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**Beg, Borrow or Sell - The Impact of Microcredit on
Financial Inclusion**

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Abstract

Microcredits have alternately been hailed as the future of developing economics and criticised for becoming a one size fits all-solution to complex issues. This paper is an attempt to add to a growing literature on the impact of microcredits on different stakeholders in the developing world. It investigates the role of microcredit in fostering financial inclusion through a minor field study carried out in Botswana during eight weeks at the end of 2016. Our data was gathered through a survey distributed to small- and medium-size enterprises (SMEs) and through interviews conducted with relevant agents in Gaborone. Our thesis strives to provide a descriptive overview of the attitudes of SMEs towards microloans, and supplement this descriptive analysis with a research question on whether microloans can act as a stepping-stone towards financial inclusion, which is analyzed through econometric regressions. We find that attitudes towards microloans are negative, mainly due to the fact that there is a lack of awareness surrounding microloans. Furthermore, our econometric regressions cannot be considered indicative of microloans having a significant effect on financial inclusion, as the results lack robustness. We attribute the lack of awareness to the presence of information asymmetry that creates conditions in which it becomes more rational for SMEs to seek other sources of credit such as banks or informal lenders. For this reason, microcredits do not foster financial inclusion in Botswana. However, it has the potential to do so if attitudes can be improved through initiatives to increase the awareness of microloans amongst SMEs.

Keywords: *Microcredits, financial inclusion, small- and medium-size enterprises, Botswana*

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1. Introduction

In 2015, member nations of the UN adopted seventeen Sustainable Development Goals with the aim of eradicating poverty and foster prosperity in a feasible way. The approach to working with these goals and their priority varies with political, economic, environmental and social contexts that differ between countries. In the context of developing economies, a well-functioning financial system plays an especially crucial role in facilitating economic growth that can move people out of poverty (Lopatta & Tchikov 2016, p. 6). Even though this is recognized in several of the sustainable development goals, goal number 8 specifically states that member countries should “promote inclusive and sustainable economic growth, employment and decent work for all” (UN 2016). One of the explicit target policies outlined to reach the goal is the encouragement of micro-, small- and medium-sized enterprises (SMEs) through ensuring financial access (UN 2016). As such, financial inclusion is an integral part of creating opportunities for SMEs in developing countries. If this inclusion can be achieved, it holds the promise of a path to growth and development for large parts of the developing world. Therefore, a practical issue becomes *how* to best grant these enterprises access through including them financially. One prominent idea is that the provision of microfinancial services can provide a means of promoting financial inclusion, entrepreneurship and productivity. For these reasons, many have considered microloans an efficient and preferable means of creating economic growth. For instance, microloans have sometimes replaced traditional aid when non-governmental organisations (NGOs) and national governments provide assistance to developing countries. Therefore, the question of the efficacy of microloans is a current issue, and findings on this credit source have both academic and practical applicability throughout the developing world. Throughout this thesis, the terms microcredits and microloans will be used interchangeably and defined as “the provision of credit without [much] collateral, usually in relatively small amounts and for short periods of time” (Ghosh 2013, p. 1205). We will also define financial inclusion as “the proportion of individuals and firms that use financial [banking] services” (World Bank Group 2014, p. 1). These financial banking services are in turn restricted to loans provided by formal financial banking entities. Our thesis investigates whether microcredits do indeed act as a good means of fostering financial inclusion through a case study in Botswana. Our hypothesis is that microfinancial loans act to improve financial inclusion in Botswana and other comparable developing countries.

Sub-Saharan Africa serves as a potent example of how traditional financial institutions come up short against the goal of financial inclusion (Napier 2011, p. 5). Although financial inclusion has improved in sub-Saharan Africa over the last decade, the region is lagging behind compared to the rest of the world in terms of financial inclusion with persistent regional differences. Research on different financial markets in Botswana can be

found but more research on the effect of microcredit on financial inclusion is needed. The country is considered somewhat of a historical and economical outlier in Sub-Saharan Africa as diamond mining and cattle raising forms the foundation of a relatively successful economy. However, as the economy is lacking in diversification, the economic growth of Botswana today is largely conditioned by continued diamond revenue. As recourse to this dilemma, the Botswana government wishes to enable Batswana (nationality and people of Botswana) entrepreneurs to invest and develop new businesses and strives to encourage existing firms to grow (Mangadi et al. 2011, p. 63). Therefore, it is in the interest of the government to ensure that agents have access to some sort of credit, which could allow for investments and in extension promote continued economic growth in Botswana. The main providers of these credits are different kinds of financial institutions. However, larger commercial agents that do not necessarily place an emphasis on smaller entrepreneurial clients have dominated the financial landscape. This has led to smaller borrowers becoming excluded from formal financial institutions (Botlhole & Okurut 2009, pp. 255-6).

Moreover, the degree of financial inclusion depends in no small part on the conditions facing lenders and borrowers in Botswana. Commercial banks face problems with lack of information about potential borrowers and therefore set up requirements which can become barriers to prospective clients that cannot show credit history, trustworthy licenses for their enterprises, or provide enough collateral (Morewagae, Seemule & Rempel 1995, p. 496). This is where microlenders have an advantage in customer relations, since they often operate on a smaller scale and in communities where they often know their clients. This can promote trust and respect in the relationship between the microlender and entrepreneur (Anjugam & Senum 2013, p. 406). In smaller communities the threat of embarrassment and bad reputation can serve as enough incentive to repay loans, making collateral a mostly secondary source of risk-management for microcreditors.

In this context, our thesis we will investigate whether microfinance acts as a stepping-stone to financial inclusion through our case study in Botswana. Our first aim is to provide a descriptive overview of the attitudes of small- and medium-sized enterprises towards microloans. Secondly, we center our attention on answering the research question:

Does the previous or current use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan?

To reach these aims, this paper is structured as follows: First, in order to give the reader some background we will define, describe and relate the concepts of microcredits and financial inclusion to the country-specific context. The next section outlines the relevant previous studies and their main findings. The theoretical section links the concepts and our research

question to economic theory. The empirical strategy describes the research methodology for collecting and processing primary data. This is followed by our findings and analysis of these together with a discussion of potential shortcomings of our study. Lastly, policy recommendations, a conclusion of our study and a summary of our thesis complete this paper.

2. Background

2.1 Microcredits

Given the topic of this thesis, it is important to be clear on how we define "microcredits". We have chosen to define microcredit as "the provision of credit without [much] collateral, usually in relatively small amounts and for short periods of time" (Ghosh 2013, p. 1205). Furthermore, microcredits are usually directed at smaller enterprises that presumably would not qualify for a formal bank loan. The microloans are designed to be granted to higher-risk borrowers as they apply less rigorous demands.

When studying the financial environment in Botswana we differentiate between formal and informal financial institutions as these operate under different conditions. Formal institutions include both state-run and commercial banks as well as licensed microlenders. Informal institutions refer to agents working outside the government enforced regulatory frameworks. Formal sources of credit will refer to bank loans while microloans refer to loans from licensed microlenders or microfinancial institutions (MFIs). Informal loans on the other hand, will refer to loans issued by lenders that are not licensed by the state, which includes unofficial moneylenders but also friends and family. Whilst this dichotomy is necessary to establish for research purposes, it is important to acknowledge that this division is far from unproblematic. Considering that Botswana only founded a regulatory agency for microlenders in 2012, the Non-Bank Financial Institution Authority (NBFIRA), it is not unlikely that some MFIs operate in legal gray areas under conditions that are neither formal nor informal.

Furthermore, one may get the impression that as licensed microlenders work under the rules of the government they ought to provide fairer and more accessible loans than informal lenders. However, this is not necessarily the case as the requirements put on licensed microlenders only applies to areas such as the lenders' financial liquidity, business plan, delinquency policy, etc. (NBFIRA Act 2012). The regulatory framework that allows NBFIRA to license a lender says nothing about what the contract between lender and borrower may or may not include. Thus in terms of interest rates, collateral requirements and repayment plans applicable to clients, the licensed microlenders are in no way bound to be superior to an informal source of credit. This is not to say that a license is meaningless, as it does provide legitimacy and establishes conditions for increased transparency in the financial system. It is reasonable to believe that predominantly serious lenders would go through the trouble of becoming licensed, which means the license can improve the level of trust between the lender and the borrower.

Given that microcredits are one of the credit options available to enterprises, they can play a major role in the financing of entrepreneurial activities for borrowers that can be both financially included or excluded (CGAP 2012, p. 2). Bearing this in mind, the growing

prevalence of MFIs has also meant that the results initially promised by microfinancial services have come under closer scrutiny in academic circles.

A common assumption has been that microcredits serve primarily as a means of including previously financially excluded poor people. This is often not the case, since many microcredit clients used informal financial services before the introduction of microcredits and continue to use them as well. Similarly, the microloans taken by smaller enterprises are far from always used for business investments (CGAP 2012, p. 2). Small enterprises get 14,9 percent of their credit from informal sources that include family, friends and moneylenders and 12,9 percent from the banking sector. When looking at larger firms, these percentages are respectively 2,1 percent and 26,5 percent (Peachy & Roe 2006, p. 51), suggesting that as firms grow they tend to prefer bank loans to informal sources of credit.

2.2 Financial inclusion

When investigating our research topic, we will use the definition of financial inclusion outlined by the World Bank, where financial inclusion is “the proportion of individuals and firms that use financial [banking] services” (World Bank Group 2014, p. 1). These financial banking services are in turn restricted to loans provided by formal financial banking entities. Some consider MFIs to be a means of improving financial inclusion, whereas others have questioned whether they can indeed act as determinants of growth and development (World Bank Group 2014, p. 3). Hence, our definition of financial inclusion does not include microcredits granted by MFIs. This follows the established research typology, and allows us to focus on the relationship between microcredits and financial inclusion. More specifically, these distinctions help us investigate whether microcredits act as a stepping-stone from which individuals can enter the formal banking sector.

When considering the level of financial access enjoyed by enterprises, we must account for the characteristics of the financial sector. In Botswana the financial sector is regionally heterogeneous, but on the aggregate about 68 percent of the adult population is served by the formal financial banking sector (UNCDF 2016, p. 7). Informal lenders still constitute for a large portion of the credit market, especially in rural areas. However, almost a fourth of the national adult population is classified as excluded from any financial services (UNCDF 2016, p. 8). This is troublesome, as these constitute the national workforce, of which many are running SMEs or currently employed by them. Even though Botswana is doing relatively well compared to other sub-Saharan economies there are still improvements to be made. Furthermore, there is reason to believe that the formal banking sector underserves SMEs with financial services in Botswana. This is supported both by the presence of both government initiatives aimed at providing credit and financial advice such as the Citizen

Entrepreneurial Development Agency (CEDA) and the Local Enterprise Authority (LEA), and the number of microlenders in Botswana¹.

¹ Based on List of Licensed Microlenders NBFIRA 2016.

3. Previous Studies

When discussing the majority of the previous studies relevant to our thesis topic, it is important to consider the context in which they were conducted. The studies found in this section are meant to constitute a representative cross-section and are mainly indirectly related to the realms of both attitudes towards microcredits and our research questions, i.e. “Does the previous or current use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan?”. As our research attempts to address a specific aspect of microloans using a specific country for our case study, the included previous studies are in a broader sense indirectly related to our topic. We will first present studies that cover general aspects of microfinance while the later studies are more specific to Botswana in order to provide the reader with the relevant context for our study.

As this thesis sets out to investigate whether microcredits could further financial access and inclusion we found Ghosh’s (2013) critical review of empirical literature on the subject relevant. Looking at the development of microfinance, Ghosh highlights the problems with the transformation of the microcredit industry. Emerging as non-profit NGO-run measures to help the poorest in the economy, it later became dominated by market-oriented profit seeking lenders. This led to microloans being characterized by excessive interest rates and less ethical methods to ensure repayment, much like the moneylenders that MFIs initially were meant to constitute an alternative to. Furthermore, Ghosh finds that MFIs are unwilling to take on the burden of risk assessing, screening and monitoring individual clients and therefore find it easier to charge high interest rates on all loans to cover the costs of potential defaults. Yet, the author remarks that microfinance cannot be completely disregarded for financial inclusion as the alternative for the financially excluded are the more exploitative or unreliable informal lenders. Ghosh concludes that financial inclusion to institutional finance must be a policy-driven and subsidised measure by regulatory authorities in order to be successful.

Beck and Cull (2014) provides a comprehensive study that aims at gauging SMEs access to financial services in Africa. As such, it is highly relevant to our study as it provides a general perspective on hinders to financial inclusion on the African continent. Since it uses regression analysis of aggregated survey data, their methodology and approach to the subject informs our working method to a large extent. The study identifies microenterprises as a key segment for microlenders to target and finds that African enterprises in general are less likely to have bank loans than in other parts of the developing world. Furthermore, it finds that over 25 percent of African firms consider availability and cost of finance a hinder to growth and further investments (Beck & Cull 2014, p. 9). Crucially, the study provides a rationale for why SM’s would choose to not use microcredits, such as high interest rates and shallow

financial markets (Beck & Cull 2014, p. 7). This informs our negative prior in regards to our descriptive analysis.

Also looking at the African region De Wet et al. (2012) conducts a systematic review of previous studies on microfinance in sub-Saharan Africa. The study methodologically presents and evaluates significant findings of 15 studies that met a number of criteria. Its most controversial finding is that microfinance has no significant impact on incomes for households and businesses. Rather, it finds that the effects seem ambiguous. Even though microfinance has been found to have positive effects on other welfare factors such as health and food security, it seems to have negative effects on education, doubtful effects on female empowerment and no effect on job creation. The authors' conclusion is that microfinance does not act to effectively reduce poverty, and they therefore take a critical stance towards the promotion of microfinance as a means of achieving the previous Millennium Development Goals.

Aggarwal et al. (2016) provides insights on why entrepreneurs in both Africa as a whole and Botswana particularly do not consider microcredits an attractive source of financing. The book provides findings that indicate that over 20 percent of Botswana entrepreneurs use family as the primary source of credit, and over 40 percent use formal bank loans. In this context, the number of entrepreneurs using microcredits as their primary credit source is negligible (Aggarwal et al. 2016, p. 184). To explain this, the authors raise the possibility that African entrepreneurs are not aware that microfinancing is an existing option for them. Such a lack of information could prove crucial to whether microcredits act as a stepping-stone towards financial access or not and clearly informs the attitude of entrepreneurs toward microcredits as a concept. For instance, the book provides evidence that more than 35 percent of Botswana are unaware of the presence of micro financing in their community (Aggarwal et al. 2016, p. 186). As such, the book finds that the success of microcredits depends not only on the provided services themselves, but also on the awareness and perception of these services. These findings are crucial to how attitudes towards microcredit affect the usage of this credit source.

UNCDF (2016) is one of the most comprehensive studies found on the subject of financial access in Botswana, which gathered data in order to identify necessary improvements that can be made to the existing financial infrastructure. These issues are addressed from a demand-side perspective. The study finds that 50 percent of the adult population is served by the formal banking sector, whilst only 8 percent use purely informal financial services. The perceived obstacles to financial inclusion for those financially excluded are identified as low levels of income, lack of financial literacy, high costs of lending, low demand of financial services, and client requirements such as collateral and documentation.

Generally speaking, most of the studies consider economic development and growth from a wider perspective, where financial inclusion is a given precondition for these developments rather than the main subject of study. In the specific context of microfinance in Botswana, it is worth noting that whilst there are several studies which investigate the role of microfinance in the Botswana economy (see above Aggawar et al. 2016; UNCDF 2016), few if any of these studies focus on whether microcredits in particular affect the transition of lenders from the informal to the formal economy. This serves as the academic motivation for our research.

4. Theoretical Framework

4.1 Microcredits as a means of gaining financial access

Access to some kind of credit in the economy allows enterprises to borrow or lend funds in the present, in order to account for planned savings or spending in the future (Burda & Wyplosz 2010, pp. 156). Such financial access is a pivotal to the ability of enterprises to establish themselves and develop through investment. The main providers of these credits are different kinds of financial institutions. These institutions are intermediaries dedicated to the reallocation of monetary means from agents with a surplus of funds to those in need of additional funds (Byström 2014, p. 20). For this reason, financial institutions are central in the context of financial inclusion as the actions of these institutions impact the accessibility of credit. The behavior of financial institutions can in turn be traced to their organizational structure and legal standing. It is reasonable to assume that a venerable international bank with a diverse clientele will operate differently than a small, newly started microfinancial agent that caters exclusively to local entrepreneurs.

We will assume that SMEs act as rational agents who seek to choose the optimal financing option that maximizes their utility. As such we assume that SMEs evaluate the credit options based on their perceptions and knowledge of these options, as well as their availability of the same. They will then apply for the financing option that is not only optimal, but also viable. Thereby, we assume that SMEs act in accordance with bounded rationality. Within this framework, their preferences and decisions are rational within a context of limited available information and the potentially imperfect cognitive abilities of the entrepreneurs (Burns & Roszkowska 2016, p. 200). By taking information asymmetry into account, bounded rationality provides a convincing theoretical rationale for how to analyze the financing decisions of SMEs. Bounded rationality also captures how the cost of finding information influences the decision-making of agents, which helps explain why SMEs may be unaware of credit alternatives and unwilling to gather information about these alternatives.

Information on the credit options is crucial for SMEs making financing decisions. In this context, we use information in the widest sense to mean not only facts, but also perceptions, attitudes and “word of mouth” that constitutes the entrepreneurs’ knowledge of the available sources of credit. Furthermore, we can assume that there is a heterogeneous level of financial literacy and knowledge of available credit options amongst SMEs. This results in an information asymmetry between prospective borrowers and is especially prevalent when comparing financially excluded and financially included SMEs. Besides plausibly having a higher level of creditworthiness, the fact that those financially included hold more information on available credit options may be due to things such as previous experiences and established connections with lenders. Taking this asymmetric situation into

account it provides a theory as to why some credit sources are preferred over others and why some might not even be considered at all.

The presence of information asymmetry results in a lack of awareness of financial alternatives, and increases the information costs related to SMEs having to devote time, effort and money on gathering and evaluating limited information on the available financing options. These costs in time, money and effort related to unsuccessful applications for microloans may well outweigh the potential benefits, and such information costs therefore apply both to lenders and borrowers (Waldeck 2002, p. 1). Moreover, the costs attributable to this information asymmetry will lead to sub-optimal choices of financing and potentially higher credit costs as lenders can take advantage of the fact that financially excluded SMEs must make a decision on their financing without being in possession of full information. Furthermore, information asymmetry will affect the attitude of SMEs towards the available credit options. As those with some degree of financial access enjoy greater availability of financing options, it is likely that these SMEs will have a more positive view on the availability of credit. By the same token, those SMEs who find themselves financially excluded are likely to have an opposing view. As such, the attitudes of SMEs' towards credit options will affect whether they even consider different credit options, regardless of their actual eligibility for such credits. As a result, there is the distinct theoretical possibility of a negative spiral, wherein those already financially excluded will not gain financial literacy and attain increased information about credit options, which in turn perpetuates the presence of information asymmetry.

4.2 Financial inclusion through microloans

Without access to some type of formal financial intermediary, enterprises are left to their own devices when seeking credit. Assuming that agents do indeed wish to invest and/or consumption smooth, a hypothetical absence of microcredits would not affect the demand for credit in the economy. Rather, this situation would force many non-bankable enterprises to rely on informal sources of credit such as pawnbrokers, family or friends, etc. As these informal sources are by definition under- or unregulated, it follows that these sources will offer sub-optimal loans. Without regulations in place, there are no safeguards against predatory lending. At the same time, the lenders would most likely charge high interest rates to account for the high level of risk associated with lending to agents rejected by formal institutions. Moreover, from the agent's perspective these informal sources of credit are less reliable, since they may not always be available. For these reasons, it should be more attractive for agents such as SMEs to borrow from formal financial institutions as these loans are more reliable, less risky and more effective (Byström 2014, p. 19).

The lack of access to formal bank loans can be traced to the theoretical distinction between microcredits and formal bank loans. Formal banking institutions do not usually grant smaller loans, since the returns with interest on such loans do not cover the costs associated with gathering the necessary information (Waldeck 2002, p. 1). The formal banks resort to using other methods of minimizing default risks associated with lending, such as large collateral, which prevents many enterprises from getting formal loans. Unlike for formal bank loans, MFIs do not have to face the same level of information costs since they can develop close relationships with the lenders through working close to the communities where informal channels provide information on creditworthiness. This means that microcredits usually cater to customers that are unable to qualify for formal bank loans such as smaller enterprises that lack sufficient financial documentation. Microlenders can compensate for some borrowers' lack of accurate financial documentation and assess their creditworthiness through visits and repeated social interactions, which allows them to gauge a client's character and by extension their risk of default.

The granting of a microloan can positively affect the enterprise's earnings and financial flows, which in turn can act to improve the creditworthiness of the enterprise in the long run. Moreover, it is realistic for formal institutions to assume that MFIs have no interest in granting credit to borrowers that run too high risks of default. By extension, microlenders' judgment on the creditworthiness of an enterprise is based on the same metrics used by formal banking institutions. This means that agents trusted by microlenders, especially licensed ones, can also be considered reliable by formal banking institutions. This holds especially true if the microlenders themselves are subject to a legitimate framework of rules and regulations. Following from this line of reasoning, microcredits could theoretically act as means of gaining access to the formal banking sector as enterprises seeking formal loans can use their records of successful use of microcredit as proof of creditworthiness and reliability. This leads us to hypothesize that given that SMEs have a positive attitude towards microloans, the usage of such loans could act as a stepping-stone to financial inclusion. We investigate this by providing a descriptive overview of attitudes towards microloans, and by testing whether the use of microloans increase the probability of having a bank loan.

5. Empirical Strategy and Methodology

5.1 Data collection method

To provide a descriptive overview of SMEs' attitudes towards microcredits and answer our research question, "Does the previous or current use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan?" we use primary data collected through a survey (see Appendix 1) aimed at suitable enterprises. We strategically target SMEs as they are usually run by low to low-middle income earners who are more likely to be financially excluded or using informal loans. They are also likely to be looking for smaller types of loans for investments and may be in need of larger loans in favour of enterprise expansion. Therefore, we cover subjects financing their enterprises through different means and credit options. We use the OECD definition of SMEs, which acknowledges the lack of a universal definition but goes on to assert that SMEs are "non-subsidary firms which employ less than a given number of employees" (OECD 2016, p. 21). Though the upper limit is set at 250 employees, we recognize that the Botswana conditions and our research questions mandate a less generous definition. Therefore, we only consider firms with less than 50 employees (the upper limit for small firms according to the OECD), which in our terminology will include so-called microenterprises with less than 10 employees (OECD 2016, p. 21). When distributing our survey we have primarily focused on reaching the manager or owner of the enterprise, since they are the ones most likely to be making the financing decisions. Many of the respondent enterprises were found in shops, restaurants, service points, etc. in and around malls in central Gaborone. Another representative group was found amid the many market stalls and so called "tuck shops" (kiosk-like small businesses) around the city. Some respondents were clients found through LEA and a local licensed microlender. By doing this we have tried to capture the targeted demographic whilst ensuring that we carry out the field study within the limited time frame. We are aware that our sample may not capture all sectors in which SMEs are operating and therefore acknowledge that our sample potentially does not fully reflect the population we wish to capture. This will be discussed further in section 6.3. However, for the purposes of this thesis we will treat our sample as representative of the SMEs operating in Gaborone.

The survey concerns previous and current credit access, what sources of credit the enterprises potentially use, determinants of choosing and having access to these credit sources as well as attitudes towards different sources. In designing the survey, we made an effort to ensure that the questions were to the point and easily understood in order to get answers that reflect reality. For this reason, the survey predominantly consists of multiple-choice questions of a yes/no-type. These answers have been transformed into binary data to allow for regression analysis. To avoid recall bias and navigate potential cultural stigmas some

questions are posed several times with different wording, whilst instruments are used to capture data on potentially sensitive matters such as personal wealth and financial outlook.

To get started with our research we initially received assistance from our contact at Botho University in Gaborone to help us locate local businesses and guide us when approaching banks and ministries relevant to our research. Once we had identified relevant government-run financial development agencies for SMEs and located the commercial banks we asked them to help us locate and distribute the survey to their SME clients. However, we soon realized that the best way to collect data was to approach SMEs directly and ask them to fill out the survey on site. This way we could clarify any arising questions. To this end, we have found this method to ensure quality data in terms of reliable and comprehensive answers. It should however be noted that we have at times chosen to be flexible in our collection method in order to ensure a significant data quantity within our given timeframe. Thus we have chosen to rather disregard uncompleted survey responses in order to obtain a greater number of survey responses. This flexibility served to overcome language barriers, ensure anonymity and collect a larger sample despite our restricted mobility.

Additional to the data gathered in the form of survey responses we have also conducted interviews in an open-ended methodological format. Qualitative data attained from these interviews serves the purpose of complementing the survey responses when providing a descriptive overview of SMEs attitude towards microcredits. Since we are looking to investigate attitudes these cannot only be analyzed through hard facts. As they include less tangible matters such as perceptions and feelings these are not fully mediated through a multiple-choice questionnaire. Aiming to present a representative depiction of agents concerned with SMEs credit access, the variety of perspectives as well as complexity of different interests in the matter, we have held interviews with state-run financial agencies, commercial banks, and the owners and employees of the enterprises themselves.

5.2 Approach to descriptive data analysis of attitudes

In providing a descriptive overview of attitudes towards MFIs, we use our survey data and interviews to evaluate four questions. These questions are used to capture the attitudes and include issues of awareness, availability, fairness and desirability. These are:

- 1) Do SMEs know what microloans are, and do they consider microloans a possible source of credit?
- 2) Do SMEs perceive microloans as sources of credit available to them, and what characterizes the SMEs that find microloans to be a likely choice of credit?
- 3) Do SMEs consider microloans to have fair terms, and are there any preconceptions surrounding the use of microloans?
- 4) Are microloans considered desirable to SMEs, or do they prefer other sources of credit?

To answer the first question we exclusively use our qualitative findings from interviews conducted with both relevant financial agents and the SMEs themselves. This follows from the fact that awareness is a less tangible concept and is not captured in any of our survey data. The following three questions will primarily be evaluated based on statistics from the survey data. The second question concerning attainability of microcredits is evaluated through the findings from question 34 in our survey (see Appendix 1), which addresses which source of credit SMEs would first consider if in need of a loan. We have formulated the question in this way following from our theoretical argument that subjects will turn to the best available credit option they consider attainable. The third question concerning fairness is evaluated using data from survey question 24, which asks about the respondents' personal opinions on the fairness of microloans, regardless of their potential eligibility for such a loan. Their stance towards credit options is evaluated on whether they consider microloans fair on the three criteria of interest rates, repayments plans and collateral requirements. Furthermore, the evaluations of these quantitative findings will be complemented by qualitative material from interviews, which provides additional depth to the analysis. The fourth and last question is evaluated through findings on survey question 31, which asks the respondents to indicate their preferred choice between a microloan and a bank loan. They are asked to consider the same three criteria found in question 24, but in a comparative context rather than as a question of fairness. This approach to use both quantitative and qualitative findings to answer these questions enables us to provide a comprehensive and nuanced descriptive overview of attitudes towards microcredits.

5.3 Econometric approach to answering our research question

By answering the question “Does the previous or present use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan?” we want to investigate whether the use of microcredit could be advantageous when trying to become financially included into the formal financial sector. Using a binary regression model and our gathered data, where having a bank loan is the dependent variable (y), it is possible to estimate the coefficients (β_i), which indicate the effect on having a bank loan for our independent variables. The two independent variables of interest are the previous (D_1) and current (D_2) uses of microloans. These specific independent variables will be dummy-variables equal to one if the individual subject has used or is using microcredits, and equal to zero if the subject is not using or never has used microcredits. We have set out to cover as many other relevant determinants as possible in order to isolate the single effects of microcredits. Thusly, we formulate our null hypothesis as $\beta_1=0, \beta_2=0$.

When handling the data mathematically, we will only be able to observe the dummy-variable y for the latent variable Z ,

$$y = \begin{cases} 1 & \text{if subject has a bank loan} \\ 0 & \text{if subject does not have a bank loan} \end{cases}$$

To estimate the determinants of y there are a few ways to model the probability of having a bank loan (p_i). We will consider an ordinary least square (OLS) model, a logit model and a probit model. In all three we start by defining Z_i , which is the dependent variable “having a bank loan” given by a function of independent variables that are determinants of getting a bank loan. For example the function could be given by:

$$Z_i = \beta_0 + \beta_1 D_{1i} + \beta_2 D_{2i} + \beta_3 x_{3i} + u_i$$

where D_1 is the dummy-variable for previous use of microcredits, D_2 is the dummy-variable for currently using microcredit, x_3 is a variable for sex, and u_i is the error term. This is merely a simplified example of what the function includes, but given our data we fine-tune and adjust the regression function by adding or subtracting relevant determinants. Through this fine-tuning, we specify a model that best captures the trends in the data. Once we have run the regression we will get the coefficient for the independent variables. When calculating our estimated value of the function (\hat{z}) we will use the sample mean for each variable (i.e. $\overline{D_1}, \overline{D_2}, \overline{x_3}$) rather than individual observation values (i.e. D_{1i}, D_{2i}, x_{3i}).

OLS is the simplest model we use to estimate our binary choice model. It assumes the probability of the dependent variable being equal to one to be a linear function of the independent variables. Simplified, this means that $p_i = Z_i$. This model allows us to interpret the coefficients β_1 and β_2 as the marginal effects, such that these effects tell us how much the probability of having a bank loan changes by having previously used microloans and by currently using microloans. Although the model is straightforward and easy to use, it has considerable limitations. The predictions can take values less than zero and greater than one, in which case it becomes faulty to interpret these results as probabilities as we wish to do. Thus, this model is not optimal for estimation, but we have chosen to include it in order to check for robustness and to run tests for heteroscedasticity. Our second model for estimation, which is logit suits our data better. This model assumes the probability to have a logistic distribution. As the probability is a logistic function of the latent variable Z ($p_i = F(Z_i)$) it will tend to one when Z approaches infinity and tend to zero when Z approaches minus infinity. We therefore do not risk getting invalid values for probability with this model.

Unlike OLS we cannot interpret the coefficients we receive from the logit regression as the marginal effects of the independent variables. The marginal effect is calculated as the derivative of the probability function ($\frac{dp}{dz}$) multiplied by the estimated value of relevant variable coefficient (e.g. b_1). However, the logistic distribution assumes a higher variance than the normal distribution, which is the most commonly used when the distribution is unknown. In spite of this, we have chosen to include it as a check for robustness.

The probit model, which is our main model for estimation, assumes the probability of the dependent variable, in our case “having a bank loans” to follow a normal distribution. To estimate the marginal effect of having previously used microcredit on the probability of having a bank loan, we calculate:

$$f(\hat{z})b_1 = \frac{1}{\sqrt{2\pi}} e^{(-\frac{1}{2}\hat{z}^2)} b_1$$

where \hat{z} is the estimated value of Z_i and b_1 is the estimate of the coefficient β_1 that we received from the regression. The marginal effect will be interpreted as by how many percentage points the use of microcredits change the probability of having a bank loan. Although marginal effects are specific to individual observations we wish to estimate the effect based on our full sample and therefore use the sample mean of variable values as explained above. As long as there is a sufficient number of observations with a dependent variable taking the value of one in the data sample, probit can be used for the regression.

6. Results and Analysis

In analysing our empirical findings, we have computed both regression analysis and descriptive analysis. Our data consists of 103 respondents and is treated as representative of SMEs in Gaborone as previously mentioned (see section 5.1). We estimate the number of SMEs in the city and its surroundings to number approximately 1900², meaning that we have collected a survey sample representing a little more than 5 percent of the described population. To briefly describe the characteristics of the sample we found that about two thirds of respondents are female, one third male and the mean age of respondents is 38 years. The median enterprise age is 5 years in operation and about 90 percent of enterprises in the study employ 10 people or less. Although this means that our sample mainly includes micro-enterprises we still treat the sample as representative. This is based on our perception of a micro-enterprises being more common than enterprises with a greater number of employees in Gaborone. Note that for our presented data in this section, a broader definition of financially included subjects is used. This definition includes respondents who have access to any formal banking services, and is therefore not limited to loans. It follows from this that financially excluded subjects are defined as respondents who do not have access to formal banking services. The raw data used for regression analysis is found in Appendix 2, where some of the data is grouped in the ordinal categories used in the regression. This format provides a concise overview of the raw data. The complete set of raw data is available upon request.

Our qualitative data consists of material from ten open-ended interviews held with individuals working within SMEs or with SME and credit related matters, of which all have been promised anonymity. Seven interviews were held with SMEs themselves, of which three subjects were employees and four subjects were owners of different enterprises. Three of the SMEs were financially excluded in the sense that they did not have access to any financial banking services, while the remaining four did. Two interviews were held with government-employed agents, of which one worked at NBFIRA and one at CEDA. Lastly, one interview was held with a subject employed by a commercial bank. The interview material we found relevant is presented in the following sub-sections in relation to the questions we wish to evaluate. Since the interviews were held in an open-ended format the material differs slightly in focus and structure, which allowed us to capture what the subjects specifically wished to share.

² Based on a 2009 CSO briefing.

6.1 Empirical findings and analysis of attitudes towards microcredit

We begin our analytical section by analysing descriptive data on attitudes towards microcredit. The qualitative and quantitative data findings are structured and presented in relation to the four evaluated questions concerning attitudes (see section 5.2). The qualitative interview material is presented in written text and analyzed as we progress. The quantitative descriptive data is presented in diagrams and tables and is used to highlight patterns within the sample.

6.1.1 Do SMEs know what microloans are?

Our empirical findings on the awareness about microloans reveal that SMEs generally do not know what microloans are. We base this on purely qualitative data that consists of interview findings. One interview subject working at a newly established commercial bank offered insight about the lack of a microfinancial market in Gaborone. In his view there is both a general unawareness about the existence of microloans as well as a lack of knowledge as to what they actually are. Furthermore, with the exception of some previous attempts to provide microfinancial services, the commercial banks are not interested in offering these as they consider them unprofitable and unfeasible in Gaborone. The seven interviews held with SMEs also shed some light on the issue. Putting aside the fact that four SMEs did not know what microloans are, we also found that the term itself is confusing to many subjects, as it is not a well-known concept. When explaining the concept of microloans, two of these subjects would know these loans in terms of cash loans, short-term loans, fast cash etc. This aligns with our experiences in the field when distributing the survey to SMEs. However, not all of these terms are what we consider microloans, as we have limited our definition to microcredit offered by licenced MFIs. We tried to continuously communicate this fact to our interview subjects in order to clarify what we were asking about. We further found that it is not generally known that there exists a regulatory framework for MFIs, as laid out by NBFIRA in 2012. Close to no SMEs therefore make the distinction between formal and informal MFIs.

The lack of awareness amongst the respondents makes it difficult to consider microloans a viable source of credit, and we find that awareness and knowledge of MFIs therefore becomes a crucial aspect of attitudes towards microloans. Interviews with SMEs further confirmed that most SMEs in Gaborone make no distinction between informal and formal or licensed microcreditors, which might influence attitudes towards microloans. To exemplify this, one interviewed SME equated microloans with informal cash loans, which influenced the respondent's negative attitude towards microloans. Seen in this light, it becomes rational for SMEs to disregard even licensed microlenders as sub-optimal sources of credit. If they perceive microloans as sub-optimal and associate it with for example predatory lending, it is not only rational to foremost favour formal bank loans but also to prefer informal

lenders like friends and family rather than MFIs. The three interview subjects that were financially excluded showed even less knowledge of microloans, which can be explained by the presence of an information asymmetry. Furthermore, material from our interview subject at CEDA, which is one of the main organisations in Botswana providing microloans, supports this lack of awareness. He claimed that many financially excluded SMEs are generally unaware of the existence of the organisation and their mission. Therefore, our findings indicate that SMEs in general do not know what microcredits are. However, we found that some SMEs are unfamiliar with the term microloans but familiar with the concept itself. As we will see, our answers to the remaining three questions in the following sections can to a large extent be explained by the fact that few SMEs knew and understood what microloans constitute.

6.1.2 Do SMEs perceive microloans as sources of credit available to them?

When analysing this question, we relied primarily on quantitative findings from our survey to inform our descriptive analysis. We find that the answer to whether SMEs perceive microloans as a source of credit available to them is a clear no. This can be explained by the fact that they consistently prefer bank loans and sometimes also informal loans to microloans as sources of credit.

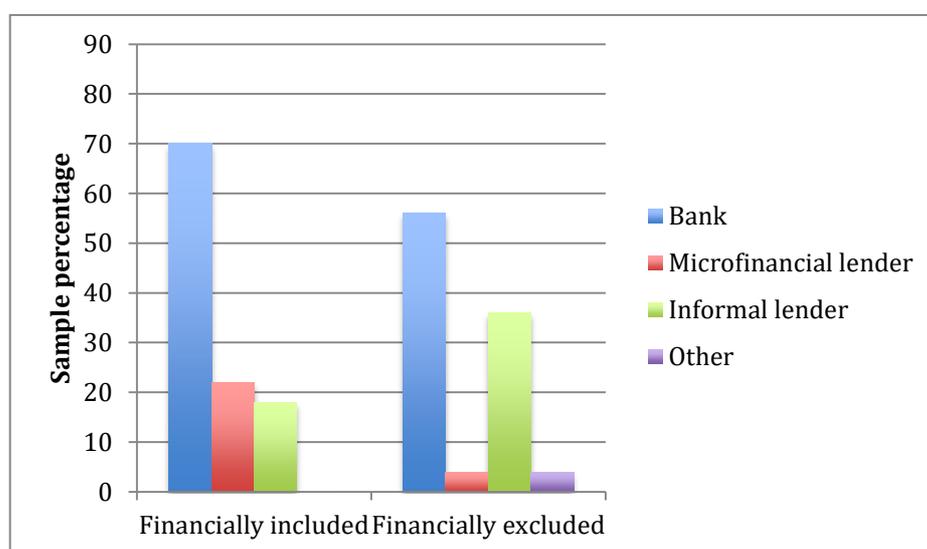


Diagram 1: Primary choice of credit source

The diagram above illustrates which credit source is primarily preferred by SMEs, shown in percentages according to category of financial inclusion. This descriptive data clearly shows that most SMEs would turn to a bank as their primary source of credit, which indicates that SMEs generally have a negative attitude towards microloans. For financially included, microloans are considered approximately as available as informal loans, as there is only a

small difference in percentage points between these two credit sources as evidenced by Diagram 1. However, when only considering financially excluded SMEs in Diagram 1, we find that only 4 percent of these enterprises would choose a microlender when in need of credit. In fact, a larger proportion of financially excluded SMEs would primarily turn to family and friends for a loan rather than to an MFI. This can be attributed to the presence of information asymmetry and a lack of knowledge of microloans as mentioned in the previous section. Following from bounded rationality, SMEs will seek to counter their lack of information on microcredits and formal lenders by turning to friends and family instead. Thus, social ties and relationships make informal lenders a safer choice for financially excluded, and make this credit source more available than microloans.

Table 1: Hinders to financial inclusion amongst financially excluded

	Lack of collateral	Insufficient enterprise documentation	Inconvenient bank location	Previous default	Other	Total
Number	14	5	1	3	2	25
Percentage	56	20	4	12	8	100

This table captures hindrances to financial inclusion, and provides an additional explanation for why SMEs do not have bank loans and why these enterprises potentially choose other primary credit sources instead. Surprisingly, the group of financially excluded SMEs, where most choose a bank as source of credit, finds lack of collateral to be the biggest hinder to financial inclusion. Applying the theory of bounded rationality, we would expect this group to consider microloans a more available option as MFIs usually have much lower collateral requirements than bank loans. However, these contradictory findings can be explained by the lack of awareness and information discussed in section 6.1.1, which influences attitudes towards microloans.

To answer the second part of our question, “what characterizes the SMEs that find microloans to be a likely choice of credit?” (See section 5.2), we have chosen to present findings on primary choice of credit in groups of level of turnover and enterprise age.

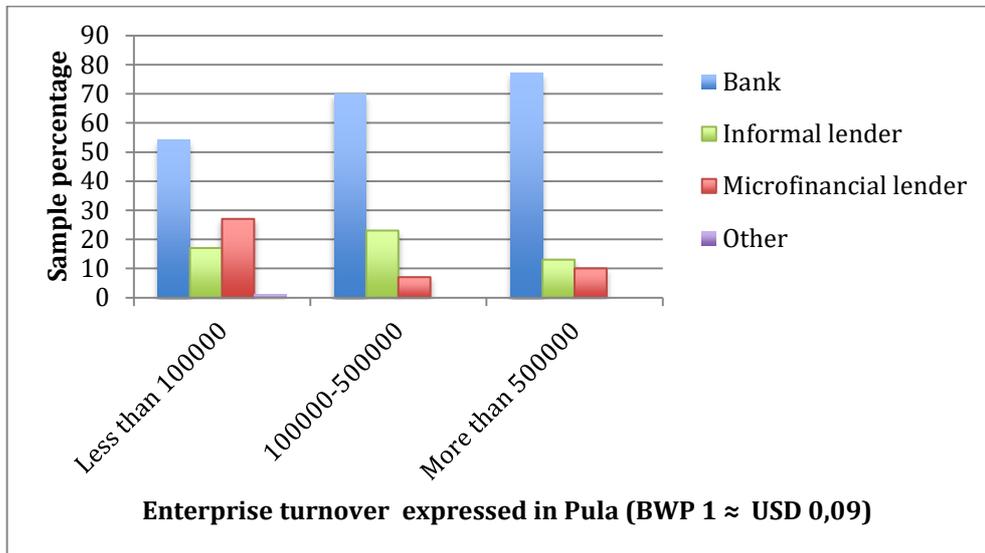


Diagram 2: Credit source depending on enterprise yearly turnover³

This diagram shows a trend in yearly turnover in relation to chosen credit source by grouping the SMEs in three categories. It shows how enterprises with a turnover over 500 000 predominantly uses bank loans, whereas enterprises with a turnover below 100 000 use alternative sources such as microloans to a greater extent. Despite this, all three groups prefer bank loans to microloans, which entails that this is the most available credit option to SMEs regardless of turnover.

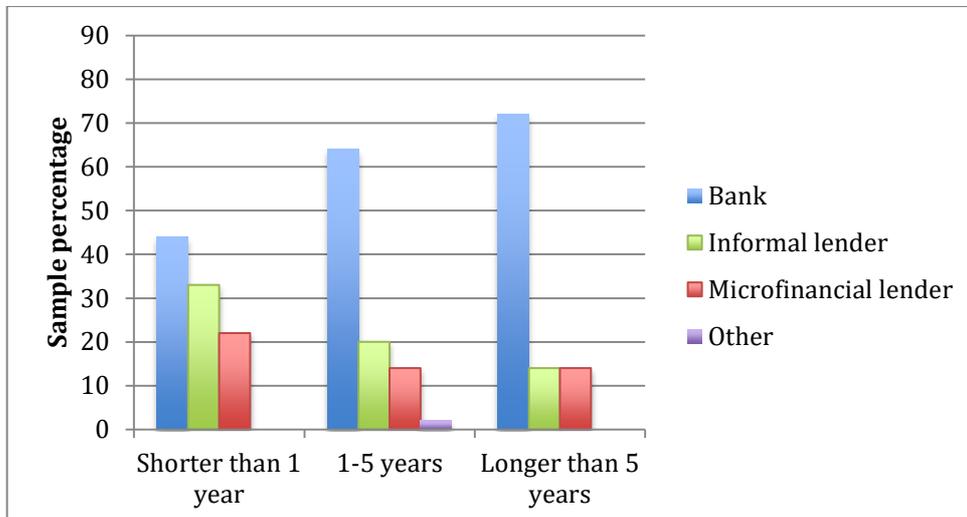


Diagram 3: Credit source depending on age of enterprise

In the diagram above, we capture how the age of the enterprise relates to the credit source SMEs would chose. It creates three groups for enterprises and shows how the oldest SMEs

³ Currency conversion based on XE Currency Converter 2017-01-16.

more predominantly would turn to a bank when in need of credit, whereas enterprises younger than one year tend to choose a wider variety of credit sources.

If we consider both diagram 2 and 3 it is worth noting that the preferred primary source of credit seems to vary with enterprise age and turnover. The share of SMEs considering microloans available to them is largest amongst young enterprises with lower turnovers. This can be explained by bounded rationality, as these young enterprises are more likely to lack previous experience and collateral they are considered riskier investments and therefore less attractive for formal financial institutions. If these SMEs find bank loans less available to them, this might positively affect their attitudes towards microloans. Likewise, as they have lower turnovers, a microloan is more suitable for the size of investment needed for such SMEs. The opposite is true for banking, as older enterprises with higher turnovers constitute the majority of those considering bank loans as available to them. This outcome also conforms to the theory of bounded rationality as they may have more experience, more collateral and larger credit needs. When considering these findings on availability, we find that SMEs do not perceive microloans to be available to them. Rather, SMEs consistently consider bank loans to be the most available source of credit.

6.1.3 Do SMEs consider microloans to have fair terms?

This question is analysed using quantitative and qualitative data, but is to a great extent admittedly influenced by the lack of awareness we mentioned in section 6.1.1 as it deals with the subjective issue of fairness. We find that it is difficult to answer whether SMEs consider microloans to have fair terms, as our findings are hard to draw clear conclusions from. In general, we find that the answer depends on attitudes, opinions on what constitutes a fair loan, and on whether the respondents were financially included or not.

Table 2: Fairness of microloans according to parameters

Parameters (%)	Fair	Not fair	N/A	Total
Interest rates	46	47	7	100
Repayment plans	51	42	7	100
Collateral requirements	46	47	7	100

This table outlines whether microloans are considered fair, and helps explain how perceptions of the fairness of different loan requirements impacts attitudes towards using microloans. We considered the responses of SMEs regarding the fairness of microloans in terms of interest rates, repayment plans and collateral requirements. The responses are difficult to interpret. Overall, approximately 50 percent of respondents considered interest rates, repayment plans and collateral requirements to be fair (Table 2). However, the remaining 50 percent found that

microloans were not fair in terms of these three parameters. It cannot be properly determined whether these findings stem from the fact that some subjects might be neutral towards microloans, lack such detail knowledge on microloans or that the term “fair” may have subjective and therefore varying definitions.

Table 3: Fairness of microloans according to financial inclusion

%	Fair	Not fair	N/A	Total	% of Total sample
Financially included	47	47	6	100	75
Financially excluded	40	56	4	100	25

Note: Fairness based on three criteria of interest rates, collateral requirements and repayment plans.

When considering financially excluded SMEs a slight majority find microloans to be unfair. This could once again tie into the information asymmetry present between financially excluded and included enterprises. Furthermore, bounded rationality can be a part of the explanation to our overall findings on fairness. SMEs acting within bounded rationality might consider microloans fair or unfair depending on their knowledge of the alternative sources of credit, which in turn informs whether microloans will ultimately act as a means of gaining financial inclusion. As we cannot control for the influence of awareness or rather lack thereof on the data, we cannot definitely answer the question of whether SMEs consider microloans to be fair.

To answer the second part of the third question, “are there any preconceptions surrounding the use of microloans?” (see section 5.2), we will present and analyse some qualitative findings. The marketing executive at CEDA provides a source of qualitative data on this matter. He provides insights on how CEDA’s clients feel about microloans, and what they associate with MFIs such as CEDA. He disclosed that there is a stigma associated with approaching CEDA for loans, and he claimed this was because microloans are seen as subordinate loans from commercial banks and a last resort for entrepreneurs. It is also considered a failure for SMEs to not be able to fund their enterprises on their own. As a result, CEDA’s loans are considered less attractive than commercial bank loans, and many of CEDA’s own clients wish to avoid being associated with the agency. Two interview subjects who had CEDA-loans provided a more nuanced portrayal of the situation, as they appreciated having been granted microloans. These interview subjects were proud of having been given an opportunity to development their enterprises, and commended the existence of such financing options. This paradoxical situation can stem from the fact that our CEDA employee interview subject meets all types of applicants, whereas we only came across entrepreneurs who were willing to discuss their use of CEDA’s services. Furthermore, the presence of a stigma potentially affected whether approached SMEs answered the survey truthfully, and

might potentially have resulted in an unrepresentatively low number of microloan users, including CEDA clients, in our sample.

6.1.4 Are microloans considered desirable to SMEs?

When answering this question, we have performed both descriptive quantitative and qualitative analysis to find that microloans are not considered desirable to SMEs. We find that SMEs prefer bank loans to microloans regardless of which parameter is evaluated, and regardless of whether the respondent is financially included or excluded. Therefore, microloans are not considered desirable to SMEs.

Table 4: Best source of credit according to parameters

%	Bank	Microloan	N/A	Total
Interest rate	67	31	2	100
Repayment Plan	68	30	2	100
Collateral requirements	62	36	2	100

This table breaks down the preferences of SMEs when comparing the terms of banks and MFIs, and displays how the terms affect how many consider using a microloan a desirable means of reaching financial inclusion.

Table 5: Best source of credit according to financial inclusion

%	Bank	Microfinancial lender	N/A	Total
Financially included	68	30	2	100
Financially excluded	64	36	0	100

Note: Based on three criteria of interest rates, collateral requirements and repayment plans.

This table captures how desirability impacts attitudes towards microloans through juxtaposing banks and microloans and asking respondents to declare their preference. Data on the desirability of getting a microloan shows a general trend where around two thirds of respondents prefers bank loans while only about one third prefer microloans on all counts (Tables 4 & 5). This trend is also present in the data on financially excluded respondents (Table 5). Bearing in mind that a majority of financially excluded SMEs are unaware of the concept of microcredits whilst approximately 56 percent (see Table 3) consider them unfair, it is not surprising that the majority of respondents in the same group find microcredit less desirable than bank loans. This data captures SMEs preference when only considering which source of credit they find desirable and shows that SMEs favour bank loans over microloans regardless of whether they are eligible for them or not. We find this result to be rational for SMEs as in terms of security and reliability, formal bank loans can be considered superior to

microloans. As a minority of SMEs found microloans to be desirable, thus making them an undesirable credit source, the results once again indicate that attitudes towards microloans are negative on the whole.

To conclude our overall descriptive findings and discuss the implications of these we find that SMEs have a generally negative attitude towards microloans. When evaluating the four questions, we have to account for the fact that many of the respondents are unaware of what microloans are, or have perceptions rooted in misinformation of this credit source. As previously mentioned, this entails that several findings on for example the fairness of microloans are hard to draw any conclusions from, since the respondents are oftentimes unaware of what a microloan actually is. To some extent awareness thus becomes a prerequisite for SMEs to be able give account for their attitudes in terms of availability, fairness and desirability. For this reason, we cannot unequivocally state that SMEs hold negative attitudes toward MFIs, as many of the respondents are oblivious to the existence of microloans.

6.2 Empirical results and implications for microcredit as a stepping-stone

The findings from the regression analysis concerning our first research question are presented in tables below. Note that due to deficient data in 5 surveys only 98 subjects are included in most models used for the regressions estimating data. A Breusch-Pagan-Godfrey test performed on the OLS regression models was used to test for heteroscedasticity (see Appendix 3). We found heteroscedasticity in eight out of nine specified models and have therefore used White-adjusted robust standard errors in the logit and probit regressions in an attempt to compensate for this.

6.2.1 Regression analysis and marginal effects

In this section we present the regression results from the three models used for estimation, OLS, logit and probit. Probit is our main model but we have chosen to include OLS and logit for comparison, a heteroscedasticity test and a robustness check. For our regressions we have chosen to run nine different models which each add one more variable. The two main variables of interest is the current and previous use of microloans but ultimately we include eleven control variables, which we believe help explain the probability of having a bank loan for SMEs. Before studying the regression results we will give account for our overall expected outcomes of the included variables.

For our first model we include five independent variables. These are enterprise age, respondent age, number of employees, current microloan and previous microloan. We expect to see positive effects on the probability of SMEs having a bank loan for all variables. A high enterprise age as well as a large number of employees may indicate enterprise viability while

seniority in respondent age could imply personal financial stability, which would make subjects more eligible for bank loans. The hypothesis that current and previous use of microloans increase the probability of the SME having a bank loan has been motivated and explained throughout this thesis and will therefore not be further explained in this section.

For the second and third model we add enterprise yearly turnover and respondent personal wealth respectively. We anticipate these variables to have positive coefficients as a high turnover shows financial stability and creditworthiness, while wealth could be beneficial in order to meet the bank's collateral demands. Model number four adds the variable respondent sex, where female was coded 1 and male 0, which we expect to have a small yet positive effect. This is due to the general perception of women, especially in developing countries, as more responsible when handling money. Next we include a variable for self-employment. We believe this variable to have a positive effect on the probability of having a bank loan, as it seems more likely that the owner is granted a bank loan for his/her SME rather than someone employed in the enterprise. In the sixth model a variable for financially included SMEs is added, which is expected to have a positive effect. With the broader definition of financial inclusion in this section this means that the SME is already using financial banking services and is therefore likely to have a bank loan as one of these services.

Model number seven further includes "financial prospects", which is a combined ordinal variable that depends on whether respondents thought their enterprise would survive losing its main customer, and whether they feel the enterprise is reaching its full potential. We believe this variable will have a positive coefficient as it captures financial stability and business viability, which indicates creditworthiness. Next we add a variable for SMEs using informal loans. We expect the use of informal loans to have a negative coefficient. This is motivated by the fact that SMEs using informal loans may not be in need of a second source of credit. Furthermore, informal loans provide no formal credit history, which the banks can use to check the SMEs creditworthiness. Lastly, in model nine we add the variable "primary choice bank" which is coded 1 for the respondent SMEs that has answered they would primarily turn to a bank if ever in need of a loan, and 0 for respondents who would turn to any other source of credit. We expect this variable to have a positive effect, as SMEs who would choose to turn to a bank are also likelier to actually apply for a bank loan. This is due to that they prefer this source of credit over others and plausibly perceive themselves as eligible for a bank loan. This last model, number nine, will be our main model used for analysing the coefficient results as it contains most possible explanatory variables.

Table 6: OLS regression on bank loans

OLS Regression Coefficient Results									
Dependent variable: Bank loan									
MODEL	1	2	3	4	5	6	7	8	9
C	0,09473 (0,113557)	0,000955 (0,117753)	0,006104 (0,125513)	-0,030821 (0,160811)	-0,06355 (0,175616)	-0,140804 (0,197597)	-0,048103 (0,222816)	-0,027445 (0,227355)	-0,181254 (0,239021)
ENTERPRISE AGE	0,004556 (0,006097)	0,00359 (0,006123)	0,003318 (0,006181)	0,003557 (0,006181)	0,00505 (0,006604)	0,00539 (0,006608)	0,005714 (0,006635)	0,005882 (0,006642)	0,003349 (0,006799)
RESPONDENT AGE	-0,001399 (0,003432)	-0,0000761 (0,003599)	-0,000373 (0,004151)	-0,0000862 (0,004241)	-0,001448 (0,004182)	-0,001731 (0,004105)	-0,002794 (0,004399)	-0,003175 (0,004449)	-0,00276 (0,004267)
NUMBER OF EMPLOYEES	0,012574* (0,00674)	0,010673 (0,006925)	0,010624 (0,006945)	0,011065 (0,007064)	0,012884* (0,007413)	0,011747 (0,007473)	0,011284 (0,007737)	0,011196 (0,007726)	0,00878 (0,007938)
CURRENT MICROLOAN	-0,112553 (0,099317)	-0,048952 (0,102824)	-0,052897 (0,100897)	-0,05209 (0,101371)	-0,061995 (0,103137)	-0,064436 (0,102239)	-0,085086 (0,105972)	-0,087557 (0,109)	-0,016486 (0,108354)
PREVIOUS MICROLOAN	0,308293* (0,171839)	0,25677 (0,189333)	0,251583 (0,190153)	0,25407 (0,19105)	0,242655 (0,200583)	0,229877 (0,199856)	0,242663 (0,199449)	0,247678 (0,202106)	0,290463 (0,194919)
YEARLY TURNOVER	0,103E^06 (0,0734E^07)	0,104E^06 (0,0743E^06)	0,111E^06 (0,0761E^06)	0,111E^06 (0,0761E^06)	0,119E^06 (0,0791E^06)	0,123E^06 (0,0781E^06)	0,12E^06 (0,0756E^06)	0,119E^06 (0,076E^06)	0,127E^06* (0,0717E^06)
RESPONDENT WEALTH	0,012247 (0,064148)	0,014901 (0,065323)	0,007615 (0,066325)	-0,007162 (0,067676)	-0,008205 (0,067812)	-0,009369 (0,067978)	-0,009369 (0,067978)	-0,009369 (0,067978)	-0,003409 (0,06308)
RESPONDENT SEX	0,029881 (0,086069)	0,041531 (0,087571)	0,03381 (0,08476)	0,03381 (0,08476)	0,03381 (0,08476)	0,027405 (0,084171)	0,025183 (0,083811)	0,025183 (0,083811)	0,041499 (0,08387)
SELF- EMPLOYED	0,084818 (0,084809)	0,09689 (0,091722)	0,09689 (0,091722)	0,09689 (0,091722)	0,09689 (0,091722)	0,09689 (0,091722)	0,09689 (0,091722)	0,09689 (0,091722)	0,13752 (0,093638)
FINANCIALLY INCLUDED	0,117178 (0,070881)	0,130662* (0,067968)	0,130662* (0,067968)	0,130662* (0,067968)	0,130662* (0,067968)	0,130662* (0,067968)	0,130662* (0,067968)	0,130662* (0,067968)	0,115115* (0,06601)
FINANCIAL PROSPECTS	-0,047802 (0,041611)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,046362 (0,041012)	-0,045932 (0,041162)
INFORMAL LOANS	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,043072 (0,084772)	-0,062414 (0,084958)
PRIMARY CHOICE BANK	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)	0,187962** (0,072959)
SAMPLE SIZE	103	98	98	98	98	98	98	98	98
Prob (Wald F-statistic) : 0,057284									

Note: Significance at different levels are indicated as follows: p-value<0,010 = (***), p-value<0,050 = (**), p-value<0,100 = (*). Robust standard errors in parenthesis.

Table 8: Probit regression on bank loans

Probit Regression Coefficient Results									
Dependent variable: Bank loan									
MODEL	1	2	3	4	5	6	7	8	9
C	-1,375738 ***	-1,90721 ***	-1,893421 ***	-2,191938 **	-2,336789 **	-2,834898 **	-2,357311 *	-2,280018 *	-4,64243 **
	(0,51485)	(0,583095)	(0,600229)	(0,867136)	(0,968135)	(1,136558)	(1,228684)	(1,236739)	(1,96419)
ENTERPRISE	0,018443 (0,023399)	0,012845 (0,026151)	0,012827 (0,02623)	0,010663 (0,027565)	0,020013 (0,030392)	0,016923 (0,031173)	0,02006 (0,031621)	0,021755 (0,031681)	-0,000985 (0,036578)
AGE	-0,004216 (0,015515)	0,002912 (0,017231)	0,001783 (0,019479)	0,004375 (0,020441)	-0,003746 (0,021234)	-0,007012 (0,021256)	-0,013372 (0,022886)	-0,015298 (0,023229)	-0,010485 (0,026075)
NUMBER OF EMPLOYEES	0,050041** (0,02308)	0,04592** (0,023008)	0,046063** (0,02305)	0,050147** (0,024767)	0,058964** (0,027237)	0,051961* (0,026825)	0,049205* (0,027768)	0,047908* (0,026956)	0,030886 (0,029495)
CURRENT MICROLOAN	-0,734426 (0,555519)	-0,427806 (0,601293)	0,463074 (0,611788)	-0,462292 (0,618422)	-0,529936 (0,621619)	-0,441728 (0,601815)	-0,609181 (0,646879)	-0,573572 (0,61374)	0,158566 (0,906739)
PREVIOUS MICROLOAN	1,079007** (0,49135)	0,889389 (0,593283)	0,865763 (0,597564)	0,895707 (0,6073)	0,869165 (0,632847)	0,808261 (0,669578)	0,877002 (0,68978)	0,869382 (0,690216)	1,822599** (0,861083)
YEARLY TURNOVER	0,427E^06* (0,237 E^06)	0,429E^06* (0,239 E^06)	0,486 E^06* (0,26 E^06)	0,486 E^06* (0,279 E^06)	0,521 E^06* (0,279 E^06)	0,57 E^06* (0,302 E^06)	0,549 E^06* (0,307 E^06)	0,549 E^06* (0,307 E^06)	0,714 E^06** (0,297 E^06)
RESPONDENT WEALTH	0,056327 (0,311618)	0,070872 (0,310462)	0,030816 (0,313211)	-0,043328 (0,314388)	-0,043328 (0,305543)	-0,033194 (0,313211)	-0,046178 (0,314053)	-0,124527 (0,314053)	-0,124527 (0,38801)
RESPONDENT SEX	0,219075 (0,438083)	0,285501 (0,457669)	0,230528 (0,457645)	0,145633 (0,455375)	0,145633 (0,457645)	0,145633 (0,455375)	0,123755 (0,450166)	0,123755 (0,450166)	-0,009953 (0,473369)
SELF-EMPLOYED	0,441292 (0,425096)	0,441292 (0,425096)	0,478584 (0,425039)	0,439965 (0,423233)	0,439965 (0,423233)	0,465084 (0,436628)	0,465084 (0,436628)	0,465084 (0,436628)	0,759666* (0,442643)
FINANCIALLY INCLUDED	0,843083* (0,50784)	0,843083* (0,50784)	0,991542** (0,472433)	0,991542** (0,472433)	0,991542** (0,472433)	0,991542** (0,472433)	0,999861** (0,472626)	0,999861** (0,472626)	1,198279** (0,561351)
FINANCIAL PROSPECTS	-0,279477 (0,198082)	-0,279477 (0,198082)	-0,268127 (0,19352)	-0,268127 (0,19352)	-0,268127 (0,19352)	-0,268127 (0,19352)	-0,268127 (0,19352)	-0,268127 (0,19352)	-0,481816** (0,236919)
INFORMAL LOANS	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,183272 (0,407462)	-0,457213 (0,527904)
PRIMARY CHOICE BANK	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)	2,517082* (1,346361)
SAMPLE SIZE	103	98	98	98	98	98	98	98	98
Prob (LR-statistic) : 0,004228									

Note: Significance at different levels are indicated as follows: p-value<0,010 = (***) , p-value<0,050 = (**), p-value<0,100 = (*). Robust standard errors in parenthesis.

The three regressions are varyingly successful in estimating the data. We have chosen to include general significance tests for all models to test the null hypothesis that all coefficients equal zero. Our first regression, OLS, has a probability Wald F-statistic value of approximately 0,057, which is not a significant result. The model may therefore hold no explanatory power, which can be expected from OLS. The logit regression has a LR-statistic probability of 0,005. This is a significant value, which means that logit predicts the values well on a five percent significance level. Lastly, the probit regression models the probability of having a bank loan with a LR-statistic probability of 0,004 when including all coefficients. This is the lowest p-value and entails that the probit regression best estimates our data. Considering the coefficients for the variables relevant to our null hypothesis ($\beta_1 = 0, \beta_2 = 0$) none of the regression estimates the coefficient “current microloan” to have significance and thus we cannot reject part of the null hypothesis, $\beta_2 = 0$. However, the probit regression best estimates “previous microloans” since it gives us a coefficient with a significance level of five percent. This in combination with our motivation for probit being the most suitable estimation to use in our study (see section 5) leads us to base our analysis for the research question “Does the previous or current use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan?” on these regression results. However, we have not found any consistent or robust results on this. In seven out of nine models we have no significant values for the coefficient of the variable previous microloans. We find the same degree of lack of robustness in the logit estimation and even more so in the OLS estimation. Due to the lack in consistency we cannot reject the other part of our null hypothesis, $\beta_1 = 0$. Thus we conclude that neither the current nor the previous use of microloans has a significant robust effect on the probability of getting a bank loan.

Despite the lack of results we will in accordance with our outlined method briefly present the marginal effect for previous microloans. Though this variable lacks robustness, it showed some significance. Using the regression result for the coefficient “previous microloans” that takes a value of 1,82 and the estimated probit function when letting all variables take the sample mean value, we calculate the marginal effect to be 0,72. That is, if we allow all other variables take the sample mean values, the probability of having a bank loan increases by about 72 percent if the subject has used microloans in the past. Within our small sample of 98 enterprises, only 15 percent of respondents have a bank loan and 10 percent have had a microloan in the past. Therefore, we expect our results on this variable to be slightly misleading. In combination with the lack of robustness we will not rely on the marginal effect to be accurate, and we cannot claim to have shown a significant marginal effect of previous use of microloans. Due to these findings, or rather lack thereof, we cannot prove our hypothesis in relation to our theoretical framework on how microloans can serve as

a means of gaining financial inclusion. The fact that current microloans were found to have an insignificant effect on the probability of having a bank loan may be due to the fact that the subjects that have microloans are not in need of any other type of credit such as bank loans. The fact that previous microloans shows no certain effect on the probability of having a bank loan could be due to SMEs that have used microloans and used them well have managed to improve their financial situation and therefore have not been in need of any more credit since. However, it could just as well indicate the opposite, that is that the microloan did not help the SMEs and they either have not improved their financial stability enough to be eligible for a bank loan or they defaulted their microloan and therefore have no proof of creditworthiness. However, we find no support of this latter explanation in our data, as we found that amongst the SMEs that used microloans in our sample close to none of them defaulted on their loans (see Appendix 2). This entails that banks still may be able to rely on the risk assessments conducted by microfinancial institutions. If these institutions can be relied upon as a litmus test of SMEs, banks can use microlenders as a means of screening potential SME borrowers. In this way it is still theoretically possible that microloans provide path from financial exclusion to financial inclusion. Despite these arguments, the lack of results are most likely explained by the unawareness of microloans and slightly negative attitude towards these amongst SMEs as described in section 6.1, which is the most plausible reason for the small number of respondents using microloans.

We will now briefly account for our remaining variables that have been included in the regressions, but do not present their marginal effects. Enterprise age and age of the respondent show no significance effect on the probability of having a bank loan. The lack of effect of respondent age may be due to that some respondents are not the persons in the SMEs who would have applied for such a loan. The next variable is the number of employees. In the probit estimation its coefficient has significance in eight out of nine models. It shows significance in most models from the logit regression as well although at higher values. Altogether the regression results on this variable imply that it may have some positive effect on the probability of getting a bank loan. This is in accordance with our expectations and may be explained by the argument that mostly financially stable enterprise can afford to keep many employees. Moving on to turnover, our findings show that it is one of the few variables with a significant and robust result from the probit regression. However, it should be noted that the magnitude of the coefficient is miniscule at $1,24e^06$ in the full model (number 9). Even if we expected a more significant result it aligns with the theory that financially successful SMEs are more likely to be eligible for a bank loan and therefore have a greater probability of having one. The next variable is wealth, which shows no significance in any of the regressions. We expected this to have a positive effect but the lack of result may be due to a poorly designed variable (this will be explained more thoroughly in section 6.3). The

variable for respondent sex shows no significant effect in any regression or model specification. Once again we expected this coefficient to have a positive effect, that is that it would be more probable that females to hold bank loans than male respondents. The coefficient for self-employed respondents shows no robust results and only significance in one model in the probit estimation. The variable is once again poorly designed and only really shows that it is the owner who has answered the survey. It may however be the manager or someone else who would have applied for a loan and therefore this variable is misleading. Financially included SMEs show positive robust significance in probit and throughout the other estimation models as well. This aligns with our expectations as they due to experience have established contacts within the formal banking sector. It is also plausible that those who have savings accounts hold a financial buffer, which makes them less risky borrowers and indicates that they can afford to pay interest. The variable “financial prospects” shows a negative effect with significance in one of the models, however it does not have robustness. The result on this variable contradicts part of our theoretical framework that says financially stable SMEs are likelier to be formal financially included. However, this variable is a poor instrument to accurately measure financial stability and business prospects of SMEs (see 6.3), which might explain the confusing results. However, good prospects might provide a disincentive to take a bank loan as it could entail that the successful SME is in less need of credit. Informal loans show no effect on the probability of having a bank loan. We expected this variable to have a negative coefficient. However, the lack of results may be due to a small share of SMEs in the sample actually having informal loans. Bank loan as the primary choice of credit has a positive significant effect in probit and OLS, however lacks robustness as these are very differing numbers and it has no significance in the logit estimation. It is hard to interpret the results on this variable as it is only included in the last model and we will therefore not draw any further conclusions from it but not exclude the possibility of a positive effect on the probability of having a bank loan.

6.3 Potential flaws in our research design

When conducting our case study, we became aware of several flaws in the design of our research. Though they do not disqualify or invalidate our findings, we believe that it is useful to consider these issues as a means of improving potential future research on microloans and financial inclusion. The main issue we encountered when conducting our research was the lack of awareness surrounding the concept of microloans. Many of the people and SMEs we approached were either unsure of what characterizes a microloan, or unaware of the existence of such a source of credit. This presented an obstacle as we were initially forced to discredit data on the basis that the respondent did not seem to understand what they were answering through the survey. To remedy the situation, we decided to guide the respondents through the

process by remaining present when they filled out the survey. This way, we could answer questions, provide information on our research topic and avoid misunderstandings.

However, the lack of financial literacy still presented a challenge to our research, and even more so when combined with unclear and varying organisational structures found amongst SMEs. There was often confusion within the surveyed SMEs regarding who was in charge of the finances, as professional and personal roles within these enterprises are blurred more often than not. This meant that respondents sometimes were not sure who should answer the survey as the owner may hold some knowledge about the enterprise's credit but not always up to date financial information on for example turnover. The responsibilities also differ with varying structures within SMEs. Medium-sized enterprises sometimes have an accountant whom holds relevant financial information while small-scale businesses will usually entrust such responsibilities with the owner or manager. At times, this significantly complicated the collection of data as we were often directed to an absent owner who only comes in once a month. Other times we would need to pose the survey to several employees within the same firm to get complete responses, or we would have to make complementary visits to some SMEs for follow-up questions. From this, it follows that our research at times suffered from incomplete or contradictory survey responses. However, these issues might not only be due to a lack of financial literacy or due to confusing structures, but can also be attributed to the presence of cultural stigmas surrounding financial matters. As we predicted in the method, some respondents refused to answer questions on income and turnover for religious or cultural reasons.

There are additional problems with our method of locating and sampling SMEs. Although we have tried to gather a representative and diversified sample of SMEs in the city of Gaborone, a majority of respondents were found in, around or nearby malls, bus stations, squares or plazas. The enterprises located in these areas are predominantly working in the retail sector (selling shoes, clothes, electronics, etc.), performing simpler service professions (hair dressers, manicurists, opticians, electronic repairs, etc.) or selling food (kiosks, food stalls, restaurants, cafés, etc.). Although it may be argued that these are in fact typical sectors for SMEs to operate within, it may provide slightly skewed results considering they mainly constitute firms providing in-store customer services. Furthermore, the firms located inside malls are likely to be quite financially stable, as to be able to afford paying high store rents. Therefore, these firms may not be the typical clientele for microloans nor bank loans. To diversify our sample and better represent several types of SMEs in our sample, LEA assisted us by providing additional respondents. As these enterprises were spread out around Gaborone, we contacted these enterprises over the phone and posed our survey. These firms were operating in service, manufacturing and tourist sectors (such as consultants, caretakers,

engineers, tour agents, etc.). This means that we could not meet these respondents face to face, which potentially prevents full understanding of the survey questions.

Lastly, another prominent issue has been the design of the survey (see Appendix 1). Even though we put great effort into identifying suitable enterprises and adjusting for plausible problems such as cultural stigmas, recall biasness and varying level of financial literacy, there were still unforeseen problems. For example, our survey did not account for that most individuals do not own houses and livestock in Gaborone, but rather their families in their home villages do. Had we known this, we could have used other instruments to capture levels of wealth. Moreover, had we known yearly turnover was not a financial indicator used by most businesses we would rather have asked about their weekly or monthly revenues. Furthermore, had we known most people do not make distinctions between licenced/formal and informal MFIs we could have rephrased our questions to reflect this. The difficulties in designing the survey is also evident when considering what instruments and parameters were used to measure and capture information as well as perceptions on SMEs' credit. The determinant "financial prospects" which is a combined ordinal variable of the enterprise potential and stability is an example of an instrument showing ambiguous results. If respondents have answered they do not feel their SMEs are reaching its full potential it could indicate positive future prospects for a business that is still growing. On the contrary, it could also indicate negative financial prospects for a failed business that used to be going well and is currently not living up to that standard.

7. Recommendations and Final Remarks

7.1 Policy recommendations

During our research, we encountered a number of respondents and interview subjects who approached us with suggestions and complaints surrounding the status quo in the financial system of Botswana. More concretely, they offered insights on how financial inclusion and especially microloans could work even better. Although these suggestions have arisen in the country specific context of Botswana some may very well be applicable to other similar developing countries. One suggestion is a more forceful regulation and implementation of rules for microlenders. However, this can only occur if the rules and regulations succeed on two counts. Firstly, the rules should be stringent and appropriate for the specific conditions in which microlenders operate. Second, an authority such as NBFIRA must enforce these rules. However, if the rules and requirements placed on microlenders are too stringent, it reduces incentives for microlenders to become licensed and hence hinders rather than facilitates financial inclusion. Through stringent legislation, there is also the risk of microlenders passing on increased administrative costs to the customers, whilst also running the risk of raising the demands made on the SMEs seeking microcredits.

Another suggestion is to improve financial literacy in Botswana through a number of avenues such as including it in school curricula, teaching it through public media and by requiring microlenders to ensure that the borrowers fully grasp what they are committing themselves to when taking a loan. Lastly, to counter the problem of information asymmetry surrounding microloans there could be a need for a publicity push conducted by CEDA with the backing of the Botswana government. Such a campaign should act to counter the stigma associated with using microloans, and could also serve as a way of informing SMEs of the viability of microloans as a credit option.

7.2 Summary and conclusion

In this thesis we have set out to investigate the role of microcredits for financial inclusion amongst small- and medium-sized enterprises. Although existing research on the broader topics of microfinance and formal financial inclusion can be found, none specifically studies whether the previous can promote the latter by acting as a stepping-stone for SMEs in need of credit. We have strived to provide a descriptive overview of the attitudes towards microloans in Botswana, as these attitudes affect whether microloans can act as a means of gaining financial inclusion. We have also tried to answer the research question “Does the previous or current use of microcredits amongst small- and medium-sized enterprises increase the probability of having a bank loan” by providing econometric analysis of the issue. Our area of study is currently relevant as there are large regional differences in economic growth, which

makes the finding of sustainable ways to include developing countries a global concern. One way of achieving this has been the promotion of SMEs, as these can act to increase economic growth, provide a stable source of income and increase employment. Ensuring financial access for SMEs and including these financially becomes a crucial component in promoting growth for the developing world. As the efficiency of microloans in providing such inclusion is currently under academic debate, findings on if and how microloans actually work are crucial to the general discourse on developing economics. In theory, there are several reasons to why using microcredits could increase the likeliness of being granted a bank loan. By letting MFIs take the risk of lending to SMEs, previous successful use of microcredits can work as a screening of borrowers for formal banks. If the SMEs use their credits well, they ought to have a better financial standing following from investment and expansion. The remaining problem for SMEs in need of funds is the collateral requirements that banks pose on clients. As MFIs usually have less stringent demands on their clients they ought to be more accessible sources of credit. Hence using microcredits could be a way for enterprises to gain initial financial access, and in the longer run formal financial inclusion.

To test our thesis we collected primary data using a multiple-choice survey posed to SMEs in Gaborone. The data was used both for descriptive and regression analysis. In our descriptive analysis we found that SMEs have a generally negative attitude towards microloans, which can in part be explained by a lack of awareness of what microloans are. These results were in general even more prominent when only considering financially excluded SMEs. The findings of our descriptive analysis are supported by the results of our regressions. We found the probit model to best estimate our data, but we could not reject our null hypothesis. The current use of microcredits shows no significant effect on the probability of having a bank loan and neither does the previous use of microcredit. Calculating the marginal effect for the sample mean, we found that having previously used microloans increased the probability of having a bank loan by 72 percentage units. However, as there was a lack of robustness between our models and regression estimations, we cannot conclusively say that microloans act to further financial inclusion. This is most likely due to lack of respondents using microloan. This in turn may be explained by, our descriptive analysis findings. These findings lead us to believe that attitudes towards microloans prevent them from acting as a stepping-stone to financial inclusion in Gaborone.

These findings can be more widely applicable on developing countries in sub-Saharan Africa, where similar financial conditions and negative attitudes towards microloans can act to prevent economic growth. Since this thesis is a case study, its findings naturally reflect the specific context of the Botswana economy. However, our findings on how attitudes and specifically a lack of awareness prevent microloans acting as a means of financial inclusion hold a broader relevance. To conclude our findings, microcredits do not currently act as a

stepping-stone for SMEs to financial inclusion, but has the potential to do so if SMEs become more aware of their existence and more positively inclined towards using them as a source of credit. Accordingly, we would like to encourage government initiatives directed at informing the public, and specifically SMEs, about microcredits and credit options. We would hope to see continued research on the topic of microcredits and financial inclusion, especially considering the continued lack of conclusive findings within this field.

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Appendix

1. Distributed Survey Questions

1	How old are you?	
2	What sex are you?	
3	What is your current state of employment?	Employed by enterprise / Self-employed
4	Do you own a house?	Yes / No
5	Do you own any livestock?	Yes / No
6	What is your position in the enterprise?	
7	How old is the enterprise?	
8	Do you feel that the enterprise is reaching its full potential?	Yes / No
9	How many employees does the enterprise currently have?	
10	As far as you know, do you feel the enterprise has access to any type of loans?	Yes / No
11	Do you feel that the enterprise has access to financial services in the banking sector? (i.e. bank account, bank loans, etc.)	Yes / No
	→If No:	
12	Why not? (You may choose more than one alternative)	<input type="checkbox"/> Lack of collateral <input type="checkbox"/> Insufficient enterprise documentation <input type="checkbox"/> Inconvenient bank location <input type="checkbox"/> Previous default <input type="checkbox"/> Other (please specify):
13	Does the enterprise currently have a bank loan?	Yes / No
	→If No:	
14	Why not? (You may choose more than one alternative)	<input type="checkbox"/> The bank is not granting a loan <input type="checkbox"/> Not in need of a loan <input type="checkbox"/> Uses other types of credit (such as microloans, money from friends and family, etc.) <input type="checkbox"/> Other (please specify):
15	Has the enterprise taken bank loans in the past?	Yes / No
	→If Yes:	
16	How many loans? (please estimate)	
17	If any, how many of these defaulted? (please estimate)	

18	What is the enterprise's yearly turnover? (please estimate)	
19	Does the enterprise have any informal loans (i.e. not from a bank)?	Yes / No
20	Does the enterprise have any loans from a licenced microfinancial institution?	Yes / No
21	Has the enterprise taken any loans from any licenced microfinancial institutions in the past?	Yes / No
	→If Yes:	
22	How many loans? (please estimate)	
23	If any, how many of these defaulted? (please estimate)	
24	Do you feel these loans are fair in terms of:	<ul style="list-style-type: none"> • Interest rates Yes / No • Repayment plans Yes / No • Collateral requirements Yes / No
25	What is your monthly income? (please estimate)	
26	Has the enterprise taken loans both from a microfinancial institution and a bank (simultaneously or at different times)?	Yes / No
	→If Yes:	
27	Did the enterprise have these loans at the same time?	Yes / No
28	Which loan did the enterprise take first?	Microloan / Bank loan
29	Did having taken one loan first in any way help you in getting the other type of loan?	Yes / No
30	Have the different loans been used for different purposes? No Please specify:	Yes /
31	Which loan do you think is best in terms of:	<ul style="list-style-type: none"> • Interest rates Bank / Microloan • Repayment plans Bank / Microloan • Collateral requirements Bank / Microloan
32	Do you think the enterprise would survive if it for some reason lost its main customer?	Yes / No
33	Does the enterprise have a loan that is not from a bank or a microfinancial institution?	Yes / No
34	If the enterprise needed a loan, where would it try to get one? (Please only pick one alternative)	<input type="checkbox"/> Bank <input type="checkbox"/> Microfinancial institution <input type="checkbox"/> Informal lenders (friends, family, etc.) <input type="checkbox"/> Other (please specify):
35	Can you name three other small-medium sized enterprises in Gaborone who could answer this survey? (To help us collect more research data)	1. 2. 3.

2. Raw Data Finding

Resp- o- n- d- e- n- t	Age	Sex	Emp- - l- o- y- m- e- n- t	Wealth	Enter- - p- r- i- s- e	No. of emp- - l- o- y- e- e- s	Finan- - c- i- a- l pro- s- p- e- c- t- s	Current bank loan	Yearly turn- - o- v- e- r	Inform- - a- l loans	Try bank for loan	Finan- - c- i- a- l- l- y- i- n- c- l- u- d- e- d	Current micro- loan	Past micro- loan
1	34	M	S-E	N H/L	5	4	N P/S	No	450000	No	Yes	No	No	No
2	38	F	S-E	N H/L	10	6	N P/S	Yes	1000000	No	Yes	Yes	No	No
3	40	F	E-E	E H/L	3	4	E P/S	No	500000	Yes	Yes	Yes	No	No
4	38	M	E-E	E H/L	14	5	E P/S	Yes	-	No	Yes	Yes	No	No
5	26	F	E-E	N H/L	7	4	N P/S	No	56000	No	Yes	Yes	No	No
6	22	F	E-E	N H/L	5	6	E P/S	No	1200000	No	Yes	Yes	No	No
7	26	M	E-E	N H/L	1	8	B P/S	No	1800000	No	Yes	Yes	No	No
8	40	F	S-E	B H/L	14	2	N P/S	No	600000	No	No	No	No	No
9	57	M	S-E	N H/L	8	6	N P/S	No	1000000	No	No	Yes	No	No
10	29	M	E-E	N H/L	20	4	B P/S	Yes	2000000	Yes	Yes	Yes	No	No
11	27	F	S-E	E H/L	2	3	N P/S	No	240000	No	Yes	Yes	No	No
12	22	F	E-E	N H/L	1	3	B P/S	No	480000	Yes	Yes	Yes	No	No
13	32	F	E-E	N H/L	1	3	E P/S	No	240000	No	Yes	Yes	No	No
14	40	F	S-E	N H/L	1	2	E P/S	No	240000	No	Yes	Yes	No	No
15	53	F	S-E	E H/L	8	5	E P/S	Yes	450000	No	Yes	Yes	No	No
16	20	F	E-E	N H/L	19	8	E P/S	No	1200000	No	Yes	Yes	No	No
17	36	F	S-E	B H/L	2	2	E P/S	Yes	1000000	No	Yes	Yes	No	No
18	48	F	E-E	E H/L	9	3	N P/S	No	160000	No	Yes	Yes	No	No
19	36	F	S-E	N H/L	12	16	E P/S	Yes	288000	No	Yes	Yes	No	No
20	49	M	S-E	E H/L	9	4	E P/S	Yes	800000	No	No	Yes	No	Yes
21	56	M	S-E	N H/L	14	6	E P/S	No	-	No	No	Yes	No	No
22	24	F	E-E	E H/L	7	8	B P/S	No	310000	No	Yes	Yes	No	No
23	38	M	E-E	N H/L	3	34	N P/S	No	240000	No	Yes	Yes	No	No
24	46	M	S-E	N H/L	2	3	N P/S	No	360000	No	No	No	No	No
25	62	F	S-E	E H/L	15	2	N P/S	No	144000	No	Yes	Yes	No	No
26	40	F	E-E	N H/L	20	2	B P/S	No	78000	No	No	Yes	No	No
27	43	F	S-E	E H/L	10	3	N P/S	No	72000	No	Yes	Yes	No	No
28	22	F	E-E	N H/L	2	1	B P/S	No	78000	No	No	Yes	Yes	No
29	31	F	E-E	N H/L	10	9	E P/S	No	1000000	No	Yes	Yes	No	No
30	47	F	E-E	E H/L	33	3	E P/S	Yes	1403040	No	Yes	Yes	No	Yes
31	35	M	S-E	E H/L	32	13	B P/S	No	-	No	Yes	No	No	No
32	25	F	E-E	N H/L	10	5	N P/S	Yes	3000000	No	Yes	Yes	No	No
33	32	F	E-E	N H/L	5	3	E P/S	No	600000	Yes	Yes	No	No	No
34	62	M	S-E	E H/L	28	6	B P/S	No	1200000	No	Yes	Yes	No	Yes
35	30	M	E-E	N H/L	5	7	E P/S	No	2900000	No	Yes	No	No	No
36	29	F	S-E	E H/L	3	2	E P/S	No	150000	No	No	Yes	No	No
37	43	M	S-E	E H/L	8	3	B P/S	No	354000	No	Yes	Yes	No	No
38	35	F	S-E	N H/L	3	3	E P/S	No	500000	No	Yes	No	No	No
39	34	F	S-E	N H/L	1	2	E P/S	No	200000	No	No	No	No	No
40	22	F	S-E	N H/L	0	1	B P/S	No	7200	No	Yes	Yes	No	No
41	46	M	S-E	E H/L	2	1	E P/S	No	72000	No	Yes	Yes	No	No
42	56	F	S-E	N H/L	5	1	E P/S	No	3120	No	No	No	No	No
43	53	F	S-E	B H/L	5	2	E P/S	No	156000	No	Yes	Yes	No	No
44	36	F	S-E	N H/L	17	2	B P/S	No	14400	No	Yes	No	No	No
45	68	M	S-E	B H/L	23	1	N P/S	No	96000	No	Yes	No	No	No
46	26	M	S-E	N H/L	3	2	N P/S	No	24000	No	Yes	No	No	No
47	35	F	E-E	N H/L	16	2	B P/S	No	432000	No	Yes	Yes	No	No
48	36	M	S-E	B H/L	12	6	N P/S	No	85000	No	No	Yes	No	No
49	24	F	S-E	N H/L	3	1	B P/S	No	10000	No	Yes	Yes	No	No
50	25	M	S-E	N H/L	5	3	E P/S	No	1800000	Yes	Yes	No	No	No
51	30	F	E-E	N H/L	6	4	B P/S	No	25000	No	Yes	Yes	No	No
52	33	F	S-E	B H/L	2	0	B P/S	No	60000	No	No	Yes	No	No
53	29	F	S-E	N H/L	3	1	B P/S	No	180000	Yes	No	Yes	No	No
54	41	F	S-E	N H/L	4	10	N P/S	No	100000	Yes	Yes	Yes	No	No
55	69	M	S-E	E H/L	22	0	N P/S	No	4000	No	Yes	Yes	No	No
56	48	F	S-E	N H/L	9	3	E P/S	No	300000	No	No	Yes	No	No
57	34	F	S-E	E H/L	11	1	N P/S	No	58000	No	No	Yes	Yes	Yes
58	50	F	S-E	B H/L	0	3	E P/S	No	12000	No	No	Yes	Yes	No
59	39	F	S-E	E H/L	8	1	N P/S	No	60000	No	No	Yes	No	No
60	19	F	S-E	N H/L	0	0	B P/S	No	54000	Yes	No	No	No	Yes
61	53	F	S-E	N H/L	2	0	E P/S	Yes	36000	No	Yes	Yes	No	No
62	51	F	S-E	E H/L	3	0	N P/S	No	24000	No	No	Yes	No	No
63	55	F	S-E	E H/L	2	0	N P/S	No	9600	No	No	Yes	No	No
64	38	M	S-E	E H/L	1	0	B P/S	No	6000	No	No	No	No	No
65	47	F	S-E	E H/L	6	2	E P/S	No	60000	No	Yes	No	No	No
66	36	F	S-E	E H/L	5	2	N P/S	No	15000	No	No	No	No	No
67	38	F	S-E	N H/L	22	0	E P/S	No	18000	No	Yes	No	Yes	No
68	21	F	E-E	E H/L	5	7	B P/S	Yes	55000	No	Yes	Yes	No	Yes
69	33	F	S-E	N H/L	1	0	E P/S	No	30000	No	Yes	No	No	No
70	25	F	S-E	N H/L	5	3	B P/S	No	480000	Yes	No	Yes	No	No
71	33	F	S-E	N H/L	1	1	E P/S	No	48000	No	No	No	No	No
72	36	F	S-E	N H/L	2	0	B P/S	No	60000	No	No	Yes	No	No
73	30	M	S-E	E H/L	1	0	B P/S	No	60000	No	Yes	Yes	No	No
74	30	F	S-E	N H/L	1	1	E P/S	No	12000	No	No	Yes	No	No
75	30	F	S-E	N H/L	1	2	E P/S	No	45000	No	Yes	Yes	No	No
76	38	M	S-E	B H/L	8	14	B P/S	No	1700000	No	Yes	Yes	No	No
77	42	M	S-E	N H/L	10	6	E P/S	Yes	1000000	No	Yes	Yes	No	No
78	47	M	S-E	E H/L	10	10	E P/S	No	3000000	No	No	Yes	No	Yes
79	40	M	S-E	E H/L	5	1	E P/S	No	-	No	Yes	Yes	No	No
80	34	M	E-E	E H/L	16	5	B P/S	No	60000	Yes	Yes	Yes	No	No
81	43	M	S-E	E H/L	4	4	E P/S	Yes	1100000	No	Yes	Yes	No	No
82	40	F	S-E	N H/L	4	2	N P/S	No	1800000	No	No	No	No	No
83	45	F	E-E	E H/L	20	10	B P/S	No	360000	No	Yes	Yes	No	No
84	35	M	S-E	B H/L	10	15	E P/S	Yes	1000000	Yes	Yes	Yes	Yes	Yes
85	36	M	S-E	E H/L	7	1	N P/S	No	100000	No	No	Yes	Yes	No
86	46	M	S-E	B H/L	8	8	B P/S	No	1200000	No	No	Yes	No	No
87	31	F	E-E	N H/L	8	6	B P/S	No	1200000	No	Yes	Yes	No	No
88	38	M	E-E	N H/L	4	5	B P/S	No	1000000	No	Yes	Yes	No	No
89	60	M	S-E	B H/L	10	10	N P/S	No	600000	No	No	Yes	Yes	Yes

90	30	F	S-E	N H/L	0	0	N P/S	No	-	No	No	Yes	Yes	No
91	39	F	S-E	N H/L	9	4	E P/S	No	350000	Yes	Yes	Yes	No	No
92	25	F	E-E	N H/L	10	4	B P/S	No	2125000	No	No	No	No	No
93	48	F	E-E	N H/L	5	13	B P/S	No	400000	No	Yes	Yes	No	No
94	31	F	E-E	E H/L	18	3	N P/S	No	600000	Yes	Yes	Yes	No	No
95	35	M	S-E	N H/L	6	7	B P/S	No	2000000	Yes	Yes	Yes	No	No
96	22	F	E-E	N H/L	0	4	E P/S	No	18000	Yes	Yes	No	No	No
97	22	F	E-E	N H/L	1	4	B P/S	No	984696	No	Yes	Yes	No	No
98	27	M	E-E	N H/L	3	11	N P/S	Yes	2000000	No	Yes	No	No	No
99	32	M	E-E	E H/L	22	44	E P/S	Yes	400000	No	Yes	Yes	Yes	No
100	33	F	S-E	E H/L	3	5	E P/S	No	50000	No	Yes	Yes	No	No
101	54	F	S-E	E H/L	9	1	E P/S	No	84000	No	Yes	No	No	No
102	31	M	E-E	N H/L	1	2	E P/S	No	240000	No	Yes	Yes	No	No
103	43	F	E-E	E H/L	18	30	E P/S	No	180000	No	Yes	Yes	Yes	No

Note: Abbreviations as follows, M:Male, F:Female, S-E:Self-Employed, E-E:Employed by Enterprise, N H/L:Neither House/Livestock, E H/L:Either House/Livestock, B H/L:Both House/Livestock, N P/S:Neither Potential/Survival, E P/S:Either Potential/Survival, B P/S:Both Potential/Survival.

3. Breusch-Pagan-Godfrey Test for Heteroscedasticity

Model	1	2	3	4	5	6	7	8	9
Prob. Chi-square	0,1957	0,0015	0,0033	0,0052	0,0028	0,0008	0,0029	0,0044	0,08

Note: p-values for the null-hypothesis of homoskedaticity. I.e. $p < 0,05$ should be interpreted as we can reject the null-hypothesis at a 5% significance level.