-RESEARCH ARTICLE-

ACCESS TO FINANCE PERCEIVED AS AN OBSTACLE AND THE CHARACTERISTICS OF THE SMME AND ITS OWNER: EVIDENCE FROM THE FREE STATE GOLDFIELDS – SOUTH AFRICA

Henine Jordaan

Department of Economics and Finance,
University of the Free State, PO Box 339,
Bloemfontein 9330 Republic of South Africa,
Email: hjordaan@cut.ac.za
https://orcid.org/0000-0002-4376-7469

Johan Coetzee

Department of Economics and Finance,
Faculty of Economic and Management Sciences,
University of the Free State, PO Box 339,
Bloemfontein 9330 Republic of South Africa
Email: CoetzJ@ufs.ac.za
 https://orcid.org/0000-0001-8457-8261

─**Abstract**─

The firm-financing gap is a term commonly used to describe the lack of access to finance encountered by enterprises. Insufficient finance is a major impediment to corporate expansion, and small firms face greater challenges than larger firms in acquiring credit. It is vital to investigate the factors that may become an obstacle in accessing finance by SMMEs. Therefore, this study investigates whether access to finance is perceived as an obstacle based on the characteristics inherent to SMMEs and their owners in the Matjhabeng municipality in the Free State Goldfields in South Africa. A survey strategy is used in the current study. Using a sample of 364 SMMEs, three regression analyses are run. The results indicate that SMMEs in the start-up phase of their life cycle are more likely to perceive access to finance as an obstacle. This is exacerbated when SMMEs do not keep financial records and do not own immovable property. SMMEs thus need to

continuously demonstrate their capacity to formally document the actual performance of the business. These entities further need to prioritise building assets that can be pledged as collateral.

Keywords: Access to finance, SMMEs, commercial banks, Matjhabeng local municipality, Free State, South Africa

JEL Classification: G21

1. INTRODUCTION AND OBJECTIVE OF THE STUDY

Small, medium and micro enterprises (SMMEs) play a key role in driving and sustaining the economies of the world (Bvuma et al., 2020). For example, in the Organisation for Economic Co-operation and Development (OECD) countries such as Japan, Germany, Italy and Columbia, SMMEs represent 99% of the different types of enterprises and generate 70% of the employment; in emerging economies, they make up 33% of the gross domestic product (GDP) on average, and contribute up to 45% of employment (O. O. f. E. C.-o. a. Development), 2017). SMMEs, therefore, play an important role in both developed and developing countries (Bosma, 2019; M. Herrington, Kew, J. & Kew, P, 2014). In South Africa, their role is particularly pronounced given the low levels of real GDP growth, depressed demand, high unemployment and sustained underemployment (M. K. Herrington, P, 2018; Schoeman, 2015, March). South Africa's GDP growth in recent years has averaged below that of the African continent (ILO) (2019). Access to finance however remains a key obstacle that negatively affects their growth potential.

The inaccessibility of finance results in owners of SMMEs being forced to rely on personal wealth and internal (usually family-related) funding resources to take advantage of growth opportunities (Finfind, 2018). Due to the rampant unavailability of credit histories and their inherently risky nature, more collateral is usually required to secure loans from formal lending institutions (Tala, 2021). SMME owners in South Africa also tend to possess only limited tangible assets that can be used as collateral, resulting in them often failing to capitalise on business opportunities (M. K. Herrington, P, 2018; Mutezo, 2015). In the early stages of an SMMEs' lifecycle, access to finance is critical and this is most often where lending institutions are less likely to come to the rescue by providing financing (Maye, 2014; Mutezo, 2015). As such, micro enterprises as opposed to small and medium enterprises are most likely to experience a lack of access to finance (Finfind, 2018; Group, 2018).

The ability of banks to provide such financing is embedded in financial intermediation (FI) theory which argues that they are the principal source of credit for the well-being of individuals, the community and nations (Lumpkin et al., 2020). FI theory is premised on the enabling role of, for example banks, to intermediate between surplus (lenders) and deficit (borrowers) units (J. Coetzee, 2016). Their ability to reduce market imperfections related to adverse selection and moral hazard allows them the opportunity to provide

credit to businesses that exhibit both, the ability and the willingness to service the debt (Huang, 2014; Peprah et al., 2016). Sheng (2016) further argues that banks reduce transaction costs such as searching and supervision, which often increase contractual requirements, in particular for SMMEs (Huang, 2014). In effect, banks are able to allocate resources more efficiently due to their superior ability to collect, store and disseminate proprietary information, and in so doing, mitigate risk at both the transaction and potentially, the macro and industry level (Boot et al., 2018). Through their role as financial intermediaries, banks are therefore able to assist SMMEs to better manage their operations to become successful.

Matjhabeng municipal area is situated in the Free State Goldfields in South Africa and includes Welkom and the suburb Riebeeckstad (and associated townships, Thabong and Bronville), Odendaalsrus (Kutloanong), Ventersburg (Mmamahabane and Tswelangpele), Allanridge (Nyakallong), Virginia (Meloding) and Hennenman (Phomolong) (Municipality, 2021). Welkom is the municipality's primary economic hub with secondary economic junction centres surrounding it (Municipality, 2021). Although Matjhabeng is regarded as the mining hub for the Free State province, it has not experienced notable levels of economic growth in recent years and has an unemployment rate well above the national average. From 2008 to 2018, the average economic growth rate in Matjhabeng was only -1.8% and in 2019 an unemployment rate of 34% was recorded (Municipality, 2021).

With a small population of 427,770 in the municipal area (Municipality, 2019), it is regarded as being too small to justify the establishment of large enterprises, and SMMEs are seen to be a vital contributor to local economic activity (Atkinson, 2014; Iwu et al., 2015). Micro and small enterprises are therefore a dominant source of economic activity in the said municipal area. Understanding the financing challenges of SMMEs operating outside the parameters of a metropolitan area - where economic challenges are more severe - could provide an insight into how this type of business could be assisted in obtaining adequate access to finance – eventually enabling economic growth and resulting in more employment opportunities in the area.

Commercial banks are cautious to lend available funds to SMMEs in South Africa (Dlova, 2017; Fatoki, 2018; Mutezo, 2015). Often cited reasons include poor predictability of revenue and expenses, insufficient credit histories, incorrect accounting procedures and limited collateral, especially in the start-up phase (Asah et al., 2021; Finfind, 2018; Shen et al., 2020). Information asymmetry is therefore front and centre of the reason to decline loan applications, suggesting that SMMEs are not necessarily in a position to provide the required information that banks need. The micro and small enterprises that form the majority of SMMEs in the Matjhabeng municipal area are particularly hampered by these constraints. A study that successfully identifies the factors affecting the perception of such SMME owners to access finance can thus provide clarity on how lenders such as commercial banks can adapt their policies to

provide finance on the one hand, and how SMMEs can improve their chances of successfully acquiring finance on the other. The purpose of this study is therefore to investigate the obstacles that SMMEs based in Matjhabeng face in terms of accessing finance from formal lending institutions specifically banks.

2. LITERATURE REVIEW

2.1 Classifying an SMME

There is no uniform or standard definition for SMMEs as several definitions are used internationally (Loku et al., 2020). This complicates comparisons between countries (NCR, 2011). Having said this, although SMMEs differ in terms of size, sector and business characteristics (A. D. Bank, 2014; Finfind, 2018), three criteria are often used by institutions and bodies such as the European Union (EU), the OECD, the Multilateral Investment Guarantee Agency (MIGA), and the International Finance Corporation (IFC): the number of employees, the annual turnover (sales), and the value of assets (A. D. Bank, 2014; O. O. f. E. C.-o. a. Development), 2005, November). The statutory number of employees also tends to differ between countries, with the most common upper limit being 250 employees (O. O. f. E. C.-o. a. Development), 2005, November; U. U. S. A. f. I. Development), 2007, August). Although the three criteria are used in South Africa, the National Small Business Act (Africa, 2003, November) (Africa, 1996, November) and National Small Business Amendment Act (Africa, 2003, November) differ in the typical international definitions *vis-à-vis* the upper and lower limits.

2.2 The Challenge of Accessing Finance

When defining 'access to finance', several common criteria are consistently applied both internationally (W. Bank, 2007; Máxima, 2013) and locally (FinScope, 2010; Trust, 2013) including: i) having access to a bank account designated for business purposes; ii) having access to a wide variety of financial products and services supporting the business operations; iii) using these financial products and services regularly; iv) having access to lines of credit; and v) having access to loans offered at a reasonable cost provided by sound financial institutions to SMMEs in need, to ensure equality of opportunity to creditworthy customers.

In South Africa, SMME financing is particularly low when compared to similar economies in the world (M. Herrington, Kew, P. & Mwanga, A, 2017). As such, SMMEs rely on their personal wealth or funds from family and friends to finance business operations (Bushe, 2019; Dlova, 2017; Mutezo, 2015) and banks are often blamed for their unwillingness to fund them (M. K. Herrington, P, 2018). The major reasons contributing to loan rejections include insufficient collateral, insufficient profitability, insufficient owners' equity contribution, inability to repay the loan, problems with a credit record, insufficient information, inadequate business plans, and financially

unviable business ideas (Dlova, 2017; M. K. Herrington, P, 2018; Mutezo, 2015; Ngcobo, 2017).

Essentially, at the heart of the failure to access finance is the inability of banks to comprehensively assess the willingness and ability of SMMEs to service the loans. On the one hand, the ensuing information asymmetry causes banks to credit-ration SMMEs. On the other hand, SMMEs themselves regard access to finance as challenging due to a lack of knowledge of the products banks offer and the perception that lending criteria are particularly stringent (Cant, 2017; Dlova, 2017). The information asymmetry problem is therefore not only experienced by the lender (banks), but also by the borrower (SMMEs), which makes the problem particularly challenging: on the one hand, banks are not able to comprehensively assess the risk inherent to the performance and management of the SMME; on the other, the SMME is not informed about the requirements of the bank regarding the performance and management of the operation, not necessarily due to any fault of their own, but rather due to a lack of skills or education.

2.3 Variables and Hypotheses of the Study

The objective of this study is to investigate the relationship between access to finance perceived as an obstacle and the characteristics of the SMME and its owner. As such, "*access to finance as an obstacle"* was used as the dependent variable similar to several studies (Fowowe, 2017; Group, 2018; Wang, 2016). The characteristics of SMMEs motivate banks to enforce credit rationing. As such, for purposes of this study, the characteristics of SMMEs are defined as below and hypotheses have been developed accordingly.

- *Age of the SMME*

The need and ability of SMMEs to access finance changes over time. Initially, internal sources of finances are utilised and as the business grows and a track record is established, the likelihood to access finance from commercial banks improves. Being in operation for several years shows that the SMME can sustain itself. Information opacity also becomes less with age (Raina et al., 2019) and several studies have reported significance between the ability to access finance and the age of the SMME (Mahloana, 2019; Naegels et al., 2018). For this study, the category age of operation was divided into three levels, namely *1–3 years (start-up phase)*, *4–10 years* and *more than 10 years*.

H1: Age of the SMME has a significant influence on the firm's ability to access finance.

- *Size of the SMME*

The size of the SMME is an important variable enabling access to finance (Raina et al., 2019) with smaller SMMEs more constrained than their medium and large counterparts (Sheng, 2016; Wang, 2016). There is however no consistency in the categorisation of

size in the literature. For example, F. Coetzee et al. (2017) classify the difference between small (employing 1 to 49) and medium enterprises (employing 50 to 200), where Eniola (2017) includes two additional layers for medium enterprises (100 to 149 and 150 to 200). Raina et al. (2019) divide the size into small (employing 20 or less) and medium (employing more than 20 but less than 99), whereas Naegels et al. (2018) and Kira (2015) include large enterprises, but do not define any parameters for small, medium and large enterprises. Group (2018) furthermore classifies the size of SMMEs into micro (employing less than 5), small (employing between 5 and 19) and medium (employing between 20 and 99) and Fowowe (2017) refers to small as those employing 11 to 50 people, medium employing 51 to 200 people, and large those employing more than 200 people. For this study, micro, very small and small businesses represent the largest cohort of SMMEs operating in South Africa (Finfind, 2018; Trust, 2015) and the distinction was made between *micro and very small businesses* and *small businesses*. One could argue that the category "*small businesses"* used in this study also includes medium enterprises as in accordance with the distinctions made by Group (2018) and Raina et al. (2019).

H2: Size *of the SMME has a significant influence on the firm's ability to access finance.*

- ### *The Legal Structure of the SMME*

The legal (or ownership) structure influences the SMME's ability to access finance (Mahloana, 2019), although Balogun et al. (2018) found it to be a weak predictor. Sole proprietors and partnerships who face unlimited liability, and who are not required to have financial statements verified by an outside authority (such as an accountant or auditor), increase the risk of commercial banks not lending to them (Raina et al., 2019). Two categories of ownership are considered for the purposes of this study, namely *SMMEs with unlimited liability* (that is, sole proprietors and partnerships) and *SMMEs with limited liability* (such as closed corporations, private companies, incorporated private companies, franchisees and trusts).

H3: *The legal structure of the SMME has a significant influence on the firm's ability to access finance.*

- ### *The Life Cycle of the SMME*

Age and size influence growth patterns and suggest the stage of the life cycle that the SMME is operating at. Once growth occurs after the start-up phase (Canto-Cuevas et al., 2019), turnover, total assets, profits, return on investment and other performance measures tend to increase (Nieman, 2019). This suggests that the performance of the SMME in the growth phase enhances its ability to obtain finance from commercial banks. Raina et al. (2019) use the growth of sales taken over a period of three years and Fowowe (2017) consider employment growth to ascertain whether functioning at a specific phase of the life cycle influences the ability to access finance. For this study, the

life-cycle variable is divided into three categories, where the first consists of SMMEs in the *start-up phase and beyond start-up and still earning small amounts of revenue*; the second comprises SMMEs in *the growth and expansion phase with or without access to external finance*; and the third consists of SMMEs operating in *the steady phase*.

H4: *The life cycle of the SMME has a significant influence on the firm's ability to access finance.*

- ### *Race*

Group (2018) establishes that the race of the owner influences their ability to access finance, and specifically, Black, Indian, and Asian SMME owners have previously found it noticeably more difficult compared to their White counterparts. Race has also been considered in the studies of Brijlal et al. (2015) and Gicheva et al. (2015). For this reason, the category of race is divided into two levels, namely, *Black, Coloured, Asian, Indian and 'other' SMME owners* on the one hand and *white SMME owners* on the other.

H5: *The race of the SMME owner has a significant influence on the firm's ability to access finance.*

- ### *Gender*

Several studies have sought to determine similarities and differences between access to credit and gender (Balogun et al., 2018; Brijlal et al., 2015; Eniola, 2017). Brijlal et al. (2015) found that men apply significantly more for loans, but women are significantly more successful in obtaining them. The studies by Balogun et al. (2018) and Eniola (2017), however, found gender to be a weak predictor of accessing finance. This study considered *male* and *female* owners respectively.

H6: *The gender of the SMME owner has a significant influence on the firm's ability to access finance.*

- ### *Academic Qualifications*

Previous research has attempted to establish a relationship between the level of education and access to credit (Balogun et al., 2018; Brijlal et al., 2015; F. Coetzee et al., 2017; Eniola, 2017; Mahloana, 2019). Irwin and Scott (2010) found that graduates face less difficulty obtaining finance compared to non-graduates, providing the rationale that an educated entrepreneur is more capable of presenting financial information and business plans to affect a positive outcome. Raina et al. (2019) further report that educated entrepreneurs also tend to be more likely to be able to adhere to the complicated administrative requirements of a credit system. For this study, the education level of the SMME owner is categorised into three levels: first, *those with no schooling to some form of high school*, second, *those who have completed Grade 12*, and finally, *those who have had apprenticeships, post-Grade 12 certificates, diplomas, degrees, or postgraduate degrees*.

H7: *The academic qualifications of the SMME owner have a significant influence on the firm's ability to access finance.*

▪ **Experience in the Sector**

Although several studies explore the relationship between the amount of experience of the SMME owner and access to finance (Balogun et al., 2018; Brijlal et al., 2015; F. Coetzee et al., 2017; Eniola, 2017), the results have not always been conclusive with Mahloana (2019) reporting a statistical significance and Raina et al. (2019) finding no significance. Two categories are used in the model: *years of experience in the sector* (in decades) and *years being a business owner* (in decades).

H8: *The experience of the SMME owner in the sector has a significant influence on the firm's ability to access finance.*

▪ **Availability of Movable and Immovable Property to Be Pledged as Collateral**

Collateral is required to access finance (Mahloana, 2019; Mutezo, 2015; Raina et al., 2019), but SMMEs generally possess fewer tangible assets and thus struggle to pledge collateral. Certain types of movable property (such as equipment or machinery) and immovable property (such as real estate) are often accepted by banks as collateral (Naumann, 2019). Collateral significantly increases the likelihood of accessing credit (Mahloana, 2019; Mutezo, 2015). Both *movable* and *immovable* property are considered in the present study.

H9: Availability of movable and immovable property to be pledged as collateral has a significant influence on the firm's ability to access finance.

▪ **Area of Operation**

SMMEs operate in both formal and informal environments which influence their ability to obtain finance due to differing economic activity. Evidence suggests that the distance between the bank and the borrower has an impact on an SMMEs' ability to access finance (Olabamiji et al., 2018; Raina et al., 2019), and especially if there is no verifiable address as a result of operating in informal mostly rural settlements. Kira (2015) for example found a statistically significant association between accessing finance and the area of operation being urban as opposed to rural. Having access to insurance also enhances access but is typically non-existent with SMMEs operating in the townships (Eniola, 2017). For this study, we categorise SMMEs as those being in *towns* on the one hand, and those operating in *townships* on the other.

H10: *The area of operation has an impact on an SMMEs ability to access finance.*

▪ **Sector of Operation**

Prior literature indicates that the type of sector in which the SMME operates influences its ability to access finance (Dlova, 2017), with sectors that are competitive, innovative and expanding most likely to gain approval (Raina et al., 2019). However, in Sub-Saharan Africa, the general level of innovation tends to be low and customers do not consider the products that they buy to be unique (Singer, 2014). Furthermore, SMMEs functioning in certain sectors require more finance as dictated by their projects and financial needs. For example, SMMEs functioning specifically in capital-intensive industries face relatively more difficulty in accessing finance (Cole et al., 2019), whereas those operating in the services sectors make use of human capital and evidence suggests access to loans to be just as difficult (Silva & Carreira, 2010). Several studies have focused on a diverse range of different sectors. For example, the Group (2018) only considers the manufacturing and the services sectors; (Raina et al., 2019) probe into five sectors including food, garments, metals and machinery, non-metallic and plastic materials and textiles; Naegels et al. (2018) consider the primary, secondary, tertiary and quaternary industries' relationship to access to finance. In a later study, Kira (2015) excludes the quaternary sector. There is therefore no conclusive evidence supporting a particular sector being more likely to access finance. For this study, the sectors have been grouped into four levels: first, *agriculture, mining, manufacturing, electricity and gas, and construction*; second, *wholesale, retail and motor trade and repair services*; third, *commercial agents, catering, transport, communication, and business services*; and fourth *community, social and personal services*.

H11: *The SMMES sector of operation has an impact on an SMMEs ability to access finance.*

▪ *Financial Record-Keeping*

For SMMEs to access finance, keeping financial records is essential as commercial banks scrutinise financial statements (Nieman, 2019). The problem, however, is that SMMEs do not always have proper accounting systems in place and financial and production reports are thus not accurate and trustworthy (Trust, 2015). This, unfortunately, hampers accurate affordability assessments (Shen et al., 2020) and is the main reason banks are reluctant to provide credit to SMMEs (Foroughfard et al., 2019) due to the information asymmetry which increases the perceived risk. Unreliable financial information translates into higher interest rates to offset the risk associated with the loan and this tends to occur even if a long-standing relationship exists between the borrower and lender (Foroughfard et al., 2019). This study considers SMMEs *not keeping financial records* and *those keeping financial records*, respectively.

H12: *The SMMES financial record maintenance and reporting has an impact on an SMMEs ability to access finance.*

▪ *Use of an Auditor (or Accountant)*

Having an auditor (or accountant) enhances the reliability of the financial record-keeping system, and therefore makes it easier for banks to trust the documented performance and operations of the SMME. The perceived risk for the bank is thus reduced given the trust associated with the authenticity of the financial records (Eniola, 2017; Raina et al., 2019) and the subsequently reduced information asymmetry. For this study, we consider both the *use of an auditor (or accountant)* on the one hand, and *not utilising one* on the other.

H13: *The availability of an accountant or auditor has an impact on an SMMEs ability to access finance.*

▪ *Use of a Business Plan*

Commercial banks require a business plan when an SMME applies for credit (Nieman, 2019) as it indicates the future likelihood of the SMME to service a loan – that is, the ability to pay the loan. Although Mahloana (2019) found no significance between accessing finance and having a business plan, the study considers both, the *existence of one* and *no business plan*.

H14: *The use of business plans has an impact on an SMMEs ability to access finance.*

The theoretical model, with the dependent variable, independent variables, and subsequent categories, is provided in Table 1 below.

Table 1: Theoretical Model for The Study: Dependent Variables, Independent Variables and Categories

DEPENDENT VARIABLE	INDEPENDENT VARIABLES	CATEGORIES
Access to finance as an obstacle	Age of the SMME	▪ 1–3 years vs >10 years ▪ 4–10 years vs >10 years
	Size of the SMME	Micro and very small businesses (1–10 employees) vs small businesses (11–50 employees)
	The legal structure of the SMME	Sole proprietors/partnerships vs CCs, private companies, incorporated private companies, franchisees and trusts
	The life cycle of the SMME	▪ Start-up/beyond start-up and still earns small amounts of revenue vs the steady phase ▪ Growth and expansion with or without external finance vs the steady phase

Table 1: Continues

	Race	Black/Coloured/Asian/Indian/other vs White
	Gender	Male vs female
	Academic qualifications	▪ No schooling to some form of high school vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree ▪ Completed Grade 12/matric vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree
	Experience in the sector	▪ Experience in the sector (in decades) ▪ Experience as a business owner (in decades)
	Access to movable and immovable property pledged as collateral	▪ Have immovable property vs do not have immovable property ▪ Have movable property vs do not have movable property
	Area of operation	Towns vs townships
	Sector of operation	▪ Agriculture, mining, manufacturing, electricity and gas, construction vs community, social and personal services ▪ Wholesale trade, retail trade, motor trade and repair services vs community, social and personal services ▪ Commercial agents, catering, transport, communication, business services vs community, social and personal services
	Financial record-keeping	Do not keep financial records vs keep financial records
	Use of an auditor (or accountant)	Does not have an accountant/auditor vs does have an accountant/auditor
	Use of a business plan	Have a business plan vs does not have a business plan

By assessing the above model, SMMEs will be better positioned to identify specific criteria to improve the likelihood of accessing finance. In turn, banks will be more

informed when assessing whether SMMEs are more or less likely to adhere to when applying for financing.

3. METHODOLOGY

3.1 Sampling Design

A quantitative research approach was used in the current study. The research philosophy is positivistic. Since there is no accurate data related to the exact number of SMMEs operating in South Africa, specifically those in various geographical regions within the country, a non-probability convenience sampling method was employed. Convenience sampling is not uncommon in research related to SMMEs in South Africa (Iwu et al., 2015; Mahloana, 2019; Sharma et al., 2018) given that the population size is unknown. In order to determine the sample size, the online Raosoft sample calculator was used. When the population is unknown, the calculator suggests a population of 20,000. A sample size with a 95% confidence level and a response distribution of 50% was determined to be 377 (Raosoft, 2004). For this study, data were collected by means of a survey strategy from 364 SMMEs, thus representing 97% of the proposed sample. SMMEs operating in the towns and townships of Matjhabeng including Welkom, Allanridge, Hennenman, Odendaalsrus, Virginia, Ventersburg and Hennenman partook in the survey. Data were collected from August 2018 to March 2019 by the researcher and 15 fieldworkers. The majority of the SMME owners were Black (72%), between the ages of 35 and 59 (61%) and had completed grade 12 (42%).

3.2 Specification of the Model

In order to achieve the objective of this study, three regression models were used to determine the association between the dependent variable and the 16 independent variables. Odds ratios establish whether dichotomous variables are associated with the outcome (or dependent) variable (Leedy, 2013) and were determined between the dependent variable "*access to finance as an obstacle*" and the 16 characteristics of SMMEs operating in Matjhabeng identified in Table 1. For the dependent variable, data were collected from the respondents by means of a five-point Likert scale. Access to finance perceived to be an obstacle was taken as being a 'yes' when respondents specified it as being a 'major' or 'very severe obstacle'; in turn, 'no' was used when respondents specified either 'no obstacle', a 'minor obstacle' or a 'moderate obstacle'. As mentioned previously, the independent (or explanatory) variables were classified according to the characteristics of the SMME and owner, and other financial characteristics as discussed in Table 1. Table 2 provides the respective reference categories for each respective independent variable.

Table 2: Reference Categories for The Independent Variables

INDEPENDENT VARIABLE	REFERENCE CATEGORIES
Age of the SMME	Age of operation greater than ten years
Size of the SMME	Small businesses
The legal structure of the SMME	SMMEs with limited liability
The life cycle of the SMME	Steady phase
Race	White SMME owners
Gender	Female
Academic qualifications	Apprenticeship, post-Grade 12 certificate or diploma, degree, or postgraduate degree
Experience in the sector/ Experience as a business owner	in decades
Access to immovable and movable property pledged as collateral	Do not have immovable property and do not have movable property
Area of operation	Operating in townships
Sector of operation	Tertiary sector – community, social and personal services
Financial record-keeping	Keeping financial records
Use of an auditor (or accountant)	Has an auditor or accountant
Use of a business plan	Does not have a business plan

3.3 Steps Followed in the Data Analysis

Due to the high number of independent variables causing possible collinearity, three separate regression analyses were conducted, namely simple logistic (univariate) and multiple logistic (multivariate) regressions, as well as a multiple regression stepwise model selection. For the logistic regression analysis, the logit link function was used and the so-called generalised linear model (GLM) parametrisation for fitting categorical independent variables. For each categorical independent variable, logistic regression parameter estimates were reported, such that the estimate for the reference category is zero, and the estimates for the remaining category or categories represent the estimated difference in log odds with the reference level or category.

For each regression fit, the point estimates of the logistic regression parameters are reported, together with the p-value for the Wald chi-square statistic associated with each regression parameter. The p-value determines whether a statistically significant association exists (Hair, 2014). Estimates at 95% confidence intervals (CIs) for the odds ratios associated with each logistic regression parameter are reported. For categorical independent variables, estimates of odds ratios associated with the non-reference category or categories represent the ratio of the odds for the category in question, divided

by the odds for the reference level. All the logistic regression analyses were carried out using the SAS procedure LOGISTIC (Inc, 2017).

With reference to three separate regression analyses, the following steps are applied:

First, a simple (univariate) logistic regression was carried out, where the dependent variable was regressed against each of the respective independent variables (Eniola, 2017; Kira, 2015; Naegels et al., 2018; Raina et al., 2019). *Second*, a multiple (multivariate) logistic regression was carried out, where the dependent variable was regressed against the full set of 16 independent variables (see Mahloana (2019) and Group (2018). *Third*, a stepwise model selection was conducted where the dependent variable was regressed against the full set of independent variables. More specifically, starting with the intercept in the model, at each of the steps in the stepwise procedure the chi-square statistic was calculated for each effect not yet in the model. If the largest of these statistics is significant at the 0.1 significance level (SL entry=0.1), the corresponding effect was added to the model. Following this, the Wald test statistic for all effects in the model was calculated, and the least significant effect removed if it is not significant at the 0.1 significance level (SL stay=0.1). The stepwise procedure terminates if no further effect can be added to the model, or if the current model is identical to a previously fitted model (Inc, 2017).

The underlying fundamental regression model adopted by this study is as shown in the following equation (i) and (ii):

$$AtFO = \alpha + \beta_1 Age_j + \beta_2 Size_j + \beta_3 LS_j + \beta_4 LC_j + \beta_5 Race_j + \beta_6 Gender_j + \beta_7 AQ_j +$$
$$\beta_8 Exp_j + \beta_9 AtP_j + \beta_{10} Area_j + \beta_{11} Sector_j + \beta_{12} FRK_j + \beta_{13} Auditor_j + \beta_{14} BP_j + \varepsilon_j$$

$$\beta_1 > 0; \beta_2 > 0; \beta_3 > 0; \beta_4 > 0; \beta_5 > 0; \beta_6 > 0; \beta_7 > 0; \beta_8 > 0; \beta_9 > 0; \beta_{10} > 0; \beta_{11} > 0; \beta_{12} > 0; \beta_{13} > 0; \beta_{14} > 0$$

Where: AtFO is the Access to Finance as an Obstacle; Age is the Age of the SMME; Size is the Size of the SMME; LS is the legal structure of the SMME; LC is the Life Cycle of SMME; Race is the Race of the Owner of SMME; Gender is the Gender of the Owner of SMME; AQ is the Academic Qualification of the Owner of SMME; Exp is the Experience in the sector and as a business owner; AtP is the Access to Moveable and Immoveable Property; Area is the Area of operation of SMME; Sector is the Sector of operation of SMME; FRK is the Financial Record-keeping; Auditor is the Use of an Auditor or Accountant; and BP is the Use of Business Plan by SMME.

4. RESULTS

The results for the three regressions are provided in Table 3, 4 and 5.

Table 3: Results for The Simple Logistic Regression

ACCESS TO FINANCE	Simple logistic regression		
	Odds ratio	**Confidence interval (95%)**	**Pr>ChiSq**
Age of the SMME			0.1974
1–3 years vs >10 years	1.673	0.994-2.967	**0.0782***
4–10 years vs >10 years	1.329	0.826-2.138	0.2409
Size of the SMME			**0.0072***
Micro and very small businesses (1–10 employees) vs small businesses (11–50 employees)	2.228	1.242-3.999	**0.0072***
Legal entity of the SMME			0.4997
Sole proprietors/partnerships vs CCs, private companies, incorporated private companies, franchisees, and trusts	1.192	0.716-1.985	0.4997
The life cycle of the SMME			**<0.0001***
Start-up/beyond start-up and still earns small amounts of revenue vs the steady phase	4.043	2.186-7.478	**<0.0001***
Growth and expansion with or without external finance vs the steady phase	1.500	0.828-2.715	0.1808
Race			0.2977
Black/Coloured/Asian/Indian/other vs white	1.304	0.791-2.148	0.2977
Gender			0.4880
Male vs female	1.163	0.759-1.782	0.4880
Academic qualifications			0.2311
No schooling to some form of high school vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree	1.638	0.931-2.883	**0.0872***
Completed Grade 12/matric vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree	1.226	0.764-1.968	0.3974
Experience in the sector (in decades)	0.779	0.614-0.987	**0.0388****

Experience as a business owner (in decades)	0.703	0.540-0.914	**0.0086*****
Immovable property			**0.0006*****
Have immovable property vs do not have immovable property	0.445	0.280-0.706	**0.0006*****
Movable property			0.2101
Have movable property vs do not have movable property	0.627	0.302-1.302	0.2101
Area			**0.0400****
Towns vs townships	0.646	0.426-0.980	**0.0400****
Sector			**0.0647***
Agriculture, mining, manufacturing, electricity and gas, construction vs community, social and personal services	0.832	0.374-1.853	0.6533
Wholesale trade, retail trade, motor trade and repair services vs community, social and personal services	0.616	0.375-1.015	**0.0571***
Commercial agents, catering, transport, communication, business services vs community, social and personal services	1.338	0.757-2.363	0.3159
Financial records			**<0.0001*****
Do not keep financial records vs keep financial records	3.742	2.195-6.381	**<0.0001*****
Auditor/accountant			**0.0120****
Does not have an accountant/auditor vs does have an accountant/auditor	1.837	1.143-2.953	**0.0120****
Business plan			**0.0097*****
Have a business plan vs does not have a business plan	0.575	0.378-0.875	**0.0097*****

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%.

4.1 Simple Logistic Regression

For the simple logistic regression, the dependent variable, "*access to finance as an obstacle*" was regressed against each independent variable, one at a time. The results indicate that access to finance was reported by 50% (n=181) of the respondents as either being 'major' or 'severe'. The results further indicate that the *age* of the SMME and the dependent variable is not statistically significant (p=0.1974: Wald chi-square statistic = 3.2448, 2 df). However, the odds of access to finance perceived as an obstacle between the factor levels *1 to 3 years* and *more than 10 years* differ statistically significantly at a 10% significance level, whereas the odds ratio *1–3 years/>10 years* is 1.673 (95% CI 0.944 to 2.967: p = 0.0782). This suggests that the odds of access to finance being an obstacle for SMMEs between the *ages of 1 and 3 years* is 67% higher than the odds of access to finance being an obstacle for SMMEs *older than 10 years*.

The research of Naegels et al. (2018) and Mahloana (2019) in contrast report a significant association between having access to credit and the age of the SMME, assuming that having access to credit would imply that the perception that access to finance as an obstacle will be less likely.

The *size* of the SMME was found to be statistically significantly associated with access to finance obstacle (p = 0.0072: Wald chi-square statistic = 7.2113, 1 df). The odds of *micro and very small businesses* accessing finance is about 123% more difficult than the odds for *small businesses* accessing finance (see the odds ratio of 2.228: 95% CI 1.242 to 3.999: p=0.0072). The results resonate with the findings of Kira (2015) and Naegels et al. (2018) and Group (2018). Furthermore, the *life cycle* of the SMME was found to be statistically significantly associated with access to finance perceived as an obstacle (p=<0.0001: Wald chi-square statistic = 25.4119, 2 df). The results however found no statistically significant association between the dependent variable and the academic qualifications of the SMME owner (p=0.2311: Wald chi-square statistic = 2.9300, 2 df).

However, the odds of access to finance being perceived as an obstacle between level one (SMME owners without Grade 12, or matric) and level three (SMME owners with some sort of post-matric qualification) differ statistically significantly, at the 10% significance level. This is indicated by an odds ratio of 1.638 (95% CI 0.931 to 2.883: p=0.0872) and implies that the odds of access to finance being an obstacle for SMMEs with *no schooling to some forms of high school* are about 64% greater than the odds for SMMEs with *apprenticeships or post-Grade 12 (post-matric) qualifications*. Furthermore, the *years of experience in the sector* was also found to be statistically significantly (p=0.0388: Wald chi-square statistic = 4.2691,1 df), with an odds ratio of 0.779 (95% CI 0.614 to 0.987).

Table 4: Results for The Multiple Logistic Regression

ACCESS TO FINANCE	Multiple logistic regression		
	Odds ratio	Confidence interval (95%)	Pr>ChiSq
Age of the SMME			0.5705
1–3 years vs >10 years	0.641	0.267-1.517	0.3147
4–10 years vs >10 years	0.739	0.383-1.418	0.3647
Size of the SMME			0.3148
Micro and very small businesses (1–10 employees) vs small businesses (11–50 employees)	1.446	0.710-3.015	0.3148
Legal entity of the SMME			0.5233
Sole proprietors/partnerships vs CCs, private companies, incorporated private companies, franchisees and trusts	0.799	0.399-1.587	0.5233
The life cycle of the SMME			**0.0165****
Start-up/beyond start-up and still earns small amounts of revenue vs the steady phase	3.055	1.414-6.728	**0.0049*****
Growth and expansion with or without external finance vs the steady phase	1.575	0.824-3.065	0.1738
Race			**0.0607***
Black/Coloured/Asian/Indian/other vs white	0.471	0.212-1.027	**0.0607***
Gender			0.2620
Male vs female	1.335	0.807-2.221	0.2620
Academic qualifications			0.8311
No schooling to some form of high school vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree	1.064	0.526-2.150	0.8632

Completed Grade 12/matric vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree	0.890	0.509-1.550	0.6798
Experience in the sector (in decades)	1.197	0.713-2.038	0.4989
Experience as a business owner (in decades)	0.697	0.390-1.219	0.2110
Immovable property			**0.0442****
Have immovable property vs do not have immovable property	0.586	0.347-0.984	**0.0442****
Movable property			0.5982
Have movable property vs do not have movable property	0.800	0.343-1.818	0.5982
Area			0.3318
Towns vs townships	0.756	0.428-1.332	0.3318
Sector			**0.0817***
Agriculture, mining, manufacturing, electricity and gas, construction vs community, social and personal services	0.870	0.347-2.166	0.7636
Wholesale trade, retail trade, motor trade and repair services vs community, social and personal services	0.735	0.411-1.314	0.2991
Commercial agents, catering, transport, communication, business services vs community, social and personal services	1.805	0.946-3.501	**0.0760***
Financial records			**0.0315****
Do not keep financial records vs keep financial records	2.129	1.075-4.277	**0.0315****
Auditor/accountant			0.4365
Does not have an accountant/auditor vs does have an accountant/auditor	1.312	0.666-2.625	0.4365
Business plan			0.8396
Have a business plan vs does not have a business plan	0.946	0.552-1.627	0.8396

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%.

Table 5: Results for The Stepwise Model Selection

ACCESS TO FINANCE	Stepwise model selection		
	Odds ratio	**Confidence interval (95%)**	**Pr>ChiSq**
Age of the SMME			
1–3 years vs >10 years			
4–10 years vs >10 years			
Size of the SMME			
Micro and very small businesses (1–10 employees) vs small businesses (11–50 employees)			
Legal entity of the SMME			
Sole proprietors/partnerships vs CCs, private companies, incorporated private companies, franchisees and trusts			
The life cycle of the SMME			**0.0049*****
Start-up/beyond start-up and still earns small amounts of revenue vs the steady phase	2.866	1.510-5.531	**0.0014*****
Growth and expansion with or without external finance vs the steady phase	1.605	0.882-2.978	0.1266
Race			
Black/Coloured/Asian/Indian/other vs white			
Gender			
Male vs female			
Academic qualifications			
No schooling to some form of high school vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree			

Completed Grade 12/matric vs apprenticeship, post-Grade 12 certificate or diploma, degree or postgraduate degree			
Experience in the sector (in decades)			
Experience as a business owner (in decades)			
Immovable property			**0.0438****
Have immovable property vs do not have immovable property	0.604	0.369-0.984	**0.0438****
Movable property			
Have movable property vs do not have movable property			
Area			
Towns vs townships			
Sector			
Agriculture, mining, manufacturing, electricity and gas, construction vs community, social and personal services			
Wholesale trade, retail trade, motor trade and repair services vs community, social and personal services			
Commercial agents, catering, transport, communication, business services vs community, social and personal services			
Financial records			**0.0035*****
Do not keep financial records vs keep financial records	2.423	1.348-4.438	**0.0035*****
Auditor/accountant			
Does not have an accountant/auditor vs does have an accountant/auditor			
Business plan			
Have a business plan vs does not have a business plan			

Notes: * significant at 10%; ** significant at 5%; *** significant at 1%

Therefore, the odds of access to finance being perceived as an obstacle by SMME owners decreases by about 22% for each decade of experience in the sector. Similarly, the *years of experience as a business owner* was also statistically significantly (p=0.0086: Wald chi-square statistic = 6.8986, 1 df). This is shown by an odds ratio of 0.703 (95% CI 0.540 to 0.914), with the odds of access to finance being perceived as an obstacle by SMME owners with more years of experience as a business owner decreasing by approximately 30% for each decade of experience. This significant association is supported by the research of Mahloana (2019) between access to credit and experience, assuming that if an SMME has obtained credit, the SMME will most probably perceive access to finance as less of a challenge.

Furthermore, access to immovable property (p=0.0006: Wald chi-square statistic = 11.7964, 1 df), area of operation (p=0.0400: Wald chi-square statistic = 4.2196, 1 df), and sector in which the SMME operates (p=0.0647: Wald chi-square statistic = 7.2386, 3 df) were all found to be statistically significant.

The results pertaining to the information and integrity of financial records and the business plan suggest the importance thereof. Keeping financial records was found to be particularly important, with an odds ratio of 3.742 (95% CI 2.195 to 6.381: p=<0.0001), suggesting that access to finance perceived as an obstacle is about 247% higher for SMMEs *not keeping financial records* compared to those *keeping financial records*. The use of an auditor (or an accountant) was also statistically significant (p = < 0.0120: Wald chi-square statistic = 6.3097, 1 df), and *having a business plan in place* also reduced the odds (p = < 0.0097: Wald chi-square statistic = 6.6814, 1 df) of the perception of access to finance as an obstacle.

4.2 Multiple Logistic Regression

Access to finance was further regressed against all 16 independent variables simultaneously in the multiple logistic regression analysis. The results indicate that access to finance being perceived as an obstacle is statistically significantly associated with the life cycle of the SMME, the race of the SMME owner, immovable property, the sector in which the SMME operates and financial records. These results suggest that SMME owners have greater odds of perceiving access to finance as an obstacle if they operate in the early stages of the life cycle where they earn small amounts of revenue, rather than operating in the steady phase; are operating as commercial agents and are in the catering, transport, communication, and business services sectors as opposed to the community, social and personal services sector; and do not keep financial records. Furthermore, the results indicate that SMME owners have lower odds of indicating access to finance as being an obstacle if they are not White and have immovable property.

Of all the independent variables, only race was found to be statistically insignificant in the simple logistic regression analysis when compared to the multiple logistic regression

analysis. Statistical significance was also observed in a different sector in the multiple logistic regression (*commercial agents, and in the catering, transport, communication, and business services sectors*, as opposed to the *community, social and personal services sector*) compared to the simple logistic regression (*wholesale trade, retail trade, motor trade and repair services*, as opposed to *community, social and personal services*). Interestingly, the odds of White owners identifying access to finance as being an obstacle is higher than that for the Black, Coloured, Asian, Indian, and other owners. This could be a result of the collinearity of the independent variables, yet the association is not apparent with the stepwise model selection and as such the relationship is ignored.

4.3   Multiple Regression Stepwise Model Selection

Stepwise model selection was employed to select the significant effects (at the 10% significance level) amongst the full set of independent variables fitted in the 'full model' multiple logistic regression analysis. The results in Table 5 indicate that *access to finance as an obstacle* is statistically significantly associated with the life cycle of the SMME, immovable property and financial records, all at least at a 5% level of significance. More specifically, the direction of the association shows that SMMEs have greater odds of perceiving access to finance as an obstacle if they are in the start-up phase or beyond start-up but still earn small amounts of revenue; and do not keep financial records. Furthermore, SMMEs have lower odds of perceiving access to finance as an obstacle if they have immovable property. When comparing the results evident in all three regressions, one can assume that the life cycle, immovable property and financial records are significantly associated with access to finance being an obstacle.

5.   MANAGERIAL IMPLICATIONS

The results of the study suggest that SMMEs must continuously demonstrate their capacity to formally document their actual performance. In doing so, the odds of acquiring finance improve if financial records are kept that are typically audited or verified by an accountant. A formal business plan is also important as it reduces the perceived risk associated with imperfect information that a lender is provided with. SMMEs must therefore consistently demonstrate their capacity to manage a business by keeping records of their finances. Financial record-keeping furthermore enables the SMME owner to make informed decisions about the business. Not only does improved documentation of performance reduce information asymmetry to potential lenders, it also provides evidence of how the operation is managed.

Furthermore, SMMEs must prioritise accumulating assets that can be pledged as collateral when applying for finance. The results show that SMMEs operating in Matjhabeng perceive access to finance as a greater challenge when they do not own immovable property. Commercial banks deem owners' equity contribution and collateral to be an important assessment factor since it reduces the perceived risk associated with providing loans to SMMEs. Although difficult to ensure, accumulating especially

tangible assets can increase the equity stake in loans exposures as banks require an equity contribution before a loan is granted. Banks will also be more willing to provide loans if the equity stake by the borrower is larger as it reduces their overall exposure. Given the added risks of SMMEs that operate in communities with low rates of growth and employment, this has the potential to improve the likelihood of loans being approved and providing a potential channel to alleviate these economic problems. Should tangible assets not be possible, SMMEs may consider using trusted personal family members or friends to sign surety on their behalf, and the government is a further option to consider to provide guarantees to a bank through the Small Enterprise Financing Agency (SEFA) (SEFA, 2021) in South Africa. These measures, or a combination of them, can significantly increase the SMME's chances to access loans especially if they are in the early phase of their life cycles where the bank finds it difficult to ascertain the financial viability of the SMME and information asymmetry may be particularly rife. SMMEs anticipating the future need for finance must therefore act proactively and establish timeously what the requirements for commercial banks are insofar as collateral is concerned.

SMMEs need to familiarise themselves with the lending criteria used by commercial banks. For this, the bank officials at the business services units of commercial banks should be consulted. Information about the lending criteria is also available on the internet. Having background information will ensure that thoroughly informed SMMEs can negotiate more advantageous terms for the pricing of loans that they have applied for. The owners' equity contribution, collateral offered, cash flow and information about what the competitors are offering are key in this regard. A trained and skilful owner reduces the bank's perception of risk and is therefore essential when credit and loans are applied for.

An SMME who has applied for a loan and was turned down by a commercial bank needs to probe into the feasibility of implementing corrective measures to overcome the identified shortcomings. The reason provided for the rejection of loans provides a further opportunity to become familiar with the requirements of commercial banks for loans and on how to re-apply for credit in future.

SMMEs who originate from previously disadvantaged communities should establish from the commercial bank whether they do aid obtain loans earmarked for upliftment. Some banks offer empowerment finance in general, and for female owners, and assist when a credit record is impaired, or owners' equity and collateral are insufficient, provided that the SMME shows growth potential. SMMEs should establish if they qualify to benefit from such programmes.

A final consideration is that the government must implement SMME-related policies that are more akin to providing support for the diverse types of SMMEs. This diversity may pertain to cultural, socio-economic, and even racial diversity factors, suggesting

customised support for SMMEs with specific characteristics. Policies must take into account the diverse nature of SMMEs by creating an enabling environment for SMMEs to be both educated and funded to ultimately become sustainable and not rely on government intervention. Evidence suggests that the government is particularly poor at achieving this (see (Bruwer, 2016; Dlova, 2017; FinScope, 2010; Iwu et al., 2015)). Micro and very small businesses should specifically be targeted as they have been neglected by the government in the past (Bruwer et al., 2016). Due to being typically more labour-intensive than larger enterprises (Ayandibu et al., 2017), the impact on employment is potentially substantial, particularly when considering lower-skilled people who are operating in the areas outside metropolitan areas.

The age and stage of the life cycle that the SMME is functioning in are another important policy consideration. The results indicate that SMMEs in the early phase of existence are particularly prone to not have access to finance, and government must ensure that policy is directed to assist these businesses. If government can do this, SMMEs will be more likely to enter the growth phase and seek finance from banks due to the lower risks associated with their improved sustainability.

Finally, the training and development particularly for start-up SMMEs must be prioritised. The literature on the rejection of loans typically cites reasons such as the lack of financial and management skills, poor business plans, the level of education, and technical expertise. The results of this study re-affirm these reasons, and SMMEs are acutely aware that they drive loan rejections. The Small Enterprise Development Agency (SEDA) (SEDA, 2021) in South Africa in particular should be encouraged to be more proactive in the training and development of SMMEs. Although they do offer training workshops and seminars, the skills development must be enhanced and broadened to township SMMEs, especially those in their early start-up phase. Examples of skills development must extend to the daily operations of managing an on-going concern and the importance of documenting performance and operations. A further proposal is for SEDA to collaborate with commercial banks to provide a more concrete blueprint of the processes and criteria used to assess the ability and willingness to pay for a loan. This is particularly important for SMMEs as it will guide the way that the operation is managed, and once again, reduce any potential information asymmetry a future lender may experience.

6.   CONCLUSION

The purpose of this research was to investigate the obstacle that SMMEs face in terms of accessing finance from banks in the Matjhabeng (Free State Goldfields) area. The results reaffirm the vulnerabilities SMMEs face when accessing finance from banks, especially if they are operating at an early stage in their life cycle and do not have formalised processes in place that accurately reflect the financial status of the operation. Information asymmetry is therefore pronounced on both sides of the relationship: on the

one hand, SMMEs tend to not always be aware of the products and services offered by banks and specifically what criteria are used to assess creditworthiness; on the other, banks are forced to make decisions based on incomplete or even incorrect information. This study sheds light on the obstacles facing SMMEs in terms of access to finance and will therefore, assist not only SMMEs in becoming better equipped to successfully apply for finance, but also enable banks to be more sensitive to the unique characteristics inherent to micro and small enterprises in areas operating specifically outside of the larger metropolitan areas in South Africa.

7. LIMITATIONS AND IMPLICATIONS FOR FURTHER RESEARCH

The study investigates only one municipal area in the Free State Goldfields and the findings may be difficult to apply in or hold true for different municipal areas across South Africa given the broad range of economic prosperity across different provinces. For this reason, the exercise of generalising the results from this study needs to be done carefully and keeping in mind the economic context of the municipal area under consideration. Several potential topics are identified for future research. The informal sector in South Africa includes a large part of SMMEs and their economic importance in providing employment cannot be underestimated. Research pertaining to the opportunity cost of enabling these entities to operate in the formal economy is suggested. Furthermore, a longitudinal study examining trends in preferences for different types of loans during different phases of their existence would be useful, especially for policymakers in the government as well as stakeholders in the banking sector.

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