CREDIT RATIONING AND RISK MANAGEMENT FOR SMES: THE WAY FORWARD FOR SOUTH AFRICA

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Abstract

Small and medium enterprises are increasingly seen as playing an important role in the economies of many countries. Studies identify adequate and accessible financing as a critical component of SME development. Many SMES are unable to access loans from the commercial banks due to lack of financial knowledge, collateral and credit history. The drive to minimise risks informs the decision of banks to minimise loan approval for SMEs. The question that now arises is how to strike a balance between financial intermediation towards achieving economic development, while reducing operational and credit risks that confront financial intermediation at large, especially banks. The aim of this paper is to investigate the factors affecting the SME lending-decision process of commercial banks and uncover the possible way forward for South Africa.

Keywords: Credit Rationing, Risk Management, SMEs, South Africa

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1. Introduction

Small and medium enterprises (SMEs) are increasingly seen as playing an important role in the economies of many developing and emerging countries including South Africa. South Africa is characterised by a low growth rate, high inflation and a high rate of unemployment of 25% in 2011 (EIU, 2011). According to Rogerson (2008), SMEs employ half of the working population and contribute about 50% to gross domestic product (GDP). It is argued that SMEs offer an important vehicle to addressing unemployment problems as they promote growth and equity globally, and more specifically, in South Africa (Finmark Trust, 2006). Studies identify adequate and accessible financing as a critical component of SME development (Fatoki, 2010). Financing is needed for business start-up, expansion and growth yet a lack of funds inhibits the growth of small businesses. The largest portion of the SME sector is unable to access loans from the commercial banks due to lack of financial knowledge, collateral and credit history. Foxcroft, Wood, Kew, Herrington, & Segal (2002) indicated that lack of collateral security in South Africa emerged as an obstacle hindering the access to finance for SMEs.

With inability to access needed capital from formal sources, SMEs are unable to grow into sustainable businesses in the long run. Whilst profit maximisation is the prime objective of banks, they view SME financing as risky due to default risk and lack of collateral. The drive to minimise risks informs the decision of banks to minimise loan approval for SMEs. The question that now arises is how to strike a balance between financial intermediation towards achieving economic development, while reducing operational and credit risks that confront financial intermediation at large, especially banks.

South Africa has one of the world's highest SME failure rates. More specifically, about 75% of SMEs in South Africa fail within the first two years of operation due to a number of challenges that impede their growth (Brink, Cant and Ligthelm, 2003; Herrington, Kew, and Kew: 2009). These challenges include poor management, high wage rates and a lack of financial and non-financial support (Scarborough and Zimmerer 2003). While a series of challenges have been identified as creating impediments to SME growth in South Africa, constrained access to bank credit is prominent. Research suggests that restrictions to access external funding by SMEs are however a global phenomena (Baas and Schrooten 2006). According to Statistics Canada (2007), approximately 45% of SMEs are able to access commercial lines of credit.

Traditionally it is widely believed that SMEs are financially constrained. However, the one commonly cited hindrance to funding of small businesses is constrained access to finance (Fatoki and Odeyemi, 2010). Bearing in mind that banks are profit-making institutions, the overarching objective of these financial institutions is premised on profit maximisation and risk minimisation – a cautionary investment paradigm. In line with this, most SME owners are misjudged by financial institutions, essentially on the ground of information asymmetry. The problem of discriminatory funding is worsened by the inability of SMEs to provide commercial banks with sufficient information on their operations and potential risks and benefits therein, which is essential for banks to expediently evaluate their creditworthiness. This also enables the bank to evaluate the risk profile and susceptibility of the business/owner to risk, as a way of determining a reasonable cost of capital. This explains why high interest rates are charged on a few successful SME applications. Conversely, high interest rates increase the operational costs of SMEs, and ultimately decrease their profitability, thereby defeating the merits of external funding. The cost of debt financing of SMEs in South Africa is significantly high, since they raise funds through mortgage rather than unsecured loans. The majority of SMEs do not have sufficient or suitable collaterals for security purposes.

Bearing in mind that the financial sector in South Africa is liberalised, the existence of imperfect information in the credit market may be used to explain the lending behaviour of banks to maximise profits. The credit needs of borrowers, particularly SMEs, have not been met despite the increase in financial resources and regulation of the legal and institutional environment. The borrower's major complaint is constrained access to credit, rather than its price, implying that banks do not lend just to anyone who can afford the price of credit. Clearly banks appear to exercise some degree of credit rationing by non-price mechanisms. Credit rationing occurs when loan demand exceeds supply, and some borrowers receive no or less the amount of credit applied for at prevailing market rates (Stiglitz and Weiss, 1981). Thus, the existence of imperfect information in credit markets creates risk and therefore makes credit rationing logical, profit-maximising behaviour for banks.

The constrained access to bank credit negatively impacts on the growth of the SME sector, with serious implications on poverty and unemployment alleviation. The SME sector credit is generally characterised by small loans, short maturity periods and high interest rates which are not favourable for long-term enterprise development (Okurut and Botlhe, 2006).

While a series of previous studies have investigated SME funding and contributions to economic growth, there is little evidence of documented study that critically examines the specific roles of credit rationing and risk management as determinants of the lending behaviour of commercial banks to SMEs in South Africa; hence the need for this research. The main focus of this paper is on access to SME finance with specific reference to the supply side, mainly commercial banks. In this paper, the main criteria for accessing bank loans are subsumed under two main aspects, namely credit rationing and risk management principles. The theoretical issues relating to these two principles is presented in section 2 which contains the theory of credit rationing and risk management that underpin this study. Section 3 briefly discusses the factors that determine the credit rationing behaviour of banks. Section 4 deals with the empirical literature on credit rationing and 5 focus on the role played by risk management in the credit–granting process by banks. The paper concludes by briefly addressing the new strategies and business models that banks are engaging in with the hope of penetrating the unserved and underserved SME market.

2. Literature review

2.1 *The theory of Credit Rationing*

The theoretical model of equilibrium with credit rationing is based on the work of Stiglitz and Weiss (1981). It has been argued that when interest rates are controlled, banks automatically ration credit through non-price means (Gonzales-Vega, 1976). However, if interest rate controls are lifted, the existence of imperfect information in credit markets creates risk and therefore makes credit rationing rational, profit maximising behaviour for banks. It is therefore argued that the prevailing circumstances resulting from existence of imperfect information make it necessary for banks to apply credit rationing in their lending operations (Lapar and Graham, 1988). Credit rationing occurs when loan demand is greater than supply, resulting in a situation where some borrowers receive no loans or less than the amount applied for at the prevailing interest rate (Freel, 2007).

There is well established literature arguing that imperfections in the SME credit market stem from the presumed high level of risk due to higher relative probability of failure, greater scope for information asymmetry and moral hazards (Ennew and Binks, 1995), transaction costs in assessing applications for finance, and other institutional and market failures. According to Stiglitz and Weiss (1981) agency problems and information asymmetry are the reason why SMEs have constrained access to credit. Information asymmetry assumes that SMEs have superior private information pertaining to their real financial structure, financial strength of the investment project and the effective intention to repay their debt.

Since the funding institutions do not have full information about the SMEs, they cannot make informed decisions on their loan applications (Hutchinson and Xavier, 2006). The SMES usually hoard away the unfavourable information from the lender, when they are applying for the loan. There is therefore decision risk on the part of the lender, and to avoid or reduce the perceived risk, the lender would reject the loan application or ration the credit value. This scenario is referred to as adverse selection (De

Meza & Webb, 1987; Broadway & Ken, 2005). After the loan is approved, there is a possibility that the loan beneficiary may utilise the fund in activities not expected or known to the lender, leading to failure to repay the loan as per loan contract. This misappropriation of the loan is referred to as a moral hazard, which has been documented as being the main reason why the lenders ration the loan values (Durham, 2003; Baas and Schrooten, 2006).

Under conditions of adverse selection and moral hazard, there is a tendency of high-risk individuals to willingly pay higher rates for credit and the risk that a party to a contract can subsequently change its behaviour to the detriment of the other party (Alam & Walton, 1995; Hall, 2002). Adverse selection can therefore change with lender beliefs and even with the cost of applying for funding. According to Calem and Stutzer (1995), adverse selection can lead to credit rationing. Reducing this information asymmetry has been suggested to be one of the probable methods to reduce the impasse of credit rationing (DeGennaro, 2005).

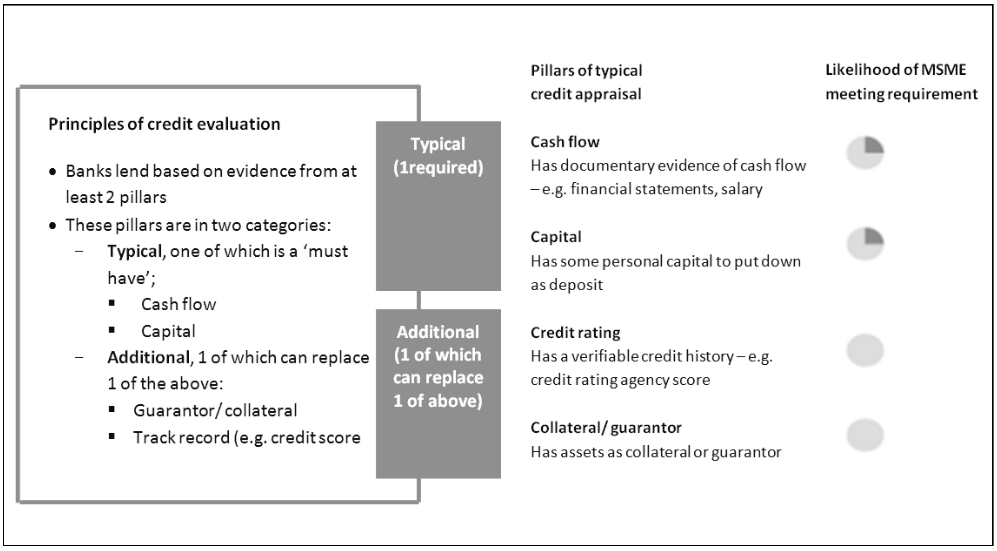
According to Zambaldi, Aranha, Lopes and Politi (2009), adverse selection and moral hazard relate inversely to the age and size of the firm. Availability of public information about SMEs is limited due to the poor quality of their legal accounting records and low incentives to operate formally. Thus, according to Baas and Schrooten (2006), this becomes a specific reason why small businesses are confronted by challenges of constrained access to funding. Thus, small and medium- sized businesses are more informational obscure and, therefore have less access to external funding than larger businesses. Financiers are largely unable to solve the problems of information asymmetry, thereby, inhibiting the possibility to adequately fund small business expansion projects (Hartarska and Gonzalez-Vega, 2006).

2.2 Factors determining the credit rationing behaviour of banks

According to Coleman and Cohn (2000) commercial banks are the principal source of debt finance for SMEs, offering a wide range of services including overdraft facilities, term loans, trade bill financing, factoring, leasing, export and import finance, and even government loan guarantee schemes. Products offered by banks to SMES include credit cards, hire purchase, current and savings accounts. However, all these services and products require hard information from SMEs, but because of information asymmetry the majority of SMEs in South Africa fail to satisfy the criteria used by banks for screening their clients.

The credit rationing behaviour of banks may be influenced by a number of factors which include the borrower's observable characteristics (age, gender, wealth, experience, credit history), firm characteristics, (business experience, risk profile, income), and loan characteristics (loan size, loan maturity, collateral offered, interest rate). According to Lapar and Graham (1988) the bank's credit rationing behaviour against the firm's loan demand can be categorised into three stages namely: the screening stage, the evaluation stage, and the quantity rationing stage. At the screening stage, the eligibility of the borrower for credit is determined in terms of credit worthiness, loan requirements and the terms desired. At this point, the decision whether the applicant qualifies to apply for a loan or not is made. At the evaluation stage, a detailed analysis of the viability of the proposed investment is done. This includes an investigation of the credit record, the type and value of the collateral, management of the firm and probability of repayment. Details of the requirements of SMEs by the bank at the screening and evaluation stages are shown in the diagram below.

Figure 1. Adapted from the McKinsey Report, 2010



As shown in the diagram above, it is mandatory for SMEs to have documentary evidence of cash flow such as financial statements or payslip; and personal capital to put down as deposit. In addition, SMEs should have a verifiable credit history such as a credit rating from the credit bureau or collateral. If collateral is not available, a guarantor can be used instead. It can thus be deduced that the likelihood of SMEs meeting these requirements is very low and this explains why the majority of small businesses are credit rationed. Owner information is personal information data obtained from consumer credit bureaus.

A decision to determine whether it will be profitable for the bank to grant the loan or not is done based on the evaluation result. Therefore, those SMEs found not to be credit worthy are denied loans completely (credit rationed). At the final stage of quantity rationing the bank determines the optimal loan size for a borrower at a given interest rate based on firm's probability of repayment, the marginal cost of granting the loan, and the collateral offered (Freel, 2007; Baas and Schrotten, 2006). Thus some borrowers are granted loan amounts less than they applied for. According to Lapar and Graham (1988), the bank fine tunes the loan contract to reflect the bank's subjective evaluation of the riskiness of the loan and the impact of these risks on expected profit. Thus credit rationing in some way is a form of risk management on the part of the banks where they seek to minimise the costs of production and create value for their shareholders.

The risk profile of a firm is an important factor that determines whether a bank extends credit or not (Hoff and Stiglitz, 1990). Firms for which the repayment of loans is uncertain are more risky for the bank and hence are more likely to be credit rationed. In this instance the bank is threatened by default risk, being the risk that the SME cannot fulfil its obligations to the bank. The degree of risk of the firm may be inferred from its credit history, the expected returns of the project and business experience of the firm. In the case of South African SMEs, most small businesses fail to satisfy these requirements due to information asymmetries and are thus credit rationed. Banks perceive SMEs as risky because they face a more uncertain competitive environment than larger firms. As such SMEs experience more variable rates of return and higher rates of failure. In South Africa, the risk perception on SMEs is endorsed by the high failure rate of about 75% (Finscope, 2006) and it is therefore reasonable for banks to ration credit to SMEs. The environment in which SMEs operate is perceived to be risky for example; crime and labour unrest in South Africa may have a negative impact on the security of transactions. It may also be argued that credit rationing may also originate from a lender's inability to classify loan applicants into proper risk categories due to information opacity (Zambaldi et al, 2009).

As an instrument of risk management, collateral is also regarded as very relevant to credit granting decisions (Laper and Graham, 1988). Collateral serves as the last resort for recovery of the loan in case of default, where the bank can sell the collateral obtained to recover the balance (or part) of the loan. In reality the bank has limited information (imperfect information), and limited control over the borrowers actions (incentive effect), leading to what is known as 'Collateral and Limited Liability Theory' in which financial institutions, especially banks, use collaterals as a way to reduce the risk of default and, concurrently increasing their return on invested capital (Arroyo, 2007). This mechanism (with enormous implication in SME financing) by which the bank increases the liability of the borrower should the project fail, leads to different perceptions of the risk and return of the project from both parties (Arroyo, 2007). Collateral helps to reduce information asymmetry and moral hazard problems that could arise between banks and small business owners (Coco, 2000. Due to the fact that most SMEs are not formally registered and therefore lack a credit record, banks consider collateral as attractive security. The willingness to offer collateral thus signifies the confidence of the small business owner's commitment in the business. Thus according to Smit and Fatoki (2012), collateral positively impacts on the risk perception of the entrepreneur and the business.

The loan size and length of the loan's maturity period required by the borrower may also influence a bank's credit rationing behaviour. The longer the maturity period the greater the risk of loan recovery due to the riskier nature of long-term investments, hence the chances are higher that the firm will be credit rationed. The loan size affects credit risk, since a loan tends to become riskier as its size becomes larger (Stiglitz and Weiss, 1981; Hashi and Toçi, 2010). According to Lapar and Graham (1988), the observable characteristics of the borrower (level of education, income, wealth and asset values) are argued to reduce the borrower's probability of being credit rationed. These factors tend to raise the borrower's credit rating and thus reduce the probability of loan default.

Studies suggest that lending decision-making is central to the operation of SME banking services and relies on type and suitability the lending technology used (Ashton and Keasey, 2005). A transactional lending technology refers to a bank-firm relationship in which the bank obtains "hard" type information from the borrower that is quantitative in nature and so, easily transferable. The principal lending technologies that can be employed for lending decision-making include financial statement lending, asset-based lending and small business credit scoring, factoring and leasing. Financial statement lending is focused on transparent borrowers (established firms) while the other technologies are all targeted towards opaque borrowers. Relationship lending on the other hand, is the lending decision-making technology, which relies upon a "relationship" between the bank and the SME (Berger and Udell, 2002). Relationship lending assigns a key role to "soft" information and is therefore regarded to be more appropriate to opaque borrowers such the SMEs (Burger and Udell, 2006).

The main lending technology used for SME lending in South Africa is the traditional scoring model. However, SMEs rarely posses the information required for traditional credit scoring due to information asymmetries. This lending technology is based primarily on hard information about the SME's owner as well as the firm. The firm/owner should have documentary evidence of cash flow such as financial statements and salary slip; some form of personal capital to put down as deposit; verifiable credit history such as a credit bureau report and assets for collateral or guarantor.

However, in the case of South Africa the majority of people do not have a good credit record and rating because they have been blacklisted and it is difficult and costly for them to clear their record (Mazanai and Fatoki, 2012). The data is pooled together with information on the SME that has been collected by the lender and entered into a loan performance prediction model which yields a score, or summary statistic for the loan. Like financial statement lending, this technique is appropriate for firms with long histories, which may reduce its importance as a tool for SME lending in developing economies. The process of credit scoring is very important for banks as they need to discriminate "good SMEs" from "bad SMEs" in terms of their creditworthiness. This is a classical example of asymmetric information, where a bank has to reveal hidden data about its customer (Fantazzini and Figini, 2009). Credit scoring, on the other hand, is able to provide automated accept/reject decisions in high volume environments and therefore makes it a suitable lending technique for commercial banks. Indirectly this is a form of risk management as banks endeavor to minimize losses resulting from SME in lending.

Credit assessment or analysis of is the measurement of credit risks. The borrower's credit assessment is done using the five Cs of lending; character (willingness of the customer), capacity (ability to pay), capital, collateral (pledged assets) and general economic conditions. It is interesting to note that two factors (capacity and capital) are based on hard information, character refers to soft information and economic conditions refer to the external environment while collateral is needed when insufficient hard and soft information to grant credit are available (Smit and Fatoki, 2012). However, it has been argued that the credit lending behavior is not only determined by internal factors alone, but by external factors as well. These determinants include demand, competition, and macroeconomic environment, regulatory, social and institutional factors. Banks do not have control over external factors and it thus it would be in their best interest for them to work closely with the government.

Research on the determinants of bank lending to SMEs has been carried out in various parts of the globe and there seems to be a general consensus that banks ration credit to SMEs mainly due to information asymmetries and risk management in general with the ultimate objective of reducing lending cost while increasing the profit margin at the same time. The empirical evidence on the importance of firm and business owner's characteristics and factors affecting determining the credit rationing behavior of banks is discussed in the following section.

2.3 Empirical literature on credit rationing for SMEs

Pisarovic, Tisma and Czraky (2005) carried out a study on the determinants of the low SME approval rate in Croatia. They focused on a governmental SME loan programme in Croatia and investigated possible reasons for low level of loan approval that was recorded despite interest rate subsidisation and sufficient supply of the loan funds. The aim of the study was to evaluate the consistency of the applied decision criteria in the loan application procedure carried out by commercial banks. The main question being addressed here is "do banks indeed have negative attitudes towards small lending and thus credit ration small loan applicants, or do they have excessively high standards and optimal lending policies"? The paper proposes a new methodological framework for investigating consistency in loan assessment decisions and determinants of loan approval based on structural equation modelling and covariance structure analysis. The empirical findings reject overall consistency of criteria but indicate a preference toward smaller loans by SMEs. The results indicate that individual banks differ in their criteria and in their loan size preferences and that there is no positive correlation between the bank's size and its loan preference.

Steijvers (2008) studied the empirical significance of credit rationing for SMEs in a Belgian (bank based) context for the period 1993-2001. They calculated the proportion of credit rationed SMEs using an extensive panel data consisting of 2698 SMEs reporting data for the period 1993-2001. Their results suggest that, over the entire period, more than 50% of the Belgian SMEs are credit-rationed for long and short term bank credit. Their results also reveal that firms that are credit-rationed for short-term credit are smaller in proportion as compared to those that are denied long-term credit facilities. Also, the short-term rationed firms are more susceptible to faster growth, but with lower returns on assets. Although the research confirms that this set of firms exhibit some significant levels of value-adding, their account receivables are lower and as such, have very little to offer as collateral. The main reason for firms being credit rationed included

In a study of 45 developed and developing countries, Beck, Demirguc-Kunt and Martinez Peria (2008) report that the average share of SME lending is smaller in developing countries by comparison with the average share in developed countries. The authors found out those banks in developing countries report that macroeconomic instability is the main obstacle to SME lending, rather than flaws in the legal and institutional framework. However, the second study by the same authors in 2009 based on statistical analysis of the data set concludes that the enabling environment is more important than firm size or bank ownership in shaping the bank financing to SMEs.

Zambaldi et al (2009) investigate the significance of transaction costs in the supply of credit to small and medium-sized firms in Brazil. From a sample of 65,535 SME credit proposals submitted to a large Brazilian bank between January 2004 and September 2006, the research analyses credit granting decisions. Results suggest that small firms face credit rationing and that low risk credit contracts with liquid collateral are their principal source of credit. Variables used in the analysis include firm's age, loan-size, type of collateral (liquid or illiquid), and probability of approval of loan applications. Also, private information is captured by the banks through lending relationships with borrowers, which ultimately affects its lending decisions. The study reveals that the bank under investigation faces difficulties in expanding the supply of credit to small firms mainly due to cost, collateral-dependency and constraints due to information asymmetry.

Hashi and Toçi (2010) investigate the impact of financing constraints, credit rationing and financing obstacles on firms in South Eastern Europe using firm-level survey data and extensive economic modelling. The findings suggest that these phenomena are prevalent in the small business sector, a driving force of economic development in these countries.

In a study of 37 banks in Argentina, Chile, Colombia and Serbia, De la Torre, Peria and Schmukler, (2010) examined the strategic approach to SME lending, business models, and risk management techniques used by the banks under investigation. The study investigates to what extent the conventional wisdom on SME lending holds in practice – that large banks are not attracted to SME lending and that the SME business in dominated by small banks and based on relationship lending. Their results support those of Beck, Demirguc-Kunt and Martinez Peria (2008) that the SME segment is perceived to be profitable and that most banks are now interested in serving the SMEs irrespective of the size or ownership. In addition to relationship lending, banks apply different lending technologies such as credit scoring, risk-rating tools, and special products such as leasing and factoring. However, the study concluded that there are significant differences across banks and countries regarding the use of particular techniques, but these technologies allow banks to compensate for weaknesses in the enabling environment (Rocha et al., 2011)

Using the Heckman Probit Model with sample selection, Okurut, Olalekan and Mangadi (2011) investigate the factors that influence the credit rationing behaviour of banks towards SMEs using 2007 Informal Sector Survey data and interviews with banks in Botswana. The findings suggest that the experience of SMEs reduces their probability of being rationed by banks. From the bank's perspective the experience of SMEs is determined by their ability to keep proper financial statements, the performance of their bank accounts, and their ability to make profits. This meant that capacity building of SMEs in areas of business management is necessary if they are to be rated as credit worthy borrowers by banks. The findings suggest that firms with clearer financial records were able to rely more on banks to finance their investment. The authors also found that banks need to improve on their efficiency by reducing the loan processing time and the cost of borrowing (interest rate).

3. Lending risks associated with credit rationing to SMEs

Definitions of risk typically refer to the possibility of a loss or injury created by an activity or person. Risk management seeks to identify, assess, and measure risk and then develop counter measures to handle it. This typically does not mean eliminating risk but rather seeking to mitigate and minimise its impact. Risk should not be viewed as intrinsically bad. All opportunities for the banks come with some degree of risk. An organisation that is totally risk-averse is not likely to be very attractive to investors and may be doomed ultimately to fail. Other risks that impact on banks include operational risk, liquidity, currency, interest rate, and compliance risk. Risk management is an ongoing process that can help improve operations, prioritise resources, ensure regulatory compliance, achieve performance targets, improve financial stability and ultimately, prevent loss/damage to the entity (Raghavan, 2005).

One risk type reigns supreme in the credit provider universe, credit risk is also known as default risk. It is recognised that the intelligent and responsible management of credit risk makes it the bank's largest profit driver and hence the management of credit risk associated with lending to SMEs is central in banks' consumer credit management process. According to (Colquitt, 2007) credit risk is the potential that a bank borrower/counter party fails to meet the obligations on agreed terms. There is always possibility for a borrower to default from his commitments (moral hazard) for one or the other reason resulting in crystallisation of credit risk to the bank. The inability of the SME to pay interest payments (or repay the principal) will result in a default that might lead to bankruptcy. The default risk increases with the size of the loan due to more constraints on the firm's cash flow as a result of the interest payments. This explains why banks credit-ration SME loans by giving them small loans. Various credit risk management approaches are utilized when extending credit to SME clients, depending on the volume of transactions and facility or loan size.

It is well documented that the drive to minimise risks informs the decision of banks to minimise loan approval for SMEs (Pretorius and Shaw, 2004; Cassar, 2005; Malhotra et al, 2007). As a result, SMEs are less accessible to the required funds they need to execute operational strategies, especially those that relate to growth and expansion. This problem is further compounded in the developing economies where venture capitalism is largely unpopular (Ojah and Pillay, 2009). Basel II defines operational risk as the risk of losses resulting from inadequate or failed internal processes, people, and systems or from external events. A significant reduction in operational risk, as suggested by literature, is seen as a possible antidote to credit rationing and therefore, a better form of financial deepening that is capable of improving investor's access to growth-incline credit (Alfaro, Chanda, Kalemi-Ozcan and Sayek, 2004; Ojah and Pillay, 2009).

Commercial banks tend to ascribe a high risk to small enterprises and are therefore reluctant to extend credit to them. Banks follow certain principles in evaluating credit applications and making credit decisions. The purpose of any credit assessment or analysis is the measurement of credit risk. Brierley (2001) argues that the willingness of financial institutions to provide finance to small business ventures depends ultimately on the risk-reward relationship. This implies the extent to which such investments are likely to provide returns proportionate to the risk involved.

Due to their small size and intrinsic exposure to market fluctuations, the mortality rates of small firms are relatively high in South Africa. The majority of SMEs is young and therefore lacks financial history and a track-record of profitable projects. In addition these firms are characterized by organizational and administrative deficiencies, low quality management and a lack of appropriate accounting systems which may compromise the accessibility and reliability of information from small firms on their repayment capacity (Green, 2003). The relative labour-intensity of the SMEs implies a high debt-to-asset ratio if loans are made. Lack of sufficient and adequate collateral further limits the amount of finance that banks are willing to grant SMEs. Collateral thus acts as a screening device and reduces the risk of lending for commercial banks. This is exacerbated by inadequate legal frameworks which make the enforcement of contracts difficult for financial institutions.

According to Mazanai and Fatoki (2012) risk factor explains the credit rationing behavior of financial institutions. Total risk (both business and financial risk) may be a dimension across which a financing gap may exist. According to Correia et al., (2008) a firm's business risk focuses on a firm's operations, represents the uncertainty of the firm's return on assets. Financial risks on the other hand, occur in the form of credit risk, capital risk, investment risk, interest rate risk, market risk and currency risk. Further to this, the firm exposes itself to default risk which arises as a result of its inability to make its loan repayments on time leading to the possibility of bankruptcy (Green, 2003).

The difficulties faced by SMEs in accessing finance are attributed to their perceived higher risk profile. Lending institutions regard SMEs as riskier enterprises for a number of reasons which include the following:

- SMEs face a more uncertain competitive environment than larger firms – they experience more variable rate of return and higher rates of failure. Therefore lenders are left with no option but to ration the credit to SMEs who have little or no credit history.
- SMEs are usually less equipped in terms of both human and financial resources to withstand economic resources (Van Aardt and Fatoki, 2012).
- There is the problem of inadequate accounting systems, which undermines the accessibility and reliability of information concerning profitability and repayment capacity
- More volatile operating environment in the developing and emerging markets. For example crime and labour unrests in South Africa. This has a negative impact on the security of transactions.
- There is also a greater risk that lenders will not get paid or that assets are not properly registered. SMEs on the other hand may not be paid in time for the products and services they render to the government through tender contracts (Sunday Times: March 2012).
- Dispersed market – SMEs are geographically unevenly distributed in South Africa, making it costly for banks to reach their clients. The share of people living in towns and cities (40% in Africa) is far less than in developed regions like Europe (80%). In South Africa, SMES are scattered throughout the country making it costly for banks to penetrate the unserved and underserved
- High lending costs – With less data available and an inherently higher risk than consumer lending, the operational cost generated by determining whether to accept an SME credit

application can often be higher than the potential return, and it is thus not uncommon to find that many banks do not encourage lower value SME lending because the time and effort is not worth the revenue received (Gildert, 2009).

Demand for credit continues to come from businesses where the assessment of risk is less easy using traditional lending methods: unproven start-ups, unregistered small businesses, sole traders and partnerships that do not file any accounts other than for tax purposes. Thus the efficiency and success of traditional lending technologies is hindered by information asymmetries.

4. New strategies and innovations in SME financing

The banking industry is currently undergoing changes in response to swift changing customer behavior, technological and regulatory realities. Thus banks have to keep pace with changes in technology such as internet and cell phone banking, as more and more SME clients have access to mobile phones and laptops. For example, in Kenya 60% of the micro, small and medium enterprises (MSMEs) use M-Pesa, a mobile phone-based product, offering clients, payments and deposits or savings functionality. The physical infrastructure is minimal, with account opening, cash transactions and customer support facilitated by more than 28000 merchants acting as agents. According to the McKinsey report, a significant number of MSMEs with traditional bank accounts in Kenya and Tanzania prefer M-Pesa for flexible, acceptable, safe and reliable transactions. It is believed that with new technology, banks are most likely to pursue channel innovation in order to reach SMEs even in remote rural areas. Thus internet is most likely to reduce operating costs and the turnaround times (1 to 4 days) for the processing of loan applications. The new consumer preferences pose a challenge to the traditional lending technologies.

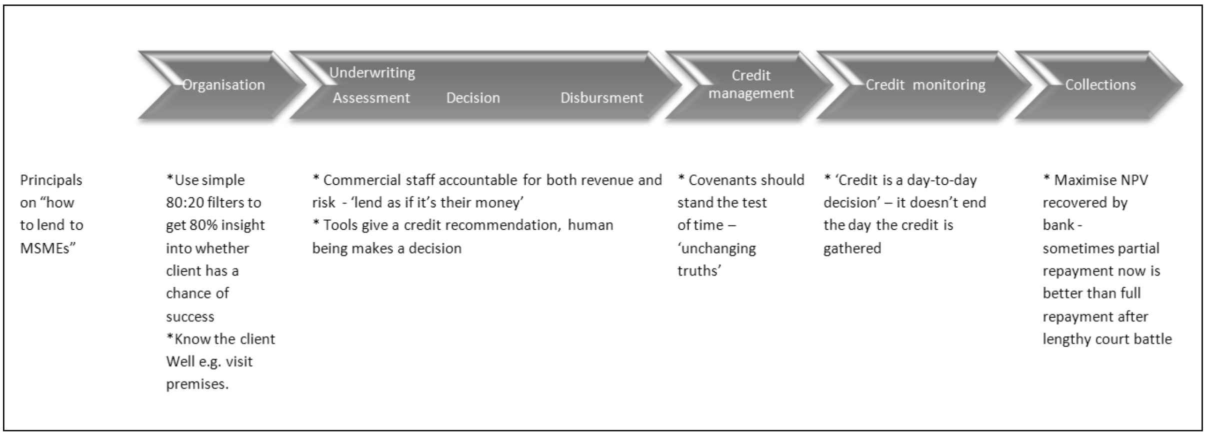
The cost of risk for banks can be drastically reduced by creating products anchored in lean, automated processes. For example, according to the McKinsey Report (2010), a large African Bank made savings of around $15 million by reducing its application form from twenty to two pages. At the same time, banks can issue more products other than loans to their SME clients such as the cheque account, foreign exchange, savings and use of derivative instruments such as swaps and options. Lending institutions should strike a balance between maximizing profits and adding value to SME clients at affordable prices. Therefore banks must meet their client needs at the lowest possible costs in terms of distribution and products. Distribution can be achieved through the provision of low cost branches and the extensive use of correspondent banking. With correspondent banking, banks use retailers to expand their distribution reach. A good example in South Africa is the accessibility of Capitec services in all Pick 'n Pay outlets throughout the country.

Psychometric testing uses test score to separate good risks from bad ones and are capable of lowering default rates by 25-40%. This is self-administered test done in thirty to forty minutes and measures attributes such as entrepreneur's psychological profile, ethics and integrity, intelligence and business skills. According to the Mckinsey Report (2010) the cost of assessment is 45% less than the traditional credit assessment measures. Being computerized, simple and low cost, it is ideal for use by small-scale enterprises lacking traditional credit scoring inputs. Psychometric testing has been successfully used by banks in Chile and Argentina, while in South Africa one big bank has successfully used it in a pilot study.

Other banks are using approaches which combine quantitative and qualitative assessment such as Qualitative Credit Assessment (QCA) by McKinsey. QCA is a 15-25 question assessment for SME clients that can be completed in less than an hour. Areas covered by the QCA include SME competitiveness identifying the strength and integrity of the entrepreneur); SME management (ownership structure, relationship with the bank), and SME firm operation (including relationship with suppliers and customers). Each of the questions is then aggregated to provide a score, with the weight of each question in the score being determined by the question's predictive power. The QCA has been successfully used by more than 20 countries in the emerging markets including South Africa. The strength of QCA questionnaires can be tailored to reflect factors relevant to a bank's country and target client segments.

The third approach is for banks to advance unsecured credit to SMEs in an effort to do away with the collateral altogether. Banks can use insurance of loans instead of collateral and if priced correctly, this can deliver exciting returns from loans which can improve the profit for banks. In South Africa, unsecured credit is gaining popularity amongst all the leading commercial banks. Instead of relying on financial statements, other banks now rely on the lender's estimate of cash flow through observation of the business or analysis of payments into a transactional account. However, credit scoring is only one element of the of the credit risk management process. Therefore, banks must review all parts of the credit process which include credit origination, underwriting, monitoring and collections as shown in the diagram below.

Figure 2. The credit risk management process for SMEs



Source: Adapted from the McKinsey Report, 2010

By so doing, the problems of information asymmetry, lack of collateral are taken care of thereby allowing more SMEs which are considered to be informationally opaque to access credit. If more SMEs are able to access credit, there will be sustainable growth in the SME sector while at the same time banks realize increased shareholder value.

From the lender's perspective poor financial literacy increase transaction costs, notably the investment in the time required to explain products, services, interest rates and other issues to bank clients. In a survey of the commercial banks in emerging markets including South Africa, the McKinsey Report (2010) indicates that poor business plans (a consequence of poor financial literacy) is the number one reason why banks decline credit applications for SMEs. In addition to that, SMEs often have limited knowledge of bookkeeping, supply chain management, sourcing and pricing. Therefore banks need to empower their clients by developing their clients' financial literacy and business skills. For example, Standard Bank and Nedbank South Africa run business seminars to their SME clients in an effort to introduce them to business skills such as financial reporting, supply chain management and inventory management. Empowering clients with financial literacy and business skills helps existing SME clients survive where they might not have done so, and new clients thrive, thereby increasing the bank's profits.

To improve the overall business environment, banks need to engage much more actively with government by encouraging the setting up of credit bureaus. This can drastically reduce the probability of SMEs reporting financing constraints, thereby significantly increasing the chance of loans being granted and reducing default rates considerably. Poor infrastructure can be another factor indirectly affecting crediting granting to SMEs in rural and geographically remote areas of South Africa. Banks can also work with the government to penetrate areas with limited access to internet, transport and electricity as these factors increase the cost of bank operations. These strategies have been successfully implemented in Colombia and Brazil (Stephanou and Rodriguez, 2008).

5. The way forward for South Africa

Economic growth is a key policy drive for the South African Government and one key area of policy concern is the enhancement of the performance of SMEs. Therefore, the government should engage with banks in the drive to improve SME access to credit by providing the infrastructure such as roads, electricity and internet services to all geographic regions of South Africa; and an enabling regulatory and legal environment. In so doing banks will be able to reduce the cost of bank lending to SMEs. Banks can also the increase the number and quality of products offered to SMEs thereby diversifying their portfolios and consequently reducing their risk exposure. SMEs in South Africa do not require large loans but need small loans which can be accessed in the shortest possible time. Therefore the administrative processes of credit granting should be made easy by reducing the loan processing period through measures such as simplification of the loan application forms, and the employment of more qualified persons to handle the assessments of clients (Stephanou and Rodriguez, 2008). Traditional loan products cannot continue to be utilized for SMEs due to information asymmetries and therefore, banks should develop loan products that are suitable for SMEs according to their operations, needs and challenges and the economic sector. Technology can be leveraged to meet the client's needs more effectively and keep credit affordable. Therefore, the use of smart phones and laptops can significantly speed up the credit application process and eliminate paper (satisfying the sustainability objective of the banks at the same time). Banks should also come up with packages for start-up firms that do not satisfy the requirements of the traditional lending technologies.

6. Conclusion

With the use of the new innovative strategies in SME bank lending, the traditionally inherent challenges of serving SME bank clients such as low revenue per client, high risk of credit losses and the need for physical presence to lend to SMEs are no longer obstacles they used to be. With increased penetration of the large number of unserved and underserved SMEs, and an increased take-up of more advanced business models and higher revenue banking products, credit rationing by commercial banks in South Africa may soon be a thing of the past. Credit risk is inherent to any bank. Actually, credit allocation is one of the main activities of banks and the one which brings much of its turnover. But the greater the incomes brought by the credit activity, the greater are the risks assumed by the banks. Therefore, one of the greatest challenges of all financial institutions, including the South African commercial banks, is to find an efficient balance between the risks incurred by their financing activity and maximizing shareholder value on the form of profits. The capacity to reduce information and transaction costs are the hallmark of successful banks engaged in SME lending endeavors.

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