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LOAN REPAYMENT AND CREDIT MANAGEMENT OF SMALL BUSINESSES: A CASE STUDY OF A SOUTH AFRICAN COMMERCIAL BANK

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Abstract

Small businesses have been cited as major players in economic development in South Africa. As is the case in other developing countries, securing financing and loan repayments remains a challenge in this group of enterprises.

This research analysed loan repayment and credit management of SMMEs in a South African financial institution. Factors such as age, bank balance, relationships (personal, business and new customer), interest rate, loan size, loan term, product type, gender and race were analysed to determine their relationship and impact on default. The dichotomous nature of the dependent variable (default) led the researcher to use the binary Logit model to assess the relationship and impact of the determinant factors affecting loan repayment. The study analysed 169 loans granted to small businesses by a South African commercial bank. The results showed that 39 per cent of loan repayments were not made on time, while 28 per cent actually defaulted. Race, gender and negative bank balance were found to be statistically significant in relation to defaults in loan repayment and credit management.

Key words:
Small business
Loan repayment
Credit management
Small, micro and medium enterprise
Credit
Default
1.1 INTRODUCTION

The loan recovery rate among small businesses reveal a worrying trend as observed by the South African Trade and Industry minister Rob Davies in a May 2010 Parliamentary Question and Answer session. Studies by the South African Micro-finance Apex Fund (SAMAF) and the National Empowerment Fund (NEF) attest to a similar trend where default rates of as high as 35% have been recorded (Timm, 2011:37).

The management of credit in SMEs is a primary concern for the policy makers, development finance institutions, banks, non-bank credit providers, managers and owners of those SMMEs because it has a direct impact on the success, creditworthiness and growth of entrepreneurial ventures. Efficient debt management determines the cash flow and the success of the day-to-day operations of the business. Poor credit management leads to late payment to creditors and other stakeholders in the supply chain. Thus credit management needs to ensure ample monitoring of cash flow as well as collection strategies from debtors. Crucial to this practice are measures to assess with due caution the customer’s ability to meet the business’s credit payment terms. Consequently, a study that examines both measures of credit management and the determination of key factors that trigger these measures establishes the fundamentals for this research.

This presentation is devoted to credit management of small businesses. Prior to the 1950s, small businesses were known as small-scale industries and in the 1980s they were termed small and medium enterprises (SMEs), while currently they are referred to as small, micro and medium enterprises (SMMEs) (Morris, Basant & Nagaraj, 2006). In this study the terms “small business”, “SME” and “SMME” are used interchangeably.

The evolution of small businesses which are seen as a tool for economic development has heralded a great interest in their growth. Recently, SMMEs have emerged most notably in the lexicon of relevant strategy documents and pronouncements. This sector has captured the imagination of “global” donors, policymakers, development consultants, non-government organisations, business associations and academics. Recent studies by Cook (2001), Liedholm (2001), Jeppesen (2005) and Gates and Leuschner (2007) emphasised the importance of this sector to the growth of the economy globally. Whether in developed or developing countries, small- and medium-scale firms play an important role in the process of industrialisation and economic growth. Apart from increasing per capita income and output, SMEs create employment opportunities, enhance regional economic
balance through industrial dispersal and generally promote effective resource utilisation considered critical to the engineering of economic development and growth (ibid).

In South Africa, the post-apartheid government is faced with a litany of social problems, primarily unemployment and abject poverty. The government of South Africa has tried several ways to address these problems but a lot more still needs to be done. The Reconstruction and Development Programme (RDP) initiated in 1994, the Growth, Employment and Redistribution (GEAR) strategy of 1996, the Small Business Development policy of 1996, the Financial Services Charter (FSC) of 2007 and the Accelerated and Shared Growth Initiative for South Africa (AsgiSA) of 2007 are some of the strategies designed and implemented by the post-apartheid government. Despite all these attempts, the unemployment rate of approximately 25 per cent (StatsSA, 2011) is still unacceptably high, resulting in the proportion of people living below the poverty datum line being about 50 per cent (MDG, 2010).

Research and statistics have shown that the failure rate of small businesses in South Africa is very high. According to the Global Entrepreneurship Monitor (GEM) (2010:23), South Africa’s established business rate, meaning those that have survived for at least three-and-a-half years, stands at a low 2.1 per cent compared to countries such as Angola at 8.6 per cent, Zambia 9.6 per cent, China 13.6 per cent, Brazil 15.3 per cent, Uganda 27.7 per cent and Ghana 35.5 per cent. South Africa’s low survival percentage is an indication of the high failure rate among start-up businesses.

According to Nieman and Nieuwenhuizen (2009), it has been observed that despite all the initiatives implemented, both by the government and the private sector, small businesses continue to fail. The vast majority of SMMEs fail during their first two years of take-off as a result of insufficient working capital, owners’ lack of financial and operation management capabilities, and other factors (ibid). This observation is also noted by Khandker, Baqui & Zahed (1995), Nieman and Nieuwenhuizen (2009), Chong (2010) and Lodha (2011). This study was therefore motivated by the high default rates among small businesses in general. Many studies single out lack of access to finance, mostly from banks, as the biggest contributing factor to the high failure rate of small businesses worldwide (Nieuwenhuizen & Groenewald, 2004; Mutezo, 2005; Stephanou & Rodriguez, 2008; and Nieman & Niewenhuizen, 2009).
The critical question that arises out of the observed failure rate is: If lack of finance is the most critical reason for failure why is it that those who manage to get funding still fail to honour their financial obligations? This study analysed loan advancements to SMEs by a (South African bank) Small Business Services since its establishment in 2008. It was essential that the loans studied had to have had a life of at least two years since the first repayment date. For the purpose of this dissertation only approved and taken up loan products were studied. Factors were identified and studied to determine if there is any relationship between default and factors noted by the researcher, namely indebtedness of the owner and the business, cash flow management, gender, race, location of business, size of loan, sector of business, interest charged, whether an old or new client and the age of the business owner. Loan default is an independent variable while the other factors aforementioned are dependent variables in this study.

1.2 OBJECTIVES

This study’s main aim was to analyse the relationship and the significance level of factors hindering loan repayments by SMMEs.

Chong (2010) also highlighted the need of further investigation of factors hindering credit repayment by small business. Adverse repayment behaviour remains an obstacle in future access to finance.

1.3 METHODOLOGY

To examine differences in size of loan, interest rate charged, age, cash flow management and indebtedness of the owner and the business, the Logit model was used. This research analysed loan advances made by a South African bank to SMEs since the 2008/09 financial year. For the purpose of this study only approved and taken-up loan products were sampled before and up to the end of July 2009. Furthermore, loans granted after July 2009 were excluded in order to simplify the analysis in regard to age. The performance of these accounts was observed for the two years ending July 2011.

All declined applications were automatically excluded from the study sample. Therefore, only approved loans were analysed. Also excluded were accounts with inadequate information, where approved applicants did not take the loan due to various reasons including, but not limited to, the
applicant getting a better rate from another financial institution, failure to raise own contribution capital or failure to provide sufficient collateral. A sample of 169 accounts was used for the purpose of this study, after excluding declined and “no deal” applications.
LITERATURE REVIEW

2.1 SMALL, MICRO AND MEDIUM ENTERPRISES (SMMES) IN SOUTH AFRICA

Although the concept of SME is widely used globally, defining SMEs and their size criteria can be controversial as different countries use different definitions and guidelines for small businesses. Annual turnover, assets and number of people employed are the main criteria commonly used both in developing and developed countries. The World Bank defines small businesses in three categories, namely micro-scale (less than 50 employees), small-scale (50 employees) and medium-scale (50-200 employees) (Hauser, 2005). The European Union defines SMEs as “firms with 10 to 250 employees, with less than Euro50 million in turnover or less than Euro43 million in balance sheet total”. This definition is currently used by approximately 27 countries (ibid).

In South Africa, the small business is defined in the National Small Business Act as amended (Act 26 of 2003) as a “separate and distinct business entity, including co-operative enterprises and non-governmental organisations, managed by one owner or more which, including its branches or subsidiaries, if any, is predominantly carried on in any sector or sub-sector of the economy mentioned in column I of the Schedule and which can be classified as a micro-, a very small, a small or a medium enterprise”.

In contrast, South African banks do not use the number of employees when defining SMEs. As is the case in Brazil, they use annual turnover. The big four South African banks, namely Absa, Standard Bank, FNB and Nedbank, use annual turnover to define small businesses as shown in Table 2.1.

<table>
<thead>
<tr>
<th>Bank</th>
<th>Turnover(SMME)</th>
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<tr>
<td>Absa</td>
<td>R10 million</td>
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<td>Standard Bank</td>
<td>R10 million</td>
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<td>FNB</td>
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<tr>
<td>Nedbank</td>
<td>R7.5 million</td>
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2.1.1 Obstacles hindering the growth of small businesses

There is a growing body of literature attesting that the success or failure of small businesses is dependent on managerial competencies. It is widely accepted that lack of appropriate management skills is the primary cause for small business failure (Elmuti & Kathawala, 1999; Longenecker, Moore & Petty, 2003; Megginson, Byrd & Megginson, 2003; Kuratko & Welsch, 2004; Rwigema & Venter, 2004). Hellriegel, Jackson, Slocum, Staude, Amos, Klopper Louw and Oosthuizen (2008:75) discussed managerial capabilities as personal effectiveness demonstrated by different skills, attitude, behaviour and understanding. A research study by Smallbone and Welter (2001) and Hisrich and Drnovsek (2002) endorsed managerial competencies, measured by experience, training and knowledge of the industry, as having a positive impact on the performance of new SMEs in South Africa. Herrington, Kew and Kew (2009:47) suggested that the reason for the high failure rate of SMMEs in South Africa is a result of lack of education and training. Martin and Staines (2008) scrutinised the implication of management competence on SMME performance and their findings indicated lack of managerial skills, poor economic conditions, resource starvation and poorly thought-out business plans, among other things, as crucial to SME success. The distinctive feature of growth and failure is equated to education, training and experience of owners or managers (ibid).

Mintzberg (1989) reasoned that four functional areas of business management, namely finance, operation, general management and marketing, have an impact on small business growth. Adding to this, the size and start-up conditions of a small enterprise may play a big role. This implies that the enterprise-level barriers should be considered when analysing constraints to SME success and economic development. In the opinion of Gray (1990), the key limiting factor of small businesses is the control exerted by the owner and business independence. Small business owners struggle to separate business finances from personal finances. This independence and control eventually leaves the owner misusing the finance of the business and in the process crippling the business by starving it of resources. From such an insight, one can understand why small business owners end up failing to employ skilled, experienced and educated personnel to lead the organisation into the phase of growth and sustainability.

Other studies, however, challenged the view that entrepreneurial competence and access to funding are barriers to small business growth. Some researchers have a different school of thought regarding the success of SMEs, for example Osborne (1993) rejected the idea that entrepreneurial competence
is equated to the growth of SMEs. The behaviour or characteristics of the founder have nothing to do with the success of the venture. The business concept and the capacity to accumulate capital are factors said to be of value in starting up a business. When buying and starting a business, hospitable environment, unsaturated markets, an understanding of economics and cash flow dynamics of the given industry together with understanding customer preferences are key to the success of the business. According to Wilson (2004), “71 per cent of respondents in the research sample did not perceive that accessing finance was a barrier to small business survival or growth”. These findings are consistent with current research (Hussain & Martin, 2005) showing that “less than 1 per cent of respondents reported that access to finance was or could become a strategic issue”. Cosh and Hughes (2003) also noted that finance is not a major barrier to SME development in the United Kingdom. Such studies, however, need to be treated with caution, as they may not apply to developing countries of Asia and Africa, specifically sub-Saharan Africa where this study is centred.

2.2 STATE OF AND OBSTACLES FACING SMMEs IN SOUTH AFRICA

Having discussed common obstacles faced by small businesses in general, the focus of this study was primarily on the South African small business environment. According to Nieman and Nieuwenhuizen (2009), “In South Africa, a disappointingly high number of SMMEs fail during the first few years of operation”. This failure rate is blamed on a number of factors as discussed by different authors. According to Foxcroft, Wood, Kew, Herrington and Segal (2002), 75 per cent of applications for bank credit by new SMEs in South Africa are rejected which puts the survival and growth of these businesses in jeopardy. This claim was confirmed by Naude and Havenga (2004) who indicated that most entrepreneurs, most importantly small businesses, struggle with accessing finances from banks due to extreme red tape and administrative load. They argued that banks hardly ever finance start-up businesses owing to the fact that they are bureaucratic and lack understanding of the owners or operators of SMMEs (entrepreneurs). In addition, banks are not willing to assist or are distrustful in providing finance to people who do not have any business history. Cassar (2004) made it clear that lack of access to finance can be a limitation on SME growth. FinScope (2006) found that only two per cent of new SMMEs in South Africa are able to access bank loans and that this lack of access to bank finance is one of the major challenges that South African SMMEs face. Herrington et al. (2009:90) concluded that access to finance is the major problem for South African
SMMEs. According to Fatoki and Garwe (2010), lack of access to finance in South Africa is the second most reported contributor to low firm creation and failure, after education and training.

However, failure of SMEs cannot be limited to lack of funding. Nieman and Niewenhuizen (2009) pointed out that the largest percentage of SMEs fail during the first two years of their existence due to cash flow problems. Cash flow problems can ensue as a result of lack of access to bank finance or lack of financial management knowledge. The same authors further endorsed the belief that SME owners must themselves be able to interpret and understand financial statements. In addition to this, most owners and operators of SMEs are financially illiterate, which leads to mismanagement of business finances causing most enterprises to fail (ibid). Foxcroft et al. (2002) asserted that lack of education and training has reduced management capacity in new firms. Lack of education and skills can as well mean, or lead to lack of, financial management knowledge. In support of this notion, Fatoki and Garwe (2010) argued that lack of knowledge and training are some of the reasons for the low level of entrepreneurial creation and the high failure rate of small businesses in South Africa.

Although it is enticing to reduce the problem of SMEs in South Africa to the issue of access to capital, this would be misleading and from a policy point of view, counterproductive. SMEs are such an important component of the national socio-economic context that they merit a well-considered and systemically coherent strategic framework. The following discussion is about empirical literature on SME financing and factors affecting loan repayments after funding. This addresses the notion about access to funding as the critical factor affecting why small businesses fail. This is a further discussion of some of the many problems hindering SMME growth. The main question is: If access to finance is the critical ingredient for small business success, why is it that after obtaining finance SMEs still fail?

2.3 SMME FINANCING

Even though the role of banks and other financial institutions is clear in the small business arena, lending to SMEs remains a laborious and daunting activity as many factors influence the sustainability of these ventures and their loan repayment behaviour. The main challenge is getting information about the business (López, 2007:2). Furthermore, owners of SMMEs lack accounting skills, leading to improper accounting procedures. Small business owners often mix their personal finances with business finances which complicates the assessment of affordability and is confusing to the assessor (Tsaih, Liu, Liu & Lien, 2004).
In the banking industry, information remains a crucial input in the process of lending to SMMEs. Banks are confronted with information asymmetry problems because of borrowers’ informational opacity. In SMME financing, collateral is a particular challenge in developing countries. According to Coco (2000), collateral can limit asymmetries in project evaluations, riskiness of the borrower and the cost associated with continuous monitoring and evaluation of projects. Moral hazard problems are also reduced if the business owner puts his/her heart into the business in the form of collateral. This necessarily implies a cost to borrowers if they do not make their best effort to make the business a success. The borrower may be willing to divert funds towards private use or extract the whole surplus from the project but when collateral requirements are in place this perverse incentive is diminished. Barbosa and Moraes (2004:7) argued that firms pledging high collateral tend to attract lower interest rates from lenders, resulting in more advantageous financial leverage. This suggests that the availability of collateral will impact on access to debt finance for new SMEs. Collateral pledging and proper management of information asymmetry, adverse selection and moral hazard can play a critical role in reducing probability of default in small businesses.

Formal lending institutions in South Africa require audit reports and annual financial statements and the information obtained from the financial statements acts as an indicator of the borrower’s future prospects and ability to service a loan facility. Meanwhile financial statements, plus discussions with prospective borrowers, are the main sources of information for lenders. For this reason banks and other creditors prefer, demand and use this financial information in their credit decision-making process.

2.3.1 Loan default

Liu and Zhu (2006) argued that credit is granted on faith and defined credit as “the ability of a business or individual to obtain economic value on faith, in return for an expected future payment”. Since trust is built on faith to commit and meet agreed financial obligations, trust, faith, respect and sometimes relationships are compromised if those obligations are not met. Not meeting the obligations is considered as default. Prior to 2004, when the Basel II accord was endorsed, financial institutions could adopt their own strategic definitions of default. Client classifications such as good payers, poor payers and bad payers were commonly used and a payment in arrears for more than three months was considered to be a default in the retail context. The fact that every organisation could use any definition meant different scoring systems, risk measures and risk management practices could be used (Gestel & Baesens, 2009:38).
Different authors and researchers have different definitions of default. Moody’s, a global rating agency, defined default as any missed or delayed payment of interest and/or principal. Standard and Poor, another global rating agency, defined corporate default as “…a default is recorded upon the first occurrence of a payment default on any financial obligation, rated or unrated”. According to Chorafas (2007:149), Basel II defines default as “four different events or a combination of them; ninety days past due, write down, placement on internal non-accrual list and/or outright bankruptcy”.

According to the Basel Committee 2006 (Saita, 2007:94), “a default is considered to have occurred with regard to a particular obligor when either or both of the two following events take place:

- The bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to actions such as realising security (if held).
- The obligor is past due more than 90 days on any material obligation to the banking group.”

Simply put, a loan is considered to be in default as soon as payment is missed; a loan default occurs when a borrower fails to meet a principal or interest payment of a loan, unless arrangements are made to pay at a later date than previously agreed upon.

The undesirable trend of increasing rates of default proves costly to all parties concerned in the process of borrowing and lending. Non-payment equally impacts the lender and the borrower negatively. On the one hand, the lender loses the part of the principal loan disbursed and earnings in the form of interest. On the other hand, the borrower faces a bleak future in obtaining credit due to lower credit rating and an unhealthy lifestyle primarily caused by high financial stress levels.

### 2.4 SMME MODELS USED TO EVALUATE LOAN APPLICATIONS

In recent years South African banks have so increased their exposure to SMMEs that this has become an important segment of their commercial loan portfolios. Although the primary stages of granting a loan generally take place at the level of branches and may be motivated by their sales personnel, ultimate decision-making is undertaken in regional centres and credit divisions (the latter normally sited at the head offices of the respective banks). Nevertheless, local branches and the sales staff therein effectively complement certain of the centralised functions. In regard to handling SMMEs, it is admitted by most banks that their branches serve as more than mere “delivery agents”
or channels through which client services are delivered: instead, certain “back office” functions are effectively devolved to branch level. Still, such functions such as loan approval, risk analysis, the on-going monitoring of credit exposure, and the process of loan recovery remain centralised (Levin, 2005).

South African banks make use of various models. The following discussion is about models that are mainly used to access loan applications.

2.4.1 Credit Scoring Model

The most widely used credit measure to predict future loan performance is credit scoring models. Feldman (1997) explained credit scoring as “the process of assigning a single quantitative measure, or score, to potential borrower representing an estimate of the borrower’s future loan performance”. The models are statistical in nature such as logistical regression analysis or discriminant analysis and more recently neural networks and Support Vector Machine (SVM). Credit scoring methods are used to estimate the likelihood of default based on historical data on loan performance and characteristics of the borrower. In the small business environment, if the customer statistics produce a score above the cut-off score, the application is considered for further assessments by specialised small business units and then later progresses to the small business credit department for approval or otherwise. The basic assumption is that there exists a metric which can distinguish between good and bad credits and segregate them into two separate distributions.

Credit scoring has its limitations. Feldman (1997) considered the credit scoring models used in SMME lending to be more intricate than those used in consumer lending and have a propensity of placing substantial weight on factors related to the financial history of the business owner. Some studies (Frame, Srinivasan & Woosley, 2001; Berger & Frame, 2005) have found that credit scoring is associated with an increase in overall lending because of the inclusion of more marginal classes of borrowers.

2.4.2 Accounting-based Model

Accounting ratios are also widely used by banks in a bid to limit adverse selection and moral hazard problems in loan advancements. The methodology of the accounting-based approach is based on
Multiple Discriminant Analysis (MDA) and logistic models that are the most useful in accounting-based variables for classifying company default.

Khorasgani (2009) argued that although there are numerous drawbacks to using accounting ratio-based models in predicting defaults, SMEs’ financial ratios derived from balance sheets and profit-and-loss accounts are regarded as good predictors of default. In addition, liquidity and activity are the most crucial factors in predicting an SME’s default, as well as the positive effect of age and size variables on an SME’s default prediction.

2.4.3 Survival-based Credit Scoring Model

Some banks take the process to another level by making use of the survival analysis method to measure response or time of an occurrence of an event. Luoma and Laitinen (1991) pointed out that the aim of the survival analysis method is to measure the link between illustrative variables and survival. Investigating the timing when customers are likely to go “bad” is important for effective credit management policies. The bank can manage and monitor profitability of clients to the bank over a customer’s lifetime. It has been shown previously by Narain (1992:109) and Banasik et al. (1999) that survival analysis can be useful to estimate default and repayment.

2.5 FACTORS AFFECTING LOAN REPAYMENTS

While SMEs constitute particularly dynamic firms, their behaviour is not yet well understood (Pissarides, Singer & Svejnar, 2003). Various studies have identified numerous factors impacting on the management of credit. Interest in factors affecting loan repayments led some researchers more than three decades ago to develop the theoretical contributions that remain undisputed in this modern era. The stance of Stiglitz and Weiss (1981 cited by Godquin, 2004), that problems of adverse selection, information asymmetry and moral hazard impose the greatest limitations on productive credit granting, is still valid.

Numerous factors have been identified in various studies as having an impact on credit management and loan repayment. Several factors such as interest rates, age, marital status, location and numbers of dependents are said to impact on the likelihood of default (Lodha, 2011). Some of these factors are discussed below.
2.5.1 Interest rate in credit management

The pioneering work of Stiglitz and Weiss (1981 cited by Godquin, 2004) marked the beginning of attempts at explanations of credit rationing in credit markets. They asserted that “... interest rates charged by a credit institution are seen as having a dual role of sorting potential borrowers (leading to adverse selection), and affecting the actions of borrowers (leading to the incentive effect)”. Weinberg (2006) advocated that interest charged and the amount of debt are the two main factors affecting repayment obligations. Some banks use the interest rates that an individual is willing to pay as a screening device to identify borrowers with a high probability of repayment. This may be dangerous since high risk-takers are the worst rate payers, in the process affecting default by borrowers on loans.

2.5.2 Gender in credit management

Studies endorse gender as a variable that could influence credit management practices among SMEs. Halkias (2008) pointed out that there is still a significant and systematic gap between genders in relation to business ownership and entrepreneurial involvement. Evans and Winston (2008) concurred with Halkias (ibid) that single, college-educated women managed their credit more prudently than both men in general and married women, in a study conducted in Ghana. A number of important gender issues are recognised in terms of investigating successful SME development in Africa.

2.5.3 Indebtedness of owner/business in loan repayment

Akhavein (2001) indicated that the personal credit history or indebtedness of small business owners is highly predictive of the loan repayment prospects of their businesses. López (2007:6) asserted that both “hard” and “soft” information has an impact on the repayment patterns of the borrowers. Hard information such as borrowers’ capacity, indebtedness and monthly instalments need to be taken into consideration. In the small business environment, particularly in South Africa, bankers actually deal with two customers: the members of such a business and the business itself. In actual fact, the indebtedness of the owner plays a pivotal role in loan repayment to such an extent that when a close corporation applies for finance and has to rely on the personal assets of the members to secure the finance, the two characteristics are seen as one.
2.5.4 Loan size in credit management

Godquin (2004) reported that both age and size of loans have an inverse relationship to repayment performance. This concept is related to a study done by Pang (1991 cited by Chong, 2010) who pointed out that the main determinants of repayment obligations are the interest charged and the amount of debt. Furthermore, loans that are too big also lead to repayment problems, dissatisfaction and high dropouts (Hietalahti & Linden, 2006).

2.5.5 Loan period in credit management

The loan period or term of a loan is usually classified as either short-term or long-term. A short-term loan in bank parlance is one that is repayable within a period of one year. A long-term loan on the other hand, is any loan with payment terms extending beyond one year.

Although the relationship between loan maturity and borrower risk has been addressed in some theoretical models (Ortiz-Molina & Penas, 2004), there is very little observed research that tests these theoretical models in the context of bank lending to small firms (Berger & Frame, 2005).

Bragg (2010:597) asserted that “the short time frame reduces the risk of non-repayment to the bank, which can be reasonably certain that the business’s fortunes will not decline so far within such a short time period that it cannot repay the loan, while the bank will also be protected from long-term variations in the interest rate”.

2.5.6 Location in loan repayment

Some studies consider various factors such as location as a determinant of business success and the performance of loan repayment (Kang, Heshmati & Choi, 2005). McPherson (1995 cited by Rogerson, 2000:689) attested to this in a study conducted about key determinants of the survival rate of SMEs. The results indicated that businesses in commercial districts exhibit high success in comparison with the high failure rate experienced by home-based enterprises. In addition, soft information like distance between the borrower and the lender is important. A larger borrower-lender distance is associated with higher default risks because distance interferes with information collection.
2.5.7 Age and family circumstances of an entrepreneur in credit management

Cromie (1991), in a study of male and female owners of young firms, found that businesses managed by young people experience general management problems such as lack of people management and accounting skills. Age and the family circumstances of owners can negatively or positively affect the performance of the business. Small business owners with a supportive, experienced family structure tend to be able to cope with the pressure of running the business. Godquin (2004) reported that both age and size of loan have an inverse relationship to repayment performance. Athmer and De Vletter (2006) added that 70 per cent of defaulters in their study samples experienced a family problem such as death or health circumstances.

2.5.8 Education and training in credit management

There is an indication of a positive link between flourishing SMEs in South Africa and education and training. The World Bank (1993) endorsed this concept by showing a direct correlation between sales and education in South African SMEs. The World Bank’s investigation concluded that entrepreneurs “who have achieved a Standard 10 level of education have average turnover nearly twice that of those who have completed Standard 8”. In an exploration of the determinants of success in a sample of emerging black-owned manufacturing SMEs in the Western Cape, Sawaya (1995:692 cited by Rogerson, 2000) concluded that “the rate of success was highly correlated with the level of education attained by the owner”.

2.5.9 Sector of business in credit management

Mead and Liedholm (1998) pointed out that survival rates of small businesses vary by sector. The study concluded that enterprises in the service sector and manufacturing are less likely to close down than those in the wholesale and retail sector (ibid).

2.5.10 Cash flow management in credit management

Chong (2010) identified capacity (sufficient cash flow to service the obligations), collateral (assets to secure the debt), character (integrity), condition of the economy as well as capital (net worth) as needing to be included in the credit scoring model. The credit scoring model is a classification procedure in which data collected from application forms for new or extended credit line is used to assign credit applicants to “good” or “bad” credit risk classes, compared with enterprise start-ups (Constantinescu, Badea, Cucui & Ceausu, 2010).
2.6 CONCLUSION

It is evident from the literature review that there are many problems hindering the growth of small businesses. SMME financing is a multifaceted process that includes many criteria because of the risky nature of small businesses. Different models are used in the assessment of loan applications. The literature review highlighted that those who managed to get loans also faced another dilemma, namely that of not managing or servicing their debt effectively. Many factors affecting loan repayments were discussed in this chapter and the role of banks in the SMME environment was also considered. Although SMEs feel that access to finance is limited, this access is controlled partly by external forces such as legislation over which the banks have no control. The issues of liquidity, credit risk and information asymmetry limit a bank’s involvement in this sector.
3.1 INTRODUCTION

Although it is sometimes suggested that SMMEs can explore other financing alternatives, as is the case in South Africa where there are many SMME funding structures like Business Partners, the Development Bank of Southern Africa (DBSA), the Industrial Development Corporation (IDC), the Land Bank, Khula and other regional financial agencies such as Gauteng Enterprise Propeller in Gauteng Province, finance from banks remains common and effective. Government initiatives alone will not be adequate for funding efforts to accelerate SMMEs and economic growth in South Africa. Ultimately the private sector, such as banks, will need to be the engine of growth and in the process fuel employment generation, while government efforts must catalyse innovative financing solutions for the private sector.

3.2 OVERVIEW OF THE STATE OF BANKS IN SOUTH AFRICA

The Bank Supervision Department of the South African Reserve Bank (SARB), South Africa’s central bank, has prudential and regulatory authority over the banking industry. As of November 2011, there are 12 locally controlled registered banks. In addition, there are six foreign-controlled registered banks, 12 registered branches, two registered mutual banks and 41 offices of foreign bank representatives. The five largest commercial banks, which account for 86 per cent of deposits in South Africa, are Amalgamated Banks of South Africa (Absa), First National Bank (FNB), Investec Bank, Nedbank and Standard Bank, with Investec being the smallest of them. This study will however exclude Investec since it does not actively play a role in small business finance (SARB, 2011).

The South African financial sector has undergone substantial structural change since the advent of democracy in 1994. Evidence of this can be seen in the change in the number and range of players, the change in product offerings and the change in institutional and regulatory arrangements.

The South African banking industry comprises banking groups with a diversified product offering. There are three regulators, namely the SARB, the National Credit Regulator (NCR) and the
Financial Services Board (FSB). The challenge lies in the collaboration of these main regulators to agree and implement agreements on operational issues without confusing the public. The SARB plays the role of supervisor to the banking industry, *inter alia* to ameliorate the prudential reputation of banks and other financial players. The SARB’s administration participates in and contributes to various intercontinental forums which include the Basel Committee and its subgroups, Finance Ministers, Central Bank Governors and the Group of Twenty (G-20).

### 3.3 MAJOR BANKS AND A BRIEF OVERVIEW OF THEIR SMME UNITS

The South African financial sector comprises four major banks that provide financial services to the SMME sector.

#### 3.3.1 First National Bank (FNB)

FNB established a business unit called FNB Solutions for New Businesses: this is a strategic focus on tailored solutions to start-up businesses. According to FNB (2006), start-up business includes all new business ventures, as well as any existing business bought by an entrepreneur with no prior involvement with the business, or entrepreneurs with a business that is new to them. FNB has a large, structured new and start-up support strategy and works with several partners, such as SA Breweries (SAB), Khula, National Youth Development Agency (NYDA), SASOL and Empowerdex. Both FNB’s enterprise and start-up units engage in educating SMEs about strategies likely to prove successful in starting up and running small businesses. They do this on their websites using, primarily, explanations around different product types as well as extensive business support softwares (FNB, 2011).

#### 3.3.2 Standard Bank

Standard Bank is believed to have several training and support activities targeted at SMEs. Standard Bank’s website has a description of several types of financial products available to small businesses. The bank offers a vast range of SME products and services such as overdrafts, medium-term loans, business term loans, business revolving credit plans, debtor finance, Khula-guaranteed loans, empowerment finance for Black Economic Empowerment (BEE), vehicle and asset finance, business mortgage and commercial property finance (Standard, 2011).
3.3.3 Amalgamated Banks of South Africa (Absa)

Absa has small business support centres dedicated solely to SMMEs. The bank has dedicated advisors to help those small businesses that are either starting or already established, with different advisory services and financial products. SMMEs are given specialised attention once they book to meet with a business manager. Franchising finance is made available to those who want to buy new franchises and those who are already operating existing franchises. Absa has dedicated franchise experts offering guidelines and advice to existing and prospective franchisees (Absa, 2011).

3.3.4 Nedbank

As with the other three banks, Nedbank also maintains a small business unit dedicated to SMMEs. Nedbank prides itself on educating small business owners with free financial education through seminars and live television shows such as “fix my biz”. Nedbank has dedicated small business advisors at selected branches and aims eventually to have representatives in every branch with a large pool of SMMEs in its area. Another unit offers expertise in all franchise-related information. This unit also helps prospective franchisees by accrediting the franchisors. This is a huge value-add since it safeguards SMMEs from unscrupulous franchisors (Nedbank, 2011).

3.4 BANKING PRODUCTS FOR SMES

There is a debate on the level of sophistication of the SME market in South Africa. As the small business credit risk profile is generally too high, banks can only risk a small percentage of depositors’ money on SMEs. They do, however, provide a number of important debt products. Table 3.1 presents primary products that are made available to SMMEs by the four big banks.

<table>
<thead>
<tr>
<th>BANK NAME</th>
<th>PRODUCT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Term loan</td>
</tr>
<tr>
<td>Absa</td>
<td>X</td>
</tr>
<tr>
<td>FNB</td>
<td>X</td>
</tr>
<tr>
<td>Nedbank</td>
<td>X</td>
</tr>
<tr>
<td>Standard Bank</td>
<td>X</td>
</tr>
</tbody>
</table>

Table 3.1: Funding products available to SMMEs

South African banks currently provide most of these products very effectively. A range of investment and loan products as well as other banking services is currently offered to SMEs. This is a pretty standard menu of products that includes cheque/savings/term deposit accounts and offers loans for working capital or investment. A logical extension of the consumer credit card market is the provision of business credit cards, which have proved popular, with banks apparently targeting this segment aggressively. Other services such as cash management and payroll management are also welcomed by SMEs which prefer to operate most transactions through a single credit institution in a bid to minimise taxes on financial transactions (Levin, 2005).
DATA ANALYSIS

4.1 METHOD OF DATA ANALYSIS

Data analysis was performed using various statistical procedures and tests. The purpose of any research is not simply providing data, but to deduce information from the data gathered. Data was presented using descriptive statistics and by use of models and tables under empirical analysis.

4.1.1 Descriptive statistics

Descriptive statistics such as frequency distribution and percentages were used to analyse the demographic characteristics of the sampled entrepreneurs.

4.1.2 Empirical analysis

With the assistance of EViews econometric software, data was analysed starting with preparation, data capturing, cleaning and coding. In the models used in this study, a regressor “Default” is a qualitative variable and the main objective is to find the relationship and impact of factors on default identified in underlying theory and assumptions. The dependent variable default is attributed either “yes” or “no”, hence categorised as dichotomous. There are three approaches to estimating a dichotomous response model, namely the Linear Probability Model (LPM), the Logit model and the Probit model (Gujarati and Porter, 2005:542).

As the data was both quantitative and qualitative in nature, one way of quantifying the attributes to be able to use the Logit model was to construct artificial variables taking on the value of “1” to indicate the presence of a variable, with 0 indicating otherwise. To prevent the dummy variable trap, the rule (M-1) was applied. According to Gujarati (2005), “For each qualitative regressor, the number of dummy variables introduced must be one less than the categories of that variable.”

Estimation technique

The models were estimated using the Logit model. These estimating models were used to quantitatively determine the factors that influence loan default among entrepreneurs. This study used the Logit model since it is one of the models that guarantees the probability will lie between 0 and 1 (Gujarati & Porter, 2005:565-570).
Definition of probability of Default 1

Loan accounts were monitored for a period of two years. According to global rating agencies Moody’s and Standard and Poor, a default is defined as any missed or delayed payment of interest and/or principal. In the study, any unpaid item due to insufficient funds and which was not rectified within a week was regarded as Default 1. The researcher perceived this definition as unrealistic and unfair since the obligor could rectify payment within the following day, week or month. The researcher therefore used other criteria as described by Basel II and widely used by banking groups as explained below.

Definition of probability of Default 2

The Basel II definition of default was used to identify all accounts that have defaulted. According to the Basel Committee 2006a (Saita, 2007:94), the obligor whose account is past due more than 90 days on any material obligation to the banking group is considered a defaulter. Therefore in this study, all the accounts that were identified to have passed 90 days were classified as Default 2 or PROBDEF2.

Based on the above discussion, the two Logit models used to analyse the factors affecting the default are specified as follows:

With a personal relationship:

\[
\text{PROBDEF2} = \beta_0 + \beta_1 \text{AGEO} + \beta_2 \text{BKBALNEG} + \beta_3 \text{CUSTN} + \beta_4 \text{IRABOVEPR} + \beta_5 \text{LOANSIZE}\text{L} + \beta_6 \\
\text{LOANSIZE}\text{M} + \beta_7 \text{LOANTERM} + \beta_8 \text{LTABF} + \beta_9 \text{LTTERM} + \beta_{10} \text{OWNERF} + \beta_{11} \text{OWNERMF} + \beta_{12} \\
\text{PERSRELATN} + \beta_{13} \text{RACEB} + \mu, \quad \ldots \ldots (4.1)
\]

With a business relationship:

\[
\text{PROBDEF2} = \beta_0 + \beta_1 \text{AGEO} + \beta_2 \text{BKBALNEG} + \beta_3 \text{BUSRELATN} + \beta_4 \text{CUSTN} + \beta_5 \text{IRABOVEPR} + \beta_6 \\
\text{LOANSIZE}\text{L} + \beta_7 \text{LOANSIZE}\text{M} + \beta_8 \text{LOANTERM} + \beta_9 \text{LTABF} + \beta_{10} \text{LTTERM} + \beta_{11} \text{OWNERF} + \beta_{12} \\
\text{OWNERMF} + + \beta_{13} \text{RACEB} + \mu, \quad \ldots \ldots (4.2)
\]

Where
$\beta_0$ is a constant
$\beta_i$ are coefficients to be estimated
$\mu$ is an error term, while the dependent variables and independent variables used in the models are defined in Table 4.1.

The dependent variables used in the Logit model (Equation 4.1 and Equation 2) are explained. All dependent variables are in binary forms with a value of “1” if true and “0” otherwise. To prevent dummy variable trap, the rule (M-1) was applied. According to Gujarati and Porter (2005), “For each qualitative regressor, the number of dummy variables introduced must be one less than the categories of that variable”.

Table 4.1 presents definitions and the a priori or expected signs based in underlying theory and assumptions on the dependent variables used in the equation 4.1 and 4.2.
**Table 4.1: Variables, definition and *a priori* expectation**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Expected Sign</th>
</tr>
</thead>
<tbody>
<tr>
<td>AGEO</td>
<td>A dummy that takes the value of one if the age of the borrower is over 35 and zero otherwise.</td>
<td>-</td>
</tr>
<tr>
<td>BKBALNEG</td>
<td>A dummy that takes the value of one if the bank balance is negative and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>BUSRELATN</td>
<td>A dummy that takes the value of one if the borrower has no business relationship with the bank and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>CUSTN</td>
<td>A dummy that takes the value of one if the borrower is a new client and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>IRABOVEPR</td>
<td>A dummy that takes the value of one if interest rate above prime at the time of taking up the loan and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>LOANSIZEM</td>
<td>A dummy that takes the value of one if a loan size is medium (R101 000 to R500 000). Interest rate above prime at the time of taking up the loan and zero otherwise.</td>
<td>+ / -</td>
</tr>
<tr>
<td>LOANSIZEL</td>
<td>A dummy that takes the value of one if a loan size is large (R500 001 and above). Interest rate above prime at the time of taking up the loan and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>LOANTERML</td>
<td>A dummy that takes the value of one if a loan period is long term (more that 12 months) and zero otherwise.</td>
<td>+ / -</td>
</tr>
<tr>
<td>LTABF</td>
<td>A dummy that takes the value of one if a loan type is Asset Based Finance and zero otherwise.</td>
<td>-</td>
</tr>
<tr>
<td>LTTERM</td>
<td>A dummy that takes the value of one if a loan type is term loan and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>OWNERMF</td>
<td>A dummy that takes the value of one if the owners of the business are both male and female and zero otherwise.</td>
<td>-</td>
</tr>
<tr>
<td>OWNERF</td>
<td>A dummy that takes the value of one if the owner of the business is female and zero otherwise.</td>
<td>-</td>
</tr>
<tr>
<td>PERSRELATN</td>
<td>A dummy that takes the value of one if the borrower has no personal relationship with the bank and zero otherwise.</td>
<td>+</td>
</tr>
<tr>
<td>RACEB</td>
<td>A dummy that takes the value of one if the race of the borrower is black and zero otherwise.</td>
<td>+</td>
</tr>
</tbody>
</table>
ANALYSIS OF EMPIRICAL RESULTS

5.1 DESCRIPTIVE STATISTICS

This section discusses small business probability of default and characteristics of owners in this sector.

The analysis of the descriptive statistics of the business owners by frequency and percentages is presented in Table 5.1. This analysis is characterised in terms of Default 1, default gender, age, race, loan type, customer type, personal relationship at the time of application and business relationship at the time of application of the business owners. The table consists of two columns of variables and its attributes, frequencies and percentages.

After all the accounts in arrears had been identified and counted, the researcher used the Basel II definition explained in Section 4.3.2 as Default 2. In this category the default percentage was reduced from 39 per cent to 28 per cent.

Although 28 per cent is from a private bank, the percentage is not that different when compared to the public development finance institutions that recorded similar trends. The NEF iMbewu fund recorded 35 per cent of loan repayments as not being paid back on time during the 2009 financial year. Timm (2011:37) asserted that the high default rate of small businesses is a serious concern for financial institutions in South Africa. This analysis validates Timm’s assertion about small business’s poor payment rate. This study concentrated on Default 2 as it gives a fair definition of default. The rest of the analyses all focussed on Default 2.
Table 5.1: Descriptive analysis of business owners

<table>
<thead>
<tr>
<th>PROBABILITY OF DEFAULT (Default 1)</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>66</td>
<td>39</td>
</tr>
<tr>
<td>No default</td>
<td>103</td>
<td>61</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PROBABILITY OF DEFAULT (Default 2)</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>47</td>
<td>28</td>
</tr>
<tr>
<td>No default</td>
<td>122</td>
<td>72</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>90</td>
<td>53</td>
</tr>
<tr>
<td>Female</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>Both male &amp; female</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>AGE</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35 and below</td>
<td>34</td>
<td>20</td>
</tr>
<tr>
<td>Over 35</td>
<td>135</td>
<td>80</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RACE</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>105</td>
<td>62</td>
</tr>
<tr>
<td>Black</td>
<td>64</td>
<td>38</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LOAN TYPE</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asset-based finance</td>
<td>45</td>
<td>27</td>
</tr>
<tr>
<td>Overdraft</td>
<td>56</td>
<td>33</td>
</tr>
<tr>
<td>Term loan</td>
<td>68</td>
<td>40</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CUSTOMER TYPE</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New</td>
<td>149</td>
<td>88</td>
</tr>
<tr>
<td>Old</td>
<td>20</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>PERSONAL RELATIONSHIP AT THE TIME OF APPLICATION</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal relationship</td>
<td>145</td>
<td>86</td>
</tr>
<tr>
<td>No personal relationship</td>
<td>24</td>
<td>14</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BUSINESS RELATIONSHIP AT THE TIME OF APPLICATION</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business relationship</td>
<td>161</td>
<td>95</td>
</tr>
<tr>
<td>No business relationship</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>169</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
Table 5.1 shows that 39 per cent of all the loans disbursed were classified as Default 1. These accounts were found to be in arrears at least one month over the period of two years.

The dominance of 90 (53%) male-owned businesses, compared to a mere 34 (20%) woman-only businesses may signify the active role played by males in SMME development. A combination of 45 (27%) male and female businesses may indicate family businesses.

5.2 EMPIRICAL RESULTS

It was not possible to run personal relationship and business relationship variables in the same model since the business owner and the business are regarded as one item. This prompted the researcher to develop two models, one named “personal relationship” and the other “business relationship”. In all models presented in Table 5.4 the positive sign reflects that the estimated variable increases the probability of default while the negative sign reflects that the estimated variable decreases probability of default. Models 1 and 2 are based on default 1. Model 4 (without interactions) and 6 (with interactions) are the estimate of probability of Default 2 with personal relationship as presented in Equation 4.1. Model 4 (without interactions) in Table 5.3 and Model 6 (without interactions) are the estimate of probability of Default 2 with business relationship as presented in Equation 4.2.

McFadden R-squared at approximately 15 per cent and LR statistic at 30 per cent shows the model’s goodness of fit is fairly low.
Table 5.4: Summary of all the models

<table>
<thead>
<tr>
<th>VARIABLE</th>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
<th>MODEL 4</th>
<th>MODEL 5</th>
<th>MODEL 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.624068</td>
<td>1.597861</td>
<td>-0.422582</td>
<td>-0.505393</td>
<td>-0.653770</td>
<td>-0.735583</td>
</tr>
<tr>
<td>AGEO</td>
<td>-0.861260**</td>
<td>-0.838131**</td>
<td>-0.289197</td>
<td>-0.236008</td>
<td>-0.326530</td>
<td>-0.274562</td>
</tr>
<tr>
<td>BK BALNEG</td>
<td>-1.042912*</td>
<td>-1.062233*</td>
<td>-1.059022*</td>
<td>-1.086153*</td>
<td>-0.212296</td>
<td>-0.233812</td>
</tr>
<tr>
<td>CUST N</td>
<td>0.176496</td>
<td>0.216537</td>
<td>0.988465</td>
<td>1.096238</td>
<td>1.313277</td>
<td>-0.679076</td>
</tr>
<tr>
<td>IRABOVEPR</td>
<td>-0.230916</td>
<td>-0.270973</td>
<td>-0.194028</td>
<td>-0.310362</td>
<td>-0.447855</td>
<td>-0.543518</td>
</tr>
<tr>
<td>LOAN SIZE L</td>
<td>0.217227</td>
<td>0.191720</td>
<td>0.232438</td>
<td>0.157393</td>
<td>0.219309</td>
<td>0.148737</td>
</tr>
<tr>
<td>LOAN SIZE M</td>
<td>-0.280562</td>
<td>-0.287455</td>
<td>-0.428764</td>
<td>-0.460838</td>
<td>-0.427127</td>
<td>-0.456683</td>
</tr>
<tr>
<td>LOAN TERM</td>
<td>-0.817740</td>
<td>-0.729861</td>
<td>-0.231880</td>
<td>-0.036905</td>
<td>-0.312497</td>
<td>-0.123160</td>
</tr>
<tr>
<td>LT ABF</td>
<td>-0.412160</td>
<td>-0.474691</td>
<td>-0.993276</td>
<td>-1.123716</td>
<td>-0.936783</td>
<td>-1.065554</td>
</tr>
<tr>
<td>LT TERM</td>
<td>-0.048951</td>
<td>-0.094731</td>
<td>-0.222460</td>
<td>-0.309156</td>
<td>-0.140396</td>
<td>-0.226768</td>
</tr>
<tr>
<td>OWNER F</td>
<td>0.041978</td>
<td>0.066125</td>
<td>-0.095097</td>
<td>-0.015541</td>
<td>-0.134125</td>
<td>-0.055598</td>
</tr>
<tr>
<td>OWNER MF</td>
<td>-1.528456*</td>
<td>-1.518116*</td>
<td>-1.290439**</td>
<td>-1.262959**</td>
<td>-1.339270*</td>
<td>-1.312119**</td>
</tr>
<tr>
<td>PERS RELAT N</td>
<td>0.243623</td>
<td>0.529859</td>
<td>0.651838*</td>
<td>0.685148*</td>
<td>0.650653**</td>
<td>0.683287**</td>
</tr>
<tr>
<td>RACE B</td>
<td>0.488784</td>
<td>0.500390</td>
<td>0.651838*</td>
<td>0.685148*</td>
<td>0.650653**</td>
<td>0.683287**</td>
</tr>
<tr>
<td>BUS RELAT N</td>
<td>-0.188966</td>
<td>-0.714080</td>
<td>0.154573</td>
<td>0.159215</td>
<td>0.156650</td>
<td></td>
</tr>
<tr>
<td>McFadden R-squared</td>
<td>0.162186</td>
<td>0.161456</td>
<td>0.157108</td>
<td>0.154573</td>
<td>0.159215</td>
<td>0.156650</td>
</tr>
<tr>
<td>S.D. dependent var</td>
<td>0.489320</td>
<td>0.489320</td>
<td>0.449398</td>
<td>0.449398</td>
<td>0.449398</td>
<td>0.449398</td>
</tr>
<tr>
<td>Akaike info criterion</td>
<td>1.286652</td>
<td>1.287628</td>
<td>1.162242</td>
<td>1.165239</td>
<td>1.183419</td>
<td>1.186452</td>
</tr>
<tr>
<td>Schwarz criterion</td>
<td>1.545933</td>
<td>1.546909</td>
<td>1.421523</td>
<td>1.424521</td>
<td>1.479741</td>
<td>1.482773</td>
</tr>
<tr>
<td>Hannan-Quinn criterion</td>
<td>1.391873</td>
<td>1.392849</td>
<td>1.267463</td>
<td>1.270460</td>
<td>1.303672</td>
<td>1.306704</td>
</tr>
<tr>
<td>Rest. deviance</td>
<td>226.1172</td>
<td>226.1172</td>
<td>199.8108</td>
<td>199.8108</td>
<td>199.8108</td>
<td>199.8108</td>
</tr>
<tr>
<td>LR statistic</td>
<td>36.67303</td>
<td>36.50808</td>
<td>31.39192</td>
<td>30.88537</td>
<td>31.81287</td>
<td>31.30045</td>
</tr>
<tr>
<td>Prob(LR statistic)</td>
<td>0.000466</td>
<td>0.000495</td>
<td>0.002954</td>
<td>0.003504</td>
<td>0.006826</td>
<td>0.008006</td>
</tr>
</tbody>
</table>

*Significant at 5% level; **Significant at 10% level.
Table 5.4 shows the overall results of all the logit models used for estimating equation outlined in Chapter 4. Although the McFadden $R^2$ which is averaging 15 per cent and the LR statistic averaging 35 in all the models with a p-value ranging from 0.000 to 0.008 is considered too big, together all the regressors have a significant impact on default.

The Logit model results showed consistency although in other cases this was not significant in either negative or positive relationships with default. BKBALNEG shows a negative relationship in all models, significant in Models 1, 2, 3, and 4 and only insignificant when interacted in Models 5 and 6. LOANTERML results show a negative but insignificant relationship in all models. OWNERMF displays a negative relationship to default and significant in all the models. RACEB results show a consistently positive relationship with default in all models, insignificant in Models 1 and 2 while significant in Models 3, 4, 5 and 6.

- **Age and loan repayment**
  The AGEO coefficient is -0.289197 in Model 3, -0.236008 in Model 4, -0.326530 in Model 5 and -0.274756 in Model 6. With all other variables held constant, if AGEO increases by a unit, on average the estimated probability of default decreases by about 0.289197 unit in Model 3, 0.236008 unit in Model 4, 0.326530 unit in Model 5 and 0.274756 unit in Model 6, suggesting that there is a negative relationship between default and AGEO. The results show a negative but insignificant relationship. Findings in this study are the same as findings by Cromie (1991), who in a study of male and female owners of young firms found that organisations managed by young people experience general management problems. Not paying loans is a general management problem. Even though this study’s results are not significant, there is a negative relationship between age and loan repayment.

- **Default and cash flow management**
  The BKBALNEG coefficient is -1.059022 in Model 3, -1.086153 in Model 4, -0.212296 in Model 5 and -0.233812 in Model 6. With all other variables held constant, if BKBALNEG increases by a unit, on average, the estimated probability of default decreases by 1.059022 units in Model 3, 1.086153 units in Model 4, 0.212296 unit in Model 5 and 0.233812 unit in Model 6, suggesting a negative relationship between default and cash flow management. In contrary, theory stipulates positive relationship with businesses with negative bank balances. In this study, the results are
significant at five per cent in main Models 3 and 4. In Models 5 and 6, the coefficients are not significant but relationship with default remains negative even after interactions.

- **Relationship and credit management**

There are three variables under relationship management. New/old application is referred to here as new or old customer, customer with personal relationship and customer with business relationship at the time of loan application.

The main Models 3 and 4 show that there is a positive relationship to default if the customer is new or if the application is new. However, the interaction in Model 6 (business relationship) shows a negative relationship after new customer is interacted with negative bank balance, seemingly due to an overdraft facility. This may imply that an overdraft plays an important role in managing cash flow and eventually meeting the debt obligations.

**Personal relationship**

The PERSRELATN coefficient is 0.529859 in Model 3 and 0.520357 in Model 5. This means that, with all other variables held constant, if PERSRELATN increases by a unit, on average the estimated probability of default increases by about 0.529859 unit in Model 3 and 0.520357 unit in Model 5, suggesting that there is a positive relationship between default and personal relationship of a business owner with the bank at the time of loan application. The variable on “no personal relationship” has a positive relationship with default as indicated by the underlying theory and assumptions in Table 4.1. This result seems reasonable since the problem of information asymmetry and adverse selection may play a role in granting a loan.

**Business relationship**

The BUSRELATN coefficient is -0.714080 in Model 4 and -0.679076 in Model 6. This means that, with all other variables held constant, if BUSRELATN increases by a unit, on average the estimated probability of default decreases by about 0.714080 unit in Model 4 and 0.679076 unit in Model 6, suggesting that there is a negative relationship between default and business relationship. Although not statistically significant, it is interesting to see the results revealing that if there is no business relationship with the business owner at the time of loan application, there is negative relationship with default. The expected outcome was both business owners with no personal relationship and no
business relationship have positive relationships to default. Both Models 4 and 6 reflect negative coefficients, although these were not significant.

- **Interest rate and loan repayment**

  The IRABOVEPR coefficient is -0.194028 in Model 3, -0.310362 in Model 4, -0.447855 in Model 5 and -0.543518 in Model 6. This means that, with all other variables held constant, if IRABOVEPR increases by a unit, on average the estimated probability of default decreases by about 0.231880 unit in Model 3, 0.036905 unit in Model 4, 0.312497 unit in Model 5 and 0.123160 unit in Model 6, suggesting that there is a negative relationship between default and interest rate above prime rate. Although not statistically significant, this may mean that interest charged does not lead small businesses to default.

- **Size of loan and default**

  The LOANSIZEL coefficient is 0.232438 in Model 3, 0.157393 in Model 4, 0.219309 in Model 5 and 0.148737 in Model 6. This means that, with all other variables held constant, if LOANSIZEL increases by a unit, on average the estimated probability of default increases by about 0.232438 unit in Model 3, 0.157393 unit in Model 4, 0.219309 unit in Model 5 and 0.148737 unit in Model 6, suggesting that there is a positive relationship between default and the size of the loan. The estimated sign of the coefficient on large loans is insignificantly positive. However, this matches the \textit{a priori} expectations presented in this study. Medium loans have a negative relationship with default supporting the findings of Hietalahti and Linden (2006) that loans that are too big also lead to repayment problems, dissatisfaction and high drop-out rates.

- **Period of loan and loan repayment**

  The LOANTERML coefficient is -0.231880 in Model 3, -0.036905 in Model 4, -0.312497 in Model 5 and -0.123160 in Model 6. This means that, with all other variables held constant, if LOANTERML increases by a unit, on average the estimated probability of default decreases by about 0.231880 unit in Model 3, 0.036905 unit in Model 4, 0.312497 unit in Model 5 and 0.123160 unit in Model 6, suggesting that there is a negative relationship between default and loan term. The negative sign of a coefficient in each model matches the \textit{a priori} expectation. This may indicate that in the longer term, it is less likely that the SMME will default. The period of a loan obligation can follow the same pattern as the economic environment. If the economic environment negatively affects the business, the chances of default increase. Agarwal \textit{et al}. (2008) suggest that weak
microeconomic conditions result in more defaults and fewer repayments of vehicle loans. Chong’s (2010) study in Malaysia reflected contraction of the economy by 6.2 per cent in the first quarter of 2009 due to the global financial crisis and made business confidence seem uncertain and gloomy. In a nutshell, it is evident that long-term loans may be both good and bad, depending on the volatility of the economy.

- **Credit management across genders**

The OWNERMF coefficient is -1.290439 in Model 3, -1.262959 in Model 4, -1.339270 in Model 5 and -1.312119 in Model 6. This means that, with other variables held constant, if OWNERMF increases by a unit on average the estimated probability of default decreases by about 1.290439 units in Model 3, 1.262959 units in Model 4, 1.339270 units in Model 5 and 1.312119 units in Model 6, suggesting that there is a negative relationship between default and business owners by both male and female. The negative sign on females indicates that females manage their loans or credit better than their male counterparts do. This is the same finding obtained by Evans and Winston (2008) and Chong (2010). They found that the female owners practise better credit management than their male counterparts.

- **Race and loan repayment**

The RACEB coefficient is 0.651838 in Model 3, 0.685148 in Model 4, 0.650653 in Model 5 and 0.683287 in Model 6. This means that, with all other variables held constant, if RACEB increases by a unit, on average the estimated probability of default increases by about 0.651838 unit in Model 3, 0.685148 unit in Model 4, 0.650653 unit in Model 5 and 0.683287 unit in Model 6, suggesting that there is a positive relationship between default and race. The determinant variable “black owner” is statistically significant with default, reflecting that black owners have a high probability of default. This confirms the assumption that black entrepreneurs are riskier than their white counterparts. In South Africa, this is associated with the injustice of the past where blacks did not receive the same education and economic privileges as whites. There is an indication of a positive link between flourishing SMMEs in South Africa and education and training.
SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 SUMMARY OF MAIN FINDINGS

The study found the default rate to be 28 per cent. This percentage confirms findings of the public development finance institutions which recorded similar trends. The NEF iMbewu Fund, which is aimed at developing small businesses, found that 35 per cent of loan repayments were not paid back on time during the 2009 financial year. Timm (2011) noted the default rate as a “sickness” affecting South African SMMEs and the findings of this research validate Timm’s concerns about small business’s poor payment rate.

- Factors that are statistically significant

The empirical results showed that businesses owned by black entrepreneurs have a statistically positive five per cent level of significance in Models 3 and 4, and at ten per cent significance level interacted in Models 5 and 6 they have a negative relationship with default. In South Africa, this is attributed to the legacy of apartheid, which is not relevant in this study. The results in Table 5.4 show that the negative coefficients at five per cent significance level and on negative bank balance resemble an overdraft facility on Models 3 and 4. This means that when all other variables are held constant, an increase in an overdraft leads to reduced chances of default. Gender, although regarded as discriminatory, is a very important factor in loan repayments. Businesses owned by both sexes (OWNERMF) display a negative impact on default: this is statistically significant at ten per cent significance level in Models 3, 4 and 6 and at five per cent in Model 5. However, all the other factors or variables were found to be statistically insignificant.

6.2 IMPLICATIONS OF FINDINGS AND RECOMMENDATIONS

Race and gender unfortunately cannot be used as selection criteria in South Africa as these two factors are deemed as economic discrimination. However, these two variables are very important. On the issue of race, black entrepreneurs and banks need to improve their business relationship in order to create an advantageous lending synergy. The following recommendations are based on factors that are statistically significant.

- Recommendations for entrepreneurs
It is strategically important to establish a personal relationship with the bank and manage the accounts well before applying for a loan. The culture of banking indicates that cultivating good behaviour is important in building those relationships. The client’s risk profile is important to the bank since the lower the client’s risk profile, the more willing the banks are to reduce interest rates. The risk of a client gives an indication of his or her potential to default. Small businesses are encouraged to take small to medium loans since, if the loan is spread over a period of five years, the repayments would be very low and therefore reduce chances of default. If, however, they take large loans, their own contribution or deposit should be high. In banking, the higher the deposit the client puts down, the more willing the bank is to price down. A higher deposit decreases loss, given default, and a lower loss, given default, means a lower amount to be written off by the bank. This also decreases the risks to the borrower and the lender and hence increases the likelihood of pricing down as the bank does not have to recover as much of the loan. Since this study revealed a statistically significant negative relationship between businesses owned by both sexes and the possibility of default, it is proposed that male-female partnership be encouraged to tap into the business management skills and therefore share the risk appetite in growing sustainable and profitable businesses. Female entrepreneurs have displayed particular skills in running businesses successfully; and are less reckless than their male counterparts. Females have a low risk appetite: this neutralises the behaviour of male entrepreneurs when it comes to risk management. This male/female synergy can be a good strategy to develop sustainable and profitable small businesses and create employment at the same time.

- **Recommendations for banks**

Overdraft facilities are a very important product for both the client and the bank and this research has statistically proven a negative relationship on default. Therefore, in this regard the banks should increase their overdraft lending base. Increased numbers of overdrafts should be accompanied by increased awareness in regard to cash flow and general business management. Much education is needed to put black entrepreneurs on a par with their white counterparts. White people are less likely to become defaulters as they understand more about credit. Even though interest above prime rate does not have a positive effect on default, rising interest rates can cause the monthly repayments to spiral, particularly if the loan is large. Banks should price their loans in such a way that they do not overstrain the client. Prime -2 to prime +1 is proposed if small business is to be developed. The banks can create an innovative fund to cater for small businesses where write-offs
are not regarded as losses but as part of corporate social investment. Banks need to understand the behaviour of SMMEs and then revise their lending criteria.

- Recommendations for government

BEE should be crafted to mould true entrepreneurs for the sustainable development of the country. The government should investigate how the National Credit Act affects loan disbursements to small businesses and keep improving its objectives. The government may also give tax breaks to those small businesses that pay their debts on time to encourage a culture of loan repayment. As large deposits reduce the probability of default, programmes of government such as the Black Business Development Supplier Programme can be vehicles used to address the competitiveness of black businesses and the issue of collateral or guarantees in loan applications and advances. It is of the utmost importance for banks and government to work together in these programmes, whereby the government may fund 50 per cent of the loan amount and the bank the remaining 50 per cent. However, the small business owner also needs to provide some contribution or collateral towards the loan required. In this way, defaults may be reduced. It is also important to note that banks operate in a risky environment where clients place funds in their trust. In disbursing these funds as loans, the banks need to ensure that debtors will fully repay their loans without the banks incurring any losses.
REFERENCES


Enterprises in Economically Disadvantaged Sections of the South African Communities, Johannesburg, 1-2 June.


