agency problems as the major causes of credit restriction to SMEs. Credit rationing is due to adverse selection and moral hazard, both of which may affect the quality of the loan. Adverse selection refers to the fact that the probability of default is increasing with the interest rate: the quality of the borrower pool worsens as the cost of borrowing rises.

A higher interest rate will attract risky borrowers and drive out good borrowers because risky borrowers are willing to borrow at higher interest rates, because they know that their repayment probability is low. Secondly, if riskier projects are associated with higher returns, a rise in the interest rate will drive out low-risk projects as borrowers try to compensate for the higher cost of the loan by earning a higher return with a risky project. An optimal interest rate may therefore exist, beyond which additional loans are not made available despite excess demand. Consequently, a backward bending credit supply curve and equilibrium credit rationing will exist

because raising the interest rate above the optimal level would lower banks' profits as the amount of risky projects in their portfolio rises (Stiglitz & Weiss, 1981). Small firms are more likely to be rationed because they are seen as particularly risky. Although they might be willing to pay more to compensate for this additional risk, the banks will refuse to raise the interest rate sufficiently to equate supply and demand.

Arguably, these conditions of market failure potentially justify government intervention. Traditional approaches to financial assistance to SMEs have concentrated on direct and subsidized credit programs, and credit guarantee scheme (CGS). Compared to direct government assistance, credit guarantee schemes are considered a market-oriented strategy for improving SME access to financing and have been widely adopted by many countries, to alleviate the problems SMEs face in seeking credit and achieving financial, and ultimately economic benefits (Chandler, 2012; Riding, Madill & Haines, 2007).

CGSs are a mechanism of risk transfer and diversification. CGSs secure repayment of all or part of the loan in case of default thus lowering the lender's risk. CGS can also alleviate the high collateral requirements demanded by banks. SMEs are perceived as a highly risky group. Thus, a bank wanting to offer an SME a loan would need to either apply a rate that covers this risk or demand a significant amount of collateral. However, when the SME provides a guarantee, the bank can make the loan at a lower interest rate. In essence CGS allows firms with insufficient collateral to access the lending market. Since these firms would be otherwise excluded from the lending market, the result is higher overall lending. Unlike other interventions to increase finance to small businesses, credit guarantees generate fewer distortions in the credit market and are more consistent with a well-functioning banking system (Mason & Asher, 2010).

Globally CGSs are widely used to improve lending to SMEs by banks with notable positive outcomes. For example, in America, California State Loan Guarantee Program has spurred growth in labour force and sales tax (Honohan, 2010). Riding, Madill and

Haines (2007). found out that Canada Small Business Financing have increased the number of SMEs being accepted in the credit market. Lelarge, Straer and Thesmar, (2008) also reported that French Loan Guarantee Program have triggered growth in the number of small businesses start-ups. Among the countries in Africa that have adopted CGS to improve lending to SMEs include South Africa, Nigeria and Ghana (Gurmessa, & Ndinda, 2014). In South African the government established Khula Enterprise Finance Limited in 1996. The aim of the scheme which is also known as the Khula Credit Indemnity Scheme is to assist viable start-ups and expanding SMEs access finance if they are unable to meet banks' lending requirements.

Though CGSs have been touted as a viable option of empowering SMEs in terms of credit access, there is debate about the justification and effectiveness of credit guarantee schemes. Riding *et al*. (2007) argued that they are only weakly effective with poor evidence of any additional or incremental effect. In addition, after considering the high administrative costs of these schemes, there are questions raised as to whether the overall benefit of these programs exceeds their costs (Craig, Jackson & Thomson, 2009). Further, there are also still strong doubts on the rationale for CGS among those who believe that business development should be left to market forces. The most serious argument against CGS is the 'moral hazard' issue. Such schemes according to Craig *et al*. (2009) weaken the will and commitment of the borrowers to repay the loan, when they know that a guarantee fund will reimburse the lending institution. There is also a danger of moral hazard on the part of the lending bank which, it is feared, has less incentive to supervise the loan properly or to pursue vigorously the collection of repayments.

In Kenya the main providers of guarantees are multilateral agencies and development partners (Bond, Platz & Magnusson, 2012). Among the most successful guarantee schemes in Kenya is USAID credit guarantee program which is in partnership with Kenya Commercial Bank. (Garang, 2014). According to National Economic and Social Council, the Kshs 8.5 billion USAID program have enabled banks which never used to

finance SMEs to advance loans amounting to Kshs 28.9 billion. The program has demonstrated that there is huge potential in CGS and they can be used to unlock a lot of money in Kenya's banking system to the benefit of SMEs. However, there is no national guarantee scheme that is funded by the government. Instead, there are numerous government funded programs such as Youth Enterprise Development Fund, Women Enterprise Fund Program for Rural Outreach for Financial Innovations and Technology (PROFIT) and Enhancing Agriculture Productivity project (EAPP) among others (Omondi, 2013). Though these programs have been working within the CGS framework they are only limited to certain sectors such as agriculture and targets specific groups of people such as women and the youth. Stiglitz and Weiss (1981) model is based on imperfect credit markets characterized by information asymmetry, which makes it too costly for banks to obtain accurate information on the borrowers and to monitor the actions of the borrowers. The model assumes the existence of many banks that seek to maximize their profits through their choice of interest and collateral (thereby reducing the probability of default on their loans) and many potential borrowers who seek to maximize their profits through the choice of projects. The probability of success of the projects is unknown to the bank but known to the firms due to information asymmetry, which makes it too costly for banks to obtain accurate information on the borrowers and to monitor the actions of the borrowers. Equilibrium with credit rationing therefore occurs at the interest rate at which the bank maximizes the expected profit (Banerjee *et al*., 2008). Under conditions of imperfect credit markets characterized by information asymmetry, interest rates fail to play the market clearing role of equating demand and supply. But rather the banks adopt the strategy of credit rationing using the non-price mechanisms so as to maximize their expected profits (Kimutai & Jagongo, 2013).

The bank's credit rationing behaviour may theoretically be influenced by a number of factors which include the borrower's observable characteristics, firm characteristics and loan characteristics (Jiménez & Ongena, 2012). The optimal loan size will be determined by the bank taking into account the bank's evaluation of the probability of repayment, the marginal cost of granting the loan, and the value of collateral offered.

The value of the collateral offered by a firm also influences the credit rationing behaviour of the bank (Bryant, Hooper, & Mann, 2010). Collateral serves as the last resort for recovery of the loan in case of default, where the bank can sell the collateral obtained to recover the balance (or part) of the loan. Collateral reduces the information asymmetry between the SME and the financial institution (Berger, Espinosa-Vega, Frame & Miller, 2011).

Given the difficulty by SMEs to raise adequate collateral they are therefore adversely affected by the bank the bank credit rationing behaviour. SMEs are characterized as young, small and with little internal financial resources and a lack of assets to guarantee the repayment of bank loans. Creation of credit guarantee schemes by governments and other agencies is therefore often rationalized by the observation that SMEs commonly do not have the kinds of collateral that are required by bankers. It is however not clear whether the credit guarantee schemes ease the access to bank credit for the SMEs.

1.2 Statement of the Problem

There are approximately 9 million SMEs in Kenya, accounting for about 45% of the Gross Domestic Product and 90% of newly created jobs (NESC, 2013). However, the potential for the sector have been greatly hampered by lack of credit to finance its operation. According to NESC (2013), 75% of the SMEs rely on cash sales to boost their working capital due to the difficulty they face in getting loans from the banks. Calice *et al*. (2012) cited lack of quality information, family management and inability to standardize scoring models as the biggest SME-specific hindrance and obstacle to SME lending. Since commercial banks views SMEs as high risk borrowers, they demand excessive collateral or charge high interested or avoid dealing with SMEs altogether (Kundid & Ercegovac, 2011). To mitigate on the funding gap for the SMEs the government, multilateral agencies and development partners have set up credit guarantee schemes. The schemes are meant to provide guarantee against credit acquired by eligible SMEs thus eliminating the collateral requirements from the banks. CGSs also help reduce the high interest charged by banks on loans to SMEs due to their

perceived high risk profiles. However, despite the mitigating benefits of the schemes, the utilization of CGS is low with the targeted beneficiaries utilizing only 6 percent of the guarantees availed by the government and multilateral organizations and 31 percent of those from development partners (NESC, 2013). In essence therefore the CGSs have not been able to fill the funding gap for the SMEs estimated at Kshs 370 billion (NESC, 2013).

Previous studies (Gonas, Highfield & Mullineaux, 2004; Berger, Varghese & Walker, 2011; Bosse 2009; Green, 2003) on the role of CGS have been conducted in the developed economy such as US and Germany. Gonas *et al*. (2004) investigated Credit Guarantee Schemes in German and found out that CGS enables banks to provide additional loans to SMEs. Berger *et al*. (2011) assessed Credit Guarantee Schemes in USA and found out that CGS alters the lending behaviour by creating learning on the side of the lending banks. Similarly, Bosse (2009) found CGS to foster a closer and more intense contact between the commercial bank and the SME and create better access to bank loans. Green (2003) found a positive impact of the Italian guarantee scheme on SME lending. While studies demonstrate CGS improve SMEs access to finance, the studies failed to bring out the interrelationship between the CGS, information asymmetry, collateral requirement, lending relationship and credit restriction.

The studies are based on developed economies where the credit market in the developed countries differs significantly with those in developing countries in terms of credit products, number of lenders and formalization. Thus CGS might be more developed and entrenched within the credit market in developed economies than in the developing economies. Even if CGS is found to facilitate access to finance by creditworthy firms when such access is constrained by insufficient credit information, collateral requirement, lack of lending relationship and the resulting credit restriction (Uesugi *et al*., 2006), there is no such a study done in Kenya. Subsequently the assertion that CGS mitigate on the obstacles constraining access to finance by SMEs may be just speculative in the Kenyan

context. Further there is no empirical evidence to confirm the benefits of CGS in the local context. It was therefore the aim of the study to establish whether CGS has any moderating effect on the effects of market failure constraints on access to finance by SMEs in Kenya. The previous studies have only discussed the effects of specific financial market constraints on access to finance by SMEs. While this study discussed the effects of various financial market failure constraints on access to finance by SMEs and the moderating effects of CGSs

1.3 Research Objectives

This section outlines the objectives which were addressed by the study. The objectives were categorized into general objective and specific objectives

1.3.1General Objective of the Study

The general objective of the study was to establish the effects of financial market failure constraints on access to finance by small and medium enterprises in Kenya.

1.3.2 Specific Objectives of the Study

The study pursued the following specific objectives:

1. To examine the effects of information asymmetry on `access to finance by SMEs in Kenya.
2. To evaluate the effects of collateral requirement on access to finance by SMEs in Kenya.
3. To assess the effects of lending relationship on access to finance by SMEs in Kenya.
4. To analyse the effects of credit restriction on access to finance by SMEs in Kenya.
5. To analyse the moderating effects of Credit Guarantee Schemes on the relationship between market failure constraints and access to finance by SMEs in Kenya.

1.4 Research Hypotheses

The study was guided by the following hypotheses derived from the specific objectives:

1. H_0: There are no significant effects of information asymmetry on access to finance by SMEs in Kenya.
2. H_0: There are no significant effects of collateral requirement on access to finance by SMEs in Kenya.
3. H_0: There are no significant effects of lending relationship and access on finance by SMEs in Kenya.
4. H_0: There are no significant effects of credit restriction and access on finance by SMEs in Kenya.
5. H_0: There are no significant moderating effects of Credit Guarantee Schemes on the relationship between market failure constraints and access to finance by SMEs in Kenya.

1.5 Justification of the Study

This study contributes to the body of knowledge and adds on the existing literature on the constraints faced by SMEs on their access to finance a number of ways. The study establishes the joint effects of the financial market constraints on access to finance by SMEs. Beck and Demirguc-Kunt (2006) studied the effects of information asymmetry on access to finance by SMEs, Beck (2007).examined the effects of collateral requirements on access to finance by SMEs, De la Torre, Pería and Schmukler (2010) assessed the relationship between lending relationship and access to finance by SMEs and Kremp and Sevestre (2013)examined financial crisis induced by credit rationing for French SMEs. This study improves the previous studies by examining the overall effect of the market failure constrains on access to finance by SMEs. The study also improves the methodologies used by previous scholars, who had used simple regression analysis by using multiple linear regression analysis. The previous studies had only examined the casual effect while this study has establishes the linear predictor equations of the

relationships. The previous studies were one on developed economies while this study was done in developing economy. .This study analysed the moderating effects of CGSs on market failure constraints while there is no other study done in a developing economy.

Access to finance by SMEs is a critical factor in boosting the growth of the sector. This is particularly important since the sector offers employment to millions of Kenyan and contributes significantly to the economic development of the country. The role of CGS as an instrument in easing the access of such finances by SMEs is an important area of study. The findings of the study will benefit the policy formulators to craft the necessarily CGS framework that will enable funding agencies to provide more funds and the banks to utilize such funds. More importantly the SMEs will benefit with the findings in finding out the CGS available, the mode of operation and eligibility criteria. The CGS market in Kenya and Africa is under developed compared to other countries. Thus this area is under researched. The findings of the study will enrich the existing knowledge on CGS and fill the existing research gap.

1.6 Scope of the Study

The study covered the effects of the financial market failure constraints on access to finance by small and medium enterprises. Though there are other constraints on access to finance by SMEs, the study covered only the market failure constraints and the effects of CGS on the market failure constraints since the previous studies were done on developed economies. The study covered Nairobi County since it provides a well-established bank network and high concentration of SMEs compared to other counties (Bowen, Morara, & Mureithi, 2009). The study focuses on all the 120,000 SMEs in Nairobi County who had applied loans in the years 2014 and 2015 from Equity Bank Cooperative Bank of Kenya and Kenya Commercial Bank.

1.7 Limitation of the Study

The major limitation encountered was obtaining information from the owners of SMEs as most of them were not willing to disclose some information which they thought to be confidential. The researcher overcame this limitation by using the introduction letter from the University to assure them that the information provided will be used for academic purpose only. The data of the study were collected in an urban county; thus it may be difficult to replicate it in rural areas of the country because the SME owners in rural areas may have different borrowing characteristics. It is important that further research be conducted in rural areas within Kenya to confirm the findings of this study. Some respondents took a lot of time to respond and some lost their copies of the questionnaires thus extending the period of data collection for more than the intended time. Another limitation is that the SMEs are too many; to overcome this study only targeted the SMEs who had applied for a loan in Equity bank, Cooperative bank and Kenya Commercial bank. The dependent variables were only able to explain 48.4% variation in dependent variable which implies that there were other important independent which were left out in the study which were recommended as areas of further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter provides the review of the relevant literature and theories relevant to the study. The chapter starts with the theoretical framework which discusses the theories on which the study was be anchored on. The theoretical framework also shows theoretical review of both independent variables and dependent variable. The chapter shows the description of the conceptual framework which shows the relationship between dependent and independent variables. It continues with the empirical literature review which explains the independent and dependent variables of the study. Finally, the chapter provides a review and critique of the existing literature relevant to the study and identifies the research gap from the reviewed literature.

2.2 Theoretical Framework

Theoretical framework guides research in determining what variables to measure and what statistical relationships to look for in to understand the variables of the study and; provides a general framework for data the context of the problems under study (Trochim, 2006). Theoretical literature helps the researcher analysis and also helps in the selection of applicable research design. The study was anchored on three theories, credit rationing theory, pecking order theory and contract theory.

2.2.1Credit Rationing Theory

The study adopted the theoretical model of equilibrium with credit rationing of Stiglitz and Weiss (1981). The model assumes imperfect market credit where there is information asymmetry such that obtaining accurate information on the borrowers and

the monitoring the borrower's action is too expensive for the banks. Further the model assumes there are many banks operating in the credit market seeking to maximize profit through the choice of interest and collateral that they make. Such choices should aim at reducing the probability of default. On the other hand, there exist many potential borrowers who also seek to maximize their profit through the choice of their projects.

Due to information asymmetry the chances of success of the project chosen by the borrowers is not known by the banks but only the borrowers. In addition, a borrower may decide to shift from the project initially agreed upon and which according to the bank have a high chance of success with a normal return and opt for a high return project but with equally high chances of failure. The bank has no control over such action by the borrower. Since the value of a failed project is similar whether high risk or risk the bank uses interest rate to distinguish between bad or good risk. Assuming borrowers will go for loans of similar size to finance projects with similar returns, borrowers intending to finance high risk projects (thus high return) will be willing to pay for higher interest. A high interest rate will however affect the profit of the bank as the number due the adverse selection effect (which results from a deterioration in the quality of the pool of loan applicants) and the incentive effect (which results from a change in the behaviour of borrowers to shift from safe to high risk projects) (Okurut, Olalekan & Mangadi, 2011). Equilibrium is achieved in this case at the rate of interest which allows the banks to maximize their profit (Banerjee *et al*., 2008). However, under condition of imperfect credit markets characterized by information asymmetry, interest rates fail to play the market clearing role of equating demand and supply.

In the context of the study, the theory backs the study in respect to the hindrance of access to finance by SMEs. The theory has demonstrated that information asymmetry results to bank rationing credit requested by SMEs. In this respect credit guarantee schemes is an appropriate tool to remove the barriers. The CGS enable lenders to gain experience with new clients covered by loan guarantees, these clients will later "graduate" to borrowing without subsidized loan guarantees; partly because borrowers

learn how to obtain formal loans, and partly because lenders assemble sufficient information about these new borrowers to make loans to them later without special guarantees (Vogel & Adams, 2007). CGS will thus improve the information asymmetry and positively change the bank rationing behaviour in favour of SMEs

2.2.2 Pecking Order Theory

Pecking Order Theory, states that capital structure is driven by firm's desire to finance new investments, first internally, then with low-risk debt, and finally if all fails, with equity. Therefore, the firms prefer internal financing to external financing (Barclay & Smith, 2005). This theory is applicable for large firms as well as small firms. Since small firms are opaque and have important adverse selection problems that are explained by credit rationing; they bear high information costs (Psillaki, 1995). Since the quality of small firms' financial statements varies, small firms usually have higher levels of asymmetric information. Even though investors may prefer audited financial statements, small firms may want to avoid these costs (Pettit & Singer, 1985). Therefore, when issuing new capital, those costs are very high, but for internal funds, costs can be considered as none. For debt, the costs are in an intermediate position between equity and internal funds. As a result, firms prefer first internal financing (retained earnings), and then debt and they choose equity as a last resort (Pettit & Singer, 1985)

In the context of the study, pecking order theory demonstrates the dilemma of SMEs in providing accurate financial statement given the high cost. Consequently, the SMEs prefer internal funding rather than external funding such as obtaining bank credit. According to Boocock and Shariff (2005) CGS reduces information asymmetry thus allowing SMEs to seek external funding without extra cost, because though CGSs the banks are able to know the SMEs better.

2.2.3 Contract Theory

In contract theory, asymmetric information arises when one of two parties engaged in a business transaction happens to have more or different information than the other. In such a situation, one party often does not know enough about the other party and fails to make an accurate decision (Powell & Stringham, 2009).This circumstance leads to a potential adverse selection and moral hazard problems in the credit market. Adverse selection is a problem arising from asymmetric information which occurs before a transaction is entered into. A lender may decide not to lend money although the borrower is worthy of the loan and has the potential to make loan repayments as expected. Moral hazard is a problem of asymmetric information that arises after transaction has occurred (Tadelis & Bajari, 2006). The borrower might engage in activities that are undesirable from the lender‘s point of view, and this makes it less likely that the loan will be paid back. For these reasons, formal financial institutions insist on collaterals as a prerequisite for providing loan money to small enterprises. The disbursement of loan money without securing adequate collateral is considered too risky. Stigilitz and Weiss (1981) have pointed out that information asymmetry is one major cause of credit constraint in small businesses and enterprises. According to the authors, capital does not always flow to small firms because of adverse selection and hazard, two factors that are known to have a devastating negative impact on small enterprises. The theory demonstrates the effect of information asymmetry on access to credit by SME as shown by the study. CGS reduces the information asymmetry thus increasing the possibility of SMEs accessing loans.

2.2.4 Moral Hazard and Adverse Selection Theory

Moral hazard occurs when one person takes more risks because someone else bears the cost of those risks. According to *(*Khurana, 2015) moral hazard may occur where the actions of one party may change to the detriment of another after a financial transaction has taken place. Moral hazard occurs under a type of information asymmetry where the

risk-taking party to a transaction knows more about its intentions than the party paying the consequences of the risk. More broadly, moral hazard occurs when the party with more information about its actions or intentions has a tendency or incentive to behave inappropriately from the perspective of the party with less information (Rowell & Connelly, 2012). Moral hazard also arises in a principal–agent problem, where one party, called an agent, acts on behalf of another party, called the principal. The agent usually has more information about his or her actions or intentions than the principal does, because the principal usually cannot completely monitor the agent. The agent may have an incentive to act inappropriately (from the viewpoint of the principal) if the interests of the agent and the principal are not aligned (Zandi, 2009).

According to Ivashina and Scharfstein (2010) lenders many may have suspected that the borrowers would not be able to maintain their payments in the long run and that, for this reason, the loans were not going to be worth much. Still, because there were many buyers of these loans (or of pools of these loans) willing to take on that risk, the lenders did not concern themselves with the potential long-term consequences of making these loans. After selling the loans, the originators bore none of the risk so there was little to no incentive for the originators to investigate the long-term value of the loans. A party makes a decision about how much risk to take, while another party bears the costs if things go badly, and the party isolated from risk behaves differently from how it would if it were fully exposed to the risk (Ramsundar & Shubhabrata (2013). Moral hazard can also occur with borrowers. Borrowers may not act prudently (in the view of the lender) when they invest or spend funds recklessly. For example, credit card companies often limit the amount borrowers can spend with their cards because without such limits borrowers may spend borrowed funds recklessly, leading to default.

According to Chiappori and Salanie (2000) adverse selection is a concept in economics, insurance, and risk management, which captures the idea of a "rigged" trade. For example when buyers and sellers have access to different information (asymmetric information) traders with better private information about the quality of a product will

selectively participate in trades which benefit them the most (at the expense of the other trader). Buyers sometimes have better information about how much benefit they can extract from a service in which case the "bad" customers are more likely to apply for the service. In both cases, the seller suffering from adverse selection should protect himself by screening customers or by identifying credible signals of quality. (Finkelstein & McGarry, 2006). In financial markets, company is more likely to offer stock when managers privately know that the current stock price exceeds the fundamental value of the firm. Uninformed investors rationally demand a premium to participate in the equity offer.

According to Laffont and Martimort (2009) when raising capital, some types of securities are more prone to adverse selection than others. An equity offering for a company that reliably generates earnings at a good price will be bought up before an unknown company's offering, leaving the market filled with offerings other investors did not want. Assuming that managers have inside information about the firm, outsiders are most prone to adverse selection in equity offers since managers may offer stock when they know the offer price exceeds their private assessments of the company's value. Outside investors therefore require a high rate of return on equity to compensate them for the risk of buying a "lemon". Adverse selection costs are lower for debt offerings since by offering debt, outside investors infer that managers believe the current stock price is undervalued (Hoppe & Schmitz, 2015).

In the context of the study, moral hazard and adverse selection theory demonstrates the actions of one party may change to the detriment of another after the lending has taken place. There is moral hazard between the banks and the SMEs due to information asymmetry where the risk-taking party to a transaction knows more about its intentions than the party paying the consequences of the risk. When lenders (banks) and borrowers (SMEs) have access to different information (asymmetric information) the party with better private information about the financial transaction will selectively participate in the transaction which benefit them the most (at the expense of the other party).

2.2.5 Access to Finance by Small and Medium Enterprises

Accessing finance is a challenging task for the firms. However, these financing constraints tend to be more difficult for SMEs to overcome than for larger firms. There exists varied obstacle to SME lending by the banks. Beck *et al*. (2008) pointed out that SME-specific factor is the most serious obstacle to the development of SME lending. Lack of quality information, family management and inability to standardize scoring models were cited as the biggest SME-specific hindrance and obstacle to SME lending (Calice *et al*., 2012). The issue of collateral is also a significant aspect where lack of adequate guarantees is an obstacle to SME lending. Additionally, the business aspects of "know your client" (KYC) process imposed by the central banks are also too stringent for SMEs. The documentation required in most instances was to a large extent akin to that required for large corporations and therefore considered excessive for SMEs (Calice *et al*., 2012).

Apart from SMEs specific obstacles there are bank specific obstacles that make SMEs lending a challenge. A study on Bank Financing to Small and Medium Enterprises in East Africa reported that difficulty in standardizing the risk assessment made the SME lending process problematic (Malhotra, 2012). According to the report this was particularly noticeable with banks which have to a certain extent automated their internal credit systems thus they would need to adapt their commercial operational models in order to accommodate the peculiar needs of SMEs. Another internal obstacle was the fact that some banks (38 percent of the total) were finding it difficult to lend to SMEs the same products as those extended to corporate and retail clients (Malhotra, 2012).

Though access of financial credits by SMEs is generally considered difficult Calice *et al*. (2012) argues that banks still consider the SME segment strategically important. Based on a survey of 91 banks in 45 countries, Beck *et al*. (2008) provide a characterization of bank financing to SMEs and found that banks perceive the SME

segment to be highly profitable and serve it through a number of lending technologies and organizational setups. Similar Rocha *et al*. (2011) investigate the status of bank financing to SMEs in the Middle East and North Africa (MENA) based on a survey of 139 banks in 16 countries. The authors found that in spite of a positive perception of the attractiveness of the segment, the SME sector in the region remains largely underserved. Locally Kenya's banks have the highest average loan exposure to SMEs at 50% compared to Uganda, Tanzania and Zimbabwe who had 42%, 37% and 18% respectively (Calice *et al*., 2012). De la Torre *et al*. (2010) concludes that, the conventional wisdom according to which large banks are not attracted by SMEs and that this business is dominated by informal lenders does not hold in practice. Calice *et al*. (2012), also observes that this willingness by banks to participate in the SMEs market is driven by perceived profitability of the SMEs and intense competition for the corporate business.

2.3 Conceptual Framework

A concept is an abstract or general idea inferred or derived from specific instances (Zikmund, 2010). According to Kothari, (2014) a conceptual framework is a hypothesized model identifying the model under study and the relationship between the dependent and independent variables. The purpose of a conceptual framework is to categorize and describe concepts relevant to the study and map relationships among them. As shown in Figure 2.1 the independent variables were information asymmetry, collateral requirements, lending relationship and credit restriction. On the other hand, the dependent variable was access to finance by SMEs and CGS was the moderating variable.

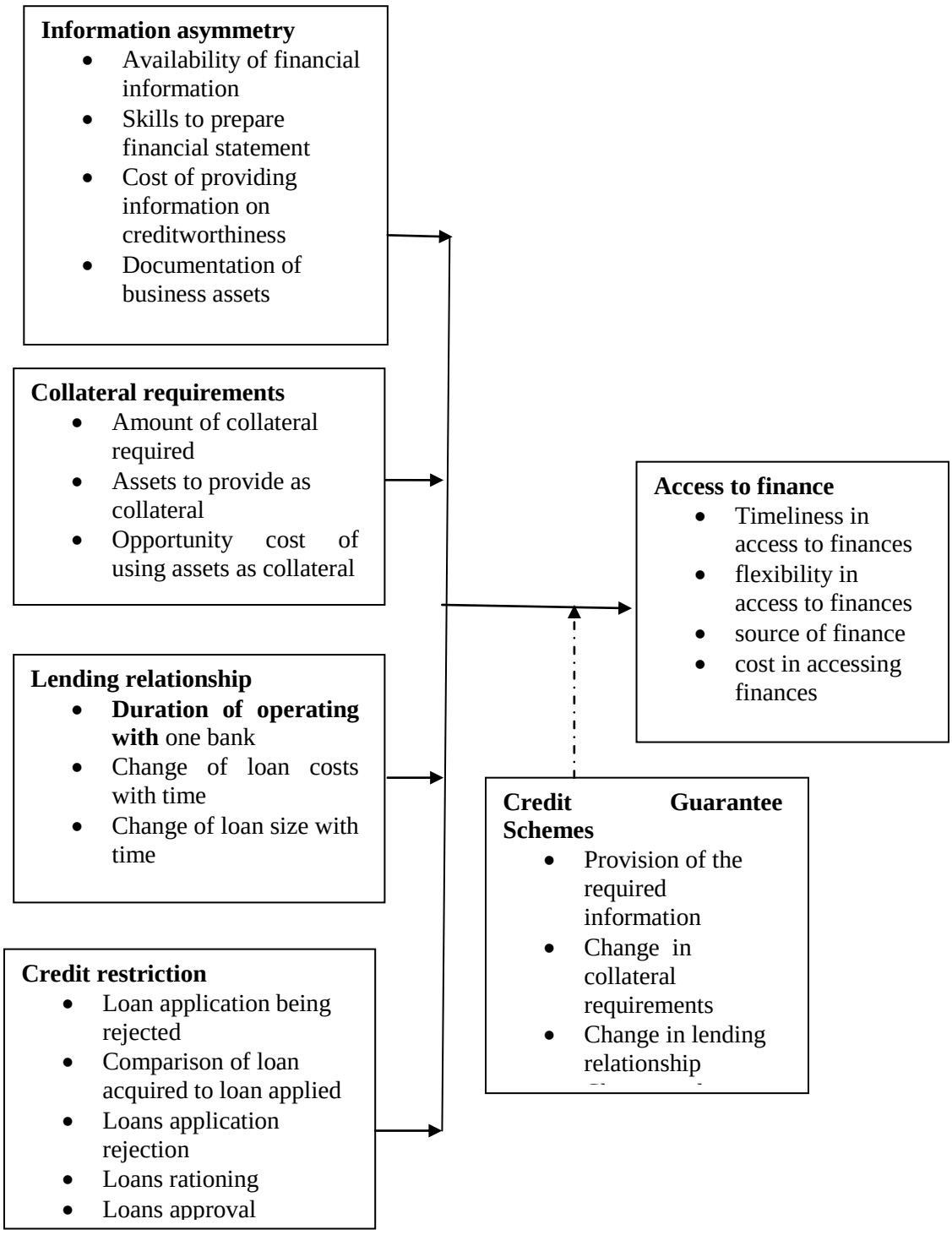

Figure 2.1: Conceptual Framework

2.4 Empirical Literature Review

According to Zikmund (2010) empirical literature review is a directed search of published works, including periodicals and books that has discussed theories and presented empirical results that are relevant to the topic of discussion. This section explains the variables of the study.

2.4.1 Studies on Information Asymmetry

Information asymmetry, the independent variable in this study, comprises of a situation where in a contract the two parties involved does not have the full information about the contract. According to Wu, Song and Zeng (2008) information asymmetry is a core reason commercial banks are generally reluctant to provide loans to SMEs. In most instances, SMEs are unable to provide information on their creditworthiness. Deakins *et al*. (2008) argued that information asymmetry is more acute in new SMEs especially the new one. They argued that at an early stage, information is limited and not always transparent and assets are often knowledge based exclusively associated with the founding entrepreneur. Especially with manufacturing or technology based firms, entrepreneurs may be reluctant to provide full information about the opportunity because of concerns that disclosure may make it easier for others to exploit. SMEs also present significant information gaps caused by the lack of reliable and accurate financial information, business and operational plans as well as critical business and financial skills. This limits the ability of banks to assess the credit-worthiness of individual SME borrowers (Mthimkhulu & Aziakpono, 2012).

A study by Calice *et al*. (2012) investigated obstacle to the development of SME lending in Kenya. A large majority of banks in the country (88 percent) considered lack of adequate information the most important deterrent to their involvement with the SME segment. Amongst Kenyan banks, the lack of quality information was the biggest SME-specific hindrance and obstacle to SME lending, cited by 100 percent of the

banks. Such is the perceived extent of the problem that some of the banks mentioned that they have allocated internal budgetary resources to assist SMEs through the extension of training services.

Further, Beck *et al*. (2008) studied hindrance of lending to SMEs by banks in Tanzania. The banks cited the lack of information as the biggest hindrance to SME lending. This, according to most Tanzanian banks, affected the quality of information provided by SMEs, amongst other things, with 75 percent of Tanzanian banks mentioning this aspect as a significant obstacle to their dealings with SMEs. One Tanzanian bank mentioned that they had allocated significant resources to training their SME clients in order to improve both their business skills and quality of information submitted.

Finally, Stephanou and Rodriguez (2008) analysed both trend and structure of the SME financing market in Colombia. They found that banks in the country regard the SME segment as an attractive business opportunity though their level of sophistication in terms financial reporting and business model were modest. The authors conclude that the market is also characterized by institutional and policy constraints, which inhibits further growth of SME lending.

2.4.2 Studies on Collateral Requirement

Collateral requirements, the independent variable in this study, comprises of a situation where the lender requires security for the loan advanced to the borrower.Collateral plays an important role in bank lending since it reduces the bank's loss in case a borrower defaults. The inclusion of collateral in a loan is costly for the lenders as well as for the borrowers. For the lenders, costs arise in valuing and screening collateral and in the event of repossession (Inderst & Mueller, 2007). Therefore, the inclusion of collateral might have a negative impact on the profit of the banks (Bester, 2001). For the borrowers it might occasion opportunity costs as assets, that otherwise would have been used more productively, are tied up (Mody & Patro., 2011). Nevertheless, the inclusion of collateral in a loan can also increase the profit of the lender. According to

the lazy bank theory of Manove *et al*. (2001), the provision of collateral may weaken the incentives of the banks to thoroughly monitor a borrower and an investment project. This is related to lower screening costs which may increase the overall profits of a bank.

Collateral is also widely thought to mitigate problems arising from asymmetric information like adverse selection since it can be considered as substitute for information (Voordeckers & Steijvers, 2006; Mody & Patro, 2011; Menkhoff *et al*., 2012; Steijvers *et al*., 2010). Collateral can play a disciplinary role for the borrowers in a way that borrowers get an incentive to use the money they received productively and not carelessly shift into riskier projects. This helps to reduce the risk of moral hazard for the lender (Manove *et al*., 2001).

However, many SMEs firms do not possess enough assets to cover the collateral requirements of banks. SMEs and start-ups are therefore more likely to experience credit rationing due to them under collateralization. Further, property prices often the source of collateral used by SMEs when borrowing from banks, have fallen, leaving borrowers with less security to pledge against prospective loans (Holton, McCann, Prendergast &Purdue, 2014). Thus, deficient collateral is one of the main reasons small firms are unable to obtain credit. Smaller firms are required to put up on average 152 percent of the loan value as collateral; medium firms need 154 percent. European Union (EU) countries average only 100 to 120 percent of the loan value (World Bank, 2008).

Gonas *et al*. (2004) examined the impact of information asymmetry where they used information about the borrowers, the lenders and the contract terms of 7,619 loans that had been issued in the US. To measure the quality and quantity of information, they differentiated whether borrowers were exchange-listed or had a credit scoring grade. They observed that firms without a rating grade more often pledged collateral than rated firms. The study also measured information in terms of whether borrowers were registered in the US. Those that came from the outside the US had more often pledged

collateral than firms from the US. These results confirmed the assumption that information asymmetries are positively related to the provision of collateral.

Mody and Patro (2011) also concentrated on the impact of credit scoring systems on the reduction of information asymmetries and the provision of collateral in the US. They concluded that the use of credit scoring systems helped to overcome information asymmetries and lower the demand for collateral. Mody and Patro (2011) inferred that the use of credit scoring technologies may mitigate credit restrictions especially for firms with asymmetric information problems and a lack of collateral since these systems reduced the need for collateral. This is elusive as the scoring technologies were based on the information. The existence and the use of these technologies alone will not reduce existing information asymmetries. Firms that cannot provide information will obtain a bad credit scorings and, therefore, still be required to provide collateral or even credit rationed (Mody & Patro, 2011).

2.4.3 Studies on Lending Relationship

Lending relationship, the independent variable in this study, comprises of a situation where due to a long interaction between the lender and the borrower the parties understands one another in terms of the risks involved in their financial transactions The concept of lending relationship is associated with the provision of financial services made by financial institutions that acquire specific information on the same clients over multiple interactions (Boot & Thakor, 2000). The repeated interactions with the same client create an opportunity for the lender to benefit from inter-temporal information reusability. According to Berger (2009) there are three conditions that are met when relationship banking is present namely: The lender collects information outside freely accessible public information; the collection of information takes place by means of repeated interactions with the borrower generally through the provision of various financial services; the information remains confidential to the lender.

Relationship lending can mitigate information asymmetries by developing private or soft information about, such as the creditworthiness, a firm´s financial prospects and owner characteristics over time. This information can help to better assess the risk of the borrower to make a decision about whether to grant a loan to a firm and with which conditions (Menkhoff *et al*., 2012; Behr *et al*., 2011). However, to foster a lending relationship a first contact between SMEs and banks must be initiated.

A study by Chakravarty and Shahriar (2010) examined the extent bank-borrower relationships impact the probability in the application and aproval of microcredits This study was conducted in Bangladesh and target 34 villages where borrowers of the Grameen Bank were interviewed on their relationship with the bank. The results emanating from this study indicated that borrowers with a longer membership with the Bank and those who have a track record of previous loans are more likely to apply for a microloan and to be approved.

Behr *et al*. (2011) evaluated the impact of lending relationships on loan decisions. The study analyzed a sample of 30,100 loan applications by 15,000 micro and small firms in Mozambique between 2000 and 2006. The sample contained information about the rejection or acceptance of the loan applications and allowed them to analyze the impact of lending relationships on the loan decision. Moreover, information about collateral pledged was available. The number of loans granted per potential borrowers acted as proxy for the intensity of the lending relationship. This allowed measuring the effects of lending relationship on access to bank loans for the firms of the sample. The results of the analyses demonstrated that the likelihood of obtaining loans increases with the duration of a lending relationship. Moreover, borrowers with longer lending relationships had to pledge less collateral. The analysis showed that not all borrowers obtained a loan. Only around 70 per cent of all applications were accepted.

A study by Hernandez-Canovas and Martinez-Solano (2007) on the effect of relationship lending on SMEs in Spain showed evidence that relationship lending

helped SMEs access loans from banks. Besides the reduction of information asymmetries, another advantage of relationship lending may be the inter-temporal smoothing of borrowing costs.

2.4.4 Studies on Credit restriction

A credit restriction is an independent variable in this study, in which it is a situation where the lender does not approval the full amount applied by the borrower. Credit restrictions for SMEs arise from a higher default risk that is associated with SMEs. This association is often due to the fact that commercial banks cannot generate sufficient information about the businesses which applies especially for start-ups, and that the business success is uncertain (Levenson & Willard, 2000). Under condition of imperfect credit markets, interest rates fail to play the market clearing role of equating demand and supply. But rather the banks adopt the strategy of credit rationing using the non-price mechanisms so as to maximize their expected profits.

Bank's credit rationing behavior may theoretically be influenced by a number of factors which include the borrower's observable characteristics (age, gender, wealth, experience, credit history), firm characteristics (business experience, risk profile, earnings), and loan characteristics (amount demanded, loan maturity, collateral offered, interest rate). Diaz-Serrano & Sackey (2015) argued that the bank's credit rationing behavior against the firm's loan demand can be categorized into three stages: the screening stage, the evaluation stage, and the quantity rationing stage.

At the screening stage, the bank manager interviews the potential borrower to determine their eligibility for credit (in terms of their creditworthiness, loan requirements and the terms desired) (Okurut *et al*, 2011) At the evaluation stage, the loan officer undertakes a detailed analysis of the viability of proposed investment project (including detailed investigations of the credit history, the type and value of proposed collateral, management of the firm, probability of repayment Based on this information, the loan officer (and/or the loan committee) makes a decision as to whether it will be profitable

for the bank to grant a loan or not. The borrowers deemed to be not creditworthy will be denied loans completely (credit rationed). At the quantity-rationing stage, the bank determines the optimal loan size for a borrower at a given interest rate.

A study by Okurut *et al.* (2011) assessed the influence of borrowers' characteristics on the outcome of loans application. The findings reviewed that those who had other income had higher chances of their loans getting approved. The Pearson's correlation between having other income and the loan application outcome was 0.802, correlation between loan application and other characteristics were education 0.616, age 0 .283 and gender 0.171. In essence having other income is a good indicator of one's ability to pay while education may increase one's chances of having other income (salary). Age and gender had a relatively weaker influence on the outcome of the loan applications indicating that these two attributes may not necessarily prove one's ability to pay which is the one of the most critical consideration according to the banks.

Similarly, on business characteristics Omboi and Wangai (2011) showed that business earnings had a relatively higher influence on the loan application outcome. The correlation between business earnings and loan application outcome was 0.720, while that of business value and loan outcome was 0.689. The period which the business had existed had 0.244. Thus business earnings were strong indicator of the businesses ability to repay the loan since ability to repay is an important bank's requirements. However, business value is equally important given that fact that the higher the value of the business the higher the ability of the business to offer adequate collateral which is also an important consideration by the bank. The period the businesses have existed had a relatively weaker influence on the outcome of the loan.

On loan characteristics, Okurut *et al.* (2011) argued that the amount of the loan applied by the business had the strongest influence among the business characteristics with the correlation coefficient of 0 .574. Those who applied relatively high amount of loans had a higher chance of having their loans approved. While these findings indicate that

those who had applied higher loans had higher chances of their rating being approved, the decisions on the size of the loan to be applied may be influenced by other attributes such as high business earnings and value. As such an entrepreneur whose business is earning a reasonable income and has a high value is likely to apply for a bigger amount. Thus the relationship between the amount and the loan outcome may be explained by other attributes rather than the size of loan alone. The empirical evidence suggest that borrower's observable characteristics and firm characteristic are critical in determining the level of credit restriction by banks to SMEs. In Kenya the SMEs sector is characterized by family ownership of the enterprise, small - scale in operations, low earnings, and low value and are highly vulnerable to general economic conditions, and few grow. It follows therefore SMEs are likely to suffer from credit restriction.

2.4.5 Studies on Credit Guarantee Schemes and Access to Finance by SMEs

Limited access to finance by SMEs is to a large extent the consequence of weaknesses in the enabling environment for finance (weak credit reporting systems, collateral regimes) that result in informational asymmetries and high risks to creditors. (Saadani, Arvai & Rocha, 2011). According to Uesugi, Sakai and Yamashiro (2006), deficiencies in the enabling environment have motivated government interventions designed to expand SME finance including Credit Guarantee Schemes. CGS facilitate access to finance by creditworthy firms when such access is constrained by insufficient credit information, collateral requirement, lack of lending relationship and the resulting credit restriction (Uesugi *et al.*, 2006). It follows therefore that CGS mitigate the negative effects of the market failure (insufficient credit information, collateral requirement, lack of lending relationship and credit restriction) constraints on access to finance by SMEs. The CGS moderating effect on the relationship between the market failure constraints and access to finance by SMEs can be understood by evaluating the effect of CGS on each constraint.

On information CGS can help banks overcome information asymmetries by aiding accurate identification of lending risk and improving banks' ability to make appropriate lending decisions (Honohan, 2010). A study by Craig *et al*. (2009) on the impact of loan guarantees on labour employment in low-income areas revealed that CGS reduced the amount of asymmetric information which in turn reduces credit rationing. As one very practical method to reduce information asymmetries, use of CGS encouraged lenders to provide loans to firms they would otherwise not provide any loan. By establishing a relationship with the borrower this helped to reduce asymmetric information and credit rationing for firms in the low-income area.

Another study by Flaming (2007) on the specific benefits of loan guarantees to MFI observed that through use of CGS banks gain experiences with loans to MFIs which raises their willingness to lend to them without guarantee later. The author argues that this is the primary rationale for providing guarantees instead of lending directly to MFIs. The author also found that Guarantors and MFI managers confirmed that guarantees help to get loans from banks that they would not have obtained without guarantee; the provision of guarantees enhances the bank's perception of MFIs and MFIs would not pay the additional costs for the guarantee if they were able to get a loan without it.

CGS can alleviate the high collateral requirements demanded by banks. SMEs are perceived as a highly risky group. Thus, a bank wanting to offer an SME a loan would need to either apply a rate that covers this risk or demand a significant amount of collateral. However, when the SME provides a guarantee, the bank can make the loan at a lower interest rate. In instances mentioned earlier where banks choose not to increase the interest above a certain level in order to maintain the quality of the borrowing pool, CGS allow firms with insufficient collateral to access the lending market. Since these firms would be otherwise excluded from the lending market, the result is higher overall lending.

Menkhoff *et al*. (2012) evaluated the impact of third-party guarantees on the lack of collateral. The authors analyzed a sample of overall 1,671 loans to 67 rural households in North-Eastern Thailand based on a survey of SMEs in 2007. Menkhoff *et al*. (2012) referred to third-party guarantees that can be pledged as collateral if not enough business or private collateral is available. The authors concluded that third-party guarantees frequently acted as substitutes for business or personal collateral and improved the access to bank lending. However, they found that the inclusion of the collateral substitutes had no significant impact on the default risk of the lenders.

On lending relationship CGS help in fostering the relationship between through initiating the first SMEs-bank contact. CGS reduce the default risk associated with SMEs thus encouraging banks to consider lending to firms that they would not have considered without CGS. After the initial lending facilitated by CGS the SMEs and the bank are able to develop a long duration lending relationship sufficient to accumulate customer information.

Valentin (2014) examined the impact of German guarantee banks on the access to finance for SMEs. To evaluate this, the study asked the interviewees whether lending relationships can be created that would not have been created without the guarantee from the guarantee bank. The study found out that the provision of the guarantee was a precondition for the provision of the loans, and the provision of the loan was the precondition for the creation of a lending relationship. The study concluded that the provision of the guarantee acted as cornerstone for the establishment of the bank-borrower relationship since without the guarantee, the bank would not provide the loan. With the guarantee the bank has the opportunity to learn about the borrower and with time a lending relationship can grow and deepen.

Credit Guarantee Schemes have been implemented to overcome to mitigate credit restrictions for SMEs (Cowling & Mitchell, 2003). The aim of the schemes is to bridge the lack of collateral and, therefore, enable otherwise credit restricted SMEs to obtain

bank loans (Menkhoff *et al*., 2012). Additionally, Credit Guarantee Schemes are considered to make SME lending more profitable by reducing administrative costs for the lending banks (Green, 2003; Manove *et al*., 2001). Bosse (2009) argues that lenders might transfer the screening and monitoring to the guarantor. This would reduce the costs for the lender and make SME lending more profitable (Green, 2003).

2.5 Critique of the existing literature relevant to the study

The empirical studies reviewed were on the challenges facing SMEs in access of finances from banks and other financial institutions. Gonas *et al*. (2004) examined the impact of information asymmetry on collateral requirement in US where firms with no credit rating or were not domiciled in US often pledged collateral. The study only provides the impact of information asymmetry without considering other factors such as lending relationship which can reduce information asymmetry; further the study was carried out in a developed country where the credit market differs significantly with the developing economies such as Kenya.

Mody & Patro (2011) also examined the impact of credit scoring systems on the reduction of information asymmetries and the provision of collateral in the US. The study found out that use of credit scoring technologies mitigate credit restrictions especially for firms with asymmetric information problems and a lack of collateral since these systems reduced the need for collateral. However, the study fails to recognize that to use scoring technologies the firm must have adequate information which is a major problem to the SMEs. Since SMEs cannot provide information they will have bad credit scorings and, therefore, still be required to provide collateral or even credit rationed.

On lending relationship, Behr *et al*. (2011) evaluated the impact of lending relationships on loan decisions in Mozambique involving SMEs. The results demonstrated that the probability of obtaining loans increases with the duration of a lending relationship where borrowers with longer lending relationships had to pledge less collateral. The

study fails to demonstrate the origin of the lending relationship in the first place. Since the SMEs experience credit rationing the lending relationship must be initiated.

On credit restriction Bosse (2009) and Green (2003) found out that CGS bridge the lack of collateral and, therefore, enable otherwise credit restricted SMEs to obtain bank loans. Additionally, Credit Guarantee Schemes are considered to make SME lending more profitable by reducing administrative costs for the lending banks. The study does not demonstrate how CGS bridges lack of collateral, whether it is through fostering lending relationship or reducing information asymmetry. While CGS may mitigate the risk of default thus decrease the collateral requirement when SMEs are obtaining loans for the first time, a sustainable access to finance depends on other factors triggered the existence of CGS. As a consequence in the presence of credit rationing, the allocation of credit is biased towards economic activities where tangible collateral of sufficient size is easily available, such as property development, and away from sectors where intangible assets play an important part, such as information technology, business services and other production involving research and development. Credit guarantees can be particularly important for SMEs operating in these areas (Holton et al, 2014). Saldana (2000) examines the case of parallel use of guarantees and collateral. His analysis points out that the necessary conditions for a guarantee to be welfare increasing are; risk aversion of creditors, the loan being collateral free or collateral deficient. The analysis concludes that to ensure additionality, guarantee programmes should screen the lenders collateral policies and only allow guarantees to be used on loans with collateral deficit.

2.6 Research Gap

The reviewed literature reveals research gaps in several areas. The study reviewed focus on the role of CGS in access of finance by SMEs. This creates a knowledge gap regarding how CGS moderates the effect of specific constraints on the access to finance by SMEs. The study covered the moderating effect of CGS on the relationship between market failure constraints and access to finance by the SMEs.

In terms of context a number of studies (Gonas *et al*. 2004; Mody & Patro, 2011; Bosse 2009; Green 2003) on the role of CGS have been conducted in the developed economy such as US and Germany. Therefore, a knowledge gap exists on the role of CGS in the context of the developing economies. This is based on the fact that credit market in the developed country differs significantly with those in developing countries such as Kenya in terms of credit products, number of lenders and formalization. It follows therefore that the CGS might be more developed and entrenched within the credit market in developed countries than in the developing economies. Consequently, the effects of CGS in respect to access to finance by SMEs may differ between developing and developed economies. The study filled this knowledge gap by assessing the moderating effect of CGS on the relationship between market failure constraints and access to finance to SMEs

Studies on CGS reviewed consider the effect of CGS on information asymmetry, collateral, lending relationship and credit restriction separately. For example, Craig *et al*. (2009) looked on effect of CGS on information asymmetry Menkhoff *et al*. (2012) evaluated the impact of third-party guarantees on the lack of collateral. While Valentin (2014) examined the impact of German guarantee banks on lending relationship. While they have demonstrated that CGS can influence each of these factors there is need to demonstrate the co-relationship that exist between them. The study considered both the effect of each of the four factors on the access to finance by SMEs and the moderating effect of CGS on constraint-access relationship.

2.7 Summary

The chapter presented the literature review on the market failure constrains affecting access to finance by the SMEs in Kenya. The chapter presented the theories that support the study as credit rationing theory, pecking order theory and contract theory which are relevant to this study. The chapter presented past studies done on various market failure constraints affecting access to finance by SMEs. Literature indicated that

information asymmetry, collateral requirements, lending relationship and credit restriction affects the access to finance by the SMEs. Literature also revealed that there is moderating effect of Credit guarantee schemes as per the studies which were done outside Kenya.

Access to finance in this study was determined by a combination of measurements; quick access to finance, access to finance with flexible terms, access to finance from commercial banks, and access to affordable finance. From the literature review, there is sufficient literature that explains the effects of financial market failure constraints and access to finance by the SMEs. The empirical studies identified in this chapter support this study. For instance, Behr et al. (2011) in their study evaluated the impact of lending relationships on loan decisions in Mozambique involving SMEs, Berger et al. (2011) examined the impact of credit scoring systems on the reduction of information asymmetries and the provision of collateral in the US and Gonas et al. (2004) in their study examined the impact of information asymmetry on collateral requirement in US. On the moderating variable, Valentin (2014) carried out a study on the impact of German guarantee banks on the access to finance for SMEs where the study found out that the provision of the guarantee was a precondition for the provision of the loans, and the provision of the loan was the precondition for the creation of a lending relationship and that the provision of the guarantee acted as cornerstone for the establishment of the bank-borrower relationship.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methods used for the research design, data collection and analysis. The chapter was divided into eight sections namely; Research design, population, Sampling frame, sample size and sampling technique, instruments of data collection, procedures of data collection, pilot test and data processing and analysis.

3.2 Research Design

Kothari (2012) defined research design as a master plan that specifies methods and procedures for collecting and analyzing the needed information. According to Creswell (2013) research design is a plan and structure of investigation so conceived as to obtain answers to research questions. The study used a mixed research design that is, correlational and descriptive design. Kotler and Armstrong (2000) observed that this method is best suited for gathering descriptive information when the researcher wants to describe the state of affairs as they exist. Descriptive design was used to allow the researcher to gather information, summarize, present and interpret it for purpose of clarification. The design is suitable for the study since it enables description of the CGS in terms of availability, types and eligibility criteria. The Correlation design on the other hand comprises of collecting data to determine whether, and to what extent, a relationship exists between two or more variables (Cohen & Manion, 2007). Correlation design is therefore appropriate since the study intended to establish the relationship between market failure constraints and access to finance by SMEs in Kenya and the moderating effects of CGS on access to finance by SMEs.

3.3 Target Population

The study was done in Nairobi County which is the capital city of Kenya because there is a high concentration of SMEs due to ready market of their products owing to the high population in the county and ease of access to foreign market (Satterthwaite, 2003). The target population of the study was the 120,000 SMEs who had applied loans from Equity bank, Co-operative bank and Kenya commercial bank within the last two years (2014-2015). The three banks have been operating CGS funded by the government and non-governmental agencies. The SMEs are located within Nairobi County. The SMEs provided information on constraints they face when attempting to access finance and the benefits of CGS in mitigating these constraints.

3.4 Sampling Frame

The sampling frame according to Kothari (2012) consists of the list of elements that are in the population. Mugenda and Mugenda, (2003) defined a sampling frame as a list, directory or index of case from which a sample can be selected. The sampling frame for the study was drawn from Equity Bank Limited loans data base (2015), Cooperative Bank of Kenya Loans data base (2015) and Kenya Commercial Bank loans data base (2015). The sampling frame comprised of 120,000 SMEs owners who had applied loans in Equity Bank Ltd, Co-operative Bank of Kenya and Kenya Commercial Bank ltd. The 120,000 SMEs who had applied for the loan consisted of 90,000 small enterprises and 30,000 medium enterprises. (Equity Bank Limited, 2015; Cooperative Bank of Kenya, 2015; Kenya Commercial Bank, 2015).

3.5 Sample Size and Sampling Techniques

According to Kothari (2012) Sampling refers to the process of obtaining information about an entire population by examining only a part of it. Samples can either be probability samples or non-probability samples (Sauders, Lewis & Thornhill, 2003). Probability samples are those based on simple random sampling, systematic

sampling, stratified sampling and cluster sampling. Non-probability samples are those based on convenient/ such as purposive sampling, judgment sampling and quota sampling (Kothari, 2012). According to Mugenda and Mugenda (2003), a simple random sample has an equal chance of inclusion in a sample.

Purposive sampling involves deliberate selection of particular units of the population for constituting a sample which represents the population (Zikmund, 2010). Purposive sampling is commonly used where the researcher wishes to isolate a sample that has qualities or characteristics required for the study. Kothari, (2012), argues that purposive sampling is particularly good for studies where the researcher wishes to pinpoint sample members who best represent the interests of the study without having to consider the entire population. Purposive sampling techniques involve selecting certain units or cases based on a specific purpose rather than randomly (Kvale, 2003). This technique is used to select a unit of the population that is typical of the population. The units are selected on the basis of the researcher's judgment on their typicality (Orotho, 2009).

Zikmund, (2010) argues that, only a small sample is required if the population is homogeneous while a large sample will be required for a population which is heterogeneous. Small sample sizes with similar characteristics would give an objective representation of the population. Neither too large nor too small sample sizes help research projects. Sekaran (2008) proposes a rule of thumb for determining sample sizes which is at least 10% of the target population.

The sampling techniques adopted by the study were, purposive, stratified and simple random sampling. Purposive sampling techniques involved selecting certain units or cases based on a specific purpose rather than randomly (Kvale, 2003). This technique was used to select a unit of the population that is typical of the population. The units were selected on the basis of the researcher's judgment on their typicality (Orotho, 2009). The technique was ideal for this study since it enabled selection of SMEs owners

who had applied for loans from Equity, Co-operative and commercial banks because these are the banks which operates Credit Guarantee Schemes.

Stratified sampling ensured that sub-groups in the population were adequately represented in the sample (Orotho, 2009). The study used stratified sampling to ensure both small and medium enterprises were presented in the sample. According to Orotho (2009) simple random sampling is a procedure in which all the individuals in the defined population have an equal and independent chance of being selected as a sample. In this study the simple random sampling was used to pick on the SMEs from each stratum. Equation 3.1 was used to determine the sample size because the target population was greater 10,000 (Shenoy & Madan, 2000; Sekaran, 2008; Cooper and Schindler, 2010; Mugenda & Mugenda, 2003).

$$n = \frac{Z^2 pq}{d^2} \quad \text{.....Equation 3.1}$$

Where:

n =the desired sample size (if the target population is greater than 10,000)

p = the proportion in the target population estimated to have characteristics being measured as supported by Levy and Lemeshow (2013).

q = 1-p

d = margin of error

Z = the standard normal deviation at the required confidence level.

The target proportion which have the characteristics of interest was placed at 50% that is p = 0.5 (Kothari, 2012). This proportion was based on personal judgment as proposed by Kothari (2012). According to Sekaran (2008) and Cooper and Schindler

(2010) low proportions of *p* will lead to bigger samples which may make the research cumbersome to conduct. The selected margin of error was 10% while the standard normal deviation was placed at 95% confidence interval, thus the Z value was 1.96. Thus the sample size for target population of the study was 384 which was computed using equation 3.1 as follows;

$$n = \frac{1.96^2(0.5)(0.5)}{0.01^2} = 384 \quad \text{.....Equation 3.2}$$

The Sample will be allocated to small and medium enterprises using the following formula as provided by Kothari (2004)

$$\mathrm{n(Subsector)} = \frac{\mathrm{N(subsector)} * \mathrm{n(all\ subsector)}}{\mathrm{N}(all\ subsectors)} \quad \text{.....Equation 3.3}$$

The Sample was allocated to small and medium enterprises using equation 3.3 as provided by Kothari (2012)

$$\mathrm{n(Subsector)} = \frac{\mathrm{N(subsector)} * \mathrm{n(all\ subsector)}}{\mathrm{N}(all\ subsectors)} \quad \text{.....Equation 3.3}$$

Where:

n (subsector) is the sample size at subsector level.

N (subsector) is the population of a subsector.

n (all sectors): is the sample size of the two (small and medium enterprises) sub sectors combined.

N (all Sectors) is the population of the two subsectors.

Using equation 3.3, the size for each subsector was calculated as follows:

$$\text{Small enterprises} = \frac{90{,}000*384}{120{,}000} = 288$$

$$\text{Small enterprises} = \frac{30{,}000*384}{120{,}000} = 96$$

The sample size for the study was therefore 384.as shown in Table 3.1.

Table 3.1: Distribution of the sample size of the SMEs

Sub-sectors	Population	Sample size
Small enterprises	90,000	288
Medium enterprises	30,000	96
Total	120,000	384

3.6 Data Collection Instruments

Creswell (2013) defines data collection as a means by which information is obtained from the selected subjects of an investigation. Mugenda and Mugenda (2003) observe that the choice of a tool and instrument depends mainly on the attributes of the subject, research topic, data and expected results. In social sciences, the most commonly used instruments are: questionnaires, interview schedules, observational forms and standardized tests (Sauders, Lewis and Thornhill, 2007). An interview schedule is a set of questions that the interviewer asks when interviewing. Observational forms are used by researchers as checklists to record what they observe during data collection, while a standardized test is one that has consistency and uniform procedures for administering, scoring and interpreting the behaviour of subjects. The study used questionnaires to collect data.

3 .6.1 Questionnaire

Orotho (2009), points out that a questionnaire can be used to collect a huge amount of data in relatively shorter time. Schwab (2005) defines questionnaires as measuring instruments that ask individuals to answer a set of questions or to respondent to a set of statements. Mugenda and Mugenda (2003) define a questionnaire as a document that consists of a number of questions printed or typed in a definite order on a form or set of forms. According to Dawson (2006), there are three basic types of questionnaires; closed ended, open-ended or a combination of both. Closed-ended questionnaires are used to generate statistics in quantitative research. As these questionnaires follow a set format, and as most can be scanned straight into a computer for ease of analysis and greater numbers can be produced.

Open-ended questionnaires are used in qualitative research, although some researchers will quantify the answers during the analysis stage. The questionnaire does not contain boxes to tick, but instead leaves a blank section for the respondent to write in an answer. Whereas closed-ended questionnaires might be used to find out how many people use a service, open-ended questionnaires might be used to find out what people think about a service. As there are no standard answers to these questions, data analysis is more complex. Also, as it is, opinions which are sought rather than numbers, fewer questionnaires need to be distributed. However, many researchers tend to use a combination of both open and closed questions. Many questionnaires begin with a series of closed questions, with boxes to tick or scales to rank, and then finish with a section of open questions for more detailed response.

Mugenda and Mugenda (2003) and Kothari (2012) agree that questionnaires have various merits, like; there is low cost even when the universe is large and is widely spread geographically; it is free from the bias of the interviewer; answers are in respondents' own words; respondents have adequate time to give well thought out answers; respondents who are not easily approachable can also be reached

conveniently; large samples can be made use of and thus the results can be made more dependable and reliable. They also concur that the main demerits of questionnaires are; low rate of return of the duly filled in questionnaires; bias due to no-response is often indeterminate; it can be used only when respondents are educated and cooperating; the control over questionnaire may be lost once it is sent; there is inbuilt inflexibility because of the difficulty of amending the approach once questionnaires have been dispatched; there is also the possibility of ambiguous replies or omission of replies altogether to certain questions that is interpretation of omissions is difficult; it is difficult to know whether willing respondents are truly representative and this method is likely to be very slow.

A questionnaire can be used to collect a huge amount of data in relatively shorter time. In the study questionnaire was used to collect data from SMEs that had applied loans. The questionnaire had five scales Likert questions which collected information on Information asymmetry, Collateral requirements, lending relationship, credit restriction and moderating effect of CGS. The respondents rated each item by stating the level of agreement of each statement ranging from strongly agrees to strongly disagree. The questionnaires were administered by the researcher with assistance of research assistants. The questionnaire had open ended questions to probe further on the effect of the constraints on the access to finance by SMEs.

3.7 Data Collection Procedure

The study used primary data. Gale, Heath, Cameron, Rashid & Redwood (2013) defined primary data as the original data which is originated for the purpose of the research at hand. Kothari (2012) describe primary data as those which are collected afresh and for the first time, and thus happen to be original in character. Louis, Lawrence and Keith (2007) describes primary data as those items that are original to the problem under study while Ember (2009) describe primary data as data collected by the investigator in various field sites explicitly for a comparative study. The primary data collection procedure started with identifying the respondents and their accessibility.

The availability of the questionnaires and competent research assistants was ascertained. A letter of introduction as student was requested from the university.

The data collection procedure involved distribution of the questionnaires to the respondents by the researcher and four research assistants. They were collected on agreed upon time. The research assistants were instructed to ensure punctuality in appointments, friendliness and use of clear and simple language where the questionnaires are physically delivered. Some questionnaires were sent electronically to save on time and where physical accessibility is a challenge. The data were collected through questionnaires which were administered by the researcher and his assistants. The questionnaires were administered preferably within the premises of the responding institutions to allow references where necessarily. Prior appointment was necessarily to allow the respondents to familiarize with the questions and make the necessarily reference.

3.8 Pilot Test

Kothari (2012) describe a pilot test as a replica and rehearsal of the main test. Polit and Beck (2010) stated that a pilot study or test is a small scale version, or trial run, done in preparation for a major study. Dawson (2006) argued that pilot testing assists researchers to see if the questionnaire will obtain the required results. Polit and Beck (2010) stated that the purpose of a pilot test is not so much to test research hypotheses, but rather to test protocols, data collection instruments, sample selection strategies and other aspects of a study in preparation for a larger study. According to Cochran and Cox (2002), a pilot test is designed to test logistics and gather information prior to the main study, in order to improve the latter's quality and efficiency.

The researcher carried out a pilot test to test the validity and reliability of the questionnaires in gathering the data required for purposes of the study. In the study a pilot study was conducted using ten respondents drawn from the same population frame similar to those who were included in the actual study in terms of background

characteristics and familiarity with the topic. The questionnaires were validated by discussing it with ten randomly selected owners of SMES. Their views were evaluated and incorporated to enhance content and validity of the questionnaire.

3.8.1 Validity

Validity refers to the degree with which a measurement procedure or a questionnaire measures the characteristic it is intended to measure (Devon *et al.,* 2007). There are three dimensions from which validity can be examined. These include, content, construct, and criterion validity (Orotho, 2009). Content validity was ensured by designing instrument according to the study variables and their respective indicators of measurement; construct validity, was maintained through restricting the questions to the conceptualizations of the variables and ensuring that the indicators of a particular variable fall within the same construct.

3.8.2 Reliability

Mugenda and Mugenda (2003) define reliability as a measure of the degree to which a research instrument yields consistent results or data after repeated trial. Statistically reliability is based on the idea that individual items should produce results consistent with overall questionnaire. To establish reliability, Cohen *et al.* (2013) recommends Cronbach's alpha α, which involves splitting data into two and computing correlation coefficient. According to Engelbrecht (2012) a value of 0.8 is generally acceptable for cognitive test as an indicator of reliability. For social-science constructs values below 0.7 can be expected because of the diversity of the construct being measured (Kline, 1999). In the study a value of 0.7 was an indicator of high reliability.

3.9 Data Processing and Analysis

The raw data collected from the field were transformed into information that tested the research hypotheses, thus before data analysis, collected information was, cleaned, edited and then coded. Kothari (2012) and Marshall and Rossman (2007) defined data

analysis as the computation of certain measures along with searching for patterns of relationships that exist among data groups. Data processing and analysis is essential to ensure that all relevant data is gathered for making contemplated comparisons and analysis (Mugenda, 2008). The researcher used descriptive analysis, correlation analysis and regression analysis to analyse the data. The data collected using the open ended questions were analysed using content analysis. According to Prasad (2008) content analysis is any research technique for making inferences by systematically and objectively identifying specified characteristics within text. Yin (2002) defined content analysis as a research method that uses a set of procedures to make valid inferences from text. Neuman (2006) lists content analysis as a key non-reactive research methodology and described it as a technique for gathering and analysing the content of text. The 'content' refers to words, meanings, pictures, symbols, ideas, themes, or any message that can be communicated. The 'text' is anything written, visual, or spoken that serves as a medium for communication (Neuman, 2006). The content analysis was used to analyse qualitative data. The text of the open ended questions was studied and subdivided into themes guided by the objectives of the study. The themes then guided the researcher to analyse the data. According to Mbwesa (2006) and Mugenda and Mugenda (2003) descriptive analysis involves finding numerical summaries to provide a deeper insight into the characteristics and description of the variables under study.

Correlation analysis involves using the collected data to determine whether a relationship exists between two or more quantifiable variables where the magnitude and direction of correlation is expressed by correlation coefficient (Cohen *et al*., 2013). According to Cohen, West & Aiken (2014) linear regression analysis involves measuring the linear association between a dependent and an independent variable(s). It assumes the dependent variable is predicatively linked to the independent variable(s). Regression analysis therefore attempts to predict the values of a continuous interval or scaled dependent variable from the specific values of the independent variable(s).

The study used both qualitative and quantitative data as advocated for by Neuman (2006) and Babbie *et al*. (2007). Qualitative data from open ended questions was analysed using content analysis while Statistical Package for Social Sciences (SPSS) software version 21 was used in running the statistical tests. SPSS was chosen because as indicated by Castillo (2009) it is user friendly and gives all the possible analysis. The categories of responses were identified, coded and entered into SPSS variable data sheet for both descriptive and quantitative analysis.

Descriptive analysis generated measures of central tendency, that is, frequencies, percentages, means and standard deviation which were presented in tables and interpreted appropriately. Conditional linear regression tests were conducted before the data were analysed further. These tests are sampling adequacy test to determine adequacy of the sample size for factor analysis, autocorrelation tests to find out if there were correlation between the residue terms for any two observations, multicollinearity to test whether more than two independent variables are inter-correlated, outliers test to identify if there was any observation far placed from the other observations, Bartlett's test to examine if correlation matrix was an identity matrix and normality tests to determine if data was normally distributed. After conducting diagnostic tests, factor analysis was done to identify factors which may not be instrumental to the study. Finally, correlation analysis and regression analysis was done.

3.9.1 Sampling Adequacy Test

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was conducted to determine adequacy of the sample size. According to Magd (2008) KMO is an index used to examine and justify the appropriateness of application of Factor Analysis; values between 0.5-1.0 indicate that a factor is significant. Moutinho and Hutcheson (2010) suggested that values between 0.7 and 0.8 are good for factor analysis

3.9.2 Autocorrelation Test

Autocorrelation is correlation between the residue terms for any two observations; it is expected that the residue terms for any two observations should be independent (Field, 2005; Levine, Fustephan, Krehbiel and Berenson, 2004). Durbin-Watson test was used to test for the presence of autocorrelation between variables. Gujarati (2003) observed that Durbin-Watson statistic ranges from 0 to 4. A value near 0 indicates positive autocorrelation while a value close to 4 indicates negative autocorrelation. A value ranging from 1.5 to 2.5 indicates that there is no presence of autocorrelation.

3.9.3 Multicollinearity Test

Multicollinearity occurs in statistics where two or more predictor variables in a multiple regression model are highly correlated (Bickel, 2010). The Gauss-Markov assumption only requires that there be no perfect multicollinearity and so long as there is no perfect multicollinearity the model is identified. This means the model can estimate all the coefficients and that the coefficients remained best linear unbiased estimates and that the standard errors were correct and efficient (Runkle et al., 2013). Variance Inflation Factor (VIF) was used to measure the problem of multicollinearity in the multiple regression models. VIF statistic of a predictor in a model is the reciprocal of tolerance and it indicates how much larger the error variance for the unique effect of a predictor (Baguley, 2012). Cohen and Cleveland (2013) defines Variance Inflation Factor (VIF) as an index of the amount that the variance of each regression coefficient is increased relative to a situation in which all of the predictor variables are uncorrelated and suggested a VIFs of 5 or more to be the rule of thumb for concluding VIF to be too large hence not suitable. Runkle *et al*. (2013) argued that if two or more variables have a Variance Inflation Factor (VIF) of 5 or greater than 5, one of them must be removed from the regression analysis as this indicates presence of multicollinearity. Thus in the study if two or more variables have a Variance Inflation Factor of 5 or greater than 5 one of them must be removed from the model.

3.9.4 Normality Test

Tests of normality were used to determine if the data is well modelled and normally distributed (Gujarati, 2002). According to Ghasemin and zahediasi (2012) the variables are supposed to be roughly normally distributed especially if the results are to be generalized beyond the sample. The study used both kolmogorov-Sminorv and Shapiro-Wilk normality tests. In kolmogorov- smirnov test, if the tests of normality yields a figure of less than 0.05 it means that the data is not normally distributed but for Shapiro-wilk if the figure was less than 0.05 then the data were normally distributed.

3.9.5 Factor Analysis

According to Shenoy and Madan (2000), not all variable factors are statistically important in a research. Factor analysis acts as a gauge of the substantive importance of a given variable to the factor and it was used to identify and remove hidden constructs or variable items that do not meet the objectives of the study and which may not be apparent from direct analysis (Ledesma & Valero-Mora, 2007; David *et al*., 2010). The communalities and eigenvalues were used to indicate the substantive importance of variable factors. A loading value of 0.7 is the rule of thumb and is believed to be satisfactory but due to the seemingly difficulties of meeting the 0.7 criterion a loading of up to 0.4 level is acceptable (Rahim & Magna, 2005) In this study eigenvalues for each variable were extracted using principal component analysis.

3.9.6 Correlation Analysis

Pearson correlation coefficient was used to determine the magnitude and the direction of the relationships between the dependent variable and independent variables. The values of the correlation coefficient are between -1 and +1. A value of 0 implies no relationship, +1 correlation coefficient indicates that the two variables are perfectly correlated in a positive linear sense, that is, both variables increase together while a values of -1 correlation coefficient indicates that two variables are perfectly correlated

in a negative linear sense, that is, one variable increases as the other decreases (Collis & Roger, 2013; Neuman, 2006; Sekeran, 2008; Kothari, 2012). The purpose for the Pearson's correlation coefficient was to establish the magnitude and direction of the relationship between each independent variable with the individual parameters measuring access of finance by SMEs that is, information asymmetry, collateral requirements, lending relationship and credit restriction. Correlation coefficient was first computed for each independent variable and the dependent variable without the moderating variable and all the independent variables and independent variable without the moderating variable. The results of the coefficient of correlation with and without the moderating variable were compared in order to test for the effects of the moderating variable. The correlation strengths were interpreted using Cohen and Cleveland (2013) decision rules where 0.1 to 0.3 indicated weak correlation, 0.31 to 0.5 indicated moderate correlation strength and greater than 0.5 indicated a strong correlation between the variables. The decision rule has been used by Nguyen and Quynh (2011) in their study of determination of the correlation between customer attitude towards consumer issues and expectations on government intervention.

3.9.7 Regression Analysis

Regression analysis is a measure of the ability of independent variable(s) to predict an outcome of a dependent variable where there is a linear relationship between them. In this study regression analysis was done to establish whether independent variables predicted the dependent variable. The R square, t-tests and F-tests and Analysis of Variances (ANOVA) tests were all generated by SPSS to test the significant of the relationship between the variables under the study and establish the extent to which the predictor variables explained the variation in dependent variable. Hierarchical Moderated Multiple Regression model was also used to determine the effect of the moderating variable (credit guarantee schemes) on the whole model where the R2 values with and without the moderating variable were compared (Brace, Kemp & Snelgar, 2012). The research hypotheses were tested using the p value approach at

95% confidence level based on linear regression analysis output produced by SPSS. The decision rules were that the null hypothesis should be rejected if the calculated p-value is less than the significant level (0.05); and accepted if the calculated p-value was greater than the significance level (0.05). The significance of the independent variables was tested using F test and p value approaches. The decision rules were to reject the null hypotheses that the effect of independent variable(s) was insignificant if the computed F value exceeds the critical F value or if the P value was less critical value of 0.05.

The study had five objectives where five research hypotheses were identified. In the first four objectives, the study wanted to examine the effects of financial market failure constraints on access to finance by SMEs in Kenya where the following simple regression model was used:

$Y = \beta_{oi} + \beta_i X_i + e_i$…… .....Equation 3.3

Where;

i =1,2,3,4

β_{oi} is the intercept of the variable Y

β_i is the the slope or gradient of the regression line which explains the manner in which Y relates with X_i

e_i is the error term.

In this study, access to finance by SMEs in Kenya was the dependent variable (Y) and market failure constraints were the independent variables (Xi). Since the study had four independent variables a simple linear regression model was used for each of them. The results for equation 3.3 indicated whether each individual market failure constraint had a significant relationship with access to finance by SMEs in Kenya. Multiple linear regression analysis was used to establish the combined relationship between all

independent variables and dependent variable. Equation 3.4 presented the results for regression analysis of all the independent variables on dependent variable.

$Y = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$ …….....Equation 3.4

Where,

Y= Access to finance by Small and Medium Enterprises

X_1 = Information Asymmetry

X_2 = Collateral Requirements

X_3 = Lending relationship

X_4 = Credit Restriction

The moderation effects of Credit Guarantee Schemes were tested using the hierarchical Moderated Multiple Regression (MMR) analysis. Cohen, West and Aiken (2014) reported that the MMR approach involves the addition of interaction effects to a multiple regression model by comparing two different least squares regression equations. The dependent variable was regressed with cross product of each independent variable and CGS to test for the interaction effects. Using the MMR analysis, the moderating effect of CGS was analyzed by interpreting the R^2 change in the models obtained from the model summaries and the regressions coefficients for the product term obtained from the coefficients.

The moderation effects on market failure constraints was tested using equation 3.5 where the combined relationship between the independent variables X_1*Z, X_2*Z, X_3*Z and X_4*Z and dependent variable access to finance by SMEs was tested (Baron & Kenny, 1986).

$Y = \beta_o + \beta_1 X_1 *Z + \beta_2 X_2 *Z + \beta_3 X_3 *Z + \beta_4 X_4 *Z + e$.....Equation 3.5

Where,

Y= Access to finance by Small and Medium Enterprises

X_1 = Information Asymmetry

X_2 = Collateral Requirements

X_3 = Lending relationship

X_4 = Credit Restriction

Z = Credit Guarantee schemes (moderating variable)

β_o is constant (Y- intercept) which is the value of dependent valuable when all the independent variables are zero

β_1, β_2, β_3 and β_4 are regression constants or the rate of change induced by X_1*Z, X_2*Z, X_3*Z and X_4*Z on Y.

e is the standard error term.

The SPSS was used to generate the exact values of β_1, β_2, β_3 and β_4. The results for equation 3.5 indicated whether there was any moderating effect of CGS on the market failure constraints. The condition for rejecting the null hypothesis was a computed p value which was less than 0.05. The magnitude of moderation effect was shown by the change in R^2 in the model summary.

3.9.8 Variable definition and Measurement

The independent variables for the study were information asymmetry, collateral requirements, lending relationship and credit Restriction while the dependent variable was aaccess to finance by Small and Medium Enterprises in Kenya. The study also had a moderating variable, which was Credit Guarantee Schemes. Information asymmetry

was measured by the availability, accuracy, adequacy, cost, skills to prepare and the fear the SMEs may be having in providing the information required by the banks. Collateral requirements was measured by security requirements by the banks, unavailability of assets as collateral and the fear the SMEs have in giving out their assets as security. Lending relationship was measured by changes in loan size, cost and loan processing period and the period the SME has operated a bank account in one bank. Credit restriction was measured by the reasons why the loans applications were not granted in full such inadequate collateral, lack of enough information and poor lending relationship.

The moderating variable, Credit Guarantee Schemes was measured by changes in information required by the banks, collateral requirements, lending relationship, loan size, loan cost and the processing period when the SMEs apply loans through Credit Guarantee Schemes Access to finance was measured in terms of higher availability of external finances as supported by Becchetti and Trovato (2002), quick access to finance, flexible terms, convenient credit periods; affordability and convenience of access to finance. A Likert scale of 1-5 was used to measure the variables of the study, with 5= Strongly agree, 4= Agree, 3= Neutral, 2= Disagree and 1=Strongly Disagree.

3.9.9 Tests of the hypothesis

The hypotheses of the study were tested using various analyses as shown in Table 3.2.

Table 3.2: Hypotheses tests

Objective	Hypothesis	Analysis tests	Interpretation
To examine the effects of information asymmetry on access to finance by SMEs in Kenya	H_0: There is no significant effect of information asymmetry on access to finance by SMEs in Kenya	Pearson correlation Linear regression analysis	If p value is less than 0.05 reject null hypothesis If p value is greater than 0.05 fail to reject the null hypothesis.
To evaluate the effects of collateral requirement on access to finance by SMEs in Kenya.	H_0: There is no significant effect requirement on access to finance by SMEs in Kenya.	Pearson correlation Linear regression analysis	If p value is less than 0.05 reject null hypothesis If p value is greater than 0.05 fail to reject the null hypothesis
To assess the effects of lending relationship on access to finance by SMEs in Kenya.	H_0: There is no significant effect lending relationship on access to finance by SMEs in Kenya.	Pearson correlation Linear regression analysis	If p value is less than 0.05 reject null hypothesis If p value is greater than 0.05 fail to reject the null hypothesis
To analyse the effects of credit restriction on access to finance by SMEs in Kenya.	H_0: There is no significant effect of credit restriction on access to finance by SMEs in Kenya.	Pearson correlation Moderated multiple regression analysis	If p value is less than 0.05 reject null hypothesis If p value is greater than 0.05 fail to reject the null
To analyse the moderating effect of CGS on the relationship between financial market failure constraints and access to finance by SMEs in Kenya.	H_0: There is no significant moderating effect of CGS on the relationship between financial market failure constraints and access to finance by SMEs in Kenya.	Pearson correlation Moderated multiple regression analysis	If p value is less than 0.05 reject null hypothesis If p value is greater than 0.05 fail to reject the null

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results and discussion of the study findings, that is the analysis and findings of the study as set out in the research methodology. The chapter starts with the response rate of the respondents, results of the pilot study, background of the respondents, descriptive analysis of the variables, conditional test for multiple linear regressions, correlation and regression analysis of the variables without the moderating variable and finally correlation and regression analysis of the variables with the moderating variable. The study sought to establish the effects of market failure constraints on access to finance by small and medium enterprises in Kenya. Data presentation in this chapter is based on the specific objectives of the study, that is to examine the effects of information asymmetry on access to finance by SMEs in Kenya; to evaluate the effects of collateral requirement on access to finance by SMEs in Kenya; to assess the effects of lending relationship on access to finance by SMEs in Kenya; to analyse the effects of credit restriction on access to finance by SMEs in Kenya; to find out the moderating effect of CGS on the relationship between the financial market failure constraints and access to finance by SMEs in Kenya.

4.2 Response Rate

The sample population composed of 384 SMEs who had applied loans from Equity bank, Co-operative bank and Kenya Commercial bank within the last two years (2014-2015). The sample units were 288 owners of small enterprise and 96 owners of medium enterprises. The results of the questionnaires that were returned are shown in Table 4.1.

Table 4.1: Response Rate

Sub-sectors	Sample size	Response in numbers	Percent Response
Small enterprises	288	232	80.56
Medium enterprises	96	80	83.33
Total	**384**	**312**	**81.25**

Out of 288 questionnaires distributed to the owners of small enterprises, 232 of them were returned; out of 96 questionnaires distributed to owners of medium enterprises 80 of them were returned. This constitutes 80.56% and 83.33% respectively of response which far exceed 70% suggested by Mugenda and Mugenda (2003) as very good. It also concurs with Kothari (2012) who rated any response rate above 70% as excellent. According to Babbie and Mouton (2002) a response rate of above 50% is adequate for analysis thus a response rate of 81.25% % in this study was considered adequate.

4.3 Results of the Pilot Study

Pilot test of the study was carried out prior to implementation of the study to ensure that the questionnaires measured what was intended (Cooper and Schindler, 2010). The results of the pilot study are shown in Table 4.2.

Table 4.2: Reliability Test Statistics

Constructs	Cronbach's Alpha	No. of Items
Collateral requirements	0.988	4
Lending Relationship	0.992	5
Credit Restriction	0.989	3
Credit Guarantee Schemes	0.995	6
Access to Finance	0.996	6

Reliability Test was done where Cronbach's Coefficient Alpha was used. According to Kline (1999) a value of 0.8 is generally acceptable for cognitive test as an indicator of reliability. For social-science constructs values below 0.7 can be expected because of the diversity of the construct being measured (Kline, 1999). The items on each of the variables in the questionnaire were subjected to Cronbach's Coefficient Alpha test of all the items were found to be reliable for measurement because the reliability coefficient were found to be above the recommended threshold of 0.7 (Kline, 1999) as indicated in Table 4.2.

Validity test was done to ensure that the degree with which a measurement procedure or a questionnaire measures the characteristic it is intended to measure (Lewis, 1999). These include, content, construct, and criterion validity (Orotho, 2009). Content validity was done by designing the questionnaires according to the study variables and their respective indicators of measurement; construct validity, was done through restricting the questions to the conceptualizations of the variables and ensuring that the indicators of a particular variable fall within the same construct.

4.4 Background of the respondents

The study considered age, gender, type of business, number of employees, value of the business, sources of finance, status of loan applied and reasons for the rejection of the loan of the respondents. The respondents' characteristics (age, gender, experience earnings) are relevant to the study so that there could be comparison between the findings of the study done by Diaz-Serrano & Sackey (2015) who argued that credit rationing behaviour of the banks is influenced by both borrower's characteristics and firm's characteristics.

4.4.1 Respondents Age

Respondents ages findings were presented in Table 4.3.

Table 4.3: Ages of the SMEs Owners

	Frequency	**Percent**
Below 30 years	18	5.8
31-40 years	25	8.0
41-50 years	46	14.7
51-60 years	87	27.9
61-70 years	105	33.7
71 years and above	31	9.9
Total	**312**	**100.0**

The researcher found out that the age of the respondents who were below 30 years were 5.8%, between 31 and 40 years were 8.0%, between 41 to 50 years 14.7%, between 51 to 60 years 27.9%, between 61 to 70 years 33.7% and those above 70 years were 9.9%. The majority of respondents were between the ages of 51-60 (27.9%) and 61-70 (33.7%) years. At this age people are able to identify their line of self-employment after working in formal employment for some time and are therefore in a

position to choose their form of self-employment. The study showed that only 9.9% are above 70 years which is an indication that after starting a business the owners still retire from the management and leave it to their children. The majority (61.6%) of the respondents' age ranged from 51 years to 70 years as shown in Table 4.3. This could be expected because this is the age most people are preparing to retire or have retired from formal employment and ventured into business. The results show that 5.8% of the respondents were aged below 30 years implying that most people at this age have not yet decided to start their own businesses either because of lack of information or finances. Ngugi (2014) in his study found out that most the SMEs owners are in the age brackets of between 36 to 55 years, which was also supported by this study which revealed that most of the SMEs owners (50.6%) are in the age brackets of between 31 years to 60 years. The findings are in line with Bass (2005) who found that age brings along experiences, responsibilities and skills, which is relevant for the study because it reveals how old is the respondents, which determines the credit period. This is also in line with the study which was done by Okurut *et al.* (2011) which revealed that age is a determinant of the amount of a loan granted to the applicant. This is also in line with the study done by Okurut *et al.* (2011) which revealed that age is a measure individual observable characteristics and it determinants the amount of a loan granted to the applicant

4.4.2 Respondents Gender

The findings on the respondent's gender were presented in Table 4.4. Gender of the respondents is important for the study because it determines the ability of the borrower to repay the loan granted (Okurut *et al*., 2011).

Table 4.4: Gender of the Respondents

	Frequency	Percent
Male	216	69.2
Female	96	30.8
Total	**312**	**100.0**

The results in Table 4.4 show that out of the 312 respondents, 216 (69.2%) were males while 83 (30.8%) were females. This indicates that both genders were represented in the study although the males were more than the females but however gender biasness was avoided. This revealed that many SMEs are owned and run by the male which may be attributed to the male domineering culture in Kenya where women are expected to deal with domestic chores and not serious businesses and the prejudicial treatment of women regarding property rights which limits women's access to collateral security for bank credit (Stevenson & St-Onge, 2005). Women have limited access to sources of capital, which include their savings, money from family and credit guarantee schemes hence a hindrance to starting businesses. The results of the study are in line with Wanjau, Gakure and Kahiri (2012) findings who found that 70% of the SMEs are owned and managed by men.

4.4.3 Types of Business operated by the respondents

The results of the types of business operated by the respondents were presented in Table 4.5.

Table 4.5: Types of businesses

Type of business	Frequency	Percent
Manufacturing	25	8.0
Processing	47	15.1
Service Provider	95	30.4
General Trade	98	31.4
Others	47	15.1
Total	**312**	**100.0**

The results indicate that majority of the respondents were in general (31.4%) and providing services (30.4%). The minority 8.0% and 15.1% were involved in manufacturing and processing respectively. The results revealed that majority of the SMEs (31.4%) were in the general trade business because with general trade the owners need not to possess specific skills other than the general business skills. This is also attributed to the fact that general trade needs lower start-up capital than other types of business thereby making entry into the business. The type of business was significant in this study because it was an indicator of the business types operated by SMEs which affects their access to finance. The study found out that most the SMEs (31.4%) operates a general business trade which is in line with Ngugi (2014) findings who found that most of the SMEs were in general trade which was the largest percentage in comparison to other types of businesses. The findings are also supported by Saleh and Ndubisi (2006) who in their study in Malaysia found that most of the SMEs (52%) were in the services sector, (32%) were in the general trade, followed by manufacturing and

processing which only accounted for 16%. Hence the study concluded that most SMEs operates general trade which requires small amount of capital because they are unable to aces more funds from the banks.

4.4.4 The number of employees

The results in Table 4.6 show the ranges of the number of employees of the SMEs.

Table 4.6: The number of employees

	Frequency	Percent
10 and Below	125	40.1
11-50	107	34.3
51-100	35	11.2
101-150	24	7.7
Above 150	21	6.7
Total	**312**	**100.0**

The study found out that the SMEs who had 10 employees and below were 40.1%, between 11 and 500 employees were 34.3%, between 51 and 100 employees 11.2%, between 101 and 150 employees were 7.7%, and those with above 150 employees were 6.7%. The number of employees was significant in this study because it was an indicator of the sampled Small and Medium enterprises. According to Petrakis and Kostis (2015) Small enterprises comprises of the firms with 50 employees and below, while Medium enterprises are the ones with more than 50 employees. Table 4.6 shows that the enterprises with 50 employees and below were 232 (74.4%) and the rest 80 (25.6) enterprises had more than 50 employees. This was used to compute the percentage response rate as per each stratum. This shows that the study was able to sample enough representation from both small and medium enterprises that is the sample used was able to represent both small and medium enterprises without any biasedness.

4.4.5 The Annual Turnover of the Business

The annual turnovers of the businesses operated by the respondents were represented in Table 4.7.

Table 4.7: The Annual Turnover of the SMEs

	Frequency	Percent
Below Kshs 500,000	127	40.7
Kshs 500,001-5 million	105	33.7
Above Kshs 5 million	80	25.6
Total	**312**	**100.0**

The study findings showed that 40.7% of the SMEs had a turnover of below Shs 500,000, 33.7% had a turnover of between Shs 500,000 and 5 million and 25.6% had a turnover of above Shs 5 million. This is presented in Table 4.7. The annual turnover was significant in this study because it was an indicator of the size of the enterprise (Petrakis and Kostis, 2015). Microenterprises are the ones with annual turnover of below Shs 500,000 which were 127 (40.7%) in this study, small enterprises have annual turnover of between Shs 500,000 and 5 million were 104 (33.3%) medium enterprises which have annual turnover of above Shs 5 million which were 81 (26.0%) in this study (Petrakis & Kostis, 2015). This shows that 232 respondents represented the owners of small enterprises while 80 respondents represented the owners of medium enterprises, this is in agreement with the data on the number of employees as shown in Table 4.6 which had shown that 232 enterprises represented small enterprises and 80 enterprises were medium enterprises. The study found out that majority of the SMEs annual turnover was below Kshs 500,000 which is an indication that most of them are new thus unable to provide information on their creditworthiness. This is in line with Kenya's SMEs Act (2012) which defines micro enterprises as the ones with a turnover not exceeding KSh500,000, small enterprises as the one with

between Kshs 500,000 and Kshs 5 million and medium enterprises as the ones with a turnover of above KSh5 million. Thus the respondents were composed of 127 micro enterprise owners, 105 small enterprise owners and 80 medium enterprise owners.

4.4.6 The Source of Business finance

The major sources of business finance of the respondents were represented in Table 4.8.

Table 4.8: The Source of Business finance

Source of Finance	Frequency	Percent
Own saving only	83	26.6
Business earnings only	77	24.7
Banks loan only	43	13.8
Informal groups only	69	22.1
Combination of sources	40	12.8
Total	**312**	**100.0**

The study found that the source of finance of 26.6% SMEs was owners saving, 24.7% was retained business earnings, 13.8% was bank loans, 22.1% was loans from informal groups and 12.8% was from several sources. The implication of this is that most SMEs were unable to access bank loans because the study found out that only 43 (13.8%) were able to use bank loans as a source of their finances.

4.4.7 The Status of the Recent loan applied

The results of the status of the recently applied loan by the respondents were represented in Table 4.9.

Table 4.9: The Status of the Loans by SMEs in Between 2014 and 2015

Loan Status	Frequency	Percent
Granted full amount	131	42.0
Loan application was rejected	89	28.5
Given less than what applied for	92	29.5
Total	**312**	**100.0**

The study findings showed that 42.0% of the recent loans applied by SMEs were granted in full, 28.5% were rejected and 29.5% were rationed. This implies that most (58%) of the SMEs applications were either rejected or not granted in full, which indicates that the SMEs experience difficulties in accessing finance. This is in line with the findings of Nigrini and Schoombee (2002) who found that most of the loans of the SMEs in South Africa were either rejected or rationed when the is no Credit Guarantee Scheme.

4.4.8 The Reasons for not applying bank loan by SMEs

The study sought to find out the difficulties which make the SMEs not to apply the bank loans, the findings were represented in Table 4.10.

Table 4.10: The Reasons for not applying Bank Loans

	Frequency	Percent
Bank loan is expensive	58	18.6
Acquiring a bank loan takes a long time	67	21.5
Difficulties in meeting conditions set by the banks	157	50.3
Others difficulties	30	9.6
Total	**312**	**100.0**

The study found out that 18.6% of the owners of the SMEs were unwilling to take bank loans because they are expensive, 21.5% said the bank loans takes more time to be processed, 50.3% said that they were unable to meet the conditions set by the banks and 9.6% experienced several other difficulties. This shows that most of the SMEs (50.3%) were having difficulties in meeting the conditions set by the bank. This implies that most the SMEs have difficulties in accessing finance from the banks, thus most of their finances is from the informal groups. This is supported by FSD (2013) who found that most of the SMEs got their credit from the informal groups followed by formal non-prudential institutions.

4.5 Descriptive Analysis

The study sought to establish the effects of information asymmetry, collateral requirements, lending relationship and credit restriction on access to finance by small and medium enterprises in Kenya, and the moderating effect of Credit Guarantee Schemes on the relationship between the independent variables and the dependent

variable. Descriptive statistics were computed using SSPS version 22 to reduce the large amount of data to manageable levels for easy understanding and interpretation (Kent, 2001). This section provides descriptive statistics (means and percentages) on independent, dependent and moderating variables.

4.5.1 Effects of Information Asymmetry on Access to Finance

The study sought to examine the effects of information asymmetry on access to finance by SMEs in Kenya, the respondents were supposed to indicate the information provided to the banks when applying for a loan and the results were presented in Table 4.11 shows the documents provided by the SMEs when applying for a loan and the results of the loan status.

Table 4.11: The Information Provided by the SMEs

			Access to Finance					
	SMEs with Documents		**Full Amount**		**Loan Rejected**		**Loan Rationed**	
Documents	F	%	F	%	F	%	F	%
Business earning	39	12.5	17	5.4	10	3.2	12	3.8
Business assets	65	20.8	25	8.0	24	7.7	16	5.1
Daily records of sales and purchase	41	13.1	19	6.1	13	4.2	9	2.9
Years of business existence	37	11.9	18	5.8	8	2.6	11	3.5
Ownership documents	47	15.1	19	6.1	12	3.8	16	5.1
Business registration documents	32	10.3	14	4.5	8	2.6	10	3.2
Tax payment certificate	27	8.7	13	4.2	6	1.9	8	2.6
Purpose of the loan	24	7.7	6	1.9	8	2.6	10	3.2
Total	**312**	**100**	**131**	**42.0**	**89**	**28.5**	**92**	**29.5**

The results in Table 4.11 show that 12.5% of the respondents indicated that they provided information on business earnings, out of which 5.4% of them were granted full amount,3.2% their applications were rejected and 3.8% were not granted full amount. The SMEs who provided information on business assets were 20.8%, of whom

8.0% of them were granted full amount,7.7% their applications were rejected and 5.1% were not granted full amount. 13.1% of the respondents provided information on daily records of sales and purchases, of which 6.1% of them were granted full amount,4.2% their applications were rejected and 2.9% were not granted full amount. The SMEs who provided information on years of business existence were 11.9%, of whom 5.8% of them were granted full amount,2.6% their applications were rejected and 3.5% were not granted full amount. 15.1% of the respondents provided information on business ownership documents, of which 6.1% of them were granted full amount,3.8% their applications were rejected and 5.1% were not granted full amount. The SMEs who provided business registration documents were 10.3%, of whom 4.5% of them were granted full amount, 2.6% their applications were rejected and 3.2% were not granted full amount. The SMEs who provided business registration documents were 8.7%, of whom 4.2% of them were granted full amount, 1.9% their applications were rejected and 2.6% were not granted full amount. 7.7% of the respondents provided other types of documents, of which 1.9% of them were granted full amount, 2.8% their applications were rejected and 3.2% were not granted full amount. This shows that majority of the banks (20.8%) requires information on business assets followed by ownership documents (15.1%). This information is the most difficult to be provided by SMEs as shown in Table 4.12. The study found out that the banks requires all the information about the SMEs in order to lend to them. This is further explained by the fact that most the SMEs who provided the information were granted full amounts. This is supported by Chikomba, Dube and Tsekea (2013) who found out that the SMEs who are able to provide the required documents by the banks were granted full amounts of the loans they applied in Zimbabwe.

The respondents were supposed to indicate out of the information required by the banks when applying for a loan, the ones they find difficult or impossible to provide and the results were presented in Table 4.12.

Table 4.12: The information most difficult to provide to Banks

	Frequency	Percent
Business earning	28	9.0
Business assets	67	21.5
Daily records of sales and purchase	32	10.3
Years of business existence	31	9.9
Ownership documents	63	20.2
Business registration documents	25	8.0
Tax payment certificate	26	8.3
Purpose for the loan	23	7.4
Others	17	5.4
Total	**312**	**100.0**

The results in Table 4.12 show that 9.0% of the respondents indicated that information on business earnings is the most difficult to provide, 21.5% information on business assets, 10.3% information on daily records of sales and purchases, 9.9% information on years of business existence, 20.2% information on business ownership 8.0% information on business registration 8.3% information on tax payment 7.4% information on the purpose of the loan and 5.4% other information. This shows that majority of the SMEs (21.5%) finds it most difficult to provide information on business assets followed by ownership documents (20.2%) and this is most information required by the banks as shown in Table 4.10, in order to grant loans to SMEs, thus most of them are unable to acquire loans from banks. The study found out that the SMEs had difficult in providing all the information required by the banks. This is in line with the findings

of a study by Calice *et al*. (2012) who investigated the obstacle to the development of SME lending in Kenya and found out that majority of banks in the Kenya (88 percent) considered lack of adequate information as the most important deterrent to their lending to SMEs. Also the study done by Beck *et al*. (2008) in Tanzania, the banks cited the lack of information as the biggest hindrance to SMEs lending. According to most Tanzanian banks, the quality of information provided by SMEs was the significant obstacle to their dealings with SMEs in lending (Beck *et al*., 2008). The respondents were supposed to indicate the reasons why they find it difficult to provide the information required by the banks when applying for a loan the results were presented in Table 4.13.

Table 4.13: The Reasons for the Difficult in Providing Information by SMEs

	Frequency	**Percent**
The cost of preparing the information is very high	62	19.9
The information is not accurate	57	18.3
The information is not enough	47	15.1
No documents for most of theassets	54	17.3
No skills to prepare the financial documents	49	15.7
Fear of providing business information since competitors might exploit it	43	13.8
Total	**312**	**100.0**

The results in Table 4.13 show that 19.9% of the respondents indicated that the major reason of the not providing the required information is that the cost of preparing the information is very high, 18.3% the information they have is not accurate, 15.1% information they have is not enough, 17.3% do not have documents for most of their assets, 15.7% do not have skills to prepare the financial statements and 13.8% are afraid of providing business information because their competitors might exploit it. The

descriptive statistics of respondents' response on the effects of information asymmetry on access to finance by SMEs in Kenya is shown in Table 4.14. The findings of the study are supported by Mthimkhulu and Aziakpono (2012) who in their study found out that SMEs present significant information gaps which is caused by the lack of reliable and accurate financial information, business and operational plans and critical business and financial skills which limits the ability of banks to assess the credit-worthiness of individual SME borrowers.

Table 4.14: Descriptive Statistics on Information Asymmetry (in percentages)

Statements	**Strongly Disagree**	**Disagree**	**Somehow Agree**	**Agree**	**Strongly Agree**	**Mean**
Failure to provide business information due to high cost negatively affect access to finance	6.7	10.3	16.7	33.0	33.3	3.76
In accurate information negatively affect access to finance	3.8	5.8	25.3	32.4	32.7	3.84
Inadequate information negatively affects access to finance	4.8	9.6	17.3	34.6	33.7	3.83
Lack of documentation for most of the assets negatively affect my access to finance	6.4	10.3	15.4	34.3	33.7	3.79
Failure to provide information due to lack of skills to prepare the financial documents negatively affect access to finance	5.8	6.7	20.5	30.8	36.2	3.85
Fear of providing business information due to competitors	3.8	5.8	10.9	39.1	40.4	4.06

The study sought to establish the effects of information asymmetry on access to finance by SMEs in Kenya. The results in this study revealed significant relationship between information asymmetry and access to finance by SMEs as shown in Table 4.14 in which 66.3% of the respondents agreed and strongly agreed that failure to provide business information due to high cost negatively affect the access to finance while 17.0 % disagreed and 16.7% were not sure of the relationship. The mean score of the responses was 3.76 which indicate that majority of the respondents agreed with the statement on the assertion that failure to provide business information due to high cost negatively affect the access to finance.

The respondents were required to indicate whether inaccurate information negatively affect their access to finance and 65.1% strongly agreed and agreed while only 9.6% disagreed and 25.3% did not take any position. The mean score of the responses was 3.84 which indicate that majority of the respondents agreed with the statement on the assertion that inaccurate information negatively affect their access to finance. On average 68.3% of the respondents agreed that inadequate information negatively affects their access to finance while 14.4% disagreed and 17.3% took a neutral position showing that a sizeable number of the respondents did not have adequate information to provide to the bank in order to access finance. The mean score of the responses was 3.83which indicate that majority of the respondents agreed with the statements on the assertion that inadequate information negatively affects their access to finance. 16.7% of the respondents disagreed with the statement that lack of documentation for most of the assets negatively affect my access to finance while 67.9% agreed and 15.4% took a neutral position. The mean score of the responses was 3.79 which indicate that majority of the respondents agreed with the statements on the assertion that lack of documentation for most of the assets negatively affect my access to finance

Majority of the respondents agreed that failure to provide information due to lack of skills to prepare the financial documents negatively affect their access to finance that is 67.0 % of the respondents agreed with the statement 12.5% of the respondents

disagreed and 20.5% took a neutral position. The mean score of the responses was 3.85 which indicate that majority of the respondents agreed with the statement on the assertion that failure to provide information due to lack of skills to prepare the financial documents negatively affect their access to finance. Also 79.5% of the respondents strongly agreed and agreed that they had fear of providing business information due to competitors, 9.6% of the respondents disagreed while 10.9% took neutral position. The mean score of the responses was 4.06 which indicate that majority of the respondents agreed with the statements on the assertion that they had fear of providing business information due to competitors.

4.5.2 Effects of Collateral Requirements on Access to Finance

The study sought to examine the effects of collateral requirements on access to finance by SMEs in Kenya and the respondents were supposed to indicate whether the banks requires collateral when applying for a loan and the results were presented in Table 4.15.

Table 4.15: Descriptive Statistics on Collateral Requirements

	Frequency	Percent
The bank requires collateral	257	82.4
The bank does not require collateral	55	17.6
Total	**312**	**100.0**

The results in Table 4.15 show that 82.4% of the respondents indicated that bank requires collateral when a SME is applying for a loan while only 17.6% of the respondents indicated that the banks does not require a collateral. The study found that in order for banks to grant loans to SMEs they require the collateral which shows that there is a relationship between collateral requirement and access to finance by SMEs in Kenya. This is in line with the study done by Calice *et al*. (2012) who found that ninety-

four percent of the banks in the sample demanded collateral from their SME borrowers. The results are supported by the study done by Barbosa and Moraes (2004) who concluded that when collateral requirements are in place this the borrower may not divert funds towards private use or extract the surplus from the project since that sort of action would increase the chance of losing the assets pledged as collateral. The results are also supported by Coco (2000) who found out that collateral can solve problems derived from asymmetries in valuation of projects, uncertainty about the quality of projects and the riskiness of borrowers, and problems related to the cost of monitoring or supervising borrowers' behaviour. The findings are in line with Anyieni (2014) who found that ninety-four percent of the banks in the sample demanded collateral from their SME borrowers.

The respondents were supposed to indicate the security required by banks when applying for a loan and the results were presented in Table 4.16.

Table 4.16: Descriptive Statistics on the Collateral Required by Banks

	Access to Finance							
	SMEs with Collateral		**Full Amount**		**Loan Rejected**		**Loan Rationed**	
Collateral Required	F	%	F	%	F	%	F	%
Land title deed	92	29.5	45	14.4	23	7.4	24	7.7
Car log book	87	27.9	34	10.9	32	10.3	21	6.7
Business assets (Machines, buildings)	77	24.7	27	8.7	25	8.0	25	8.0
Others	56	17.9	25	8.0	9	2.9	22	7.1
Total	312	100.0	131	42.0	89	28.5	92	29.5

The results in Table.4.16 shows that 29.5% of the respondents provided land title deed as collateral out of which 14.4% of them were granted full amount,7.4% their applications were rejected and 7.7% were not granted full amount. Eighty seven SMEs

(27.9%) provided car log book as collateral, of which 10.9% of them were granted full amount, 10.3% their applications were rejected and 6.7% were not granted full amount. The results indicate that 24.7% of the respondents provided business assets as collateral of which 8.7% of them were granted full amount, 8.0% their applications were rejected and also 8.0% were not granted full amount. Table 4.16 shows that 17.9% of the SMEs provide other types of collateral of which 8.0% of the applications were granted full amount, 2.9% of the applications were rejected and 7.1% were not granted full amount. This shows that the major types of collateral required by the banks are land title deed, car log books and business assets of which it is difficult for SMEs to provide as shown in Table 4.17. Thus the study found out that the collateral requirements is compulsory for the SMEs to acquire credit; hence there is a relationship between collateral requirements and access to finance by SMEs in Kenya. The results are in line with the study done by Calice *et al*. (2012) who found out that the collateral requirements for SME loans are higher than for consumer loans, because SMEs' credit risk is usually more difficult to evaluate. The results are supported by the study done by Kihimbo *et al*. (2012) who found out that the personal bank account details and land title deed documents were significant collateral requirements required by banks from the SMEs.

Table 4.17: Descriptive Statistics on the Difficulties in Providing Collateral

	Frequency	**Percent**
Fear of providing assets as collateral	101	32.4
The assets are not enough for collateral	91	29.2
Providing assets as security hinders the use of such assets for other purpose	63	20.2
The assets are not accepted by banks as collateral	57	18.3
Total	**312**	**100.0**

The results shown in Table 4.17 indicates that majority of the respondents (32.4%) indicated that they do not have assets to provide as collateral, 29.2% indicated that they have assets but they are not enough to be provided as collateral, 20.2% indicated that providing business assets as security hinders the use of such assets for other purposes while 18.3% indicated that the assets they assets they have are not accepted by banks as collateral. The findings of the study are supported by Berger *et al*. (2011) who in their study found that the SMEs considered the opportunity costs of the assets, that otherwise would have been used more productively elsewhere instead of being tied up as collateral. The results are in line with the study done by Mullei and Bokea (2000) who found out that, clients with little or no resources to provide for as collateral are denied financing by the lenders.

Table 4.18: Descriptive Statistics on Collateral Requirements (in percentages)

	Strongly Disagree	**Disagree**	**Somehow Agree**	**Agree**	**Strongly Agree**	**Mean**
The high Collateral requirements negatively affect access to finance	3.8	6.1	11.9	39.7	38.5	4.03
Fear of to tying assets by giving them as collateral makes it difficult to access to finance	5.8	6.7	13.5	36.2	37.8	3.94
Lack of collateral negatively affect access to finance	9.9	5.8	17.0	33.7	33.7	3.75
Unacceptability of assets as collateral negatively affect access to finance	4.8	9.0	16.0	33.3	36.9	3.88

The study sought to establish the effects of collateral requirement on access to finance by SMEs in Kenya. The descriptive statistics of respondents' opinions on the relationship between collateral requirements and access to finance by SMEs in Kenya is shown in Table 4.18. The results in this study revealed significant relationship between collateral requirement and access to finance by SMEs. The study revealed that 78.2% of the respondents agreed and strongly agreed that the high collateral requirements negatively affect their access to finance while 9.9 % disagreed and 11.9% were neutral. The mean score of the responses was 4.03 which indicate that majority of the respondents agreed with the statement on the assertion that the high collateral requirements negatively affect their access to finance. The respondents were required to indicate whether they feared to tie their assets by giving them as collateral in order to access to finance and 74.0% strongly agreed and agreed while only 12.5% disagreed and 13.5% did not take any position. The mean score of the responses was 3.94 which indicate that majority of the respondents agreed with the statement on the assertion that they do not want to tie their assets by giving them as collateral to access to finance.

Majority of the respondents (67.3%) agreed that lack of collateral negatively affect their access to finance while 15.7% disagreed and 17.0% took a neutral position showing that a sizeable number of the respondents did not have collateral to provide to the bank in order to access finance. The mean score of the responses was 3.75 which indicate that majority of the respondents agreed with the statements on the assertion that their lack of collateral negatively affect their access to finance, that lack of documentation for most of the assets negatively affect my access to finance. Majority of the respondents (70.2%) agreed that unacceptability of their assets as collateral negatively affect their access to finance while 13.8% of the respondents disagreed and 16.0% took a neutral position. The mean score of the responses was 3.88 which indicate that majority of the respondents agreed with the statement on the assertion that unacceptability of their assets as collateral negatively affect their access to finance. The study found that collateral requirements negatively affect the access to finance by

SMEs in Kenya which is supported by Inderst & Mueller (2007) who in their study found that the inclusion of collateral in a loan is costly for the lenders as well as for the borrowers where for the lenders, costs arise in valuing and screening collateral and in the event of repossession and for the borrowers it might occasion opportunity costs as assets are tied up by the banks.

4.5.3 Effects of Lending Relationship on Access to Finance

The study sought to examine the effects of lending relationship on access to finance by SMEs in Kenya and the descriptive statistics are presented in tables. Table 4.19 shows period the SMEs have operated with the current bank and the status of the recent loan they had applied.

Table 4.19: Period with one bank and status of the recent loan application

		Access to Finance					
		Full Amount		Loan Rejected		Loan Rationed	
Period in one bank	**SMEs**						
	F	%	F	%	F	%	F	%
Less than 5 years	128	41.0	20	6.4	51	16.3	57	18.3
5-10years	95	30.4	32	10.3	35	11.2	28	9.0
11-15 years	47	15.1	39	12.5	3	1.0	5	1.6
above 15 years	42	13.5	40	12.8	0	0.0	2	0.6
Total	**312**	**100**	**131**	**42.0**	**89**	**28.5**	**92**	**29.5**

The results in Table 4.19 shows that 41.0% of the respondents indicated that they have been operating with their current bank for less than five years, 6.4%% of them were granted full amount,16.3% their applications were rejected and 18.3% were not granted full amount. This shows that the longer the SME has operated with one bank

the higher the chance of their loan application being considered. Ninety five SMEs (30.4%) indicated that they have been operating with their current bank for between five years and ten years, 10.3%% of them were granted full amount,11.2% their applications were rejected and 9.0% were not granted full amount. The SMEs who had operated with one bank between eleven years and fifteen years were 15.1% of which 12.5%% of them were granted full amount, 1.0% their applications were rejected and 1.6% were not granted full amount. Table 4.19 shows that only 13.5% of the respondents indicated that they have been operating with their current bank for more than fifteen years, 12.8% of their applications were considered in full, none of their application was rejected and only 0.6% were not granted full amount. This shows that there is a relationship between lending relationship and access to finance by SMEs. The study found that most SMEs have been in their current bank for less than five years which shows that they do not have a good lending relationship with their banks, hence their inability to access credit from the banks. The findings are supported by Kinyua (2013 who found that as number of years in operations in one bank increases the access to finance to SMEs improves.

Table 4.20: Number of loans applied and status of the recent loan application

Number of loans applied	**SMEs**		**Full Amount**		**Loan Rejected**		**Loan Rationed**	
	F	%	F	%	F	%	F	%
Once	111	35.6	10	3.2	45	14.4	56	17.9
Twice	89	28.5	20	6.4	39	12.5	30	9.6
Three times	37	11.9	32	10.3	2	0.6	3	1.0
Four times	34	10.9	32	10.3	2	0.6	0	0.0
Five times	26	8.3	24	7.7	0	0.0	2	0.6
More than five times	15	4.8	13	4.2	1	0.3	1	0.3
Total	**312**	**100**	**131**	**42.0**	**89**	**28.5**	**92**	**29.5**

The results in Table 4.20 show that the majority of the respondents (35.6%) indicated that they have only applied for a loan only once and only 3.2% were granted full amounts and 14.4% of the applications were rejected and 17.9% were not granted full amount which is an indication that most of them do not have a lending relationship with their banks. While 28.5% of the respondents have applied for a loan twice and only 6.4% were granted full amounts and 12.5% of the applications were rejected and 9.6% were not granted full amount. The findings indicate that 11.9% of the respondents have applied for a loan thrice and 10.3% were granted full amounts, 0.6% of the applications were rejected and 1.0% were not granted full amount. Thirty four SMEs (10.9%) had applied for a loan four times and thirty two (10.3%) of them were granted full amounts, 0.6% of the applications were rejected and none of the application was rationed. Twenty six of the respondents (8.3%) had applied for a loan five times and twenty four (7.7%) of them were granted full amounts, none of the application was rejected and only two (0.6%) of the applications were rationed. The results indicate that only fifteen (4.8%) of the respondents had applied for a loan more than five times and thirteen (4.2%) of them were granted full amounts, only one (0.3%) application was rejected and one (0.3%) of the applications were rationed. The study found out that most of the SMEs (35.6%) had applied for a loan only once thus they lack a longer lending relationship with the banks thus most of their applications were either rejected or granted less amount than what they had applied. This is supported by the study by Chakravarty and Shahriar (2010) in Bangladesh who found that borrowers with a longer membership with the bank and those who have a track record of previous loans are more likely to apply for a microloan and to be approved.

Table 4.21: Descriptive Statistics on loans cost comparison

	Frequency	Percent
Costs of the loans were similar	54	26.9
The cost of first loan was higher	113	56.2
The cost of the first loan was lower	34	16.9
Total	**201**	**100.0**

The results in Table 4.20 shows that 111 respondents had applied for a loan only once, thus out of the total 312 respondents 201 are the once who had applied more than one loan hence they can be able to compare the loan costs. The findings on the comparison between the cost of the first loan and the other loan(s) as shown in Table 4.21 revealed that 26.9% indicated the costs of the loans were similar, the majority(36.2%) indicated the cost of the first loan was higher while 16.9% indicated that cost of the first loan was lower. The findings show that as the SMEs apply for more loans the cost reduces. This is in line with the study by Hernandez-Canovas and Martinez-Solano (2007) who found that there is advantage of relationship lending of reducing borrowing costs. The results are supported by the study done by Elsas and Krahnen (2014) who found that even if the cost of gathering information about a borrower may be prohibitively high if borrower and lender transact only once, it can be reduced by repeated transactions. These findings concur with Lehmann and Neuberger (2001) who concluded that each time a bank renews a loan contract, the renewal acts as an acknowledgment of the firm's ability to meet its debt obligation and thus lowers the monitoring cost. The findings are also supported by Ferri and Neuberger (2015) who concluded that a bank's long-term relationships to borrowers may enable a bank to conduct compensatory pricing, thus lowering the cost of the subsequent loans.

Table 4.22: Descriptive Statistics on comparison of the loan(s) size

	Frequency	Percent
Sizes of the loans were similar	53	26.4
The size of first loan was bigger	39	19.4
The size of the first loan was lower	109	54.2
Total	**201**	**100.0**

The results in Table 4.20 shows that 111 respondents had applied for a loan only once, thus out of the total 312 respondents 201 are the once who had applied more than one loan hence they can be able to compare the loan size. The results in Table 4.22 revealed that 26.4% indicated the sizes of the loans were similar, the majority (54.2%) indicated the size of the first loan was lower while 19.4% indicated that size of the first loan was bigger. The findings show that as the SMEs apply for more loans the size increases, this is supported by Hernandez-Canovas and Martinez-Solano (2007) who in their study found out that there is effect of relationship lending on SMEs in Spain, in which relationship lending helped SMEs access loans from banks. The results are in line with the study done by Hernández-Cánovas and Martínez-Solano (2006) who found that if a bank learns about SME's quality over time, it may improve loan contract terms upon having gained proof of successful investment projects of the SME.

Table 4.23: Descriptive Statistics on Lending Relationship (in percentages)

	Strongly Disagree	Disagree	Somehow Agree	Agree	Strongly Agree	Mean
Remaining in one bank for a long time positively affects access to finance	8.7	10.3	16.3	31.4	33.3	3.71
Seeking services from many banks and not one increases chances of accessing finance	6.7	9.6	17.6	31.4	34.6	3.78
The trust that the bank has assisted with ease to acquiring of a loan	4.8	8.3	12.5	37.8	36.5	3.93
Due to long relationship with the bank, the cost of loan decreases	5.8	7.1	16.7	32.4	38.1	3.90
The size of the loan has increased over time	4.8	8.3	12.2	38.1	36.5	3.93

The study sought to establish the effects of lending relationship on access to finance by SMEs in Kenya. The descriptive statistics of respondents' opinions on the relationship between lending relationship and access to finance by SMEs in Kenya is shown in Table 4.23. The results in this study revealed significant relationship between lending relationship and access to finance by SMEs in which 64.7% of the respondents agreed and strongly agreed that remaining in one bank for a long time positively affects their access to finance while 18.9 % disagreed and 16.3 % were not sure of the relationship. The mean score of the responses was 3.71 which indicate that majority of the respondents agreed with the statement on the assertion that remaining in one bank for a long time positively affects their access to finance. The respondents were required to indicate whether seeking services from many banks and not one increases their chances of accessing finance and 66.0% strongly agreed and agreed while only 16.3% disagreed and 17.6% did not take any position. The mean score of the responses was

3.78 which indicate that majority of the respondents agreed with the statement on the assertion that seeking services from many banks and not one increases their chances of accessing finance. 13.1% of the respondents disagreed with the statement that their bank has assisted them with ease to acquiring of a loan while 74.4% agreed and 12.5% took a neutral position. The mean score of the responses was 3.93 which indicate that majority of the respondents agreed with the statements on the assertion that their bank has assisted them with ease to acquiring of a loan.

Majority of the respondents agreed that due to long relationship with the bank, the cost of loan they get have decreased that is 70.5% of the respondents agreed with the statement 12.8% of the respondents disagreed and 16.7% took a neutral position. The mean score of the responses was 3.90 which indicate that majority of the respondents agreed with the statement on the assertion that due to long relationship with the bank, the cost of loan they get have decreased. Also 74.7% of the respondents strongly agreed and agreed that the size of the loan has increased over time, 13.1% of the respondents disagreed while 12.2% took neutral position. The mean score of the responses was 3.93 which indicate that majority of the respondents agreed with the statements on the assertion that the size of the loan has increased over time. The study concluded that there is a positive relationship between lending relationship and access to finance by SMEs in Kenya. This is in line with the study done by Madill, Feeney, Riding and Haines (2002) who concluded that a closer relationship between the bank and the SMEs reduces the information asymmetry between them.

4.5.4 Effects of Credit Restriction on Access to Finance

The study sought to examine the effects of credit restriction on access to finance by SMEs in Kenya and the descriptive statistics are presented in tables. Table 4.9 shows the status of the loans applied by the SMEs, where 131 of them have been granted full amount, 89 rejected and 92 granted less than what they had applied.

Table 4.24: The main reason for the bank refusing to grant the loan

	Frequency	Percent
Inadequate collateral/security	27	30.4
Lack of information	24	27.2
Poor lending relationship	25	27.9
Others	13	14.4
Total	**89**	**100.0**

The results in Table 4.24 show that 30.4% of the respondents indicated that inadequate collateral is the main reason for the bank refusing to grant the loan, 27.2% lack of information, 27.9% poor lending relationship and 14.4% other reasons. This shows that majority of the banks (30.4%) requires collateral followed by lending relationship (27.9%) and information on the borrower (27.2%). This is supported by Holton *et al*. (2014) who in their study concluded that property prices of the assets used by SMEs when borrowing from banks, sometimes falls, leaving borrowers with less security to pledge against prospective loans. The findings are also supported by Ong'olo and Awino (2013) who in their study found that the use of credit by small holder farmers was constrained by stringent collateral requirements which do not favour the SMEs in the dairy subsect or fishing industry. They also found that the limited access to finance is attributed to stringent requirements imposed by the financial institutions, which requires collateral, formation of business groups and reluctance on their part on account of perceived risk associated with small holder farmers.). The findings are also in line with the findings of Carolyne (2012) who found that the amount of collateral affects the decision whether to give credit to borrowers or not

Table 4.25: The main reason for the bank rationing credit

	Frequency	Percent
Inadequate collateral/security	26	28.8
Lack of information	24	26.3
Poor lending relationship	26	28.8
Others	16	16.1
Total	**92**	**100.0**

The study sought to find out the the main the reason for the restriction credit to SMEs, the findings are represented in Table 4.25. The study found out that 28.8% of the respondents indicated inadequate collateral as the main reason, 26.3% indicated lack of information, 28.8% said that the main reason is poor lending relationship and 16.1% indicated other reasons. This shows that most of the SMEs (83.9%) indicated that the major reasons for credit restriction are inadequate security, lack of the required information by the banks and poor lending relationship. The study found that access to finance by SMEs in Kenya is affected by credit restriction by the banks. The findings concur with the findings of Petersen and Rajan (2000) who found out that, firms with a more intense lending relationship as measured through its length and lower number of banks they are dealing with, enjoys a greater credit supply and lower degree of credit restrictions.

Table 4.26: The main reason for the bank granting full credit

	Frequency	Percent
Adequate collateral	37	27.9
Providing required information	36	27.6
Good lending relationship	36	27.2
Others	23	17.3
Total	**131**	**100.0**

The findings represented in Table 4.22 shows that 27.9% of the respondents indicated adequate collateral as the main reason for the bank to accept to grant the entire loan applied, 27.6% indicated providing the required information, 27.2% said that the main reason is good lending relationship and 17.3% indicated other reasons. This shows that most of the SMEs (82.7%) indicated that the major reasons for being granted the full amounts are adequate security, providing the required information by the banks and good lending relationship. This is in line with the findings of Islam (2011) who in his study in Bangladesh found that the SMEs who had enough collateral and had provided enough information were granted full amounts.

Table 4.27: Descriptive Statistics on Credit Restriction (in percentages)

	Strongly Disagree	Disagree	Somehow Agree	Agree	Strongly Agree	Mean
Inadequate collateral/security leads to credit restriction	5.8	8.0	19.2	33.0	34.0	3.81
Lack of information leads to credit restriction	8.0	9.9	14.4	31.7	35.9	3.78
Poor relationship leads to credit restriction	5.8	6.7	15.1	37.2	35.3	3.89

The study sought to establish the effects of credit restriction on access to finance by SMEs in Kenya. The results in this study revealed significant relationship between credit restriction and access to finance by SMEs in which 67.0% of the respondents agreed and strongly agreed that inadequate collateral leads to credit restriction while 13.8 % disagreed and 19.2 % were not sure of the relationship. The mean score of the responses was 3.81 which indicate that majority of the respondents agreed with the statement on the assertion that inadequate collateral leads to credit restriction.

The respondents were required to indicate whether lack of information leads to credit restriction and 67.6% strongly agreed and agreed while only 17.9% disagreed and 14.4% did not take any position. The mean score of the responses was 3.78 which indicate that majority of the respondents agreed with the statement on the assertion that lack of information leads to credit restriction. 12.5% of the respondents disagreed with the statement that poor relationship leads to credit restriction while 72.4% agreed and 15.1% took a neutral position. The mean score of the responses was 3.89 which indicate that majority of the respondents agreed with the statements on the assertion that poor lending relationship leads to credit restriction. This implies that most of the SMEs lack collateral, information required by banks and have poor lending relationship with the banks thus unable to get full amounts of the loans applied. This is in line with Carolyne (2012) who found that majority of the SMEs which accounted for 72% agreed with the fact that the amount of collateral is a very important factor which influences credit rationing by commercial banks. She also found that most of the SMEs indicated that high cost of obtaining information is a hindrance to them in providing the required information.

Table 4.28: Operation of Credit Guarantee Schemes by Banks

	Frequency	**Percent**
SMEs' bank which operates Credit Guarantee Schemes	234	75.0
SMEs' bank which does not operate Credit Guarantee Scheme	56	17.9
SMEs who do not know whether their banks operates Credit Guarantee Schemes	22	7.1
Total	**312**	**100.0**

The results in Table 4.28 revealed that 75% (234) of the respondents indicated their bank operates a credit guarantee schemes, 17.9% indicated that their bank does not operates a credit guarantee schemes while 7.1% indicated that they do not know

whether their bank operates a credit guarantee schemes. The findings show that most of the SMEs are not aware of the existence of credit guarantee schemes.

Table 4.29: SMEs who have ever taken a loan through CGS

	Frequency	Percent
SMEs who had taken a loan through Credit Guarantee Schemes	197	84.2
SMEs who never taken a loan through a Credit Guarantee Schemes	37	15.8
Total	**234**	**100.0**

Table 4.28 shows that only 234 respondents indicated that their banks operates credit guarantee schemes, thus only 234 respondents responded on the question whether they have taken a loan through credit guarantee schemes as shown in Table 4.29. The results in Table 4.29 revealed that 84.2% of the respondents indicated that they had taken a loan through Credit Guarantee Schemes, 15.8% indicated that they have never taken a loan through a Credit Guarantee Scheme even if they know of their existence. The findings are supported by Kang and Heshmati (2008) who concluded that though CGSs have been widely used, evaluations of such schemes have not been granted adequate attention. The findings are supported by Boococka and Shariff (2005) who in their study found out that most credit guarantee schemes specify maximum loan amounts and have strict criteria on eligibility, thus many SMEs are unable to join the existing CGSs. Rocha, Farazi, Khouri, and Pearce (2011) in their study in Middle East and North Africa region also found out that even if CGSs are available some SMEs are not aware of their existence thus poor utilisation.

Table 4.30: Collateral Requirements by SMEs when using CGSs

	Frequency	Percent
Collateral was minimal compared to before	166	84.3
Collateral was the same as before	31	15.7
Total	**197**	**100.0**

The Table 4.29 shows that only 197 respondents have ever taken a loan through a credit guarantee scheme, thus the results shown in Table 4.30 indicates that only 197 respondents responded on the question whether there is a change in collateral required by the banks when they apply loans credit guarantee schemes. The results in Table 4.30 revealed that 84.3% of the respondents indicated that collateral requirement has reduced when taking loans through credit guarantee schemes compared to before, 15.7% indicated that collateral requirement have remained the same. This shows that CGSs have reduced the collateral requirements for SMEs. The results are supported by Beck et al (2010) who found that the CGSs enable the bank to have better information about the borrower. The findings concur with a study done by Riding and Haines (2001) which found out that an increase in the level of guarantee could lead to substantial reductions in default rates thus reducing the collateral requirements by banks.

Table 4.31: Cost of the loan to SMEs when using CGSs

	Frequency	Percent
The cost has reduced significantly	178	90.4
The cost has remained the same	19	9.6
Total	**197**	**100.0**

The results in Table 4.31 revealed that 90.4% of the respondents indicated that the cost of the loan has reduced significantly when taking loans through credit guarantee schemes compared to before and 9.6% indicated that cost of the loan has remained the same. This shows that CGSs reduces the cost of the loans for SMEs. The findings are in line with Ganbold. (2008) who found that the cost of SMEs loans in Mongolia was lower when they applied through CGSs than without CGSs

Table 4.32: Time taken for a loan to be processed when taken through CGSs

	Frequency	**Percent**
Processing time have Reduced significantly	182	92.4
The processing time has remained the same	15	7.6
Total	**197**	**100.0**

The results in Table 4.32 revealed that 92.4% of the respondents indicated that the time taken between applying and getting the loan have reduced when taking loans through credit guarantee schemes compared to before, 7.6% indicated that time taken between applying and getting the loan have remained the same. This shows that CGSs have reduced the time taken between applying and getting the loan for SMEs. The findings are supported by Green (2003) who concluded that the presence of Credit Guarantee Schemes improves the loan conditions which includes a longer repayment period, larger loan size, a less stringent collateral requirement, larger loan size, interest rate reduction, faster loan processing time and providing loans on a more-timely basis.

Table 4.33: Size of loan given through CGSs

	Frequency	**Percent**
Size of the loan has increased than before	169	85.8
Size of the loan has remained the same	28	14.2
Total	**197**	**100.0**

The results in Table 4.33 revealed that 85.8% of the respondents indicated that the size of the loan given have increased when taking loans through credit guarantee schemes compared to before, 14.2% indicated that size of loan given have remained the same. This shows that CGSs have increased the size of loan given by the banks to SMEs. The findings are supported by Green (2003) who concluded that the presence of Credit Guarantee Schemes improves the loan conditions which includes a longer repayment period, larger loan size, a less stringent collateral requirement, larger loan size, interest rate reduction, faster loan processing time and providing loans on a more-timely basis. The findings are in line with the findings of Tunahan and Dizkirici (2012) who found that Credit Guarantee Schemes makes it impossible for the SMEs to default and enables them to get large amount of guaranteed loans compared to their capital. The findings are also supported by Boocock and Shariff (2005) who did a study in Malaysia and found out that CGSs are very effective in improving access to finance by SMEs by increasing the size of the loans and reducing the interest rate charged by banks.

Table 4.34: Number of Times Loan application has been rejected through CGSs

	Frequency	**Percent**
Number of times loan application has been rejected have reduced	162	82.2
Number of times loan application has been rejected have remained the same	35	17.8
Total	**197**	**100.0**

The results in Table 4.34 revealed that 82.2% of the respondents indicated that the number of times their application has been rejected has reduced when taking loans through credit guarantee schemes compared to before and 17.8% the number of times

their application has been rejected have remained the same. This shows that CGSs have reduced the rejection of loans application by the SMEs. The findings are supported by the findings of the study by Craig *et al.* (2009) who revealed that CGS reduced the amount of asymmetric information which in turn reduces credit rationing. The results concur with the finding of Honohan (2010) who found out that the highest amount of loan that a SME applied would have rejected were it not for the Credit Guarantee Schemes. This is also supported by Navajas (2001) who concluded that Credit Guarantee Schemes provides assurance that the beneficiaries will repay or perform the loan which makes the lender to grant the applied amount.

Table 4.35: Moderating Effect of Credit Guarantee Schemes (in percentages)

	Strongly Disagree	Disagree	Somehow Agree	Agree	Strongly Agree	Mean
Due to CGS it is easy to provide the information required by the bank easing access to finance	6.4	7.4	21.5		36.9	3.81
Due to CGS the collateral requirement has reduced easing access to finance	7.4	8.3	14.4	32.1	37.8	3.85
Due to CGS the lending relationship with the bank have improved access to finance	7.7	9.6	16	29.2	37.5	3.79
Due to CGS the amount of loan is larger than before	6.7	11.2	16.3	26.9	38.8	3.8
Due to CGS the loan application is rarely rejected access to finance	7.4	8.3	14.4	32.1	37.8	3.85
Due to CGS the loan is equal to the amount applied for	10.9	12.5	14.7	25.3	36.5	3.64

The study sought to establish the moderating effect of CGS on access to finance by SMEs in Kenya. The descriptive statistics of respondents' opinions on the moderating effect of credit guarantee schemes on access to finance by SMEs in Kenya are shown in Table 4.35.The results of this study revealed significant moderating effect of CGS on access to finance by SMEs in which 64.7% of the respondents agreed and strongly agreed that due to CGS they can easily provide the information required by the bank easing access to finance while 13.8 % disagreed and 21.5% were not sure of the moderating effect. The mean score of the responses was 3.81 which indicate that majority of the respondents agreed with the statement on the assertion that due to CGS they can easily provide the information required by the bank easing access to finance.

The respondents were required to indicate whether due to CGS the collateral requirement has reduced easing access to finance and 69.9% strongly agreed and agreed while only 15.7% disagreed and 14.4% did not take any position. The mean score of the responses was 3.85 which indicate that majority of the respondents agreed with the statement on the assertion that due to CGS the collateral requirement has reduced easing access to finance. On average 66.7% of the respondents agreed that due to CGS the lending relationship with the bank have improved access to finance while 17.3% disagreed and 16.0% took a neutral position. The mean score of the responses was 3.79 which indicate that majority of the respondents agreed with the statements on the assertion that due to CGS the lending relationship with the bank have improved access to finance. 17.9% of the respondents disagreed with the statement that due to CGS the amount of loan they get was larger than before while 65.7% agreed and 16.3% took a neutral position. The mean score of the responses was 3.80 which indicate that majority of the respondents agreed with the statements on the assertion that due to CGS the amount of loan they get was larger than before.

Majority of the respondents (69.9%) agreed that due to CGS their loan application was rarely rejected thus increasing access to finance, 15.7% of the respondents disagreed and 14.4% took a neutral position. The mean score of the responses was 3.85

which indicate that majority of the respondents agreed with the statement on the assertion that due to CGS their loan application was rarely rejected thus increasing access to finance. Also 61.9% of the respondents strongly agreed and agreed that due to CGS they get the loan equal to the amount they apply for, 23.4% of the respondents disagreed while 14.7% took neutral position. The mean score of the responses was 3.64 which indicate that majority of the respondents agreed with the statements on the assertion that due to CGS they get the loan equal to the amount they apply for.

The study found out that CGS reduces market failure constraints of information asymmetry, poor lending relationship, collateral requirements and credit restriction. This is supported by Flaming (2007) who observed that through use of CGS banks gain experiences with loans to MFIs which raises their willingness to lend to them without guarantee later. Flaming (2007) argued that this is the primary rationale for providing guarantees instead of lending directly to MFIs. The author also found that Guarantors and MFI managers confirmed that guarantees help to get loans from banks that they would not have obtained without guarantee. Flaming (2007) also found that the provision of guarantees enhances the bank's perception of MFIs, thus MFIs would not pay less costs for the guarantee of the loans.

4.5.5 The Descriptive Statistics for Access to Finance by SMEs

The dependent variable of the study was access to finance by SMEs in Kenya. The results of the descriptive statistics for access to finance by SMEs were represented in tables.

Table 4.36: Maximum loan size and business turnover

Business Turn over	Maximum loan size granted
Below Kshs 500,000	1,200,000
Between Kshs 500,001 and 5 Million	6,450,000
Above Kshs 5 Million	53,000,000

The results in Table 4.36 show that the SMEs with highest turnover got the highest loan amount. This indicates that the loan size depends on the annual turnover of the firm. According to Petrakis and Kostis (2015) small enterprises which have turnover of below Kshs 500,000 are unable to get finance from the financial institutions. The study concluded business is a requirement for the SMEs to access finance. According to FSD (2012) banks use business annual turnover to measure the size of their business clients because loan-size information is easy to collect and serves as a second-order proxy for the overall size of the business. The findings are supported by Aziz and Berg (2012) who in their study of the SMES in Rwanda found out that the loan size of the SMEs depends of their annual turnover.

Table 4.37: Average Repayment of SMEs' Loans

Business Size	Average loan Repayment (in Months)
Micro Enterprises	18.3
Small Enterprises	34.1
Medium Enterprises	36.7

Table 4.37 shows the average maturity of loans provided to SMEs by different lending institutions. On average micro enterprises repays their loans in 18.3 months, small enterprise with 34.1 months and medium enterprises with 36.7 months. The results show that the repayment period of the loans depends on the size of the firms. The finding are supported by FSD Kenya (2013) who found out that micro enterprises repays their loans in 19.8 months, small enterprise with 33.6 months and medium enterprises with 37.3 months.

Table 4.38: Average Processing Time of SMEs loans

Business Size	Average loan Processing Time (in Days)
Commercial Banks	32.7
SACCOs	14.6
MFIs	10.3
Building Societies	8.4
Informal Groups	3.6

The study found out that commercial banks requires on average 32.7 days to process SMEs loans, SACCOs require 14.6 days, MFIs require 10.3 days Building societies 8.4days and informal groups only 3.6 days. The results indicate that most of the SMEs preferred applying for loan in less regulated financial institutions because the processing period is shorter as shown in Table 4.38. The findings are supported by Ayyagari, Demirgüç-Kunt and Maksimovic (2010) who found out that most SMES in China preferred borrowing from informal institutions instead of the formal institutions because of the long-time formal institutions were taking to process their applications.

Table 4.39: Access to Finance by SMEs and the type of Business

Type of business	Commercial Bank		SACCO		MFI		Building Society		Informal Groups		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Manufacturing	1	1.0	3	1.9	2	1.6	2	1.3	3	2.2	10	8.0
Processing	3	1.9	4	3.2	4	3.2	3	2.6	5	3.8	20	15.1
Service Provider	5	4.2	9	6.7	8	6.1	7	5.1	10	8.0	40	30.4
General Trade	6	4.5	9	7.1	8	6.4	7	5.4	11	8.3	41	31.4
Others	3	1.9	4	3.2	4	3.2	3	2.6	5	3.8	20	15.1
Total	**18**	**13.5**	**29**	**22.1**	**27**	**20.5**	**22**	**17**	**34**	**26.3**	**131**	**100.0**

The results in Table 4.39 show that 2.2% of the SMEs in manufacturing sector were able to access finance from the informal groups, 3.8% SMEs in processing sector were able to access finance from the informal groups, 8.0% SMEs in service industry were able to access finance from the informal groups and 3.8% SMEs in general trade were able to access finance from the informal groups. Most of the SMEs (26.3%) in all sectors were able to access finance from informal groups compared to other lending institutions. Thus from the findings of the study, majority of the SMEs in different sectors were able to get most of their finances from informal sector which is less regulated. The findings are in line with Abor and Quartey (2010) who concluded that most of the SMEs in Ghana and South Africa were able to access finance from less regulated lenders than the regulated ones.

The respondents were requested to indicate the lending institutions from which they have granted loans in the last two years and the results are shown in Table 4.40.

Table 4.40: Access to Finance by SMEs as per lending institution

Lending Institution	**Granted in Full**		**Rejected**		**Rationed**	
	F	%	F	%	F	%
Commercial Bank	18	13.8	31	35.2	34	36.8
SACCO	29	22.1	22	24.3	21	22.3
MFI	27	20.5	17	18.9	17	18.9
Building Society	23	17.3	11	11.8	12	13.1
Informal Group	34	26.3	9	9.8	8	8.9
Total	**131**	**100**	**89**	**100**	**92**	**100**

The results in Table 4.40 show that 13.8% of the respondents indicated that bank they have been able to access finance from the commercial banks, 22.1% from SACCOs, 20.5% from MFIs, 17.3% Building Societies and 26.3% from informal groups. The finding show that majority of the SMEs are able to access finance from the informal group where less information and collateral is required. Minority of the respondents (13.8%) were able to access finance from the commercial banks due to strict requirement. The results indicate that commercial banks rejects most of the loans of (35.2%)the SMEs and also they do not grant the full amounts(36.3%)compared to the other financial institutions. The findings are in line with FSD (2013), who found out that 32.7% of the SMES accessed financial services from the formal, prudentially regulated financial institutions such as commercial banks and the majority (66.7%) accessed financial services from any type of informal financial provider. The findings are also in line with Lukose (2014) who found out that commercial banks have not assisted in the development and growth of small and medium scale industries in India.

Table 4.41: Reasons for Loan Application Rejection

Reason	Commercial Bank		SACCO		MFI		Building Society		Informal Groups		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Required information not provided	8	9.5	6	6.6	5	5.1	3	3.2	2	2.6	24	27.0
Required collateral not provided	10	10.7	7	7.4	5	5.7	3	3.6	3	3.0	27	30.3
Not operated an account with the institution	9	9.9	6	6.8	5	5.3	3	3.3	2	2.8	25	28.1
Other reasons	5	5.1	3	3.5	2	2.8	2	1.7	1	1.4	13	14.6
Total	**31**	**35.2**	**22**	**24.3**	**17**	**18.9**	**11**	**11.8**	**9**	**9.8**	**89**	**100.0**

Results in Table 4.41 show that commercial banks rejected most of the loans (35.2%) out of which 9.5% was due lack of required information, 10.7% due to lack of collateral, 9.9% due to the fact that the SME had no account with the bank and 5.1% due to other reasons. The informal groups rejected the lowest (9.8%) loans application. Most of the loans applications were rejected due lack the required information (27.0%), lack of the required collateral (30.3%) and the SME not having an account with the institution (28.1%). Only 14.6% of the applications were rejected due to other reasons. The study found out that the major requirements for the SMEs to access finance are information from the SMEs, collateral and the SMEs' accounts with the institutions. The study also found out that it is difficult for the SMEs to access finance from the commercial banks.The findings are in line with Ghimire and Abo (2013) who found out that the main reasons for the banks to reject SMEs' loans in Ivory were the SMEs not providing required information and the required collateral.

Table 4.42: Reasons for Credit Rationing

Reason	Commercial Bank		SACCO		MFI		Building Society		Informal Groups		Total	
	F	%	F	%	F	%	F	%	F	%	F	%
Lack of enough information	10	10.4	6	6.3	5	5.3	3	3.7	2	2.5	26	28.8
Lack of enough security for the loan	9	9.6	5	5.8	5	4.9	3	3.4	2	2.3	24	26.3
Inadequate period of operating an account with the institution	10	10.4	6	6.3	5	5.3	3	3.7	2	2.5	26	28.8
Other reasons	6	6.4	4	3.9	3	3.3	2	2.3	1	1.5	16	16.1
Total	**34**	**36.8**	**21**	**22.3**	**17**	**18.9**	**12**	**13.1**	**8**	**8.9**	**92**	**100.0**

The study found out that commercial banks rationed most of the loans (36.8%) out of which 10.4% was due lack of enough information, 9.6% due to lack of enough collateral10.4% due to the fact that the SME had not operated an account with the institution for the required period of time and 6.4% due to other reasons. The informal groups rationed the lowest (8.9%) loans application. Most of the loans applications were rationed due lack of enough information (28.8%), lack of enough collateral (26.3%) and the SME having not operated an account with the institution for the required period of time (28.8%). The results indicated that only 16.1% of the applications were rationed due to other reasons. The study found out that the major requirements for the institutions to grant the full loans applied are adequate information from the SMEs, enough collateral to cover the loan applied and the SMEs must operate accounts with the institutions for the required period of time. The study also found out

that most of the SMEs shy away from commercial banks because the loans were not are granted in full. The findings are supported by Aduda, Magut and Wangu (2012) who found that commercial banks use very strict credit scoring practices which makes the SMEs not to qualify for the full amount they apply.

The respondents were requested to provide the information on how quick they access finance, the affordability and the source of finances and the results were represented in Table 4.43.

Table 4.43: Descriptive Statistics on Access to Finance (in percentages)

Statements	Strongly Disagree	Disagree	Somehow Agree	Agree	Strongly Agree	Mean
Ability to get quick access to finances	35.9	30.1	16.7	8.0	9.3	2.25
Ability to access finance with flexible terms	31.7	33.0	18.6	9.3	7.4	2.28
Ability to access finance from commercial banks	35.6	35.9	13.8	9.0	5.8	2.14
Ability to access affordable finances	36.9	35.8	12.5	8.0	6.7	2.12
Ability to access finance from micro finance institutions	8.3	8.7	13.8	34.9	34.3	3.78
Ability to access finances from informal sources	7.4	7.9	11.5	35.4	37.8	3.88

Majority of the respondents (66.0%) indicated that they have not been able to get quick access to finances, 17.3% of the respondents agreed and 16.7% took a neutral position. The mean score of the responses was 2.55 which indicate that majority of the respondents disagreed with the statement on the assertion they have been able to get quick access to finances. Also 64.7% of the respondents strongly disagreed and

disagreed that they have been able to access finance with flexible terms, 16.7% of the respondents agreed while 18.6% took neutral position. The mean score of the responses was 2.28 which indicate that majority of the respondents disagreed with the statement on the assertion that have been able to access finance with flexible terms. The respondents were required to indicate whether they have been able to access finance from commercial banks and 71.5% disagreed while only 14.7% agreed and 13.8% did not take any position. The mean score of the responses was 2.14 which indicate that majority of the respondents disagreed with the statement on the assertion that they have been able to access finance from commercial banks. The findings are supported by Brau and Woller (2004) who found that challenge of SMEs to access finance from banks is that banks does not accept household goods as collateral and most SMEs do not have their own assets apart from the assets of the owners.

On average 72.8% of the respondents indicated that have not been able to access affordable finances while 14.7% agreed that they have been able to access affordable finances and 12.5% took a neutral position. The mean score of the responses was 2.12 which indicate that majority of the respondents disagreed with the statements on the assertion that they have been able to access affordable finances. 17.0% of the respondents disagreed with the statement they have been able to access finance from micro finance institutions while 69.2% agreed and 13.8% took a neutral position. The mean score of the responses was 3.78 which indicate that majority of the respondents agreed with the statements on the assertion that they have been able to access finance from micro finance institutions. This is in line with Brau and Woller (2004) who in their study found out that micro finance institutions are often characterised by less traditional collateral such as household goods and group lending models, thus the SMEs are able to access finance from them. 15.3% of the respondents disagreed with the statement that they have been able to access finances from informal sources while 73.2% agreed and 11.5% took a neutral position. The mean score of the responses was 3.88 which indicate that majority of the respondents agreed with the statements on the assertion that they have been able to access finances from

informal sources. The findings are supported by Olawale and Garwe (2010) who in their study found out that SMEs often use finance from the founders own money or from informal sources such as family and friends due to the fact that they are unable to access the finance from the commercial banks. The findings are in line with Hallberg (2000) who found that collateral requirements for SME loans are higher than for consumer loans, because SMEs' credit risk is usually more difficult to evaluate thus most SMEs are unable to provide the required collateral by banks, hence most of their finances from informal groups.

4.6 Conditional Tests for Multiple Linear Regression

Regression can only be accurately estimated if the basic assumptions of multiple linear regressions are observed Greene (2003). Therefore, various diagnostic tests which included sampling adequacy tests, normality tests and autocorrelation tests were conducted to ensure accuracy of the results.

4.6.1 Sampling Adequacy Test

Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was conducted to determine adequacy of the sample size. According to Magd (2008) KMO is an index used to examine and justify the appropriateness of application of Factor Analysis; values between 0.5-1.0 indicate that a factor is significant. Moutinho and Hutcheson (2010) suggested that values between 0.7 and 0.8 are good for factor analysis and it was used in the study.

Table 4.44: KMO (Kaiser-Meyer-Olkin) and Bartlett's Test of Sphericity

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.930
Bartlett's Test of Sphericity	Approx. Chi-Square	7075.555
	df	15
	Sig.	.000

The results in Table 4.44 show that the KMO test of the variables of this study generated a sufficient value of 0.930 which is more than 0.7 implying that the sample size was adequate for further analysis. This was supported by the Bartlett's test of sphericity which had a chi-square value of 7075.555 with a p value of 0.000 which is less than 0.05. Since the p value is less than 0.05 this shows that there is a strong relationship among the study variables under investigation and hence the Bartlett's test is highly significant.

4.6.2 Normality Test

Tests of normality were used to determine if the data is well modelled and normally distributed (Gujarati, 2002). According to Ghasemin and zahediasi (2012) the variables are supposed to be roughly normally distributed especially if the results are to be generalized beyond the sample. The study used Kolmogorov- Simonov normality test. In Kolmogorov- Simonov test, if the tests of normality will yield a figure of less than 0.05 it will mean that the data is not normally distributed.

Table 4.45: One-Sample Kolmogorov-Smirnov Test

		X_1	X_2	X_3	X_4	Y	Z
N		312	312	312	312	312	312
Normal	Mean	3.8547	3.9006	3.8487	3.8280	3.8034	3.7895
Parameters[a,b]	Std. Deviation	1.11595	1.12901	1.15808	1.17036	1.19798	1.23926
Most	Absolute	.202	.208	.199	.228	.213	.201
Extreme	Positive	.152	.165	.160	.158	.159	.164
Differences	Negative	-.202	-.208	-.199	-.228	-.213	-.201
Kolmogorov- Simonov		.202	.208	.199	.228	.213	.201
Asymp. Sig. (2-tailed)		.000[c]	.000[c]	.000[c]	.000[c]	.000[c]	.000[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

The Kolmogorov- Smirnov test is shown in Table 4.45, show values ranging from 0.199 to 0.228 which are all more than 0.05, which is an indication that all variables are approximately normally distributed with a p value of 0.000 which is less than the level of significance of 0.05.

4.6.3 Autocorrelation Test

Autocorrelation is correlation between the residue terms for any two observations; it is expected that the residue terms for any two observations should be independent (Field, 2005; Levine, Fustephan, Krehbiel and Berenson, 2004). Durbin-Watson test was used to test for the presence of autocorrelation between variables. Gujarati (2003) observed that Durbin-Watson statistic ranges from 0 to 4. A value near 0 indicates positive autocorrelation while a value close to 4 indicates negative autocorrelation. A value ranging from 1.5 to 2.5 indicates that there is no presence of statistically significant autocorrelation, thus it was applied in the study.

Table 4.46: Measure of Autocorrelation - Durbin-Watson

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.696[a]	.484	.457	.10829	1.711
2	.623[b]	.388	.376	.26014	1.858

a. Predictors: (Constant), X4, X3, X2, X1

b. Predictors: (Constant), X4*Z, X3*Z, X2*Z, X1*Z

c. Dependent Variable: Y

Table 4.46 shows that the value for Durbin-Watson for model 1 (without moderating variable) was 1.711 and model 2 (with moderating variable) was 1.858

implying that the variables were not correlated in any statistically significant way and this ensured the independence of errors and enhanced accuracy of the regression models.

4.6.4 Multi-collinearity Test

Multicollinearity occurs in statistics where two or more predictor variables in a multiple regression model are highly correlated (Bickel, 2007). The Gauss-Markov assumption only requires that there be no perfect multicollinearity and so long as there is no perfect multicollinearity the model is identified. This means the model can estimate all the coefficients and that the coefficients will remain best linear unbiased estimates and that the standard errors will be correct and efficient (Runkle *et al*., 2013). Variance Inflation Factor (VIF) was used to measure the problem of multicollinearity in the multiple regression model. VIF statistic of a predictor in a model is the reciprocal of tolerance and it indicates how much larger the error variance for the unique effect of a predictor (Baguley, 2012). Cohen and Cleveland (2013) defines Variance Inflation Factor (VIF) as an index of the amount that the variance of each regression coefficient is increased relative to a situation in which all of the predictor variables are uncorrelated and suggested a VIFs of 10 or more to be the rule of thumb for concluding VIF to be too large hence not suitable. Runkle *et al*. (2013) argued that if two or more variables have a Variance Inflation Factor (VIF) of 5 or greater than 5, one of them must be removed from the regression analysis as this indicates presence of multicollinearity.

Table 4.47: Multicollinearity Test for the Study Variables

Independent Variables	Tolerance	VIF
Information Asymmetry	0.867	1.153
Collateral requirements	0.783	1.277
Lending Relationship	0.851	1.175
Credit Restriction	0.567	1.764

In this study if two or more variables had a Variance Inflation Factor of 5 or greater than 5 one of them must be removed from the model. The results of tolerance and VIF are shown in Table 4.47 which shows that is no statistically significant multicollinearity among the independent variables because no variable was observed to have VIF value of above 10 and no tolerance statistic was below 0.100 as suggested by Hamilton (2012). Hence there is that no independent variable with a strong linear relationship with any other independent variable(s).

4.6.5 Confirmatory Factor Analysis

According to Shenoy and Madan (2000), not all variable factors are statistically important in a research. Factor analysis acts as a gauge of the substantive importance of a given variable to the factor and it is used to identify and remove hidden constructs or variable items that do not meet the objectives of the study and which may not be apparent from direct analysis (Ledesma & Valero-Mora, 2007; David *et al*., 2010). The communalities were used to indicate the substantive importance of variable factors. A loading value of 0.7 is the rule of thumb and is believed to be satisfactory but due to the seemingly difficulties of meeting the 0.7 criterion a loading of up to 0.4 level is acceptable (Rahim & Magna, 2005). The communalities for each variable were extracted using principal component analysis as shown in Table 4.48.

Table 4.48: Communalities of the variables

Statements	Initial	Extraction
Information Asymmetry		
Failure to provide business information due to high cost negatively affect access to finance	1.000	.980
In accurate information negatively affect access to finance	1.000	.957
Inadequate information negatively affects access to finance	1.000	.979
Lack of documentation for most of assets negatively affect access to finance	1.000	.981
Failure to provide information due to lack of skills to prepare the financial documents negatively affect access to finance	1.000	.974
Fear of providing business information due to competitors	1.000	.916
Collateral Requirement		
The high Collateral requirements negatively affect access to finance	1.000	.962
Fear of tying assets by giving them as collateral makes it difficult to access to finance	1.000	.978
Lack of collateral negatively affect access to finance	1.000	.959
Unacceptability of assets as collateral negatively affect access to finance	1.000	.977
Lending Relationship		
Remaining in one bank for a long time positively affects access to finance	1.000	.957
Seeking services from many banks and not one increases chances of accessing finance	1.000	.969
The trust that bank has assisted me with ease to acquiring of a loan	1.000	.979

Table 4.48 Communalities of the variables (Continued)

Due to long relationship with the bank, the cost of loan have decreased	1.000	.973
The size of the loan has increased over time	1.000	.978
Extraction Method: Principal Component Analysis.		
Credit Restriction		
Inadequate collateral/security leads to credit restriction	1.000	.984
Lack of information leads to credit restriction	1.000	.978
Poor relationship leads to credit restriction	1.000	.978
Credit Guarantee Schemes		
Due to CGS I can provide information Required	1.000	.974
Due to CGS reduces the Collateral required	1.000	.984
Due to CGS Relationship with bank has Improved	1.000	.988
Due to CGS larger Amounts are granted	1.000	.981
Due to CGS application is rarely Rejected	1.000	.984
Due to CGS the Amount applied for are granted	1.000	.959
Access to Finance		
Ability to get quick access to finances	1.000	.980
Ability to access finance with flexible terms	1.000	.975
Ability to finance from commercial banks	1.000	.977
I have been able to access affordable finances	1.000	.972
Ability to access finance from micro finance institutions	1.000	.986
Ability to access finances from informal sources	1.000	.985

The results in Table 4.48 show that the extracted communalities values of this study were ranging from 0.916 to 0.988 which indicates satisfactory factorability for all items of the variables. This means that the variables fitted well with other variables in their factors (Pallant, 2010). The factor analysis found out that none of the variables was removed because all of them had a coefficient of greater than 0.4 exceeded the

criterion of o.4 (Rahim & Magna, 2005). Communalities shows how much of the variance in the variables was accounted for by the extracted factor; that is, it shows the variations from the expected initial value which is one (Rahim & Magner, 2005).

4.7 Correlation Analysis

Correlation analysis was conducted in order to determine the direction and the strength of the relationship between the dependent variable and independent variable(s). In this study Pearson correlation coefficient was used to determine the magnitude and the direction of the relationships between the dependent variable and independent variables. The values of the correlation coefficient (R) are supposed to be between -1 and +1. A value of 0 implies no relationship, +1 correlation coefficient indicates that the two variables are perfectly correlated in a positive linear sense, that is, both variables increase together while a values of -1 correlation coefficient indicates that two variables are perfectly correlated in a negative linear sense, that is, one variable increases as the other decreases (Collis & Roger, 2013; Neuman, 2006; Sekeran, 2008; Kothari, 2012). Pearson Correlation Coefficient was computed to show the relationship existing between the variables and the results were presented in Table 4.36. The study dependent variable was access to finance by SMEs in Kenya and the independent variables were information asymmetry, collateral requirement, lending relationship and credit restriction

Table 4.49: Correlation M a t r i x

	Information Asymmetry	collateral requirement	Lending Relationship	Credit Restriction	Access to Finance
Information Asymmetry	1.000				
Collateral requirement	.165	1.000			
Lending Relationship	.201	.106	1.000		
Credit Restriction	.125	.152	.136	1.000	
Access to Finance	-.621**	-.603**	.562**	-.673**	1.000

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

4.7.1 Correlation analysis for Information Asymmetry and Access to Finance

The results presented in Table 4.49 revealed that there is a significant correlation between information asymmetry and access to finance by SMEs, with p- value of 0.000 which is less than 0.01 and Pearson Correlation coefficient was -0.621 while other independent variables were held constant. This implies that there was a significant relationship between information asymmetry and access to finance by SMEs. According to Mugenda and Mugenda (2008) a correlation coefficient (R) of 0.3 is enough to conclude that there is a significant relationship between the dependent variable and independent variable. The negative correlation coefficient value implies that there is a negative relationship between the information asymmetry and access to finance by SMEs in Kenya, that is, as the information asymmetry between the banks and the SMEs increases the access to finance by the SMEs reduces. The study concluded that there is a significant strong negative relationship between information

asymmetry and access to finance by SMEs in Kenya.

4.7.2 Correlation Analysis for Collateral Requirements and Access to Finance

The results presented in Table 4.49 shows that there was a significant correlation between collateral requirement and access to finance by SMEs in Kenya, with p- value of 0.000 which is less than 0.01 and coefficient of correlation (R) of -0.603 while other independent variables are held constant. This implies that there was a significant relationship between collateral requirement and access to finance by SMEs. The negative coefficient of correlation value implies that there is a negative strong relationship between the collateral requirements and access to finance by SMEs in Kenya, that is, as the banks increase collateral requirements by the SMEs the access to finance by the SMEs decreases. The study concluded that there is a significant strong negative relationship between information asymmetry and access to finance by SMEs in Kenya.

4.7.3 Correlation Analysis for Lending Relationship and Access to Finance

The results presented in Table 4.49 revealed that there was a significant correlation between lending relationship and access to finance by SMEs in Kenya, with p- value of 0.000 which is less than 0.01 and coefficient of correlation (R) of 0.562 while other independent variables are held constant. This implies that there was a significant relationship between lending relationship and access to finance by SMEs in Kenya. The positive coefficient of correlation value implies that there is a positive relationship between the lending relationship and access to finance by SMEs in Kenya, that is, as the lending relationship between banks and SMEs improves access to finance by the SMEs increases. Thus the null hypothesis was rejected and the alternative hypothesis accepted. The study concluded that there is a significant positive strong relationship between lending relationship and access to finance by SMEs.

4.7.4 Correlation Analysis for Credit Restriction and Access to Finance

The results presented in Table 4.49 revealed that there was a significant negative correlation between credit restriction and access to finance by SMEs, with p- value of 0.000 which is less than 0.01 and R value of -0. 673 while other independent variables are held constant. This implies that there was a significant relationship between credit restriction and access to finance by SMEs. The negative R value implies that there is a negative relationship between the credit restriction and access to finance by SMEs in Kenya, that is, as the banks restricts credit access to finance by the SMEs reduces. Thus the null hypothesis was rejected and the alternative hypothesis accepted. The study concluded that there is a significant negative relationship between credit restriction and access to finance by SMEs in Kenya.

4.8 Regression Analysis

Regression analysis was done in order to measure the ability of the independent variable(s) to predict an outcome in the dependent variable where there is a linear relationship between them. In order to test the hypotheses of the of the regression model that there is no significant relationship between the market failure constraints and access to finance by SMEs in Kenya, Analysis of Variance (ANOVA) was used (Cooper & Schindler, 2010). According to Anderson, Sweeney and Williams (2002) Analysis of Variance can be used to test the relationship between independent variables on the access to finance by SMEs and to test the goodness of fit of the regression model that is how well the model fits the data.

Cooper and Schindler (2010) argued that regression analysis can also be used determine the strength of the relationship between the independent and dependent variables and to determine the combined effect of all the independent variables on the dependent variable. The coefficient of determination (R^2) was used to measure the change in dependent variable explained by the change in independent variable(s). F –test was carried out to evaluate the significance of the overall model and to define the

relationship between the dependent variable and independent variables; t- test was used to test the significance of the individual independent variables to the dependent variable.

4.8.1 Regression Analysis for Information Asymmetry and Access to Finance

The first hypothesis of the study was that there is no significant effect of information asymmetry on access to finance by SMEs. This hypothesis was tested through regression analysis between information asymmetry and access to finance. The results of simple rregression analysis for information asymmetry and access to finance by SMEs were done and the model summary was presented in Table 4.50.

Table 4.50: Regression Analysis for Information Asymmetry and Access to Finance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.621[a]	.386	.377	.14558

a. Predictors: (Constant), Information Asymmetry

b. Dependent Variable: Access to Finance by SMEs

The results in Table 4.50 indicated that there was relationship between information asymmetry and access to finance by SMEs in which R^2 was 0.386 implying that 38.6% of access to finance by SMEs was explained by information asymmetry. This shows that an increase in information asymmetry by one unit causes a decrease in access to finance by SMEs by 0.386. The adjusted R square of 0.377 means the information asymmetry without the constant explains 37.7% variation in access to finance by the SMEs. The remaining 61.4% variation in access to finance by the SMEs is explained by other variables which are not in this model.

Table 4.51: ANOVA Test for Information Asymmetry and Access to Finance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	439.762	1	439.762	20941.087	.000[b]
	Residual	6.570	310	.021		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), Information Asymmetry

The results for Analysis of Variance for information asymmetry with access to finance by SMEs is shown in Table 4.51 in which computed F-Statistics value was 20941.087 which is greater than the critical value of 3.85 and p value was 0.000 which was less than 0.05 meaning that the relationship between information asymmetry and access to finance by SMEs was significant. Thus the null hypothesis was rejected and concluded that there was a significant relationship between information asymmetry and access to finance by SMEs in Kenya.

Table 4.52: Beta Coefficients of Information Asymmetry and Access to Finance

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	30.4	.030		1013.33	.000
	Information Asymmetry	-1.366	.007	.621	-195.14	.000

a. Dependent Variable: Access to Finance by SMEs

Table 4.52 shows beta coefficient summary in which the t-values are 1013.33 and -195.14 with p-values being 0.000 which are less than 0.05 hence the model was statistically significant. The model was defined as $Y = 30.4\text{-}1.366X_1$, indicating that every unit increase in information asymmetry leads to 1.366 decrease of access to finance by SMEs in Kenya. This implies that information asymmetry negatively affects access to finance by SMEs in Kenya. This is in line with the study done by Kauffmann (2005), who found out that SMEs are involved in the formal sector where there is the absence of accounting standards and the level of accounting information required by banks to provide finance to them. Kauffmann (2005) also found that SMEs lack of independent, competent and credible accounting personnel to provide quality of financial information required by banks. The results of the study are in line with the study done by Madill, Feeney, Riding and Haines (2002) who found out that the root cause of the small and medium-sized enterprise financing difficulties lies in the serious information asymmetry that exists between SMEs and financial institutions. The study is also supported by Calice *et al*. (2012) who found that all the banks cited the lack of information as the biggest hindrance to SME lending, they found out that most banks are affected by the quality of information provided by SMEs with 75 per cent of banks mentioning this aspect as a significant obstacle to their dealings with SMEs.

4.8.2 Regression Analysis for Collateral Requirements and Access to Finance

The second hypothesis of the study was that there is no significant effect of collateral requirement on access to finance by SMEs in Kenya. This hypothesis was tested through simple regression between collateral requirement and access to finance by SMEs. The result of the regression analysis for collateral requirement with access to finance by SMEs was done and the model summary was presented in Table 4.53.

Table 4.53: Regression Analysis for collateral requirement and Access to Finance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.603[a]	.364	.358	.17627

a. Predictors: (Constant), Collateral Requirement

b. Dependent Variable: Access to Finance by SMEs

The results indicated that there was relationship between collateral requirements and access to finance by SMEs in which R^2 was 0.364 implying that 36.4% of the variation in access to finance by SMEs was explained by collateral requirements. This shows that an increase in collateral requirements by banks by one unit causes a decrease in access to finance by SMEs by 0.603 of a unit. The adjusted R square of 0.358 means the collateral requirements without the constant explains 35.8% variation in access to finance by the SMEs. The remaining 64.2% variation in access to finance by the SMEs is explained by other variables which are not in this model.

Table 4.54: ANOVA Test for collateral requirement and Access to Finance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	436.700	1	436.700	14087.968	.000[b]
	Residual	9.632	310	.031		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), Collateral Requirement

The results for Analysis of Variance for collateral requirement with access to finance by SMEs is shown in Table 4.54 in which computed F-Statistics value was 14087.968 which is greater than critical value of 3.85 and p value was 0.000 which was less than

0.05 meaning that the relationship between collateral requirement and access to finance by SMEs was significant. Thus the null hypothesis was rejected and concluded that there was a significant strong relationship between collateral requirement and access to finance by SMEs in Kenya. The findings are in line with Kinyua (2013) who found that SMEs can be able to improve access to finance through negotiations for better lending terms and conditions and increase of collateral requirements. The findings are supported by Cull and Xu. (2005 who in their study found that lack of collateral is the major cause of the SMEs inability to access finance.

Table 4.55: Beta Coefficients on Collateral Requirement and Access to Finance

		Unstandardized Coefficients		**Standardized Coefficients**		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	29.1	.036		808.34	.000
	X2	-1.050	.009	.603	-116.67	.000

a. Dependent Variable: Access to Finance by SMEs

Table 4.55 shows beta coefficient summary in which the t-values are 808.34 and 116.67 with p-values being 0.000 which is less than 0.05 hence the model was statistically significant. The model was defined as Y = 29.1-1.050X2 + e, indicating that every unit increase in collateral requirement leads to 1.050 decrease in access to finance by SMEs. This implies that collateral requirement negatively affects access to finance by SMEs in Kenya. The study is supported by Calice et al. (2012) who in their study found that all loans above a certain minimum must be adequately secured, with first-class guarantees or a bond over property as the preferred security type which makes it difficult for banks to lend to SMEs in view of the various challenges that this sector faces in terms of coming up with such acceptable security.

4.8.3 Regression Analysis for Lending Relationship and Access to Finance

The third hypothesis of the study was that there is no significant effect of lending relationship and access to finance by SMEs. This hypothesis was tested through regression analysis between lending relationship and access to finance by SMEs where the results of the regression analysis were presented in Table 4.52.

Table 4.56: Regression Analysis for Lending Relationship and Access to Finance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.562[a]	.316	.297	.13018

a. Predictors: (Constant), Lending Relationship

b. Dependent Variable: Access to Finance by SMEs

The results indicated that there was strong relationship between lending relationship and access to finance by SMEs in which R^2 was 0.316 implying that 31.6% of access to finance by SMEs was explained by lending relationship. This shows that an improvement in lending relationship between banks and SMEs one unit causes an increase in access to finance by SMEs by 0.316. The adjusted R square of 0.297means the lending relationship without the constant explains 29.7% variation in access to finance by the SMEs. The remaining 68.4% variation in access to finance by the SMEs is explained by other variables not in this model.

Table 4.57: ANOVA Test for Lending Relationship and Access to Finance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	441.078	1	441.078	25945.76	.000[b]
	Residual	5.254	310	.017		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), Lending Relationship

The results for Analysis of Variance for lending relationship with access to finance by SMEs is shown in Table 4.57 in which the computed F-Statistics value was 25945.76 which is greater than the critical value of 3.85 and p value was 0.000 which was less than 0.05 meaning that the relationship between lending relationship and access to finance by SMEs was significant. Thus the null hypothesis was rejected and the study concluded that there was a significant relationship between lending relationship and access to finance by SMEs in Kenya.

Table 4.58: Beta Coefficients on Lending Relationship and Access to Finance

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	15.4	.026		592.31	.000
	Lending Relationship	1.348	.006	.562	224.67	.000

a. Dependent Variable: Access to Finance by SMEs

Table 4.58 shows beta coefficient summary in which the t-values are 592.31 and 224.67 with p-values being 0.000 which is less than 0.05 hence the model was statistically significant. The model was defined as Y = 15.4 +1.348X3 + e, indicating that every

unit increase in lending relationship leads to 1.348 increase to access to finance by SMEs. This implies that lending relationship have a positive relationship with access to finance by SMEs in Kenya. The null hypothesis that there is no significant relationship between lending relationship and access to finance by SMEs in Kenya was rejected and the alternate hypothesis accepted at 95% level of confidence. This is supported by Petersen and Rajan (2000) who found out that in relationship lending a relationship borrower would incur lower information production costs and that a relationship lender acquires information about its borrower over time that would be costly for a new lender to acquire, thus giving the relationship lender and borrower a cost advantage.

4.8.4 Regression Analysis for Credit Restriction and Access to Finance

The fourth hypothesis of the study was that there is no significant effect of credit restriction on access to finance by SMEs. This hypothesis was tested through regression analysis between information asymmetry and access to finance. Regression analysis for credit restriction with access to finance by SMEs was done and the model summary presented in table 4.58.

Table 4.59: Regression Analysis for Credit Restriction and Access to Finance

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	-.673[a]	.453	.427	.12495

a. Predictors: (Constant), Credit Restriction

b. Dependent Variable: Access to Finance by SMEs

The results indicated that there was relationship between credit restriction and access to finance by SMEs in which coefficient of determination R^2 was 0.453 implying that 45.3% of access to finance by SMEs was explained by credit restriction. This

shows that a credit restriction by banks with one unit causes a decrease in access to finance by SMEs by 0.673 of a unit. The adjusted R square of 0.427 means that the credit restriction without the constant explains 42.7% variation in access to finance by the SMEs. The remaining 57.3% variation in access to finance by the SMEs is explained by other variables not in this model. This implies that apart from credit restrictions there are other constraints which make SMEs not to access finance.

Table 4.60: ANOVA Test for Credit Restriction and Access to Finance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	441.492	1	441.492	27593.25	.000[b]
	Residual	4.840	310	.016		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), Credit Restriction

The results for Analysis of Variance for credit restriction with access to finance by SMEs is shown in Table 4.60 in which computed F-Statistics value was 27593.25 which is greater than critical value of 3.85 and p value was 0.000 which was less than 0.05 meaning that the relationship between credit restriction and access to finance by SMEs was statistically significant. Thus the null hypothesis was rejected and concluded that there was a significant relationship between credit restriction and access to finance by SMEs in Kenya. The findings are supported by Chimucheka and Rungani (2011) who concluded that credit restriction is the major factor hindering SMEs access to finance in South Africa.

Table 4.61: Beta Coefficients on Credit Restriction and Access to Finance

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	9.41	.024		392.08	.000
	Credit Restriction	-1.518	.006	-.673	-253.00	.000

a. Dependent Variable: Access to Finance by SMEs

Table 4.61 shows beta coefficient summary in which the t-values are 392.08 and -253.00 with p-values being 0.000 which are less than 0.05 hence the model was statistically significant. The model was defined as $Y = 9.41 - 1.518X_4$, indicating that every unit increase in credit restriction leads to 1.518 decreases in access to finance by SMEs in Kenya. This implies that credit restriction has a negative relationship with access to finance by SMEs in Kenya. The null hypothesis was rejected and concluded that there was a significant relationship between credit restriction and access to finance by SMEs in Kenya at 95% level of confidence. The findings are supported by Green (2003) who found out that credit restrictions is hindrance to SMEs from developing their full economic and social potential due lack of enough funds for expansion. Green (2003) also found that credit restrictions are, to a large degree, the result of imperfections in the market for credit to SMEs. The findings are also in line with Parker (2002).who found that SMEs are experience credit rationing because they are seen as very risky and they are unwilling to pay more to compensate for this additional risk.

4.8.5 Multiple Regression Analysis

Regression analysis of all independent variables and dependent variable was done and the results were presented in tables. Multiple linear regression model,

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

Where,

Y= Access to finance by Small and Medium Enterprises

X_1 = Information Asymmetry

X_2 = Collateral Requirements

X_3 = Lending relationship

X_4 = Credit Restriction, was used to establish the combined relationship between all independent variables and dependent variable. Table 4.62 presented the results for regression analysis of all the independent variables on dependent variable.

Table 4.62: Model Summary for all Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.696[a]	.484	.457	.10829

a. Predictors: (Constant), Credit Restriction, Lending Relationship, Collateral Requirements, Information Asymmetry

The results in Table 4.62 clearly indicates that there is a relationship between information asymmetry, collateral requirements, lending relationship, credit restriction, and access to finance by SMEs in Kenyan in which the value of coefficient of correlation (R) was 0.696 The coefficient of determination (R^2) was 0.484 which implies that 48.4% of access to finance by SMEs was explained by credit restriction, lending relationship, collateral requirements and information asymmetry meaning that there could be other factors which still explain access to finance by SMEs which accounts for 51.6%.

Table 4.63: ANOVA Test for all Variables

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	442.732	4	110.683	9223.583	.000[b]
	Residual	3.600	307	.012		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), Credit Restriction, Lending Relationship, Collateral Requirements, Information Asymmetry

The ANOVA analysis results in Table 4.63 show that the model of access to finance by SMEs in Kenya and credit restriction, lending relationship, collateral requirements and information asymmetry was statistically significant with computed F-statistic of 9223.583which is greater than the critical value of 2.38 and p-value of 0.000 which was less than 0.05. Therefore, the overall regression model resulted in a statistically significant good prediction of access to finance by SMEs in Kenya.

Table 4.64: Beta Coefficients for all Variables

		Unstandardized Coefficients		Standardized Coefficients		
Model		**B**	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	15.71	.025		628.4	.000
	X_1	-.437	.054	-.221	-8.093	.000
	X_2	-.329	.057	-.121	-5.772	.026
	X_3	.498	.074	.481	6.730	.000
	X_4	-.426	.06	-.416	-7.100	.000

a. Dependent Variable: Access to Finance by SMEs

The beta coefficient summary in Table 4.64 shows that the p values for all the predictor variables are less than 0.05 indicating that the model was statistically significant. The model was defined as: $Y = 15.7 - 0.437X_1 - 0.329X_2 + 0.498X_3 - 0.426X_4$ where; X_1 was Information Asymmetry, X_2 was Collateral Requirements, X_3 was Lending Relationship and X_4 was Credit Restriction, which indicates that all the market failure constraints were affecting access to credit by SMEs in Kenya. The results show that there is negative relationship between information asymmetry, credit restriction, collateral requirements and access to finance by SMEs, while there is a positive relationship between lending relationship and access to finance by SMEs in Kenya. The study found out that the major market failure constraint is lending relationship followed by information asymmetry and credit restriction. The study is supported by Petersen and Rajan (2000) and Berger and Udell (2008) who found out that the stronger (that is the longer the duration) the relationship, the greater is the credit availability and the lower are the collateral requirements. The findings are in line with the study by Degryse and Ongena (2001) who found out that there are many benefits to a borrower in lending relationship such as the ability to share sensitive information with the banks which makes the banks to increase the credit and more flexible loans contracts. The study is supported by Sufi (2007) who found that in lending relationship the banks are able to monitor collateral thus able to continue offering more based on the same collateral and the borrower is able to borrow multiple loans at lower prices.

4.9 The Moderating Effect of Credit Guarantee Schemes

The fifth hypothesis of the study was that there is no significant moderating effect of Credit Guarantee Schemes on the relationship between market failure constraints and access to finance by SMEs in Kenya. Moderated Regression analysis was done in order to test the moderating effect of credit guarantee schemes (moderating variable) on the relationship between market failure constraints and access to finance by SMEs in Kenya. Regression analysis was conducted for all independent variables with the moderating variable and dependent variable.The moderation effect of Credit

Guarantee Schemes on all market failure constraints and access to finance by SMEs in Kenya was tested using the hierarchical Moderated Multiple Regression (MMR) model (Baron & Kenny, 1986).

$$Y = \beta_o + \beta_1 X_1 * Z + \beta_2 X_2 * Z + \beta_3 X_3 * Z + \beta_4 X_4 * Z + e$$

Where,

Y= Access to finance by Small and Medium Enterprises

X_1 = Information Asymmetry

X_2 = Collateral Requirements

X_3 = Lending relationship

X_4 = Credit Restriction

Z = Credit Guarantee schemes (moderating variable)

e is the standard error term.

The SPSS was used to generate the exact values of β1, β2, β3 and β4 and the results are presented in Table 4.52. The condition for rejecting the null hypothesis was a computed p value which was less than 0.05. The magnitude of moderation effect was shown by the change in R^2 in the model summary.

In Table 4.65 Model 1 represented multiple linear regression analysis of market failure constraints and access to finance by SMEs without moderating variable while model 2 represented hierarchical Moderated Multiple Regression analysis of market failure constraints and access to finance by SMEs with the moderating variable.

Table 4.65: Model Summary for all Variables with Moderating Variable

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.696[a]	.484	.457	.10829
2	.623[b]	.388	.376	.26014

a. Predictors: (Constant), X_1, X_2, X_3, X_4

b. Predictors: (Constant), X_1*Z, X_2*Z, X_3*Z, X_4*Z

The results in Table 4.65 shows that coefficient of correlation (R) was 0.696 without the moderating variable, indicating that there is a relationship between access to finance by SMEs and market failure constraints (X_4 - Credit Restriction, X_3 - Lending Relationship, X_2- Collateral Requirements, X_1 - Information Asymmetry) without credit guarantee schemes. The results further show that when moderating variable in the overall model was absent R squared was 0.484 (48.4%) and it reduced to 0.388 (38.8 %) when credit guarantee schemes were introduced which implies that credit guarantee schemes lowers the effects the market failure constraints on access to finance by SMEs in Kenya. The findings are supported by Aikaeli (2007) who found that lack of third-party guarantees to address collateral issues was mentioned by most of the banks in Tanzania as a hindrance to doing business with SMEs.

Table 4.66: ANOVA Test for all Variables with Moderating Variable

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	442.732	4	110.683	9223.583	.000[b]
	Residual	3.600	307	.012		
	Total	446.332	311			
2	Regression	425.556	4	106.389	1564.544	.000[b]
	Residual	20.776	307	.068		
	Total	446.332	311			

a. Dependent Variable: Access to Finance by SMEs

b. Predictors: (Constant), X_1*Z, X_2*Z, X_3*Z, X_4*Z

The ANOVA results shown in Table 4.66 show that the overall regression model between access to finance by SMEs and market failure constraints with the moderating variable (X_4 - Credit Restriction, X_3 - Lending Relationship, X_2- Collateral Requirements, X_1 - Information Asymmetry) was significant as F statistics was 1564.544 which is greater than the critical value of 2.38 and the p-value of 0.000 which is less 0.05.

Table 4.67: Beta Coefficient for all Variables with Moderating Variable

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
2	(Constant)				403.88	
		14.54	.036		9	.000
	X_1*Z	-.233	.038	.217	-6.132	0.016
	X_2*Z	-.197	.043	.647	-4.581	0.024
	X_3*Z	.181	.059	-.548	3.068	0.036
	X_4*Z	-.198	.042	.661	-4.714	0.02

a. Dependent Variable: Access to Finance by SMEs

According to beta coefficient results in Table 4.67**,** there was a significant difference in the beta coefficients before and after the introduction of the moderating variable. This is supported by the fact that the p values were all less than 0.05. The overall regression model equation with Credit guarantee schemes as moderating variable was defined as; $Y = 14.54 - 0.233X_1*Z - 0.197X_2*Z + 0.181X_3*Z - 0.198X_4*Z$, where X_4 was Credit Restriction, X_3 was Lending Relationship, X_2 was Collateral Requirements, X_1 was Information Asymmetry and Z was Credit Guarantee Schemes. The model was compared with the model without the moderating variable ($Y = 15.7 - 0.437X_1 - 0.329X_2 + 0.498X_3 - 0.426X_4$) where a significant change in beta

coefficients was noted. This implies that with the introduction of Credit Guarantee Schemes there is improvement in access to finance by SMEs in Kenya. According to the Moderated Multiple Regression analysis results the study found out that Credit Guarantee Schemes had a moderating effect on the relationship between market failure constraints (credit restriction, lending relationship, collateral requirements, and information asymmetry) and access to finance by SMEs in Kenya. This is supported by the study done by Navajas (2001) who concluded that Credit Guarantee Schemes serves as a risk transfer instrument from the intermediary (financier) to the guarantor, thus reducing the lender's credit risk. Navajas (2001) also concluded that main purpose of credit guarantee schemes is to improve the probability that financial institutions will lend to marginalised groups (which includes SMEs). The findings concurs with the study done by Beck, Klapper and Mendoza (2010) who concluded that the role CGSs is to ease the financial constraints of SMEs and start-ups by enabling them to access capital, which they would not ordinarily qualify to get due to lack of credit history, limited collateral and inability to produce bankable documents. The findings are also supported by a research Zecchini and Ventura (2006) which found out that firms of similar characteristics who have access to CGS are able to borrow more than firms that do not have access to CGS. The results are in line with the conclusion made by Green (2003) that a well-designed, well managed and implemented CGSs can boost the small enterprise sector in many countries by enhancing their access to formal credit sources. The findings are in line with the findings of Infelise (2014) who found that credit guarantee schemes spread some of the risk and thereby enable banks to extend loans to firms that would find it difficult to access credit otherwise. The findings are in line with Van der Schans (2012) who found out that GCSs have been effective in mobilising large amount of credit and easing access to finance for a large number of enterprises The findings are supported by Holton *at al*., (2014), Most countries have expanded credit guarantees to SMEs for inducing banks to reopen their credit facilities, thereby reducing the additional risk that banks need to take on their balance sheet when granting new loans

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The study sought to establish the effects of financial market failure constraints and access to finance by small and medium enterprises in Kenya. The market failure constraints in the study were information asymmetry, collateral requirements, lending relationship and credit restriction which were independent variables of the study. The study also had a moderating variable which was credit guarantee schemes. This chapter provides a summary of the findings of the study based on the objectives of the study presents the conclusions from the findings and gives recommendations to the beneficiaries of the study and areas of further research in order to fill the gaps identified in the study.

5.2 Summary of the Findings

This section provides a summary of the findings of the study which were based on the specific objectives of the study. The specific objectives of the study were based on the study variables, that is, information asymmetry, collateral requirements, lending relationship, credit restriction and credit guarantee a scheme which was the moderating variable.

5.2.1 Information Asymmetry and Access to Finance by SMEs in Kenya

The first specific objective of the study was to examine the effects of information asymmetry on access to finance by SMEs in Kenya. The findings revealed a negative significant relationship between information asymmetry and access to finance by SMEs in Kenya meaning that information asymmetry between banks and SMEs negatively affects the SMEs ability to access credit from banks**.** This indicates that information asymmetry is a major factor which affects SMEs access to finance in Kenya. The

findings revealed that information asymmetry have a negative influence on access to finance by SMEs in Kenya. The results of correlation analysis indicated that there is a negative correlation between information asymmetry and access to finance by SMEs in Kenya. The findings are supported by the coefficient of determination which shows that the variation in access to finance by SMEs is explained by information asymmetry. The influence of information asymmetry on access to finance by SMEs is also statistically significant with the p value of less than 0.05 and hence the null hypothesis was rejected. The study concluded that there is a significant relationship between information asymmetry and access to finance by SMEs in Kenya..

5.2.2 Collateral Requirements and Access to Finance by SMEs in Kenya

The second specific objective of the study was to evaluate the effects of collateral requirement on access to finance by SMEs in Kenya. The results indicated a negative correlation between collateral requirements and access to finance to SMEs in Kenya. The findings showed a significant and negative linear relationship between collateral requirements and access to finance by SMEs in Kenya meaning that increased collateral requirements by banks reduces access to finance by SMEs. This implies that collateral requirement is a major factor which affects SMEs access to finance in Kenya. The findings revealed that collateral requirements affect access to finance by SMEs negatively.

The findings are supported by the coefficient of determination which shows that the variation in access to finance by SMEs is explained by collateral requirements. The influence of collateral requirements on access to finance by SMEs is also statistically significant and hence the null hypothesis was rejected and the study concluded that there is a significant relationship between collateral requirements and access to finance by SMEs in Kenya.. They also argued that property prices of the assets used by SMEs when borrowing from banks, may fall, leaving borrowers with less security to pledge against prospective loans.

5.2.3 Lending Relationship and Access to Finance by SMEs in Kenya

The third specific objective of the study was to assess the effects of lending relationship on access to finance by SMEs in Kenya. The findings indicated that improvement in lending relationship between banks and SMEs increases SMEs access to finance The results showed that there is significant positive relationship between lending relationship between the banks and SMEs and access to finance by SMEs in Kenya. This implies that, an improvement in lending relationship leads to an increase in access to finance by SMEs in Kenya. This was the only independent variable which had a positive relationship wi0th the dependent variable. The regression analysis results revealed that, there is a positive relationship implying that lending relationship is a significant factor influencing access to finance by SMEs in Kenya. The influence of lending relationship on access to finance by SMEs is statistically significant with the p value of less than 0.05 and hence the null hypothesis was rejected and the study concluded that there is a significant relationship between lending relationship and access to finance by SMEs in Kenya

5.2.4 Credit Restriction and Access to Finance by SMEs in Kenya

The fourth specific objective of the study was to analyze the effects of credit restriction on access to finance by SMEs in Kenya. The results revealed that there is a negative correlation between credit restriction and access to finance by SMEs in Kenya. The findings showed a significant and negative linear relationship between credit restriction and access to finance by SMEs in Kenya meaning that increased credit restriction by banks reduces access to finance by SMEs. This implies that credit restriction is a major factor which affects SMEs' access to finance in Kenya. The findings revealed that credit restriction affect access to finance by SMEs negatively. The findings are supported by the coefficient of determination) which shows that variations in access to finance by SMEs is explained by credit restriction. The influence of credit restriction on access to finance by SMEs is also statistically significant and hence the null hypothesis

was rejected and the study concluded that there is a significant relationship between credit restriction and access to finance by SMEs in Kenya.

5.2.5 Moderating Effect of Credit Guarantee Schemes

The last specific objective of the study was to analyse the moderating effect of Credit Guarantee Schemes on the relationship between financial market failure constraints and access to finance by SMEs in Kenya. The findings revealed that credit guarantee schemes had a moderating effect on market failure constraints on influencing access to finance by SMEs in Kenya. The moderation effect was tested using the change in the coefficient of determination (R^2). The overall coefficient of determination without the moderating variable was higher than after the introduction of the moderating variable. This indicates that moderating factor (credit guarantee schemes) reduces the effects of market failure constraints on access to finance by SMEs in Kenya. The moderating effect of credit guarantee schemes on market failure constraints was statistically significant with the p value of less than 0.05 and hence the null hypothesis was rejected and the study concluded that there is a significant moderating effect of CGS on the relationship between market failure constraints and access to finance by SMEs in Kenya.

5.3 Conclusions

Based on the findings of the study it can be concluded that all the independent variables (credit restriction, lending relationship, collateral requirements and information asymmetry) in the study affects access to finance by SMEs in Kenya (dependent variable). The relationship was confirmed through correlation and regression analysis which revealed that there was a negative significant linear relationship between the credit restriction, collateral requirements and information asymmetry and access to finance by SMEs. Regression and correlation analysis also confirmed that there is a positive significant linear relationship between lending relationship and access to finance by SMEs in Kenya. Regression model summary indicated that 48.4% variation in access to finance by SMEs in Kenya was explained by credit restriction,

lending relationship, collateral requirements and information asymmetry. The model of the study was also found significant.

Credit guarantee schemes (moderating variable) was also found to have a significant moderating effect on the relationship between the independent variables and the dependent variable because the R squared in all the independent variables changed after introduction of moderating variable. Therefore, the study concluded that credit guarantee schemes lowered the effects of credit restriction, collateral requirements and information asymmetry on access to finance by SMEs but increased the effects of lending relationship. Credit guarantee schemes was also found to have a moderating effect in the overall model since R squared in the overall model reduced implying that credit guarantee schemes lowered the influence that the predictor variables combined had on access to finance by SMEs in Kenya.

5.4 Recommendations

Based on the findings of this study the following recommendations were proposed in relation to each objective of the study. On the effects of information asymmetry, the SMEs should improve on their provision of information to banks in order to increase access to finance. SMEs owners should be trained on how to prepare financial statements and other documents required by the banks in order to provide credit. The SMEs should be registered in order for the banks to have confidence with them when providing credit. SMEs owners should be encouraged to keep an accurate record of their assets so as to provide the same when required by the banks.

5.4.1 Information Asymmetry and Access to Finance by SMEs

The study recommends the use of partnerships by increasing the number of intermediaries between the SMEs and the banks to reduce information asymmetry. This is where banks lend to recognized agents such as cooperatives societies and professional associations who in turn lend to SMEs. The study recommends that the

government should come up with a policy on training the SMEs owners on how to prepare financial statements and other documents which are required by banks. The government should also come with a policy of having a legal body to register and regulate SMEs in Kenya; this will give confidence to the banks as they deal with the SMEs.

5.4.2 Collateral Requirements and Access to Finance by SMEs

The study found out that the bank requires collateral from the SMEs in order to advance credit to them, therefore it is recommended that as the SMEs acquire assets for their use, they should consider the type of assets required by the banks in order to increase their access to credit from banks. The SMEs should always consider holding most of their wealth in assets in order to get assets to provide as collateral when applying for loans. The study recommended a framework policy which should lead to and facilitate the development of specific instruments that can be used to mitigate risks associated with lending to SMEs which may not have assets to offer as collateral. The recommended policy should enable the beneficiaries who often lack bankable collateral to receive bank credit at competitive interest rates.

5.4.3 Lending relationship and Access to Finance by SMEs

The study concluded that lending relationship have a positive effect on access to finance by SMEs. It is therefore recommended that the SMEs should try to stick to one bank in order to create a good relationship with the bank. The SMEs should be encouraged to be taking small but frequent loans so that they can create a relationship with the banks in order to reduce on the cost of the subsequent loans. The study recommended the government to come up with a policy which will encourage SMEs to remain in one bank for a longer period of time in order for them to have a good lending relationship with the bank. This will make the SMEs to enjoy more credit from the banks with time.

5.4.4 Credit Restriction and Access to Finance by SMEs

The study found out that the bank restricts credit to SMEs, due to inadequate security, lack of information and poor lending relationship. It is recommended that when the SMEs are applying for loans they should provide enough security for the loans, be careful in providing all the information required by the banks and always to have repeated loans from the same bank in order to create a lending relationship. The study recommended a government policy which will ensure that there is no credit rationing by the banks that is a policy that will penalize banks which reduces the amount of loans applied specially by the SMEs.

5.4.5 The moderating Effects of CGSs on Financial market Constraints

Finally, the results of study indicated that there is a moderating effect of credit guarantee scheme on market failure constraints. The SMEs should be encouraged to take loans through CGS in order to reduce the negative effects of the market failure constraints. It is recommended that banks should provide CGS in order to increase credit advanced to SMEs. The government should start CGS in order to assist the SMEs access more credit from banks. The study recommended the government to set up a mechanism of capitalising a national guarantee fund and county guarantee funds which should be funded by the exchequer, county budgets, contributions from the Central Bank, commercial banks and other financial institutions. There is need to initiate structures that will support enhancement of credit guarantee facilities so that they are available competitively to all sectors including SMEs. These facilities should also motivate banking institutions to offer credit to SMEs on competitive terms. The study recommended the government to provide technical assistance to financial institutions which advance credit to SMEs. In order to increase the participation and uptake of banks for various credit guarantee products the study recommended for an appropriate legal and regulatory framework and capacity building in the banking sector to enable the SMEs access finance like other business entities.

5.5 Areas for Further Research

This study did not include all market failure constraints and a further study is recommended to include other constraints which may influence access to finance by SMEs. The results of the regression analysis showed that all the independent variables combined explained 48.4% of the variation in access to finance by SMEs, thus there remains 51.6% variation which is explained by other variables. The researcher recommends that future research should be directed towards validating the results of this study by conducting a similar research in SMEs in Kenya by collecting data from a different area other than Nairobi County because the SME owners in rural areas may have different borrowing characteristics.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

Gichure Joseph Mwangi

Jomo Kenyatta University of Agriculture and Technology,

Department of Entrepreneurship, Technology, Leadership and Management.

P.O BOX 62000,

NAIROBI.

Dear Sir/Madam,

RE: RESEARCH DATA ON "FINANCIAL MARKET FAILURE CONSTRAINS AND ACCESS TO FINANCE BY SMEs IN KENYA"

I am a student pursuing a Doctorate of Philosophy degree in Business Administration at Jomo Kenyatta University of Agriculture and Technology. I am required to undertake a research thesis as partial fulfilment for the award of the degree. My research topic is as stated above. I am kindly requesting for your assistance in making my research a success.

The purpose of this letter is therefore to request you to fill the attached questionnaire. I give you the assurance that all the data collected will be treated with utmost confidentiality and will be used for the purposes of this research only.

I look forward for a good response. Thanks in advance.

Yours Sincerely

Joseph Mwangi Gichure

APPENDIX II: QUESTIONNAIRE

The questionnaire was administered to the owners of Small and Medium enterprises.

SECTION ONE: PROFILE

Please put a tick [√] in the closed brackets next to the right response

1. Age in years

    1. Below 30 years [ ]
    2. 31-40 years [ ]
    3. 41-50 years [ ]
    4. 51-60 years [ ]
    5. 61-70 years [ ]
    5. 71 and above [ ]

2. Gender:

    1 Male [ ]

    2. Female [ ]

3. Type of business

    1. Manufacturing [ ]
    2. Processing [ ]
    3. Service provider [ ]

4. General Trade [ ]

5. Others (specify).....

4. The number of employees:

   1. 10 and below [ ]
   2. 11-50 [ ]
   3. 51-100 [ ]
   4. 101-150 [ ]
   5. Above 150 [ ]

5. What are Annual sales of your business?

   1. Below Shs 500,000 [ ]
   2. Shs 500, 000-5 million [ ]
   3. Above 5 million [ ]

6. What is the main source of the business finance?

   1. Own savings only [ ]
   2. Business earnings only [ ]
   3. Bank loans only [ ]
   4. Loans from informal groups only [ ]
   5. Combination of sources [ ]

7. What is the status of the recently applied loan from the bank: -

   1. Loan was granted in full [ ]
   2. The loan application was not accepted [ ]
   3. Loan given was less than what I had applied for [

8. What are the difficulties for not applying a bank loan?

    1. The bank loan is expensive [ ]
    2. Acquiring the bank loan takes a long time [ ]
    3. Difficulties in meeting the conditions set by the bank [ ]
    4. Others (Specify).....

SECTIONTWO: INFORMATION ASYMMETRY

9. When applying for a business loan what information does the bank insists on most? Information on;

    1. Business earning [ ]
    2. Business assets [ ]
    3. Daily records of sales and purchase [ ]
    4. Years of business existence [ ]
    5. Ownership documents [ ]
    6. Business registration documents [ ]
    7. Tax payment certificate [ ]
    8. Purpose of the loan [ ]
    9. Any other……..

10. Which among this information is most difficult to provide? Information on: -

    1. Business earning [ ]
    2. Business assets [ ]
    3. Daily records of sales and purchase [ ]

4. Years of business existence [ ]

5. Ownership documents [ ]

6. Business registration documents [ ]

7. Tax payment certificate [ ]

8. Purpose for the loan [ ]

9. Others (please indicate) .....

11. What are the reasons for the difficulties in providing information?

1. The cost of preparing the information is very high [ ]

2. The information I have is not accurate [ ]

3. The information I have is not enough [ ]

4. I do not have documents for most of my assets [ ]

5. I do not have skills to prepare the financial documents [ ]

6. I am afraid of providing business information since competitors might exploit it [ ]

7. Any other

12. Following are statements concerning the effect of failure to provide information on access to finance. Indicate if you 1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree

STATEMENTS	1	2	3	4	5
Failure to provide business information due to high cost negatively affect my access to finance					
In accurate information negatively affect my access to finance					
Inadequate information negatively affects my access to finance					
Lack of documentation for most of my assets negatively affect my access to finance					
Failure to provide information due to lack of skills to prepare the financial documents negatively affect my access to finance					
Fear of providing business information due to competitors					

SECTION THREE: COLLATERAL REQUIREMENTS

13. When applying for a business loan please tick what the bank requires

1. The bank requires collateral [ ]
2. The bank does not require collateral [ ]

14. What kind of collateral/security does the bank require?

1. Land title [ ]
2. Car log book [ ]
3. Business assets (Machines buildings, stock) [ ]
4. Others specify.....

15. What are the difficulties of providing collateral/security to the banks?
    1. I do not have assets to provide as security/ collateral [ ]
    2. I have assets but they are not enough as collateral /security [ ]
    3. Providing assets as security hinders the use of such assets for other purpose [ ]
    4. The assets I have are not accepted by banks as collateral /security [ ]

16. Following are statements concerning the collateral requirement. Indicate if you 1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree

STATEMENTS	1	2	3	4	5
The high Collateral requirements negatively affect my access to finance					
Since I do not want to tie my assets by giving them as collateral it's difficult to access to finance					
Lack of collateral negatively affect my access to finance					
Unacceptability of my assets as collateral negatively affect my access to finance					

SECTION FOUR: LENDING RELATIONSHIP

17. How many years have you been operating with your current bank?
    1. Less than 5 years [ ]
    2. 5-10 years [ ]
    3. 11-15 years [ ]

4. Above 15 years [ ]

18. How many times have you applied for a loan from this bank**?**

1. Once [ ]
2. Twice [ ]
3. Three times [ ]
4. Four times [ ]
5. Five times [ ]
6. More than 5 times [ ]

19. If more than one, how do you compare the cost (interest, transaction cost) of the first loan with other loan that followed?

1. Cost was similar [ ]
2. The cost of first loan was higher [ ]
3. The cost of the first loan was lower [ ]

20. How do you compare the size of the first loan with other loans that followed?

1. Size was similar [ ]
2. The size of first loan was bigger [ ]
3. The size of the first loan was lower [ ]

21. Following are statements concerning lending relationship. Indicate if you 1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree

Statements					
Remaining in one bank for a long time positively affects my access to finance					
Seeking services from many banks and not one increases my chances of accessing finance					
The trust that my bank has assisted me with ease to acquiring of a loan					
Due to long relationship with the bank, the cost of loan I get have decreased					
The size of the loan has increased over time					

SECTION FIVE: CREDIT RESTRICTION

22. When you apply for a loan the bank can refuse to accept, give you part of the loan or reject to give you at all.

a) What is the main reason for the bank refusing to give you the loan?

1. Inadequate collateral/security [ ]
2. Lack of information [ ]
3. Poor lending relationship [ ]
4. Others.....

b) What is main the reason for giving you part of the loan?

1. Inadequate collateral [ ]
2. Lack of information [ ]

3. Poor lending relationship [ ]

4. Others.....

c) What is the main reason for the bank to accept to give you all loan?

1. Adequate collateral [ ]
2. Providing information [ ]
3. Good lending relationship [ ]
4. Others.....

23. Following are statements concerning credit restriction. Indicate if you 1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree

STATEMENTS	1	2	3	4	5
Inadequate collateral/security leads to credit restriction					
Lack of information leads to credit restriction					
Poor relationship leads to credit restriction					

SECTION SIX: MODERATING EFFECT OF CREDIT GUARANTEE SCHEMES

24. Please tick one of the options

1. My bank operates a Credit Guarantee Scheme [ ]
2. My bank does not operates a Credit Guarantee Scheme [ ]
3. I do not know whether my bank operates a Credit Guarantee Scheme [ ]

25. Please tick one of the options

1. I have ever taken a loan through a Credit Guarantee Scheme [ ]

2. I have never taken a loan through a Credit Guarantee Scheme [ ]

26. If you have ever taken a loan through a Credit Guarantee Scheme, answer the following questions?

a) Collateral/security requirement was:

1. Minimal compared to before [ ]

2. The same [ ]

b) Cost of the loan was

1. Reduced significantly [ ]

2. The same [ ]

c) Time taken between applying and getting the loan was:

1. Reduced [ ]

2. The same [ ]

d) Size of loan given have:

1. Increased than before [ ]

2. Remained the same [ ]

e) Number of times my application has been rejected:

1. Have reduced [ ]

2. Remained the same [ ]

27. Following are statements concerning moderating effect of CGS on access to finance. Indicate if you **1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree**

STATEMENTS	1	2	3	4	5
Because of CGS I can easily provide the information required by the bank easing access to finance					
Because of CGS the collateral requirement has reduced easing access to finance					
Because of CGS the lending relationship with the bank have improved access to finance					
Because of CGS the amount of loan I get is larger than before					
Because of CGS my loan application is rarely rejected access to finance					
Because of CGS I get the loan equal to the amount I applied for					

28. How have CGS made access to finance easy?

…….

……

……

……

29. What are the challenges of applying a loan through CGS?

……..

……..

……..

30. What recommendations would you suggest to improve CGS?

……

……

……

……

SECTION SEVEN: ACCESS TO FINANCE

31. Please provide the following information concerning the loan you had applied for the last two years.

Lending Institution	Amount Applied	Amount Granted	Date Applied	Date Granted	Repayment period
Commercial Bank					
SACCO					
MFI					
Building Society					
Informal Group					

32. If your loan application was rejected what was the reason;

a) I had not provided the required information [ ]

b) I had not provided security for the loan [ ]

c) I had not operated an account with the bank [ ]

d) Others reasons (specify)_____

33. If your never received total amount applied for what was the reason;

a) I had not provided enough information [ ]

b) I had not provided enough security for the loan [ ]

c) I had not operated an account with the bank for required period [ ]

d) Others reasons (specify)_____

34. Following are statements concerning access to finance by SMEs. Indicate if you 1-strongly disagree, 2-disagree, 3-somehow agree, 4-agree, or 5-strongly agree

STATEMENTS	1	2	3	4	5
I have been able to get quick access to finances					
I have been able to access to finance with flexible terms					
I have been able to access to finance from commercial banks					
I have been able to access affordable finances					
I have been able to access finance from micro finance institutions					
I have been able to access finances from informal sources					