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Credit Rationing for Small and Medium Scale Enterprises in the Commercial Bank Loan Market

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ABSTRACT

The potential of small and medium scale enterprises (SMEs) in promoting economic growth and poverty alleviation in both developed and developing countries is widely accepted and documented by both scholars and policy makers. Limited access to credit for these SMEs, especially in developing countries, has been identified as a major bottleneck in realising this potential. Bank credit is one of the major ways of addressing the challenge of inadequate funding that exists in the SME sector, however, studies conducted in Tanzania shows that SMEs have limited access to bank credit. This paper investigates the existence of credit rationing among SMEs in commercial bank loan market. Our rationing definition incorporates firms whose loan applications were rejected, but also partially rationed borrowers. The research methodology used multiple methods of data collection and analysis which enabled an element of triangulation to be built into the study design. Data was collected from both the supply-side (bank loan officers) and the demand-side (SME borrowers). This extends the previous study which use only firm level data (demand side) to investigate credit rationing among SMEs. The paper employ a cross tabulation, approach that accounts for the underlying selectivity since rationed firms are comprise firms which are rejected or partially rationed. I include firm-specific attributes related to informational asymmetries, and therefore expected to affect credit rationing. The findings suggest that this phenomenon is prevalent and depends on firm and entrepreneur characteristics, relationship characteristics and loan characteristics and supply conditions. Based on the findings, a number of policy implications aiming at reducing credit rationing for the small business sector were derived.

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1.0   INTRODUCTION

The potential of small and medium scale enterprises (SMEs) in promoting economic growth and poverty alleviation in both developed and developing countries is widely accepted and documented by both scholars and policy makers.   SMEs account for a sizeable share of overall employment levels in both developed and developing countries. Data collected by Ayyagari *et al.* (2007) for 76 developed and developing countries indicate that, on average, SMEs account for close to 60% of manufacturing employment. Likewise, in Tanzania, the small and medium scale industry is seen as a key to Tanzania's economic growth, alleviation of poverty and unemployment in the country. Available data shows that SMEs contribute about 40% to the country's Gross Domestic Product (Tamara, 2006). SMEs are said to be 80 percent of registered business each employing between 5 and 99 people (Tamara, 2006). Therefore, promotion of such enterprises in developing economies like Tanzania is of paramount importance since it brings about a great distribution of income and wealth, economic self-dependence, entrepreneurial development employment and a host of other positive, economic uplifting factors (Aremu 2004)

In recognition of the depth and breath of the consequences of small-scale enterprises in alleviating poverty and national development, there has been a deep-self interest in recent years for development of Tanzanian SMEs particularly since the adoption of the economic reform post 1985. The Government of Tanzania enacted the SMEs development policy (2003-2013) with the aim of fostering job creation and income generation through creation of new SMEs and improving the performance and competitiveness of existing SMEs. Additionally, National Strategy for Growth and Reduction of Poverty II (NSGRP II) has set targets to reduce poverty in both rural and urban areas in Tanzania from 33.6 percent 2007 to 24 percent in 2015. Development of SMEs has been identified to be one among the key strategies to attain the targets of reducing poverty (URT, 2010). Moreover, the government has initiated a package of strategies, aiming to foster SMEs development by reducing various problems facing SMEs in marketing, human resources and management, technology, infrastructure, regulations, and financing (URT, 2010).

Despite the role played by SMEs in employment creation and poverty alleviation, and government effort to develop the sector, SMEs in Tanzania are currently faced with many serious difficulties which act as a barrier to their emergency and growth. One among major bottlenecks to the growth of SMEs in Tanzania is access to finance especially from commercial banks. The Tanzanian government has long recognized the problem and has tried to help SMEs obtain financing for more than a decade, and even raising SME financing to the national development agenda which resulted in the "National Microfinance Policy (NMP) in February 2001. However, SMEs financing difficulties persist. Existing studies on Tanzanian SMEs have consistently cited the problem of finance as principal constraint on their development and growth. In survey of 136 small firms in Tanzania, Satta (2003) found that

63% of them consider difficulties in accessing finance from financial institutions as the major constraint to their development. Ayyagari *et al.* (2006) using sample of 80 countries including Tanzania they found that access to finance is an important constraint to firm growth. They suggest for further investigation of country and firm level determinant of financing obstacles for future work. Maliyamkono (2006) noted that total credit during 2006 stood at 36% of commercial banks deposits and was concentrated on large firms. Likewise, Olomi (2009) noted that, studies consistently show that over 70% of SMEs in Tanzania perceive finance to be the most serious impediment to the establishment and development, although banks in Tanzania generally do not have liquidity problems.

The phenomenon of limited access to finance by SMEs from financial institution is widely recognised in other developing countries. According to Beck *et al.* (2007) Access to and cost of finance is often ranked as one of most constraining feature of the business environment by SMEs. Specifically, the cost of finance is rated by over 35% of small and medium enterprises as major growth constraint in a sample of 71 developing countries, more than any other characteristic of the business environment. Access to finance is rated as major constraint by around 30% of small and medium enterprises. Moreover, financing is one of the few characteristics of the business environment that is robustly linked to firm growth, while other features have at most an indirect effect on firm growth (Ayyagari *et al.* 2006).

Information is a key input that goes into the credit decision of banks. Also one of the challenges for banks is to acquire information about the credit risk of the borrower, as borrowers have more information than the lender about the projects (Myers & Majluf, 1984). Existing contract theory argues that banks are not interested in offering credit to SMEs because it is particularly difficult to overcome information asymmetries and resulting screening, monitoring, and enforcement problems. Under asymmetric information conditions banks are uncertain about the future behaviour of the borrower in terms of repaying the loan. Asymmetric information problem are more likely to occur when banks deal with SMEs due to higher opacity of these firms (Berger *et al.* 2001; Beck *et al.* 2004; Hyytinen and Pajarinen, 2008; Cole 2004). By opaqueness the literature means that it is difficult to ascertain if firm have the capacity to pay (have viable project) and/or willingness to pay (due to moral hazard) (Beck, 2010). Information asymmetry between SME borrowers and the banks is reflected in inability of the majority SMEs to provide up to date reliable financial information and realistic business plans, which increases the cost of lending that banks incur while dealing with these SMEs. Consequently limits the ability of banks to assess the credit-worthiness of the individual SME borrowers.

The argument of information asymmetry is supported by Olomi (2009) who emphasised that poorly compiled records and financial account coupled with inability of SMEs to properly express their knowledge about business opportunities aggregates the lack of adequate information in bank-SME credit transactions in Tanzania. Temu (1998) affirm that financial institutions in Tanzania are reluctant to finance small and medium firms for fear of default

risk due to unreliable financial plans and records. Satta (2003; 2006) amplify this argument by point out lack of adequate and reliable collateral, lack of appropriate instrument to manage risk, not being familiar with complicated information about SMEs and perceived risk make banks in Tanzania become unwilling to provide the much-needed finance to SMEs. Under these circumstances, literature shows that were information asymmetry exist banks will ration the supply of credit and in addition will tighten requirements such as collateral in order to protect themselves from likely opportunistic behaviour of dishonest borrowers.

Credit rationing refers to a situation in which at prevailing rate of interest in a credit transaction, the borrower would like to borrow more money but is not permitted by the lender (Stiglitz and Weiss, 1981; Jaffee and Russel, 1976; Williamson, 1986). In this situation borrowers lack access to credit or adequate credit at prevailing rate of interest even if they are willing to pay higher interest rate. Essentially there are two types of rationing that lenders can impose: Type 1, where lenders grant smaller loan amounts than those requested, and Type 2, where a subset of borrowers is denied credit altogether (Storey, 1994). Bankers consider two aspects of the loan in their credit decision-the interest rate on the loan and the credit risk of the loan. However, as Jaffee and Russel (1976) Stiglitz and Weiss (1981) and Williamson (1987) argued, under asymmetric information, the interest rate itself affects the risk of the loan in three ways. First, is adverse selection; that is, only more risky projects would come forth for loans at higher interest rates; and second, moral hazard, as borrowers who have been granted the loan at a higher interest rate would undertake a more risky project in order to earn higher expected returns (Jaffee and Russel,1976 and Stiglitz and Weiss, 1981). Thirdly, higher assessment and monitoring costs lead to higher interest rate, the resulting higher lending costs can increase the likelihood that borrowers cannot pay due to too high repayment burden (Williamson, 1987). Therefore, banks assume that increasing the interest rate it charges borrowers may adversely affect the riskiness of the borrowers' projects" or that "increasing the interest rate can erode the ability to repay debt" (Wolfson, 1996). With reference to this, "increased supply with acceptance of higher prices will not be satisfied because prices above the optimal level will not increase bank profitability with the volume of non-performing loans increasing" (Kundid *et al.* 2011). As a result, at higher interest rates, the expected return from a loan would start decreasing after a point due to higher defaults. Thus, in the presence of information asymmetry in the market for loans and costly monitoring, banks would not use interest rates alone to equate demand and supply, but would ration credit. Given lending rate is not an effective credit allocation mechanism, to identify creditworthy borrowers, lenders utilize non price mechanisms to ration loans based on the attribute of the entrepreneurs and the characteristics of enterprises (Beck 2006; Han, 2008; Muravyev *et al.* 2009)

The probability that the constraint is binding for a given firm depends on availability of signalling and/or screening devices to overcome existing information asymmetries. Apart from risk and return of the funded project, availability of collateral and closer relationship with the bank are assumed to be among the most important devices to avoid credit rationing.

The conversional view is that availability of collateral and closer relationship with banks can mitigate information asymmetries and thus solve credit rationing problem. Collateral induces a borrower to reveal his or her default risk, acting as a signalling device (Bester, 1985; 1987; Bensanko and Thakor, 1987). It also reduces loan risk because the bank has a legal claim against collateralized asset in case a borrower default. Relationship lending can reduce information problems in SMEs financing through close and repeated interaction (Fama, 1985; Diamond, 1984; Diamond 1989). This allows the lender to learn about the borrower – for instance through the borrower's repayment history – and thereby reduce the existing information asymmetries hence credit rationing (Diamond, 1991). Empirical analysis has shown important benefits from strong banking relationships and collateral in alleviating credit rationing.

Credit rationing and its determinants are widely discussed in previous empirical studies conducted in other countries. Zambaldi *et al.* (2011) analyzes credit granting decisions in Brazil, with probability of loan approval as dependent variable. The findings reveal that the bank under study faces difficulties in expanding the supply of credit to small firms mainly because of transaction cost, collateral-dependency and constraints due to asymmetric information. Fatoki and Van Aardt Smit (2011) investigate the constraints to credit access by new SMEs from commercial banks. The results indicated that collateral, business information, managerial competencies and networking are important constraints to credit access from commercial banks. Using enterprise survey data from Kosova, Krasniqi (2010) examine the determinants of obtaining bank finance conditional upon applying. The results of the survey showed that commercial banks base their decision to loan firms primarily on the basis of collateral. But profitability as a measure of firm performance does not seem to be sufficient signalling for banks in order to allocate credits. Hashi and Toci (2010) also examined the impact of firm characteristics on SMEs perceived financing constraints in South-East Europe. They found that compared to the group of larger firms, small firms are more likely to be refused a loan and face greater difficulties in accessing both short-and long-term loans from banks. Voordeckers and Steijvers (2008) showed that in Belgium more than 50 percent of SMEs were credit rationed. They showed that smaller, faster growing firms with insufficient financial strength and lack of collateral were more credit rationed for short-term debt. On the other hand, smaller and younger enterprises with slow growth, poor internal financial sources and deficiency of tangible assets to guarantee the repayment of debt were subject to generally higher credit rationing of long-term debt despite their higher added value and return on assets ratio than unconstrained firms. Han (2008) examine impact of business and entrepreneur characteristics on severity of financial problem perceived by entrepreneurs. They found that some characteristics of entrepreneur (e.g. education, experience, personal wealth) and business (e.g. size and credit card) have strong impacts on the severity of financial problems faced by SMEs in UK. Herna´ndez-Ca´novas and Martı´nez-Solano (2007) investigates how the choice between single or multiple banking relationships affects credit availability. The result indicates the existence of rationing, since a substitution relation has been found between trade and bank credit. The results show that

those SMEs that work with fewer financial intermediaries obtain fewer funds. De Bodt, Lobez and Statnik (2005) examine the determinants of credit rationing in Belgium. They found a positive relationship between credit availability and the duration of the lending relationship. Angelini, Di Salvo and Ferri (1998) use a dataset of 1095 Italian firms. They found firms with short relationships (less than 3 years) are more likely to be credit constraints. They also found that Italian companies working with fewer financial entities achieved better credit availability. Guiso Luigi (1998) use cross-sectional data on a sample of Italian manufacturing firms to assess firms access to credit. They found that the probability that a firm will be denied credit does not appear to depend on the amount of collateralizable assets (either real or financial). In deciding their credit policy, banks seem to react to the level and composition of firms' liabilities: a large share of short-term financial liabilities considerably increases the probability of a firm being credit-constrained.

Even though the aforementioned studies provides empirical evidence on SMEs credit rationing and its determinants, there are still some gaps which need to be addressed. First, the studies focused on the demand side of access to debt finance (perception of SMEs) and not the supply side (perception of commercial banks). A comprehensive survey to examine the obstacles to credit as perceived by providers of funds (commercial banks) and SMEs could help to further confirm the findings of the previous study. Second most of aforementioned studies employ data from America, Europe, Asia and only few of them refer to developing economy like Tanzania. Therefore, most of their findings do not explain credit granting in developing economies with very particular financial conditions like Tanzania. Thirdly, none of these studies examine the influence of information management practices of SMEs, loan characteristics, borrower reputation, and borrowers understanding of bank requirements for obtaining credit on access to bank credit. These variables are very crucial in delivering information to commercial banks, knowing that most SMEs are rationed due to information problems. Therefore, different from previous studies, this study contributes to SMEs finance literature in several dimensions. First, this paper examines rationing status of SMEs and its variation across gender, industry, size and loan characteristics. Second, using unique data from Tanzania, by qualitative analysis and quantitative analysis, employing descriptive statistics explores specific parameter that affects SME's ability to acquire bank credit. Third, SMEs in Tanzania bears similar characteristics, so this paper provides a mirror of SMEs' rationing status in Tanzania.

Considering the importance of SMEs in promoting economic growth in Tanzania, and the above argument that support the nation that SMEs do not have access to adequate finance to support their operations. The existence of credit rationing in the financing of SMEs is a phenomena that need not be taken for granted. If firms face limited access to external finance they may be unable to invest, despite their willingness to do so unless internal sources of finance are available. This leads to the situation where economy is losing some of the potential benefits of potentially good projects that will not be implemented because of the lack of funds. As the result, financially constrained firms may not only miss opportunities to

keep individual firms from growing, but if large numbers of firms are constrained country-level growth can suffer, hence hamper their contribution to employment creation and poverty alleviation. Credit rationing is thus phenomenon of key important for decision maker concerned with SMEs development

In order to contribute to the understanding of limited access to credit on SMEs, this study investigated existence of credit rationing for Tanzanian SMEs on the bank credit market, a country where the credit market imposes severe credit constraints to SMEs. Such studies are very scarce in Tanzania in spite of anecdotal data suggesting that credit rationing is significant. In this framework, we address a number of questions: To what extent SMEs are rationed in commercial loan market? Is credit rationing driven by attributes of the entrepreneurs and the characteristics of enterprises or supply conditions? To what extent does collateral, relationship lending and loan characteristics affect credit rationing of firms? This work uses direct measures of credit rationing provided by survey carried out by the researcher. This information allows a direct identification of rationing status, credit rationed firms and permitting an explicit connection between rationing and potential borrower profile. Our main findings are that credit rationing is driven primarily by business and entrepreneur characteristics and supply side conditions. Most variables that proxy for firms and entrepreneur characteristics affect the possibility of firms being rationed: age, gender, managerial competence measured by level of education, industry, quality of business information, poor quality accounting, borrower understanding of banks requirements for obtaining credit, inadequacy of collateral, poor relationship with banks and borrower reputation. While, only few variables relating to supply side conditions appear to play a role in determining credit rationing: Inflexible loan eligibility criteria, cumbersome analysis of loan applications, unfavourable credit terms and conditions such as higher interest rate, commissions charged by banks, and excessive collateral requirements in comparison to loan value, higher monitoring costs and corruption of bank officials. Section 2.0 reviews the literature on credit rationing and its counter measures. Section 3.0 describes the research methodology. Section 4.0 presents the data and describes the results Section 5.0 concludes.

2.0   CREDIT RATIONING RELATED LITERATURE

2.1   Information asymmetry, transaction costs and credit rationing

Credit rationing theories are based on informational asymmetries between lenders and borrowers and transaction costs of information search and monitoring. The availability of information in the decision to lend is important because it enables the bank to evaluate the risk-return profile of the loan application and hence set the level and terms of credit to be extended to the borrower. However, according to Gorman *et al*. (2005) full information about the borrower's project may not always be available. This leads to a situation of information asymmetry, which occurs when one party to the lending transaction has more and/or better information than the other. Information asymmetry between SME borrowers and the banks is reflected in inability of the majority SMEs to provide up to date reliable financial information and realistic business plans. This increases the cost of lending that banks incur while dealing with these SMEs. Also limits the ability of banks to assess the credit worthiness of the individual SME borrowers. Where information asymmetry exists, literature shows that it may lead to excess demand for credit in traditional credit markets (Jaffe and Russell 1976, Stiglitz Weiss 1981 and Williamson 1986). This arises due to credit rationing which results from risks perceived by lenders because of information insufficiency in evaluating loan applications. The risks that banks face when they lack necessary information to distinguish between good and bad borrowers are moral hazard and adverse selection (Jaffeee and Russel, 1976; Stiglitz and Weiss, 1981); monitoring costs and transaction costs in issuing bank debt, such as costs of application, screening costs, bankruptcy costs, etc (Williamson, 186, 1987). Contemporary contract theory argues that banks are not interested in granting credit to SMEs because it is particularly difficult to overcome information asymmetries and resulting screening, monitoring, and enforcement problems: clients are poor, have few assets to collateralise, they don't keep records and those who keep the quality of information is unreliable, and give rise to high transaction costs (Binswanger and Rosenzweig 1986).

Banks could use interest to equilibrate the market and allocate credit. However, bank cannot increase interest rate above certain level. An increase in the interest rate above certain level may worsen the quality of loan in a way that is unacceptable to the bank. The impossibility to use interest rates as screening technology entices lenders to use non-interest screening devices base on the characteristics of entrepreneur and attribute of enterprises (Lehmans and Neurberger, 2001). Statistical model of discrimination Arrow (1973; Phelps, 1972 as cited by Muravyev *et al*. 2009) suggests that, as long as borrowers' demographic characteristics are correlated with their creditworthiness, lenders may use the borrower characteristics as a proxy for the risk factor associated with loans. This is the case when lenders cannot observe the risk factors or do not collect relevant information due to the cost involved. The probability that the constraint is binding for a given firm will decrease with increasing availability of signalling and/or screening devices to overcome existing information asymmetries. Apart from a sufficient performance and satisfactorily risk exposition of the

credit funded project, availability of collateral, individual characteristics and skills of the borrower, relationship lending and borrower reputation are assumed to be among the most important devices to avoid credit. The next section provides a critical discussion of the literature on business and entrepreneur characteristics, relationship lending, collateral, loan maturity and its account of credit rationing.

2.1   Business characteristics, entrepreneur characteristics and credit rationing

Degree of information asymmetry depends on firm characteristics such as firm size, age and industry**.** Size and age of the firm provide a signal concerning credit risk. Firm age is usually viewed as an indicator of firm's quality, since longevity may contain a signal for survival ability and quality of management, as well as, the accumulation of reputational capital (Diamond, 1991). Information asymmetric is likely to be acute for young and newly established firm, because creditors have not had enough time to monitor such firms. Furthermore, such firms have not had enough time to build long-term relationship to suppliers of finance. Martinnelli (1997) argues that lack of reputation constraints younger firms from borrowing as they grow information asymmetric decrease. Time series study of Bruderl and Preisendorfer (1998) show that firms in the age of class of 2-6 years carry highest bankruptcy risk, whereas long success cannot be expected before seven years after birth. Dunkelberg (1998) argues that because of the liabilities associated with newness the bank may view younger firm as riskier than older firms. A number of explanations have been proposed for small firm disadvantages in loan markets. For instance, their higher relative probability of failure (Jensen and McGuckin, 1997), fixed costs in assessing application for finance (Symeonidis, 1996), and proportionately higher monitoring costs (Boocock and Woods, 1997). In addition, smaller firms may have lower collateral relative to their liabilities than larger ones, and unit bankruptcy costs are likely to decrease with size (Audretsch and Elston, 2002).

Previous empirical studies show contradicting result on the influence of age and size on credit rationing. According to Smorfitt (2009) new SMEs in South Africa do struggle to raise external finance. Demirgüç-Kunt *et al.* (2006) found that, small firms consistently report higher financing obstacles than medium and large enterprises. Beck *at al.* (2007) found that size, age and ownership are most reliable predictors of firms financing obstacle. Guelpa and Tirri (2004) show that younger Italian firms are more likely to be credit rationed than older ones, because they have a shorter track record. Schiffer and Weder (2001) applying logistic regression found that small firms are likely to face tougher obstacles in obtaining finance. Storey (1997) applying logistic regression to analyse financial constraint perceived by high growing SMEs in UK, found that younger and small firms are likely to report financial constraints in UK. Harhoff and Korting (1998) who also apply probit regression found that firm age and size significantly affect credit availability. The above result contradict the result of Lehman and Neurberger (2002), using probability of loan approval as a proxy for the

availability of credit in Germany, found that age and size show no impact on credit availability. Moreover, Driemeir (2009) explore whether firms characteristics affect perception about financial constraint in Brazil. The found that firm size or performance is not related to a generally higher or lower perception about financial constraint. Abor (2007) found that SMEs in the agricultural sector exhibit the highest capital structure and asset structure or collateral value, while the wholesale and retail trade industry has the lowest debt ratio and asset structure. Therefore, it is expected that industry positively impacts on access to bank finance.

According to Kitindi, *et al.* (2007) creditors, banks and other lenders use business information provided by firms to analyse their present performance and predict future performance. Financial information acts as indicator of borrower's future prospects and ability to service a loan. Availability, quality and reliability of business information can reduce information problems between bank and borrowers, hence alleviate credit rationing. Therefore, generation and effective use of financial information is essential in accessing funds from external sources

Information asymmetries, where capital providers have less information on the financial circumstances and prospects of small firms than owner-/managers, are regarded as the root of small business finance problems (Binks *et al.* 1992). Compared with their larger counterparts SMEs face greater constraints in accessing capital because they lack adequate financial information to enable outside investors to assess their performance (Cassar and Holmes. 2003). Unreliable financial plan and records and poor record keeping have been also mentioned to be among of the major causes of limited access to credit by SMEs in Tanzania (Temu, 1998, Olomi 2009). Moreover, Olomi (2009) argued that SMEs operators lack the appreciation of the need for keeping business and financial records or asking professional accountants to do so. Those who keep records have two set of accounts, one of which is informal and the other one which is formal. This means they cannot demonstrate a track record of good performance and affect the quality of financial reports of SMEs. However, to date there is a lack of empirical evidence concerning accounting practices and access to external funds. Berger *et al,* (2005) and Uchida *et al.* (2008) investigate whether the presence of hard information is relevant or not, in granting credit to SMEs. Berger and Black (2010) only indicate whether a firm has ''documentation or accounting records on which to answer survey questions. All the aforementioned studies didn't consider the practical issues in the preparation of those accounts. They ignore the reliability and accuracy of source of information used to prepare those financial statements. They did not take into consideration accounting practices of the firm, they only base on lastly prepared statements rather than reliability and accuracy of source of the data.

Previous studies show that entrepreneur characteristics such as age of the owner, sex, ethnicity, education, experience and personal wealth determine financial constraints pertaining to SMEs. Tulus Tahi Hamonangan Tambunan (2011**)** using data from Indonesian

SMEs, found that the representation of women entrepreneurs in SMEs is relatively low suggesting that entrepreneurship is still male dominated. They further argue that this fact can be attributed to at least four main factors: a low level of education and lack of training opportunities; heavy household responsibilities that inhibit women's participation in the formal economy; legal, cultural, or religious constraints on the extent to which women can open their own businesses; and lack of access to formal credit from financial institutions. Further, they suggests that, although there is increasing micro-level evidence suggesting SMEs are able to innovate, in general most are restricted by a lack of capital and skill. Innovation is even more difficult for women entrepreneurs as they face more constraints in accessing the resources necessary to implement new processes and techniques.

Adesua-Lincoln (2011) explored Nigerian female entrepreneurs based on a survey of 132 female-owned firms. The study sought to construct a typology in terms of their demographic characteristics and motivation for going into business, as well as access to finance when starting or expanding their business venture. The findings revealed that Nigerian female entrepreneurs are particularly constrained by their weak financial base and lack of collateral. Many of the women in the study were seen to resort to internal sources of finance for their start-up and working capitals. While many of the challenges faced by female entrepreneurs can also be linked to the inferior status of women in many African societies, their underestimation as economic agents, as well as gender bias embedded in tribal and cultural norms, the findings showed gender is extraneous to the practices of financial institutions when dealing with female entrepreneurs.

Irwin and Scott (2010) investigated barriers to raising bank finance faced by UK small and medium-sized enterprises (SMEs), specifically the impact of personal characteristics (ethnicity, gender and education). They found that though statistically insignificant, women respondents found it easier to raise finance than men. The survey confirmed that – and this finding was statistically significant – ethnic minority businesses, particularly black owner-managers, had the greatest problem in raising finance and hence relied upon "bootstrapping" as a financing strategy. Likewise Muravyev *et al.* (2009) examined whether financial institutions discriminate against entrepreneurs on the basis of gender. They found some evidence that compared to male managed counterparts; female-managed firms are less likely to obtain a bank loan. In addition, analysis suggested that female entrepreneurs are charged higher interest rates when loan applications are approved. Mijid (2009) found that in the United States of America women owned firms have higher loan denial rates and lower application rates than their male counterparts. Blanchard *et al.* (2008) found statistically significant evidence of substantial discrimination in loan approval against black owned and Hispanic-owned businesses. They also found some hints that this discrimination takes the form of statistical discrimination, driven by lenders' stereotypes about the ability of black- and Hispanic-owned businesses to succeed under some circumstances. Han (2008) analysed the influence of business and entrepreneur characteristics on financial constraint perceive by SMEs in UK. He found that entrepreneurs' characteristics such as education, experience and

personal wealth have strong impact on the severity of financial problem faced by SMEs. Cavalluzzo *et al.* (2005) investigated the role of race, ethnicity, personal wealth and gender in US, they found that ethnicity, gender and personal wealth are associated with probability of loan denial. Blanchflower *et al.* (2003) use several sample splits and compare regression results for groups of firms that differ in the extent to which personal wealth should influence loan decisions, they found no statistically significant effect of gender. Cavalluzzo , Cavalluzzo and Wolken, (2002) found that African-American owners and females who applied for credit within three years of the survey were more likely than others to be denied credit. Oayec (2000) found that in Ontario, youth entrepreneurs have negative experience with the bank due to lack of business experience and track record.

Olomi (2009) argues that limited managerial capacity demonstrated by lack of formal planning, appraisal and reporting system and structures constraint access to finance by SMEs. Few SMEs owners-managers uses professionals to write business plans, but some of these may not have internalized the vision, objectives and strategies stated sufficiently to own them and hence discuss them with bankers. OECD (2006) has supported this by arguing that SMEs are considered to be at a greater risk of failure, partially because company director may have less collective management experience or may have less business expertise than large.

Borrower understanding of bank requirements for obtaining credit is essential in accessing bank credit. This is because it will ensure delivery of information to the bank. Quality and quantity of information available to the bank is essential in accessing credit. The flow of information implies that both parties will have better understanding of each other (Ennew and Binks, 1997**).** To ensure adequate flow of information is essential for borrowers to understand information needed by banks and importance of that information in accessing bank credit. Japelli and Pagano, (2001) noted that accurate credit information can have greater predictive power for the performance of firms than the data contained in financial statements. Therefore borrower understanding of bank procedures and information needed by banks to acquire credit may have an impact on credit rationing. However, no study has been conducted to examine whether limited access to credit by SMEs is influenced by lack of understanding of bank requirements for obtaining credit.

2.2   Collateral

Bougheas *et al.* (2005) contend that collateral is an important factor for SMEs in order to access bank finance. Collateral reduces the riskiness of a loan by giving the financial institution a claim on a tangible asset without diminishing its claim on the outstanding debt. Coco (2000) point out that collateral is the lender's second line of defence. 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 guarantee provided by collateral allows financial institutions to offer credit on favourable terms to SMEs even if uncertainty and

informational opacity characterize the firm. If the bank cannot determine borrowers' riskiness (hidden information), then collateral may serve as a screening device to differentiate between good and bad borrowers and to mitigate the adverse selection problem. Investors with low probability of default will reveal themselves by accepting collateral requirements which would be unattractive for high risks (Bester, 1985; 1987). A similar argument holds in the case of moral hazard. Collateral requirements serve as an incentive mechanism because higher collateral enforces a selection of less risky projects (Bester, 1985, 1987).This is due to the fact that a lower-risk borrower has a greater incentive to pledge collateral than a risky borrower, because of his lower probability of failure and loss of collateral. The willingness of the entrepreneur to pledge collateral positively influences the quality of credit request, as perceived by the bank. Borrowers signal the real value and belief in the quality of the project to the bank. Thus low risk borrowers can signal their status through the provision of collateral.

Even though literature identifies collateral as a key, contracting tool employed by lenders to reduce the problem associated with asymmetrical information. The empirical results are inconsistent. In some studies collateral seems to reduce the behaviour of the borrower to redirect borrowed funds to other investments (Menkhoff *et al.* 2006; Hernandez-Cananovas and Martinez-Solano, 2006; Chakraborty and Hu, 2006; Brick and Palia, 2007). In other studies it seems to play a signalling role solving the adverse selection problem (Lehmann and Neuberger, 2001; Jiménez *et al*. 2006). However, other empirical works do not confirm any of the theoretical views: they found no significant relationship between risk and the pledging of collateral (Cressy and Toivanen, 2001 and Krahen 1998).

These studies provide indirect relationship between collateral and credit availability. Little work has been done to empirically assess whether the use of collateral enhances adequate supply of credit for SMEs. Antanasova and Wilson (2004) found that collateral was an important determinant of loan supply and alleviated credit rationing in UK bank loan market. However, the result contradicts that by Petrick (2004) who found that the reputation of the borrower, but not the availability of land as collateral, had an effect on credit rationing in Poland. This diversity in results may be originated in a deficient in measurement. Antanasova and Wilson (2004) measured collateral as the ratio of fixed asset as the percentage of total asset while Petrick (2004) use availability of land as the measure of collateral. This measure they don't provide direct relationship between collateral and credit availability, firm may posses an asset but it may not use it to acquire credit. Different from these studies, in this study direct measure of collateral was used: collateral was measured as the percentage of amount of loan borrower willing to borrow. This measure provides a direct picture of high collateral requirements of commercial banks, which has been complained by many SMEs.

2.3   Relationship lending

Banking relationships also seem to alleviate credit rationing because banks can more easily monitor and access information regarding borrowers' history and actions (Petersen and Rajan, 1994). Diamond (1991) argues that the borrowers that suffer from the most severe information asymmetries (e.g., small firms with less established repayment histories and/or borrowers with poor credit ratings) have the most to gain from relationship lending.

Previous empirical studies on relationship lending found that relationship duration has impact on loan rate, the probability of using collateral and credit availability (Elyasiani and Goldberg, 2004). Petersen and Rajan (1994) examine the effect relationship lending on the availability and cost of funds, using a sample of small privately held firms in US. They rely on the fact that credit constraint firm are willing to pay higher price to raise additional funds, and define as constrained in the bank loan market those firms which borrow from non institutional lenders at abnormally higher rate. They use the length of business relationship, measured in years, number of financial services and number of lenders as a measurement of relationship. They found that longer banking relationships, number of financial services purchased from the lending bank and number of bank relationships enhances the availability of fund. They also found a reduction of the interest rate among those enterprises that work with fewer institutions, although they didn't found a significant link between the duration and scope of the relationship and the price of debt. Using the same data base Berger and Udell (1995) found that for firms which maintain long relationship with banks the cost of borrowing on previously negotiated credit lines is smaller and collateral is less frequently required. Cole (1998) examined the effect of the existence of a bank-firm relationship on the probability of being granted a loan using a U.S. sample of small businesses. He found that financial intermediaries are more likely to extend credit to firms with which they have a pre-existing relationship as a source of financial services, but they found that relationship duration is not important. He also found that the likelihood to grant credit is inversely proportional to the number of credit entities with which companies work. Harhoff and Kaorting (1998), using survey data of 1509 German SMEs to examine the role of lending relationships in determining the costs, collateral requirements and the availability of credit. The proxies of strength of relationship are duration, number of lenders and qualitative response in which firm managers indicate to what extent they consider their bank relationship as being characterized by mutual trust. They found that availability of credit is lower for firms with more lenders; duration and trust are not significant. They also found that, interest rate is not significantly affected by duration or the number of lenders, and it decreases with trust. Moreover, collateral requirements decrease with duration and trust but increase with the number of lenders. Cosci and Meliciani (2002) also provide evidence from Italy. They found that the number of bank relationships has a positive effect on credit availability but has no effect on interest rates.

Machauer and Weber (2000), using a sample of German firms, found that loan rate spreads are not affected by the number of bank relationships or house bank status. However, borrowers with a small number of bank relationships provide more collateral and get more credit, where credit availability is the total credit line relative to the borrower's total assets. Likewise Elsas and Krahnen (1998) use credit file data of 200 medium-sized German firms. They found that long-term relationships increase availability of credit in German. Cardone *et al.* (2005) use a sample of 386 Spanish firms. They found that relationship duration increases availability of credit and the maturity of debt, but has no effect on interest rate or collateral requirements. They further found that the number of bank relationships significantly and positively affects availability of credit and number of financial products reduces interest rate and decreases collateral requirements. Han (2008) using a sample of 2500 SMEs in UK found that relationship lending alleviate severity of financial constrain perceived by SMEs. Kano *et al.* (2010) investigates whether the benefits of bank-borrower relationships differ depending on three factors identified in the theoretical literature: verifiability of information, bank size and complexity, and bank competition. They extend the current literature by analyzing how relationship lending affects loan contract terms and credit availability in an empirical model that simultaneously accounts for all three of these factors. Based on Japanese survey data they found that relationship benefit borrowers and their bank in terms of credit availability but are costly to borrower with respect to credit terms. Suggesting stronger banking relationship do not improve credit terms, possibly because these banks dependent borrowers are captured and deprived of larger rent. White (2001) investigates effect of reputation on loan rates using data from private California bank. He found that lending rate was affected by previous credit history with lender. Bodehan (2003) uses data from New York bank to analyse effect of reputation on loan rate, collateral requirement and loan negotiation. He found that borrower with longer relationship with the bank enjoy lower interest rate. Also they were more likely to receive loan renewals. Brick and Palia (2007) examines the impact of borrower lender relationship upon explicit loan interest rate and collateral. They found that length of the relationship does not have impact upon both collateral and level of the loan interest rate. The commonly use empirical measure of relationship lending are duration of relationship, scope and number of financial institution. In addition to the variable identified in previous studies this study introduced more variables namely: trust, borrower reputation, number of loan with other financial institutions. Trust was measured as dummy variable based on self assessment of borrowing firms, if they think their bank trust them. Borrower reputation was measured in terms of number of times borrowers renew credit. Zaheer, Mcvily and Perron, 1998) suggest that trust mitigate the information asymmetries inherent in relational exchange by allowing more open and honest sharing of information. Therefore, it is expected that when there is high degree of trust between borrowers and lenders accurate and open information will be expected. As a result, this will influence the quantity and quality of information available to the bank. As noted by **Enew and Binks (1995)** flow of information means that both parties will have a better understanding of each other.

Previous empirical studies have examined the effect of banking relationships on loan contract term (interest rate and probability of pledging collateral) and availability of credit for small and medium sized enterprises (SMEs) in the US and in Europe. Tanzania also offers a particularly rich environment to examine bank-borrower relationships given the fact that most SMEs have limited access to credit due to high information asymmetries.

2.4   Loan Maturity

The time of maturity or loan duration has impact on credit access. Long-term debt would be more often a constraint than short-term loan. Long-term loan require long-term judgments of the bank on the creditworthiness of the borrower. The company, which is creditworthy at the moment of credit decision, cannot be sure that it will remain credit worth in the future. The term of the loan gives the debtor enough opportunities to switch from low risk to high-risk project. On the other side, Information gathered through their lending activity enables banks to better evaluate borrowers with whom they have dealt in the past, relative to borrowers that are new and unknown to them. Engaging in short-term loans instead of long-term loans may also provide the lender with additional information and reduces the information opaqueness. As the term of the loan becomes shorter, the reputation effect of any risk shifting behavior tends to be more important. So granting short-term loans reduces the moral hazard problem. On the other hand, short-term loans can also be used as a signalling instrument (Flannery, 1986). By entering into short term loans, the borrower allows the lender to generate information on the firm. This information can, throughout time, lead to a strong reputation of the borrower and will cause more favourable contractual conditions on future loans (Diamond, 1991). Hence, short-term loans minimize the adverse selection problem. Martinnelli (1997) show that firms may build reputation by good credit history. Cole (1998) found that lenders are more likely to extend credit if they have a pre-existing relationship with a borrower. Therefore, loan maturity may signal that the firm is trustworthy as it is proved to be trustworthy borrower who punctually pays interest rate and honours terms of contract. Results of the empirical study by Ortiz-Molina and Penas (2008) support the proposition that shorter loan maturities serve to mitigate the problems associated with borrower risk and asymmetric information. Different from Ortiz-Molina and Penas (2008) this study analyzed the role of loan maturity in alleviating credit ration. Loan maturity was measured as the duration of loan maturity (number of years).

2.5   Corruption of Bank Official and Bureaucracy

Under information asymmetry there are significant amounts of discretions possessed by lending officers such as types of collateral and maturity they may accept. This discretion creates room for corruption. Beck *et al* (2005) using firm level data from World Business Environment Survey (WEBS) in 1999, the survey shows that firms rank the bank corruption as greater obstacle of accessing external finance. Olomi (2009) notes that SMEs operators and some of bank officials acknowledge that corruption exists in the banking sector and some bank officers deliberately delay processes until they are promised something.

3.0 METHODOLOGY

The research methodology employed in this research included a review of the literature on the constructs of entrepreneurial finance to provide the theoretical foundation for the research followed by an empirical analysis. The empirical research for the study was conducted in two ways; a pilot study and the main survey. Data was collected between July 2010 and September 2011. The measuring instrument was designed to measure the information asymmetry and transaction cost variables that can constrain the availability of credit to SMEs. These were business and entrepreneur characteristics, collateral, relationship characteristics, loan characteristics and supply conditions. The questionnaire was administered to 28 respondents from commercial banks and 271 respondents from SMEs. Determining the sample of SMEs owners/managers who applied for loan from commercial banks in Tanzania was difficulty due to lack of cooperation from commercial banks. It was difficulty to determine sampling population of SMEs owners/managers by location therefore, a systematic sampling technique was used to select every fourth person who was entering the banks for bank A and bank B. Bank C was very cooperative the sample was drawn randomly from the list of credit applicants. The list contains information about business owner name and telephone number. Therefore only SMEs owner/manager from bank C was determined by location. Further a sample of 28 credit officers who deals with SMEs was selected using simple random sampling.

The study focuses on SMEs because of the following reasons: First, SMEs are more likely to suffer information problems in the capital markets. Degree of information asymmetry between borrower and lender is likely to be higher for the smallest, youngest and opaque firms because of their lack of credit history, the impossibility of a credible dissemination of their quality, and the lack of separation between ownership and management. Second, SMEs are typically restricted to obtain external finance only from financial institutions. Public debt markets are only accessible for large firms. Fourthly, SMEs firms are extremely important for the Tanzania economy.

This study focus on commercial banks because: Firstly, studies have shown that banks are the main source of external finance to SMEs across countries (see Beck, *et al*. 2008). Secondly, given that information opacity is the main characteristics of SMEs, main advantage attributed to the bank financing with respect to other source of finance is that banks can help to overcome problems of asymmetric information by producing and analysing information and by designing loan contract that improve borrower's incentives (Diamond, 1984; Fama, 1985).

The study concentrated on three major commercial banks in the country based on their systematic importance and significance as potential SMEs financier. This is due to the fact that are the ones with the most extensive branch network and, hence most accessible to SMEs at least in terms of location. Further, government still have some share in this banks, therefore government intervention in term of policy implication is possible. Also, the study was

conducted in Dar es Salaam and Morogoro regions. Reasons for selecting Dar es Salaam is the fact that Dar es Salaam is the largest commercial city and selected banks have many branches therefore the possibility of getting representative sample is high. Morogoro was selected because of financial consideration.

The quantitative and qualitative data was collected using two sets of questionnaires, one for the loan officers and another for the SME borrower. Detailed questions questionnaire with both close ended and open ended questions were used to collect data from a broader spectrum of loan officers and borrowers. Open ended questions seeking views of respondents were used to enrich the questionnaire. After drawing up the questionnaire instrument, it was sent to a group of loan officers and borrowers for comments which were then incorporated before the final instrument was made. This is in addition to the fact that the questions were derived from the primary interviews of loan officers and borrowers, was intended to increase the validity of the research instruments.

The interviews were conducted face-to face with the key people in each enterprise and commercial banks, mainly owner /managers and credit officers of three selected banks. The respondents were asked to provide qualitative (their perceptions on credit rationing) and quantitative answer on internal characteristics of the respective firm and owner (years in the business, location, size of the company in terms of employment, capital invested, sector of activity, owner age, gender and education level), loan characteristics (loan size and duration) relationship with bank (number of years with the bank ,number of loans with other financial institutions etc), financial information performance indicators (percentage increment on sales) and information on their successful and unsuccessful loan applications. For credit officers a tabulated questionnaire and detailed data set was used. The use of tabulated questionnaire and detailed data request design to provide information on reason constrain SMEs from accessing bank credit. The interviews and data processing were confidential, so credit officers and SMEs owner/managers felts practically no constrain in sharing their information with understanding that the data will be reported in aggregate way without disclosing each bank or borrower.

3.1   Identification of rationed and non rationed SMEs

Following Petrick, (2004) a qualitative approach based on directly asking the respondent about his/her borrowing experience will be employed to identify rationed and non rationed SMEs. However, different from Petrick, (2004) who grouped together total constrained and partially constrained borrowers as constraint borrowers, in this study they will be grouped separately as rejected borrowers and partially rationed. Bank applicants will be asked whether with the most recent loan application they would have liked to borrow more at prevailing interest rate, or a bank turned down the loan application. If yes, this will be taken as evidence for an excess demand at prevailing interest rate, and the respondents will be classified as being total rationed (rejected) or partially rationed (receive less than desired amount). Those

who receive the desired amount will be classified as non rationed SMEs. This information allowed a direct identification of credit rationed firms that permits an explicit connection between rationing and potential borrower profile. This distinction is of special importance because from a methodological point of view the empirical investigation of credit rationing is usually constrained by the difficulty to identify potential borrowers that are indeed credit rationed. By using direct measures of credit rationing I overcome the problems associated with the utilization of indirect indicators regarding the classification of firms as being more or less likely to be credit rationing e.g., the impossibility to verify the selected indicators' actual ability to reflect rationing and the possibility that these indicators embody other, unrelated to rationing, information (Angelini *et al.,* 1998).

In order to determine magnitude of credit rationing, one must have an ex-ante information on both the loan demanded and supply, therefore loan applicants were asked to specify the amount of loan they were willing to borrow at prevailing interest rate and the amount of loan they received or to specify the amount of loan they were willing to borrow as a percentage of applied amount.

The last stage was to found out who are credit rationed SMEs and why their rationed. Descriptive statistics was used to analyse key variables reflecting firm quality, owner quality and supply conditions. The following statistical techniques were used as the tools of descriptive analysis: calculations of averages, frequency distribution and percentage. Cross tabulation was also used to allow the inspection of differences and to make comparisons between rationing status and borrowers' characters.

3.2   Methodological limitations

In this study limitations related to the sample and respondent were observed. In case of sample limitation, this study suffers from sample bias. Firstly, it include only sample of existing business that are ongoing concerns. Credit rationing, however, could result in a business either starting or failing quickly or even not starting at all. Due to difficulties in identifying sample of firms which fail to start or failing quickly this may underestimate the seriousness of credit rationing. Secondly, the study fails to include the sample of discouraged borrowers; some entrepreneurs may have chosen not to apply for credit in anticipation of their applications being rejected or being offered unfavourable contractual conditions. Hashi and Toci (2010) argue that, credit rationing is considered to be supply driven, but borrowers themselves may also be discouraged to apply for a loan in the belief that they will be refused by the bank. It means that credit rationing seems to work also through "self-section of a borrower on the demand side" (Hashi and Toci, 2010). Further, interview with credit officers revealed that most client discuss with their credit officers before submitting their loan applications. Those applicants who credit officers think they will be successful are advised to submit their loan application. While those without qualifications are advised not to submit their applications. Banks don't keep records of those customers; this may also underestimate the seriousness of credit rationing.

The respondent related limitations are centred on the respondent's opinion about the study. On the side of SME borrowers, they had both negative and positive opinions about the study. The positive opinion based on the belief that the researcher would plead their cases with the banks and therefore increases their chances of having credit extended to them by the banks. They also had an assumption that this research will shape the bank-lending policies and procedures for the future and therefore make the process of acquiring loans easier. For the negative side, the borrowers thought that the researchers were send by management of the bank and tax officers to spy on their businesses. The borrowers also thought that the information given during the study would have an impact on their chances to access credit from the banks and tax payments. The borrowers therefore had the motivation to manipulate the responses about their experiences in an attempt to influence the researcher's views of their treatment by loan officers so as to invoke sympathy that would be subsequently channelled to top bank management. For the case of bank officers, it was observed that they had mixed feelings about the research. For the management of Bank A, Head office denies the researcher to undergo research to their credit officers and SMEs borrowers. They believe that this research was about comparison between them and their competitors, even after clarifying the study they denied. However, after series of discussions with credit officers they agree to be interviewed with the condition of not being mentioned their names. For the case of SMEs borrowers, most of them were interviewed outside the bank premises while others were identified by credit officers.

4.0 RESULT AND INTERPRETATION

The result and interpretation are categorised into two sections. Section one describe rationing status of SMEs and identified reasons for being credit rationed from SMEs perception and credit officer perception**.** Section two describes rationing status and its variation across size, gender, business and owner age, relationship characteristics, and loan characteristics.

4.1 Rationing status

Table 1 describe rationing status of SMEs, while table 1 to 10 in appendices (page 32) describe reasons for being credit rationed from credit officers' point of view and SMEs owners

Description	Observation	Percentage
Applied and obtained full amount	98	36.2
Applied obtained less amount than amount applied	137	50.5
Applied and denied	36	13.3
Total response	271	271
Degree of partial rationing		
50-65 percent	85	62.0
65-80 percent	39	28.5
80 >100 percent	13	9.5

Table 1 presents credit rationing status for sample of 271 SMEs. An evaluation of the qualitative information on credit access showed that of all 271 firms in the sample that applied for loan, 98 (36.2 percent) firms were not rationed while 173 (63.8 percent) firms were rationed. The majority of firms 137 firms (50.5 percent) were partially rationed, which means that they obtained some credit but not as much as desired. These results are consistent with studies conducted in other sectors. Petrick (2004) showed that 45.2 percent of all famers who applied for credit were rationed in Poland. The survey data also revealed that most partially rationed SMEs 85 (62.0 percent) firms, received less than 65 percent of applied amount; 39 (28.5 percent) firms received between 65 and 80 percent, while only 13 (6.5 percent) firms received above 80 percent of applied amount. This implies that majority of partially rationed SMEs need more than 35 percent of applied amount.

The result also showed that 36 firms (13.3 percent) were rejected, which means that they could not obtained credit. Although high, the rejection rate of 13.3 percent is much lower compared to other countries. For example Krasniqi (2010) shows that of all firms in the sample that applied for loan in Kosova 17.4 percent were rejected. This low rejection rate may be partly contributed to the methodological limitation identified in section 3.0 page 16. However, The rejection rate is much lower for developed economies. For example, Hashi and Tocsi (2010) show that from the sample of applicants, only 6.5 percent were denied credit while the remaining 93.5 percent received the loans they sought in Southern Eastern Europe

countries. Levenson and Willard (2000) shows that, in US only 2.14 percent of small firms did not obtain the funding for which they applied in 1987–1988 and 2.17 percent faced some short-run rationing: they were initially denied by lenders but received the credit for which they applied by the end of the sample period. Finally, an additional 4.22 percent of firms are estimated to have been discouraged from applying because of expected denial. These differences might emerge from particular features of developing economies which are characterized with less developed institutions make information asymmetry more pronounced than in developed economies.

Together with the data for the above analysis, a survey included a question about the reasons for being rationed from both SMEs owner and credit officers. The survey data shows that in the majority of cases rejected applicants cited collateral related issues such as lack of registered collateral, geographical distance between collateral location and business location, uses of third part collateral, inadequate collateral and type of collateral offered as the major reason for being denied credit. Banks are reluctant to accept movable property as collateral; they heavily prefer land and real estate as collateral. The survey data revealed that among 36 rejected applicant 29 (88.56 percent) pledge collateral value of less than 150 percent, while only 7 (19.4 percent) pledge collateral value of more than 150 percent (refer table 2 in appendix 2).. Partially rationed firms also reported high collateral requirements in comparison to loan amount as a major reasons for being credit rationed- survey data also revealed that out of 137 partially rationed SMEs, 119 (86.86 percent) firms which pledge collateral value of not more than 150 percent of applied amount were rationed compared to 18 firms (13.14 percent) firms which pledge collateral value of more than 150 percent of applied amount (refer table 2 in appendix 2). Lack of collateral was also identified by credit officers (96.4 percent) as the major reasons for SMEs being credit rationed (Refer table 1 in appendix 1).

Another reasons cited by SMEs was lack of track record, credit history and cash flow. This indicate that most businesses were new, they not yet have sufficient time for establishing reputation and hence provision of information in terms of firm's pervious performance which can serve as signalling to banks to screen out applicants. Previous borrowers but denied currently also cited poor credit history mostly delayed payments of previous loan and inconsistent and low cash flow. The data from survey also revealed that out of 36 rejected firms 35 firms have been in business for not more than 7 years -25 of them less than 5 years- while only 1 firm have been in business for more than 7 years. Likewise among 137 partially rationed SMEs 107 firms have been in business for not more than seven years while only 30 have been in business for more than 7 years (refer table 5). Time series study of Briderl and Preisendorfer (1998) show that firms in the age of class of 2-6 years carry highest bankruptcy risk, whereas long success cannot be expected before seven years after birth. The results are consistency with previous studies conducted in other countries which shows that younger firms are more rationed compared to older firms because they have shorter track records (Smorfitt, 2009, Demirgüç-Kunt, Laeven and Maksimovic, 2006, Beck *at al.*, 2007, Guelpa

and Tirri, 2004, Schiffer and Weder, 2001, Storey, 1997, and Harhoff and Korting, 1998). Survey data also revealed that among 62 first loan applicants 61(98.4 percent) of them were rationed -20 rejected and 41 partially rationed. Moreover, 83(81.4 percent) firms out of 102 firms which renew credit not more than three times were partially rationed compared to 18(18.75) firms out of 96 firms which renew credit more than 3 times). The result also shows that among 36 rejected applicants 15(41.7) applicants did not make positive experience in their previous loans in terms of loan repayments. Most of them delayed payments of previous loan due to inconsistent cash flow. This is consistent with interview with bank officers which revealed that lack of credit history (81.5 percent) as one among major reasons for SMEs being credit rationed.

Another reason identified by SMEs was asymmetric valuation of project – higher project valuation by SMEs compared to cash flow exhibited by bank statement. This is consistent with bank officials' interview which shows that asymmetric valuation of project (78.6 percent) as among major reasons for SMEs being credit rationed. This may be partly contributed by poor banking system of SMEs, survey data revealed that 114 (65.9 percent) rationed SMEs did not deposit their collections frequently, this understate the cash flow of the firm exhibited by bank statement, which is very essential in credit decisions (refer table 4 in appendix 2). Another reason may be unreliable financial plan and poor record keeping, which make it difficult for SMEs in determining how much financial resources is required and commercial bank to determine the real value of business. Olomi (2009) point out that SMEs operators lack the appreciation of the need for keeping business and financial records, and those who keep records have two set of accounts, one of which is informal and the other one which is formal. A great number of SMEs purposely omit formal and correct accounting practice to avoid taxes. Interview with SMEs also revealed that most rationed SMEs overstate their project because they believe that bank always reduced the amount applied.

Corruption was also identified by 13.8 percent of 271 credit applicants as major obstacle in accessing bank credit (refer table 5 appendix 3). Likewise 53.5 percent of interviewed credit officer show that they receive directive from their superiors to implement loan decision which are contrary to their advice. Some SMEs owner revealed that they know in advance that you have to provide particular amount of money in order to receive particular amount of loan. Olomi (2009) also notes that SMEs operators and some of bank officials acknowledge that corruption exists in the banking sector and some bank officers deliberately delay processes until they are promised something.

Bank official identified Lack of knowledge about loan procedures (84%) and information needed by banks when applying credit (92.9 %). SMEs survey data also revealed 102 (59 percent) rationed SMEs did not know information required by bank in order for them to obtain credit before consulting the bank for credit. Further 114(65.9 percent) rationed SMEs they did not know steps and formalities that loan request has to pass in order to obtain credit. Bank officers also identified availability, quality and reliability of information provided by

SMEs- inadequate information to evaluate their project (75%), manipulation of information 82.2 %, untruthful information 57.2%, quality and reliability of financial statement provided by SMEs (75%). This is consistent with SMEs survey data which revealed that 68(39.3 percent) rationed SMEs fear to reveal information because of TRA - they worried about high tax burden- while 91(52.6) rationed SMEs adjust information to meet bank requirements.

Moreover, credit officers cited quality of financial statement provided by SMEs (65.2 percent) and availability and reliability of financial statement (75 percent). SMEs survey data revealed that 106 (61.3 percent) rationed SMEs they didn't keep records of receipt and payments this may have an effect on the quality and reliability of financial statements. 149 (86.1 percent) firms prepare financial statement occasionally mostly to comply with statutory requirements, compared to 6 (6.1 percent) firms among 98 non rationed SMEs. Higher costs of maintaining and preparing them are cited by 126 (72.8 percent) rationed SMEs as the main reason for not preparing them frequently. Weakness of family owned management have been also identified by credit officers (64 percent). SMEs survey data also shows that 111 (64.2 percent) rationed SMEs are family owned business 83 of them are run by owner and manager who is a family member mostly husband, wife or children.

Low managerial capacity of owner was identified by 69.2 percent of credit officers. SMEs survey data also revealed that managerial capacity of owner measured by level of education determined credit rationing. Among 173 rationed SMEs owners 150 (86.7 percent) SMEs owners have education level of primary and secondary education. Poor preparation of loan request was also cited by 60 percent credit officers. SMEs survey data also revealed that 102(59 percent) rationed SMEs owners did not conduct detailed study of business project, 52 of them rely on friends with similar business to understand viability of business. Higher cost of preparing systematic plan has been identified by 126(12.8 percent) rationed SMEs as major barrier to detailed study of project.

Credit officers also identified high monitoring costs of SMEs loan 90%, inflexibility of lending procedures 50%, risk of SMEs loan 47.6 percent and low capacity to repay 52 %.

4.2   Rationing status and its variation across borrower profile

Table 2: Cross tabulation of gender and rationing

Description	Male	Female	Total
Not rationed	81	17	98
Partially Rationed	103	34	137
Rejected	30	6	36
Total response	214	57	271
Degree of partial rationing			
50-65 percent	71	14	85
65-80 percent	25	14	39
80-99percent	7	6	13

Table 2 shows the composition of the sample by gender and rationing status. The table shows that the share of female-owned businesses constitutes 57 (21 percent) of all firms in the sample while male owned business constitute 214 firms (79 percent). These figures are broadly consistent with data on female entrepreneurial activity from other sources. For example, data collected in the U.S., the share of female-owned businesses varies between 20 percent among white applicants and 29 percent among Hispanic applicants (Cavalluzzo and Wolken, 2005). Murravey (2009) show that there are more discouraged borrower among females SMEs than male SMEs which could reduce the share of female applicants. Mijid (2009) shows that in the US women owned firms have lower application rates than their male counterparts. Tulus Tahi Hamonangan Tambunan (2011) using data from Indonesian SMEs, show that the representation of women entrepreneurs in SMEs is relatively low suggesting that entrepreneurship is still male dominated. In Tanzania, interview with SMEs manager from three banks reveal that, SME-women borrowers often lack ability to meet bank-lending criteria. Most SME women borrowers, do not own land or other assets that can be used for collateral. Cultural barriers compound the problem of getting collateral by the women borrowers. Women generally do not own land and this makes them depend on their husbands who decide whether their wives should carry out business or not and hence provide collateral for it.

In the entire sample the result indicate that male enterprises are more rationed than their female counterparts: 133 (48.08 percent) male firms versus 40 (14.76 percent) firms for partially rationed applicant. However, when we take into consideration proportion of male and female applicants in the entire sample the result reveal that female applicants are more rationed than male applicants: 40 (70.18 percent) female owned firms versus 133 (62.15 percent) male owned firms. However, when we consider the rejected applicants only, male firms are more rejected than female applicants 30 (14.02 percent) male firms versus 6 (10.53 percent). This result is inconsistency with previous studies. For example Majid (2009) shows that in the US women owned firms have higher loan denial rates than their male counterparts. Further Murravey (2009) find that female-managed firms are less likely to obtain a bank loan compared to male firms. However; the reasons for this difference is a fact that, a direct comparison of rationing status by gender condition on applying for loan may be misleading. Based on the fact that most female owned SMEs are discouraged from applying bank credit, the pool of female applicants is likely to consist of women whose businesses have superior characteristics of performance and creditworthiness. This would underestimate the extent of credit rationing

Table 3: Cross tabulation between owner age and rationing.

Description	<35 years	35-50 years	50< Years	Total
Not rationed	8	71	19	98
Partially Rationed	75	54	8	137
Rejected	30	5	1	36
Applied loan	113	130	28	271

Table 3 shows composition of sample by owner age and rationing status. 113 (41.7 percent) firms belong to owner with 36 years of age or less and 158 (58.3 percent) firms belong to owner with more than 35 years. Survey data revealed that firms belong to owner with 35 years or less are more rationed compared to firms belongs to owner with more than 35 years: 105 (92.9 percent) firms out of 113 were rationed compared to 68 (43.0 percent) firms out of 158. Among 36 rejected applicants 30 firms belong to owner with less than 35 years old or less while only 6 firms belong to owner with more than 35 years of age. Likewise, among 137 partially rationed SMEs 75 firms belong to owner of less than 35 years while 63 firms belong to owner above 35 years. These result implied that age of the owner affect probability of accessing bank credit. Since majority of rejected applicants were firms belongs to owner with 35 years of age or less.

Table 4: Cross tabulation between size of the firm and rationing

Description	5-50 millions	50-100 millions	100-150 millions	150-200 millions	>200 millions	Total
Not rationed	33	12	8	13	32	98
Partially Rationed	86	28	12	4	7	137
Rejected	27	7	2	0	0	36
Total response	146	47	22	17	39	271
Degree of rationing						
50-65 percent	53	19	6	2	5	85
65-80 percent	24	8	4	1	2	39
80-99percent	9	1	2	1	0	13
100 percent	27	7	2	0	0	36
Total rationed	113	35	14	4	7	173

Table 4 shows that, based on amount of capital invested most firms in our sample are small enterprises. Out 271 observations 232 observations (85.6 percent) are small firms with capital investment of Tshs 5millions to Tshs 200 millions and 39 firms (14.4 percent) are medium enterprises with more than Tshs 200millions to Tshs 800 millions amount of capital invested. Surveyed data revealed that small firms are more rationed compared to medium firms. Out of 137 partially rationed SMEs 130 firms were small enterprise compared 7 medium enterprises. Further all rejected applicants are small enterprises: 27 of them have less than 50 millions amount of capital invested. Survey data also revealed that among partially rationed SMEs small firms face tighter constraint compared to medium enterprises: 80 small firms receive not more than 65 percent of applied amount compared to 5 medium firms, 37 small firms receive above 65 but not more than 80 percent of applied amount compared to 2 medium enterprises. This exemplifies the case for policy assisting small firms to gain easier credit access. This will be particularly crucial for those young enterprises with limited assets whose information available to financial institutions is limited

Table 5: Cross tabulation between age of the firm and rationing

Description	< 2 years	2<5 years	5<7 years	7< years	Total
Total response	18	70	70	113	271
Not rationed	1	4	11	82	98
Partially Rationed	4	55	48	30	137
Rejected	13	11	11	1	36
Degree of partial rationing					
50-65 percent	3	39	31	12	85
65-80 percent	1	12	14	12	39
80-99percent	0	4	3	6	13
100 percent	13	11	11	1	36
Total rationed	17	66	59	31	173

The majority of the firms in our sample are of average age. Out of 271 firms, 113 firms (41.7 percent) are above 7 years; 70 firms (25.8 percent) belong to the interval age [5, 7], 70 firms (25.8 percent) belong to the interval age [2, 5], whereas 18 firms (6.7 percent) of our sample are less than 2 years of age. The observation reveals that younger firms are more rationed compared to older firms as age increase degree of rationing also decrease. Among 18 applicants with less than 2 years in business 17 (94.4 percent) firms were rationed -13 (76.5) were rejected while 4 (23.5 percent) were partially rationed. Most of them received less than 65 percent of applied amount. Also among 70 applicants with interval age of 2 to 5 years in business 66 (94.2 percent) were rationed -11 (15.7) were rejected while 55 (78.6 percent) firms were partially rationed. Most of them received less than 65 percent of applied amount. Similarly 59 (84.3 percent) applicants with business age interval of 5 to 7 years were rationed -11 (15.7) were rejected while 48 (68.6 percent) firms were partially rationed. Most of them received less than 65 percent of applied amount. On the other hand among 113 applicants with over 7 years in business, only 31 (27.4 percent) were rationed 1(0.9 percent) firm was rejected while 30 (26.5 percent) firms were partially rationed mostly receiving less than 65 percent of applied amount. These results are consistent with Becchetti, Castelli, and Hasan (2005) and Angelini and Generale (2005), and Guelpa and Tirri (2004) who show that younger firms are more likely to be credit rationed than older ones, because they have a shorter track record.

Table 6: Cross tabulation between industry of the firm and rationing

Description	Manufacturing	Service	Trade	Construction	Total
Total response	58	71	139	3	271
Not rationed	33	11	53	1	98
Partially Rationed	17	47	71	2	137
Rejected	8	13	15	0	36
Degree of partial rationing					
50-65 percent	7	35	42	1	85
65-80 percent	9	10	20	0	39
80-99percent	1	2	9	1	13

Table 6 show that, 139 (51.3 percent) of the firms of our sample operate in trade sector, and most of them are operating in retail and wholesale trade. The service sector is in the second place 71 (26.2) firms. About 58 (21.4 percent) of the SMEs are operating in manufacturing industries, especially in wood, and furniture industries, garments, beverages and food. A

minority of the companies of our sample 3 firms (1.1 percent) take place in construction. The observation reveals that trading sector and service sector are more rationed compared to manufacturing sector. Out of 139 applicants who belong in trading sector 89 (61.9 percent) were rationed - 15 firms were rejected while 75 firms were partially rationed most of them receiving less than 65 percent of applied amount. Similarly in service sector, 60 firms out of 71 firms which applied for loan were rationed. 13 firms were rejected while 47 were partially rationed- most of them receiving less than 65 percent of applied amount. In manufacturing sector out of 58 applicants only 25 firms were rationed. 8 firms were rejected while 18 firms were partially rationed. This reflects the collateral based lending practice that allows the manufacturing sector better access to credit compared with other sectors. This should be because manufacturing firms' values of assets (mostly in the form of factories and machines) are usually greater than other sectors.

Table 7: Cross tabulation between Loan maturity and rationing

Description	≤ 1 year	Above 1 year	Total
Total response	158	113	271
Not rationed	79	19	98
Partially Rationed	76	61	137
Rejected	3	33	36
Degree of partial rationing			
50-65 percent	44	41	85
65-80 percent	25	14	39
80-99percent	7	6	13

Table 7 revealed long term loans are more rationed compared to short term loan. While 79(50 percent) firms which applied for short term loan were rationed, 94(83.2 percent) which applied for long term loan were rationed- 33 of them were rejected compared to 3 firms which applied for short term loan.

Table 9: Cross tabulation between relationship characteristics and rationing

	≤ 3 years	4-7 years	Above 7 years	Total
1.Relationship duration	60	90	121	171
Total response	3	12	83	98
Not rationed	38	64	35	137
Partially Rationed	19	14	3	36
Rejected				
2.Number of financial institution	1	2	3	
Total response	98	153	20	271
Not rationed	60	36	2	98
Partially Rationed	38	91	8	137
Rejected	0	26	10	36
3. Number of outstanding loan	1	2	3	
Total response	68	40	2	102
Not rationed	3	2	1	6
Partially Rationed	59	22	0	81
Rejected	6	16	1	23

In the entire sample 150 firms have been with bank for not more than seven years and 121 firms have been with bank for more than 7 years. Survey data reveal that most rationed firms have been with the bank for not more than seven years: 135 firms out y   of 150 firms were rationed- 33 rejected while 102 partially rationed. On the other hand, 121 firms have been with the bank for more than seven years out of them 35 were partially rationed and only 3 were rejected.

Numerous firms of our sample (63.83) have more than one relationships ranging between [2, 3]. Out of 173 companies with numerous relationships, 153 hold 2 banking relationships and 20 firms hold 3 relationships. The study also revealed that firms with numerous relationships are more rationed compared with firms with single relationship: Among 98 firms which single relationship, only 38 firms were partially rationed with no rejected applicants, while among 273 firms with numerous relationships, 135 firms were rationed- 36 firms were rejected while 117 firms were rationed.

The study also revealed that firms with outstanding loans with other financial institutions are more rationed compared with firms without outstanding loan. 110 firms out of 271 firms have outstanding loan with other financial institution- 81 firms were partially rationed, 23 were rejected while only 6 firms were not rationed.   Rejection rate increase as number of outstanding loan increases, only 6 firms out of 68 firms with one outstanding loan were reject compared to 17 firms out of 42 firms with more than one outstanding loan.

4.3   Conclusions and recommendations

Jaffee and Russel (1976), Stiglitz and Weiss (1981) and Williamson, (1986,1987) developed the main theoretical contributions about credit rationing and suggested that information asymmetry and high transaction cost are the main reasons for firms being credit rationed. This paper studied the phenomenon of credit rationing in Tanzania bank loan market. Measures of rationing comes directly from firms responses to the survey, this allows a direct identification of rationing status, credit rationed firms and permitting an explicit connection between rationing and potential borrower profile. The results shows that 63.8 percent firms were rationed mostly small and young firms, female owned firms and firms operating in trading and service sector. The study also revealed that long term loan is more rationed compared to short term loan. Furthermore, findings from both SMEs owner and credit officers revealed that credit rationing in Tanzania appears to be driven primarily by business and entrepreneur characteristics - managerial competence of owner, quality of business information and poor quality accounting practices , borrower understanding of banks requirements for obtaining credit, inadequacy of collateral, poor relationship with banks and lack of credit history- and supply side conditions - inflexible loan eligibility criteria, cumbersome analysis of loan applications, unfavourable credit terms and conditions such as higher interest rate and commissions charged by banks and excessive collateral requirements in comparison to loan value, higher monitoring costs and corruption of bank officials.

To overcome credit rationing and ensure SMEs access to adequate bank credit the following key challenges facing SMEs, commercial banks, and the policy makers need to be addressed. First, small firms' access to loans from commercial bank is constrained by opacity of their operations and inadequate collateral. Since their information is limited to creditors, those young firms need to be able to demonstrate convincing and realistic business plans showing potential future returns and viability. It is also important to be able to show a consistent cash flow with an up-to-standard accounting book and develop a culture of transparency and accountability. Further, since most rationed SMEs lack appropriate collateral they need to build relationships with their banks. SMEs should also understand bank requirements for obtaining credit. Likewise banks should announce their lending policies to increase SMEs awareness of bank procedures. Second, banks should design credit procedures that address peculiar conditions of SMEs. Lending practice of commercial banks is still largely based on excessive collateral requirements. However, due to higher opacity of small firms operations and lack of collateral, relationship-based lending where credit officers are geographically in the proximity of borrowers and can monitor their business conditions closely will reduce information asymmetry between banks and the borrowers. Therefore relationship lending is vital for young firms with a good business plan (most likely with limited collateral) to gain credit access. Thirdly, government policies should aim to reduce the information asymmetry problem by formulating rules on financial reporting and disclosure and the use of appropriate accounting and auditing standards. These rules will easy screening and monitoring by banks. When firms become more transparent and the accounting information becomes more reliable and meaningful, banks will be able to adopt lending technologies based on hard information. To the extent that weak transparency is a fundamental feature of small firms, enhancing the availability of information through credit registers and other systems of notice will decrease the costs of screening loan applications.

The experiences that were explored in this study concerned borrowers who had actually applied for bank credit. Further research is needed to study the experiences of those SME borrowers who never approach the bank and therefore only remain potential bank clients (discouraged borrowers). There is also need to intensify research into the aspects that were brought in the study. This should more specifically focus on examining the applicability of credit rationing and supply determinants identified in the study to specific sectors of the society like youth and women.

REFERENCES

Abor, J. (2007). Industry Classification and the Capital Structure of Ghanaian SMEs. *Studies in Economics and Finance,* 24(3), 207-219.

Adesua-Lincoln Adebimpe (2011). Assessing Nigerian female entrepreneur's access to finance for business start-up and growth. *African Journal of Business Management* 5(13) 5348-5355.

Antanasova, C. and Wilson, V. (2004). Disequilibrium in the UK corporate loan Market. *Journal of Banking and Finance* 28: 595-614.

Aremu, M. A. (2004). Small Scale Enterprises: Panacea to Poverty Problem in Nigeria, *Journal of Enterprises Development,* International Research and Development Institute, Uyo, Akwa Ibom, Nigeria, I(1): 1 – 8.

Audretsch D B, Elston J (2002). Doesfirmsizematter? Evidence on the impact of liquidity constraints on firm investment behaviour in Germany. *Int J Ind Organ* 20(1):1-17.

Ayyagari, M., Demirgüç-Kunt, A., Maksimovic, V., 2010. Formal versus informal finance: evidence from China. *Review of Financial Studies,* 23 3048–3097.

Blanchard, L., Zhao, B., Yinger, J., 2008. Do credit market barriers exist for minority and women entrepreneurs? Journal of Urban Economics 62 (2), 467–497.

Blanchflower D.G. , Levine P.B. , Zimmerman D.J. (2003). Discrimination in the small-business credit market. *Review of Economics and Statistics* 85 930–943.

Berger, A., Black, L., 2011. Bank size, lending technologies, and small business finance. Journal of Banking and Finance 35, 724–735

Beck T (2007). Financing constraints of SMEs in developing countries: Evidence, determinants and solutions. *J. Int. Money Finance,* 31(2): 401-441.

Beck, T., Demirguc-Kunt, A., 2006. Small and medium-size enterprises: access to finance as a growth constraint. Journal of Banking and Finance 30, 2931–2943.

Berger A. N, Kappler L.F. and Udell G.f. (2001) The ability of bank to lend to informationally opaque small business. *Journal of banking and finance* 25, 2127- 67.

Berger, A., Udell, G., 1995. Relationship lending and lines of credit in small firm finance. *Journal of Business* 68 (3), 351–381.

Besanko, D. and Thakor, A. (1987a). Collateral and rationing: Sorting equilibrium in monopolistic and competitive credit markets. *International economic review* 28(3): 671-689

Besanko, D., Thakor, A., (1987?). Collateral and rationing: sorting equilibria in monopolistic and competitive credit markets. International Economic Review 28 (3), 671–689.

Bester, H. (1987). The role of collateral in credit markets with imperfect information. European Economic Review 31, 887–899.

Bester, Helmut. (1985).Screening vs. rationing in credit market with imperfect information. *American Economic Review* 75(4):850-855.

Binks, C. and Reed, G. (1992), Information asymmetries and the provision of finance to small Firms. *International small business journal 11* (1): 35-46. 16 452-76.

Boocock, G. and M. Woods, 1997, The evaluation criteria used by venture capitalists: evidence from a UK venture fund, International Small Business Journal 16, 36–57.

Bougheas, S., Mizen, P., & Yalcin, C. (2005). Access to external finance: Theory and evidence on the impact of monetary policy and firm-specific characteristics. *Journal of Banking & Finance,* 30(1), 199-227.

Brick, I., Palia, I., 2007. Evidence of jointness in the terms of relationship lending. Journal of Financial Intermediation 16, 452–476.

Bodenhorn, Howard. (2003). Short-Term Loans and Long-Term Relationships. *Journal of Money, Credit and Banking,* 35, 485–505.

Brüderl, J., Preisendörfer, P., 1998. Network support and the success of newly founded business. *Small Business Economics* 10, 213–225.

Cassar and Holmes (2003). Capital structure and financing of SMEs: Australian evidence. *Accounting and finance*, 43 (2) 123-147.

Cavalluzo, K., Cavalluzo, L. and Wolken, J. (2005). Small business loan turndowns, personal wealth and discrimination, *Journal of Business* 78 (6): 2153–2177.

Cavalluzzo, K.S., Cavalluzzo, L.C., Wolken, J.D., 2002. Competition, small business finance, and discrimination: evidence from a new survey. *Journal of Business* 75,641–680.

Chakraborty, A. and Hu, C. X. (2006). Lending relationship in line off Credit and non line of credit loans: Evidence from collateral use in small business. *Journal of Financial Intermediation* 15(1):86-107.

Coco, G. (2000). On the collateral. Use of *Journal of Economic Surveys*, 14(2), 191-214.

Cosci, Stefania, and Valentina Meliciani. (2002). Multiple Banking Relationships: Evidence from the Italian Experience. *The Manchester School Supplement*, 37-54.

Cole, R. (1998). The importance of relationships to the availability of credit. *Journal of Banking and Finance*, 22 959-77.

Cole, R., 1998. The importance of relationships to the availability of credit. J. Banking Finance 22, 959–977.

Cole, R., Goldberg, L., White, L., 2004. Cookie-cutter versus character: The micro structure of small business lending by large and small banks. Journal of Financial and Quantitative Analysis 39, 227-251.

Cressy, R. and Toivanen, O (2001). I there adverse selection in credit market? *International journal of entrepreneurial finance,* 3(3) 215-238

Delmar, F. (2003). Arriving at high growth firm. Journal of business venturing 18:189-216.

Diamond, D. (1984). Financial intermediation and delegated monitoring. *Review of economic studies* 51 (3): 393 -414.

Diamond, D.W., (1989). Reputation acquisition in debt markets. Journal of Political Economy 97,828-862

Diamond, D.W., (1991). Monitoring and reputation: The choice between bank loans and directly placed debt. *Journal of Political Economy* 99, 689-721.

Dunkelberg, W., 1998, Credit, banks and small business in America, Journal of Banking and Finance 22.

Ennew, C. and M. Binks, 1995, The Provision of Finance to Small Firms: Does the Banking Relationship Constrain Performance? Journal of Small Business Finance 4, 69–85.

Elsas, R. and J. P. Krahnen (1998). Is Relationship Lending Special? Evidence from Credit-File Data in Germany. *Journal of Finance and Banking,* 22, 1283-1316.

Elyasiani, E., & Goldberg, L. G. (2004). Relationship lending: A survey of the literature. *Journal of Economics and Business*, 56(4), 315−330.

Ennew C and Bink M (1997). Relationships between UK banks and their small business customers. Small business economics, 9 167-178

Fama E.F. (1985). What different about banks? *Journal of monetary economics*. 15: 29-39

Fatoki O Olawale and Van Aardt Smit A (2011).Constraints to credit access by new SMEs in South Africa: A supply-side analysis. *African Journal of Business Management,* 5(4) 1413-1425.

Flannery J. M (1986). Asymmetric Information and risky debt maturity choice. *The Journal of Finance*, 41(1) 19-37

Gabriel, Stuart and Rosenthal, Stuart (1991). Credit rationing, race, and the mortgage market. *Journal of Urban Economics*, 29 (3), 371-379

Guelpa F. and V. Tirri (2006), The effect of market structure and relationship lending on the likelihood of credit tightening, manuscript, Milano, Banca Intesa.

Han L (2008). Bricks Vs Clicks: Entrepreneurial online banking behaviour and relationship banking. *International Journal of Entrepreneurial Behaviors & Research*, 14 (1) 17-60.

Harhoff, D., and Korting, T. (1998). Lending relationships in Germany- Empirical evidence from survey data. *Journal of banking and finance*, 22, 1317-1353

Hashi I and Toçi Z V (2010). Financing Constraints, Credit Rationing And Financing Obstacles: Evidence From Firm-Level Data In South-Eastern Europe. *Economic and Business* E 12 (1) 29–60

Hyytinen, A., Pajarinen, M., 2008. Opacity of young businesses: evidence from rating disagreements. Journal of Banking and Finance 32, 1234–1241.

Jaffee, D, & Russell, T. (1976).Imperfect information, uncertainty and credit rationing. *Quarterly Journal of Economics,* 90, 651–666.

Jappelli, T., and M. Pagano (2001). Information Sharing in Credit Markets: Theory and Evidence." In: M. Pagano, editor. Defusing Default: Incentives and Institutions. Baltimore and Washington, United States: Johns Hopkins University Press/Inter-American Development Bank.

Jensen, J. B. and R. H. McGuckin, 1997, Firm Performance and Evolution: Empirical Regularities in the US Microdata, *Industrial and Corporate Change* 6, 25–47.

Jensen, M. and Meckling, W. (1976). Theory of the firm: managerial behaviour, agency costs and ownership structure. *Journal of Financial Economics*, 3, 305-360.

Jimenez, G., Salas, V., Saurina, J., 2006. Determinants of collateral. Journal of Financial Economics 81, 255–281.

Kano, M., Uchida, H., Udel, F, G., Watabane, W., (in press). Information verifiability, bank competition and borrower relationship. Journal of banking and finance (2010),

Kitindi, E.G., Magembe, B.A.S., & Sethibe, A. (2007). Lending decision making and financial information: the usefulness of corporate annual reports to lender in Botswana. *International Journal of Applied Economics and Finance,* 1(2), 55-60.

Krasniqi A. Besnik (2010). Are small firms really credit constrained? Empirical evidence from Kosova. *Int Entrep Manag J* 6:459–479Kundid A and Ercegovac R (2011). Credit rationing in financial distress: Croatia SMEs'finance approach. *International Journal of Law and Management,* 53 (1) 62-84

Lehmann, E. and Neuberger, D. (2001). Do lending relationships matter? Evidence from bank survey data in Germany. *Journal of Economic Behavior and Organization* 45: 339-359

Levenson, A. & Willard, K. (2000). Do firms get the financing they want? Measuring credit rationing experienced by small business in the U.S. *Small Business Economics*, 14, 83-94.

Machauer, Achim and Weber, Martin (2000). Number of Bank Relationships: An indicator of competition, borrower quality, or just size? Discussion Paper No. 2000/06, Center for Financial Studies Frankfurt.

Maliyamkono, T.L. and Mason, H. (2006).The Promise, Tema Publishers, Dares Salaam.

Martinelli, C. (1997). Small firms, borrowing constraints, and reputation. *Journal of Economic Behavior and Organization* 33 91-105.

Menkhoff, L., Neuberger, D., Suwanaporn, C., 2006. Collateral-based lending in emerging markets: evidence from Thailand. Journal of Banking and Finance 30, 1–21.

Mijid, N. (2009). Gender, race and credit rationing of small businesses evidence from the 2003 survey of small business finance. [Online] Available: http://www.kauffman.org/research-and policy/kdfp/fellows.aspx (October 16, 2010).

Myers, S.C. (1984). Capital structure puzzle. Journal of Finance, 39(1), 575-592.

Olomi R, (2009). African entrepreneurship and small business development. Otme Company Ltd. Dar es Salaam.

Ortiz-Molina, H., & Penas, F. M. (2008). Lending to small businesses: the role of loan maturity in addressing information problems. *Small Business Economics*, 30, 361–383

Petersen, M. and Rajan, R (1994). The benefits of lending relationships: Evidence from small business data,' *Journal of Finance* 49, 3–37

Petrick, M. (2004). Farm investment, credit rationing, and governmentally promoted credit access in Poland: a cross-sectional analysis. Food Policy 29: 275–294.

Satta, T.A. (2003). Enterprise characteristics and constraints in developing countries evidence from a sample of Tanzania micro and small scale enterprises. *International journal of entrepreneurship and innovation* 4 (3): 175-184.

Satta, T.A. (2006). Performance evaluation of three small firms financing Schemes in Tanzania. *Journal of Accounting and Organizational Change* 2(2): 167-188.

Schiffer, M., Weder, B., 2001. Firm size and the business environment: Worldwide survey results. International Finance Corporation Discussion Paper 43.

Stiglitz, J. and Weiss, A. (1981). Credit rationing in markets with imperfect information. *American Economic Review* 71: 393-410.

Storey, D.J., 1994. Understanding the Small Business Sector. Routledge, London.

Westhead P and Storey D (1997). Financial constraints on the growth of high technology small firms in the United Kingdom. *Applied Financial Economics* **7**(2) 197-201

Symeonidis G., 1996. Innovation, Firm Size and Market Structure: Schumpeterian Hypotheses and Some New Themes, Economics Dept. WP 161, OECD, Paris.

Temu, S. (1998). The impact of financial institutions reforms on small and micro-enterprises in Tanzania. *Business management review* 5(2): 56-78

Tulus Tahi Hamonangan Tambunan (2011). Development of small and medium enterprises in a developing country. *Journal of Enterprising Communities* 5 68-82.

URT (2009) The status of economic growth and poverty reduction in Tanzania

Voordeckers, W. and Steijvers, T. (2008), "Credit rationing for SME's in the corporate bank loan market of a bank-based economy", working paper, available at: www.efmaefm.org/ efma2005/papers/245-steijvers_paper.pdf (accessed 10 July 2010).

Williamson, S. (1986). Costly monitoring, financial intermediation, and equilibrium credit rationing. *Quarterly Journal of Economics*, 102 135-145.

Williamson, S. (1987). Costly monitoring, loan contracts, and equilibrium credit rationing. *Journal of Monetary Economics*, 18, 159-179.

White, Lawrence J. (2001). Financial modernization after gramm-leach-bliley: what about communities. Economics working paper. [online] Available: http://hdl.handle.net/2451/26181

Wolfson, M.H. (1996). A Post Keynesian theory of credit rationing. *Journal of Post Keynesian Economics*, 18, pp. 443–470.

Zaheer, A, Mc Evily B., and Perrone V. (1998). Does trust matter? Exploring the effects of interorganisational and interpersonal trust on performance. *Organization science* 9(2): 141-15.

Zambaldi F, Aranha F, Lopes F, Politi R (2011). Credit granting to small firms: A Brazilian case. *Journal of Business Research,* 64 309–315

APPENDICES

Table 1: Factors affecting credit rationing from credit officers' perception.

Description	Freq	Perc
Factors related to SMEs		
Weakness of family owned management	16	64
Lack knowledge about loan procedures	21	84
SMEs don't know information needed by banks when applying credit	26	92.9
SMEs provide inadequate information to evaluate their project	21	75
SMEs manipulate their information in order to meet requirements of bank	23	82.2
SMEs always do not provide truthful information about their project	16	57.2
Most SMEs do not know information needed by banks when applying credit	26	92.9
Lacks credit history	22	81.5
SMEs always have weak financial structure of project	22	81.5
SMEs managers do not exhibit confidence concerning knowledge of their proposal	10	40
Asymmetric valuation of project overvaluation of project by SMEs	22	78.6
Quality of financial statement provided by SMEs	15	65.2
Availability and reliability of financial statement	21	75
Low managerial capacity of owner	18	69.2
SMEs owners with higher education are more reliable than clients with little education	12	42.9
Poor preparation of loan request	15	60
Most SMEs divert loan to fund other project than the one agreed in the contract	22	78.6
Lack of collateral	27	96.4
Firms lack close relationship with the bank	19	83.1
Factors related to commercial banks		
Lack of appropriate instrument to evaluate SMEs risk	10	40
High monitoring costs of SMEs loan	21	90
Nature of lending technology (SMEs cost of applying credit and credit assessment techniques)	8	28
	28	75
Low profitability of SMEs loan compared to types of loan	15	53.5
Loan officers receive directive from their superiors to implement loan decision which are contrary to their advice	20	71.4
	13	50.0
Inflexibility of lending procedures	10	47.6
SMEs loan are more risk than other loan	13	52

Table 2: Cross tabulation between collateral and rationing

Description	< 125%	125%- 150%	150%- 175%	175%- 200%	Above 200%	Total
Not rationed	3	3	14	35	43	98
Partially Rationed	80	39	15	1	2	137
Rejected	19	10	6	1	0	36
Total response	102	52	35	37	45	271
Degree of rationing						
50-65 percent	55	19	9	1	1	85
65-80 percent	21	13	5	0	0	39
80-99percent	4	7	1	0	1	13

Table 3: Cross tabulation between credit history and rationing characteristics and rationing

1.First loan application	Yes	No	
Total response	62	209	
Not rationed	1	97	
Rationed	61	112	
2. Number of times renew credit	1-3 times	3-6 times	6 times <
Total response	102	24	72
Not rationed	19	11	67
Rationed	83	13	5
3.Positive experience in previous loan	Yes	No	
Total response	190	19	
Not rationed	96	1	
Partially rationed	93	3	
Rejected	1	15	

Table 4: Accounting practices

Description	Always	Mostly	Frequently	Sometimes	Never
1.Banking collection					
Total response	93	43	46	86	
Not rationed	74	3	2	17	
Rationed	19	40	44	70	
2.Preparation of financial statement					
Total response	89	4	4	155	19
Not rationed	79	2	3	6	8
Rationed	10	2	1	149	11
3. Record keeping					
Total response	112	3	12	110	34
Not rationed	91	0	0	4	3
Rationed	21	3	12	106	31

Table 5: Borrowers understanding of bank requirements for obtaining credit.

	Yes	No	Not sure
1. Understanding information required by bank			
Total response	153	117	
Not rationed	82	15	
Rationed	71	102	
2. Understanding steps and formalities loan request has to pass			
Total response	144	127	
Not rationed	85	13	
Rationed	59	114	
3. Usefulness of information delivered to the bank in accessing adequate credit			
Total response	153	50	
Not rationed	85	6	67
Rationed	68	44	7
4. Fear to reveal all information			60
Total response	101	165	
Not rationed	13	81	
Rationed	88	81	
5. Adjust some in formation to meet bank requirements			
Total response	84	183	
Not rationed	4	92	
Rationed	84	91	

Table 6: Ownership and rationing

Family owned	Yes	No
Total response	188	81
Not rationed	77	20
Rationed	111	81

Table 7: Cost of preparing information

Cost of preparing information	Yes	No
1. Cost of preparing systematic plan		
Total response	146	125
Not rationed	20	78
Rationed	126	47
2. Cost of preparing financial information		
Total response	159	121
Not rationed	13	75
Rationed	126	46

Table 8: Understanding business project

	Yes	No
1.Detailed study of business project		
Total response	156	115
Not rationed	85	3
Rationed	71	102
2. Rely on friend with similar business to understand viability of business		
Total response	148	123
Not rationed	27	71
Rationed	121	52

Table 9: Cumbersome bank procedures

Description	Yes	No
Total response	162	105
Not rationed	34	63
Rationed	128	42

Table 10: Owner education

Description	Primary	Secondary	Tertiary	Degree	Total
Not rationed	21	38	5	34	98
Partially Rationed	58	60	6	13	137
Rejected	19	13	0	4	36