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Determinants of Micro and Small Enterprises' Access to Finance

Selamawit Niguse Kebede
Aregawi Ghebremichael Tirfe (Assistant Professor)
Department of Accounting and Finance, Mekelle University, Ethiopia
E-mail: aregawigm@yahoo.com

Nigus Abera(Assistant Professor)
Department of Accounting and Finance, Mekelle University, Ethiopia
E-mail: nassizeab@yahoo.com

Abstract
In developing countries, micro and small enterprises (MSEs) have a dynamic role and serve as engines through which the growth objectives of developing countries can be achieved. The MSE sector has been instrumental in bringing about economic transition by providing goods and services, which are of adequate quality and are reasonably priced, to a large number of people, and by effectively using the skills and talents of a large number of people without requiring high-level training, large sums of capital or sophisticated technology. However access to finance remains to be a major problem hampering MSEs from playing their constructive role in the economy. The main objective of this study was to assess the major determinants of access to finance by using semi structured questionnaire administered to 134 randomly selected MSEs in Asella. Binary logistic regression was used to identify major determinants of access to credit from formal financial institutions and test the hypotheses. The result of the study revealed that age of operator, educational level, and possession of fixed asset, employment size, lending procedure and loan repayment period are significant factors that affect MSEs' access to credit. MSEs run by operators of >40 years of age, that have reached TVET/College and above, which possess fixed asset, with > 6 employees are more likely to access credit from formal financial institutions than MSEs run by operators of 31-35 years of age, with no formal education, do not have fixed asset and with 1-2 employees. In addition, MSEs run by operators who have negative attitude towards lending procedure and loan repayment period of formal financial institutions are less likely to access credit than those which do not. Considering the role MSEs in employment generation, income generation and poverty alleviation, all stakeholders (government and non-governmental institutions) have responsibilities to facilitate sufficient access of finance for MSEs.
Keywords: Access, Credit, Education, Fixed asset, Size, lending procedure.

1. Introduction

It has long been recognized that in developing countries, micro and small enterprises (MSEs) have a dynamic role and serve as engines through which the growth objectives of developing countries can be achieved. MSEs by virtue of their size, capital investment and their capacity to generate greater employment have demonstrated their powerful propellant effect for rapid economic growth in developing countries (ILO, 2008; Lara and Simeon, 2009).

According to ILO (2002) in SSA the contribution of the informal sector in non-agriculture GDP is about 41%. Hence, their efficiency matters in determining overall economic performance and poverty reduction. The informal sector is also a larger source of employment for women than men in developing countries, for example in sub-Saharan Africa 84% of women non-agricultural workers are informally employed compared to 63% of male non-agricultural workers.

Accessing finance is a make-or-break issue for many micro and small enterprises (MSEs) in the developing world. Although, MSEs are major contributors to the gross domestic product (GDP) and employment in economies around the world, their financial needs are underserved, which holds back their growth. Where financing is available, it is usually out of reach because of short payback periods and excessive collateral requirements. Nonbank financing options, such as leasing, are not always available. In many developing economies, certain segments of the population, primarily women, are excluded from business activity, because traditionally they do not own land, which is often the preferred collateral for loans (Sahar, 2010).

In Ethiopia, MSEsSector is the second largest employment-generating sector following agriculture (CSA, 2005). According to CSA (2005) the sectors contributs 3.4% of GDP, 33% of the industrial sector's contribution and 52% of the manufacturing sector's contribution to the GDP of the year 2001. In spite of the enormous importance of the micro, small and medium enterprises (MSME) sector to the national economy with regards to job creation and the alleviation of abject poverty in Ethiopia, the sector is facing financial challenges, which impeded its role in the economy. These challenges are lack of access to credit, insufficient loan size, time delay and collateral (Gebrehiwot and wolday, 2006)

Finance is necessary to help MSEs to set up and expand their operations, build up new products, and invest in new staff or production facilities (World Bank, 2008).Availability of finance determines the capacity of

an enterprise in a number of ways, especially in choice of technology, access to markets, access to essential resources which in turn greatly influence the viability and success of a business. Securing capital for business start-up or business operation is one of the major obstacles of every entrepreneur, particularly those in the MSE sector (Solomon, 2009).Access to financing is recognized as the leading obstacle to small businesses growth in Ethiopia, alike most other developing and under-developed countries. Small businesses, in most cases, manage to start a business with resources from informal sector, but find it extremely difficult to survive and expand without further financial assistance from the institutional lenders (Fetene, 2010). The formal financial institutions in Ethiopia have not been able to meet the credit needs of the MSEs. Since there is high interest rate and collateral requirement, most MSEs have been forced to use the informal institutions for credit. The main sources of startup and expansion finance or funds for most MSEs in Ethiopia are personal savings followed by iqub/idir, family and friends/relatives. Nevertheless, the supply of credit from the informal institutions is often so limited to meet the credit needs of the MSEs (Admasu 2012).

Although significant number of researches in Ethiopia have identified finance as one of the main factors that affect success, performance and growth of MSEs (Admasu, 2012; Brhane, 2011; Fetene, 2010; Gedam, 2010; Haftu,2009;Mulugeta, 2011), there is little empirical evidence on determinants of access to finance in Micro and Small Enterprises. In addition to this, the aforementioned contradiction between Tsehaye (2013) and studies performed in other countries and various inconsistencies in the literature indicate that it is quite important to thoroughly investigate determinants of access to finance in MSEs in Ethiopia. This study therefore aims to assesst he determinants of access to finance in MSEs in Asella by taking into account entrepreneur characteristics, firm level characteristics and institutional characteristics.

2. Research Objectives and Hypothesis

The objective of the study is to assess the determinants of access to finance in MSEs in Asella town of Oromia Regional State of Ethiopia.

Hypothesis

Based on an extensive literature review and an effort to identify determinants of access to finance in Micro and Small Enterprises, the following hypotheses were developed.

Age of operator: Anthony et al (2013) found that there is a positive relationship between age and credit allocation. Entrepreneurs between the ages 35 and 50 years have a greater chance of being offered some amount of loan they require. Sabopetji and Belete (2009) argue that decision to take credit decreases with household age that is, there is negative significant influence of age on access to finance.

Hypothesis 1: MSEs run by older operators tend to have more access to finance than those run by younger ones.

Gender of operator: A survey made on small business found strong univariate evidence of differences in the availability of credit to male- and female-owned firms. More specifically, female-owned firms are significantly more likely to be credit-constrained because they are more likely to be discouraged from applying for credit (Rebel and Hamid, 2009).

Hypothesis 2: Male operated MSEs have more access to finance than female operated MSEs.

Education Level of operator: Educational background of the SME owner–manager is often positively related to the firm's usage of leverage (Coleman, 2007). Entrepreneurs with higher education, more work experience and skills are likely to have superior abilities, achieve higher performance, develop good reputations and become more successful in accessing external finance than novice entrepreneurs with a lower or less human capital (Charles, 2009)

Hypothesis 3: MSE operators with higher education have more access to finance than those with lower or no education.

Possession of Fixed Asset: Anthony et al. (2013) found a positive relationship between collateral security and the amount of loan realized. Odit and Gobardhun (2011) concluded that access to debt finance is affected by the positive association between the debt ratio and the asset structure. Furthermore, they revealed that SMEs with a lower portion of tangible assets in their total assets are more likely to encounter difficulties in applying for outside finance because of the inability to provide the collateral required.

Hypothesis 4: MSEs which possess fixed asset are more likely to have access to finance than those which do not.

Firm Age: Abor and Biekpe (2009) suggest that a firm which has operated for long has reputation that it has built up over the years, which is understood by financial markets. Startup firms are likely to face financing problems and a firm's access to finance depends on its stage of development. In addition, Fatoki and Asah (2011) observed that SMEs established more than five years have a far better chance to be successful in their credit applications compared with SMEs established for less than five years.

Hypothesis 5: MSEs that are older have more access to finance to than MSEs that are young.

Firm Size: Gebru (2009) found that compared to large firms, MSEs face a relative disadvantage to raise finance from formal institutions such as banks because they are considered to have higher financial risk. Cassar (2004) argues that it may be relatively more costly for smaller firms to resolve information asymmetries with debt

providers. Consequently, smaller firms may be offered less debt capital.

Hypothesis 6: MSEs with larger employment size have more access to finance that those with smaller employment size.

Business Sector: In a study performed on Micro and small Enterprises in Zimbabwe, business sector in which the enterprise is operating was found to be a very important factor in accessing loans. Martin and Daniel (2013) also found that the industry with which the business belongs was also found to have an implication on access to finance. In terms of the trade-off hypothesis, businesses with mostly tangible assets (like construction and manufacturing) should borrow more because of the collateral provided by their assets (Jordan et al., 1998).

Hypothesis 7: MSEs engaged in the manufacturing sector have more access to finance than MSEs engaged in the other sectors.

Interest rate: Anthony et al (2013) who studied determinants of credit rationing to the private sector in Ghana found out that interest rate has a negative effect on credit allocation. Higher interest rate discourages micro and small enterprises to deepen their financial access. (Sacerdot, 2005).Stiglitz and Weiss (1981) further show that higher interest rates induce firms to undertake projects with lower probability of success but higher payoffs when they succeed (leading to the problem of moral hazard).

Hypothesis 8: Interest rate of financial institutions negatively affects MSEs' access to finance.

Lending procedures: Green (2003) argued that limited access of small enterprises to formal credit in developing and emerging economies is largely due to the relatively underdeveloped nature of the financial system, the lack of liquidity, and inexperience in small-scale lending in many of these countries. Bank branches outside the capital cities frequently provide only cash and do not have the authority to make loans, leaving small enterprises disproportionally disadvantaged. If commercial banks do extend credit to small firms, it may take up to several months to process applications.

Hypothesis 9: Lending procedures of financial institutions negatively affect MSEs' access to finance.

Loan repayment period: In a study conducted by Richard (2010) on Ugandan SMEs, it was found out that the maximum loan amounts were not adequate enough for the borrowers to meet their due financial needs and MFIs are strict with their collection procedures. Repayment period does influence financial decisions of the SME borrowers and if the credit period does not match the current cash flows, then some important strategies have to be put in place such as delaying the dividend payment, since there is need to pay up the loan.

Hypothesis 10: Loan repayment period of financial institutions negatively affects MSEs' access to finance.

3. Review of Related Literature

The literature reveals that the main major determinants that affect access to finance of MSEs fall under entrepreneur characteristics, firm level characteristics and institutional characteristics.

3.1. Entrepreneur Characteristics

The personal characteristics of the owner-manager make a difference to the firm's ability and likelihood of accessing external finance (Irwin & Scott, 2010; Cassar, 2004). Vos et al., (2007) found that younger owner–managers tend to use more bank overdrafts and loans, credit cards, own savings, and family sources than older owners who appear to be more dependent on retained profits. Mijid (2009) found higher loan denial rates and lower loan application rates among female entrepreneurs. Coleman (2007) also provided evidence of credit discrimination against female entrepreneurs as they were more frequently charged higher interest rates and asked to pledge additional collateral in order for loans to be granted. Explanations given in the literature for differences between men and women entrepreneurs with respect to access to finance can be categorised into discrimination, abilities and preferences, and competition (Harrison & Mason, 2007). A study by Bates (1990) examining the impact of owner–manager's personal characteristics on SME longevity across a wide sample of SMEs owned–managed by men across the US between 1976 and 1986 concluded that owner–managers who had higher levels of education were more likely to retain their firms operating throughout the period of study. He further emphasized that the level of education of entrepreneurs is a major determinant of banking loans amounts offered to SMEs. As for the demand side, Storey (1994) asserts that higher levels of education provide entrepreneurs with greater confidence in dealing with bankers and other funders when applying for loans.

3.2 Firm Level Characteristics

According to Mabhungu et al. (2011), formality, value of assets, business sector, operating period, financial performance and size are all important factors in determining micro and small enterprises' access to finance. Financial institutions are more likely to approve loans to firms that are able to provide collateral and to those firms that have established long term relationships with lenders. Due to the existence of asymmetric information, banks base their lending decisions on the amount of collateral available. Collateral reduces the problem of uncertainty, since the lender can theoretically recover some, or all, of his loan in the event of default. Moreover, the borrowers will find it costly to put valuable collateral if they intend to default with the proceeds of the loan,

because they will lose their collateral. Thus, the collateral requirement can also help to weed out rogues from honest borrowers, leaving only those bona-fide applicants who fully intend to repay the loan. According to Martin and Daniel (2013), firm age was found to play a role in firms' access to finance. More specifically, firms that are older were found to have more access to finance. These results were not unexpected because older firms have the network capital generated overtime and also credit history that can be used by lenders to assess their credit worthiness. In contrast, younger firms may lack the necessary connections on the providers of finance and also the historical performance of the firm may be lacking. Klapper et al. (2002), suggest that younger enterprises (those established less than four years), are more reliant on informal financing and far less on bank financing. This is supported by different authors (Quartey ,2003; Cassar,2004; Storey,1994). From another angle, the extent to which firm size can impact the availability of finance to the firm was measured by Petersen and Rajan (1994). They argued that as firms grow, they develop a greater ability to enlarge the circle of banks from which they can borrow. They then provided evidence that firms dealing with multiple banks and credit institutions are nearly twice as large as those with only one bank. Martin and Daniel (2013) suggested that the reason for the effect of size of the business on the ability to access finance is that larger firms are likely to have collaterals that act as a security in securing finances. The effect of industry classification on the capital structure of Ghanaian SMEs was examined by Abor (2007).The results of the study revealed some differences in the funding preferences of the Ghanaian SMEs across industries. SMEs in the agriculture sector and medical industries rely more on long-term and short-term debt than their counterparts in manufacturing. Abor (2007) further concluded that short-term credit is more used in wholesale and retail trade sectors compared with manufacturing SMEs, whereas construction, hotel and hospitality, and mining industries appear to depend more on long-term finance and less on short-term debt.Abor (2007) found that SMEs in the agricultural sector exhibit the highest capital structure and asset structure or collateral value, while the wholesale and retail trade industry has the lowest debt ratio and asset structure.

3.3 Institutional Characteristics

Credit terms considerably influence financial decisions of SME borrowers. Credit terms are conditions under which credit is granted. The conditions involve interest rate, credit limit, and loan period. Credit terms control the monthly and total credit amount, maximum time allowed for repayment, discount for cash or early payment, and the amount or rate of late payment penalty (Richard, 2010). Rate of interest is a key determinant of access to finance as it influences investment. Whenever interest rate rises up, investment will eventually fall, this is because with higher interest rate the possibility of making profit out of investment is very low, hence high interest rate reduces the marginal efficiency of capital. On the contrary, bank charges interest to investors out of which certain percentage will be paid to savers as deposit rate. At higher deposit rate saving will be attractive and similarly banks will extend more loans, but investors will reject further loans as interest rises (Sacerdot, 2005).Schmidt and Kropp (1987) revealed that the type of financial institution and its policy will often determine the access. What is displayed in form of prescribed minimum loan amounts, complicate application procedures and give restrictions on credit for specific purposes. Where credit duration, terms of payment, required security and the provisions of supplementary services do not fit the needs of the target group, potential borrowers will not apply for credit even where it exists and when they do, they will be denied access. Lapar and Graham (1988) using secondary data for a sample of 344 bank clients and survey data of 65 bank12 respondents in the Philipines, estimated separated models of the intensity13 of bank credit rationing and the probability of credit rationing. The length of the loan maturity period required by the borrower may also influence the bank‟s credit rationing behavior. The longer the loan maturity period, the greater the risk of loan recovery due to the riskier nature of long term investments, hence the higher will be the likelihood that the borrower will be credit rationed

4. Research methodology

This study adapted d explanatory research design. The study was explanatory in that the relationship between variables is correlated with an aim of explaining the integrated influence of explanatory variables on access to finance. Besides, the study was cross-sectional in the sense that all relevant data was collected at a single point in time.

4.1. Data Type and Source

Both primary and secondary sources of data collection were employed in the study. Well-designed and semi-structured questionnaire was utilized. This was completed by operators or managers of the enterprises. Secondary data obtained from Evaluation Report of Asella Town Micro and Small Enterprises Development Agency of 2005 EC and Central Statistical Agency was used to provide additional information where appropriate. Besides, variety of books, published and/or unpublished government documents, reports and newsletters were reviewed to make the study fruitful.

4.2. Target Population and Sampling

According to Asella town Micro and Small Enterprises (MSEs) Development Agency, there are 538 MSEs are still in work. Simple random sampling technique was used in the study..In this study to select sample size, a list of the population of formally registered MSEs between 2004 and 2013 EC by Asella town Micro and Small Enterprises (MSEDAs) Development Agency was used. Of the 1091 enterprises that were established in this period, 538 MSEs are still in work. Given the total population of the study, a simplified scientific formula provided by Yamane (1967), i.e $n = \frac{N}{(1+N(e)^2)}$, 134 MSEs were randomly selected from the total of 538 MSEs.

4.3. Data Collection and Instruments

The main tool for collecting quantitative data was through semi- structured questionnaire. The questionnaire was kept very simple to encourage meaningful participation by the respondents. A pilot study was conducted to refine the methodology and test the questionnaire before administering the final phase. Questionnaires were tested on potential respondents to make the data collecting instruments objective, relevant, suitable to the problem and reliable. Issues raised by respondents were corrected and questionnaires were refined.

4.4 Data Processing and Analysis

The Statistical Package for Social Science (SPSS) version 20 was used to analyze the data obtained from primary sources. Descriptive statistics (mean and standard deviation) were taken from this tool. A binary logit model which best fits the analysis of determinant of access to credit by micro and small enterprises were employed.

Specification of the Logit Model

In this study binary logistic regression model was used to examine the relationship between the independent variables and dependent variable (MSEs access to credit from formal financial institutions). The justification for using binary logistic regression model is its simplicity of calculation and that its probability lies between 0 and 1(two categories). Moreover, its probability approaches zero at a slower rate as the value of explanatory variable gets smaller and smaller, and the probability approaches 1 at a slower and slower rate as the value of the explanatory variable gets larger and larger (Gujarati, 2004).Hosmer and Lemeshew (1989) pointed out that the logistic distribution (logit) has got advantage over the others in the analysis of dichotomous outcome variable in that it is extremely flexible and easily used model from mathematical point of view and results in a meaningful interpretation. Hence, the logistic model has been selected for this study.

According to Gujarati,(2004), the cumulative logistic probability distribution model for this study is econometrically specified as follows:

$$P_i = F(Z_i) = \frac{1}{1+e^{-(\alpha+\sum \beta_i X_i)}} \quad (1)$$

Where: P_i is the probability that an individual has accessed credit given X_i; X_i represents the i^{th} explanatory variables; α & βi are regression parameters to be estimated and e is the base of the natural logarithm

For ease of interpretation of the coefficients, a logistic model could be written in terms of the odds and log of odd. The odds ratio is the ratio of the probability that MSEs would have access to credit (Pi) to the probability that MSEs would not have access to credit (1- Pi). That is,

$$\left(\frac{P_i}{1-P_i}\right) = e^{Z_i} \quad (2)$$

and taking the natural logarithm of equation (2) yields:

$$\ln\left(\frac{P_i}{1-P_i}\right) = Z_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_m X_m \quad (3)$$

If the disturbance term Ui is taken into account, the logit model becomes:

$$Z_i = \alpha + \sum_{i=1}^{m} \beta_i X_i + U_i \quad (4)$$

The dichotomous response variable $Z_i(Y_i)$= 0 or 1 with Y=1 denotes the occurrence of the event of interest while

Y=0 denotes otherwise. The dummy variables, also known as indicators and bound variables, characterize dichotomous responses. In this study, since only two options are available, namely "access to credit" or "no access to credit" a binary model was set up to define Y=1 for situation where MSEs accessed credit and Y=0 for situations where MSEs did not access credit from formal sources.The logistic regression in this study can therefore be specified as:

$$Yi = \alpha + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots \beta_n X_n + U_i$$

Where: X_1…n are explanatory variables; β1..n are the slope coefficients; U_t is error term

The finally employed model has the following form:

$$CREDacc = \alpha + \beta_1 OPRage + \beta_2 OPRgen + \beta_3 OPReduc + \beta_4 ENTass + \beta_5 ENTage + \beta_6 ENTsize + \beta_7 ENTsector + \beta_8 INT + \beta_9 LEND + \beta_{10} LEP + U_i$$

Where
CREDacc= Access to formal credit OPRage= Age of operator
OPRgen= Gender of operator
OPReduc =Educational level of the operator
ENTass=Possession of fixed assets
ENTage= Age of the enterprise
ENTsize= Firm size
ENTsector= Business sector
INT= Interest rate
LEND= Lending procedures
LEP=Inflexible loan repayment period
α = Constant (intercept)
β1 - β10 = Coefficients
Ui= Error term

5. Analysis and Discussions of Results on Determinants of MSEs' Access formal Credit

5.1. Introduction

Prior to running the logistic regression model, both the continuous and discrete explanatory variables were checked for the existence of multi-collinearity problem. In this study, Variance Inflation Factor (VIF) was used to test the presence of multi-collinearity. As a rule of thumb, if the VIF of a variable exceeds 10, there is a multi-collinearity problem. In this study, there is no value greater than 10(*see appendix1*) and therefore no multi-collinearity problem. In addition, correlation matrix was used to illustrate bivariate relationship between two independent/dependent variables. Since generally Multicollinearity is a problem when the correlation result is above 0.80 and below -0.80, but in this study it is between0.453 and -0.324(*seeappendix2*).An important assumption of the classical linear regression model is that the disturbance term Ui appearing in the regression function is homoskedastic. In order to avoid hetroskedasticity problem MSEs access to credit was estimated by using logistic model which solves the problem of heteroskedasticity (*see appendix 3*). The best model selected was based on the Omnibus Tests of model coefficients, the Chi-Square tests, the Cox and Snell R-Sqaure, the Nagelkerke R-Squared values and Hosmer and Lemeshow test.The value of Pearson Chi-square test shows that the overall goodness of fit of the model fits the data at less than 1% level of significance(*see appendix 4*).

The binary logit model was used to identify the major determinants of MSEs' access to formal sources of finance. In the logit model analysis, we emphasize on considering the combined effect of variables between MSEs' that are formal credit users and non-users in the study area. The emphasis therefore, is on analyzing the variables together. By considering the variables simultaneously, we are able to incorporate important information about their relationship.Logistic regression assumes that P(Y=1) is the probability of the event occurring. The dependent variable was therefore coded accordingly. The result of the binary regression variable i.e the probability of being P(Y=1). The variables that were found to be significant at 10 percent or less have been indicated with (***),(**) and (*).Below is a summary of the results of the logistic regression model.

Table 5.1.Result of Logistic regression estimation

Variables	Coefficient	Wald statistics	Significance e level	Odds ratio
Entrepreneur Characteristics				
Entrepreneur's age(reference >40)		-	-	
18-25	-.870	.855	.355	.419
26-30	-.412	.227	.633	.663
31-35	-2.256	4.470	.034**	.105
36-40	-1.006	.969	.325	.366
Gender	.346	.338	.561	1.414
Educational Level(reference TVET/College and above)		-	-	
No formal education	-2.901	4.867	.027**	.055
Primary school	-1.030	1.741	.187	.357
Secondary school	-.665	1.207	.272	.514
Firm level Characteristics				
Possession of fixed asset	.672	2.810	.094***	1.958
Employment Size(reference > 6)		-	-	
1-2	-1.968	7.219	.007*	.140
3-4	-1.138	2.031	.154	.321
5-6	-.841	.995	.319	.431
Sector(reference Manufacturing)		-	-	
Construction	.677	.677	.410	1.968
Urban agriculture	.833	.725	.395	2.301
Service	-.390	.219	.640	.677
Trade	-.435	.275	.600	.647
Institutional characteristics				
Interest rate	-.223	.170	.680	.800
Lending procedure	-1.454	6.128	.013**	.234
Loan repayment period	-.734	3.095	.079***	.480

Source: Own survey data, 2014
* Indicates1 percent level of significance** Indicates 5 percent level of significance
*** Indicates 10 percent level of significance

5.2. Interpretation of the Result of the Model

According to survey result, the variable possession of fixed asset has a positive and statistically significant effect on MSEs access to credit from formal financial institutions at 10% level of significance. With an odds ratio of 1.958, MSEs which have fixed asset are 1.958 times more likely to access credit from formal financial institutions than MSEs which do not. This result is consistent with previous studies by (Anthony et al., 2013; Mabhungu et al., 2011; Odit and Gobardhun 2011 and Wu et al., 2008) and is contrary to a study by (Tsehaye, 2013). Financial institutions are more likely to approve loans to firms that are able to provide collateral. Due to the existence of asymmetric information, formal financial institutions base their lending decisions on the amount of fixed asset available. Collateral acts as a screening device and reduces the risk of lending for financial institutions. By pledging his assets, a borrower signals the quality of his project and his intention to repay. In the case of default, collateral serves to put the lender into a privileged position with regard to other creditors. Small firms are disadvantaged in this regard, due to the fact that they lack collateral security and also they lack a proven credit track record. Therefore, start-up firms with new innovative products may be constrained access to finance due to the fact that they may fail to furnish collateral security and also due to information asymmetries, financial institutions may fail to see the profitability and viability of the proposals (Green, 2003).

The variable lending procedure has a negative and statistically significant relationship with MSEs' access to credit from formal financial institutions at 5% level of significance. With an odds ratio of 0.234, MSE operators who have a negative attitude about lending procedure are 0.234 times less likely to access credit from

formal financial institutions than those who do not. This result is consistent with a study by Green (2003). To get formal loans entrepreneurs are expected to pass through different processes, which is time-taking, cumbersome and sometimes difficult to understand. Rather they prefer to take loan from the informal credit institutions for the sake of ease even if it charges higher interest rates. Schmidt and Kropp (1987) pointed out that in most cases the access problem especially among formal financial institutions, is often created because lending policies. When terms of payment, required security and the provision of supplementary services do not fit the needs of the target group, potential borrowers will not apply for credit even where it exists and when they do, they will be denied access (Schmidt and Kropp, 1987).

The variable loan repayment period has a negative and statistically significant relationship with MSEs' access to credit from formal financial institutions at 10% level of significance. An odds ratio of 0.480 indicates MSEs with negative attitude about loan repayment period are 0.480 times less likely to access credit from formal financial institutions than those who do not. It means that opinion about loan repayment period is not majorly affecting the probability of MSEs Operators formal financial institutions. This result is consistent with previous studies by (Bhende 2003 and Wenner 2000).Formal credit institutions have rules and regulations that limit the time at which the borrower should repay the loan. If the respondents fail to repay on time they will be sent to the court or their property may be confiscated. Due to this reason individuals fear taking loans from formal credit sources and are discouraged from participating in credit market (Bhende, 2003 and Wenner, 2000).

The variable entrepreneur's age has a positive and statistically significant effect on MSE's access to credit from formal financial institutions at 5% level of significance. Taking Entrepreneur's age of >40 as a reference, we can see that the odds ratio for entrepreneurs between the age of 31-35 is 0.105. This indicates that entrepreneurs between the ages of 31-35 are 0 .105times less likely to access credit from formal financial institutions than those with age of >40. This result is consistent with previous study of Anthony et al (2013) but contrary to the study of Sabopetji and Belete (2009).The personal financing preferences of entrepreneurs appear to change according to age and the age of the entrepreneur is a significant determinant of the risk of borrowing. This implies thatas the age of anentrepreneur increases, so does his business experience, practical, wisdom and his incomegenerating capacity (Swain, 2001). In addition, due to capability of the olderentrepreneurs to accumulate assets which are used as collaterals, formal financial institutions perceivethem as creditworthy. As a result, they are more likely to access credit from formal financial institutions than theyounger entrepreneurs.

Educational level of the MSE operators or managershas a positiveand statistically significant effect on MSEs' access to credit from formal financial institutions at 5% level of significance. Taking higher level of education as a reference (TVET/College and above) we can see that the odds ratios for no formal education is 0.055. This indicates that compared to MSE operators or mangers who have attended TVET/College and above, those with no formal education are 0.055 times less likely to get credit from formal financial institutions at the given level of significance. This result is consistent with previous studies of (Omboi and Priscilla,2011; Coleman, 2007; Charles, 2009) but contrary to (Tsehaye, 2013).Irwin and Scott(2010) also assert that firstly, more educated entrepreneurs have the ability to present positive financial information and strong business plans and they have the ability to maintain a better relationship with financial institutions compared to less educated entrepreneurs. Secondly, the educated entrepreneurs have the skills to manage the other functions of the business such as finance, marketing, human resources and these skills results to high performance of the business which helps those firms to access finance without any difficulty. The third reason stems from the supply side, where the bankers value higher education level of the owner/manager in the loan approval process as an important criterion (Irwin and Scott, 2010).We can therefore say that Level of education is a major factor that affects MSEs' access to credit from formal financial institutions. This probably is either because a higher education means that entrepreneurs are more articulate and more likely therefore to persuade the formal financial institutions that they have a viable proposition or because financial institutions value entrepreneurs with higher education.

Employment size is another factor that has a positive and significant effect on MSEs' access to credit from formal financial institutions at 1% level of significance. Taking MSEs with employment size of >6 as a reference, the odds ratio for MSEs with employment size of 1-2 is 0.140. This means that compared to MSEs with >6 employees, MSEs with 1-2 employees are 0.140 times less likely to access credit from formal financial institutions. This result is consistent with previous studies of (Cassar, 2004; Gebru, 2009; Honhyan, 2009).A World Bank survey confirms that large firms everywhere generally have more access to bank credit than small firms (Cull et al., 2005). Formal sector credit is out of reach for smaller enterprises and compared to large firms, smaller firms face a relative disadvantage to raise finance from formal institutions such as banks because they are considered to have higher financial risk (Gebru, 2009). Small firms face with information opacity such as being unable to provide financial information. When the firm is small, most of the time it is owned and operated by the entrepreneur himself and there is no such legal requirement to regularly report financial information and many firms do not maintain audited financial accounts(Storey, 1994).

According to the survey, the variable Gender had no significant effect on access to credit from formal financial institutions. This implies that formal financial institutions do not set a difference in lending to MSE

operators by gender and females are not different from males in accessing credit from formal financial institutions. Firmage did not have significant effect on firm's access to credit with mean age of 3.23 years for those with no access and mean age of 3.63 years for those with access. This implies that contrary to other studies, operating period or age of the enterprise does not create a difference with respect to access to credit from formal financial institutions. Although there is a positive relationship between sector and access to credit, there is no statistically significant difference in access to credit from formal financial institutions between MSEs engaged in manufacturing sector and other sectors. This implies that financial institutions do not discriminate between sectors when giving loans. Besides, since the overall percentage of MSEs with fixed asset is low, the presence of tangible assets which is more often associated with the manufacturing sector in effect does not contribute to better access to credit of the manufacturing sector. Interest rate did not have significant effect on access to credit from formal financial institutions. The explanation could be that since the maximum amount of interest rate charged by the main microfinance institution in Asella 'WALQO' is 10% and because there are MSEs which previously received credit without interest rate; it is not perceived as a barrier for access to credit.

6. Conclusion and Recommendation

6.1. Conclusion

Access to finance is one of the key obstacles of MSEs not only when starting the business project but also when operating. Identifying the major determinants of access to finance is therefore quite crucial. The results of the binary logistics model indicate thatMSEs run by entrepreneurs above the age 40 years are 9.52 times more likely to access credit from formal financial institutions than those between the age of 31-35 years. The probability of access to credit from formal financial institutions also increased as the level of education increased with entrepreneurs who have reached TVET/College being 18.18 times more likely to access credit from formal financial institutions than those with no formal education.MSEs who had fixed asset were 1.958 times more likely to access credit from formal financial institutions than those who did not. MSEs with higher employment size were also more likely to access credit from formal financial institutions with MSEs having more than 6 employees 7.14 times more likely to access credit from formal financial institutions compared to MSEs that have 1-2 employees.

The attitude of MSE operators or managers towards lending procedures and loan repayment periods were also found to significantly affect their decision to apply for loan from formal financial institutions. MSE operators or managers with negative attitude about lending procedures and loan repayment period of formal financial institutions were 0.234 and 0.48 times less likely to access credit from formal financial institutions respectively than those who did not.

Taking the findings, the study concludes that the major source of startup finance and also working capital is own savings. The major source of credit for startup on the other hand is family and friends followed by microfinance and 'equb'. The major source of credit for working capital is also informal financial institutions. Age of the entrepreneur, educational level of the entrepreneur, possession of fixed asset, employment size of MSEs, perceptions about lending procedure and loan repayment period had statistically significant effects on access to credit from formal financial institutions. In contrast gender of the entrepreneur, firm age, sector and perception about interest rate had no effect on MSEs' access to credit from formal financial institutions.

6.2 Recommendation

There are various factors that affect access to finance of MSEs. Recognizing their heterogeneity and devising policies and support programmes to alleviate these problems is quite important. Appropriate understanding of these factors is therefore important in order to solve financial needs of MSEs and help them prosper and achieve their objectives in creating employment and alleviating poverty. It will also help the government and nongovernmental organizations to formulate policies and strategiesthat work towards meeting the financial needs of MSEs. On the basis of the findings and conclusions reached, the following recommendations have been forwarded.

The requirement for collateral is hampering many MSEs from taking loans and financing their business to promote growth and diversification of their enterprises. Considering that most operators in the MSEs sector do not have fixed asset, it is quite important to seek alternative means of guarantees such as strengthening the practice of using salaries of employed people as a guarantee.Lending procedure of financial institutions is one of the major factors that affect decision of MSE operators and owner managers to apply for loan. The government in collaboration with financial institutions should therefore work to solve this problem and ease lending procedure.Loan repayment period of financial institutions is also another factor hampering access to credit from formal financial institutions. Efforts should therefore be extended by formal financial institutions to extend loan repayment periods.

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Appendixes

Appendix 1: Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Age of the owner/operator	.846	1.147
	Gender of the owner/operator	.773	1.310
	Educational Level of the owner/operator	.899	1.094
	Age of MSE	.795	1.211
	Employement Size of MSE	.700	1.451
	Sector of MSE	.596	1.851
	Possesion of Fixed Asset	.690	1.342
	Interest rate	.835	1.187
	Duration of loan repayment	.897	1.150
	Lending procedure	.833	1.201

Appendix 2: Correlation matrix

Coefficient Correlations[a]

Model	LEND	OPRage	LEP	OPReduc	ENTsize	ENTage	OPRgen	INT	ENTass	ENTsec
LEND	1.000									
OPRage	-.056	1.000								
LEP	-.096	-.064	1.000							
OPReduc	.062	.155	.033	1.000						
ENTsize	-.019	-.148	-.008	.013	1.000					
ENTage	-.067	-.066	.006	-.128	-.041	1.000				
OPRgen	.134	.156	-.141	-.019	.049	.062	1.000			
INT	-.240	-.020	.074	.084	-.065	.125	-.164	1.000		
ENTass	.127	-.255	.191	-.137	-.114	-.318	-.171	.087	1.000	
ENTsector	.080	-.122	.169	.120	.453	-.096	-.324	.140	-.020	1.000

Appendix 3

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	40.357	20	.005
	Block	40.357	20	.005
	Model	40.357	20	.005

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	119.453[a]	.260	.373

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	17.535	8	.025

Appendix 3

```
DATASET NAME DataSet1 WINDOW=FRONT.
LOGISTIC REGRESSION VARIABLES CREDaccess
  /METHOD=ENTER OPRagecatOPRgenOPReducENTageENTsizeENTsectorENTasset INT LEND LEP
  /CLASSPLOT
  /PRINT=GOODFIT CORR CI(95)
  /CRITERIA=PIN(0.05) POUT(0.10) ITERATE(20) CUT(0.5).
```

Variables in the Equation

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
							Lower	Upper
OPRagecat			5.572	4	.233			
OPRagecat(1)	-.870	.941	.855	1	.355	.419	.066	2.649
OPRagecat(2)	-.412	.863	.227	1	.633	.663	.122	3.597
OPRagecat(3)	-2.256	1.067	4.470	1	.034	.105	.013	.848
OPRagecat(4)	-1.006	1.022	.969	1	.325	.366	.049	2.710
OPRgen	.346	.596	.338	1	.561	1.414	.439	4.550
OPReduc			5.727	3	.126			
OPReduc(1)	-2.901	1.315	4.867	1	.027	.055	.004	.723
OPReduc(2)	-1.030	.781	1.741	1	.187	.357	.077	1.649
OPReduc(3)	-.665	.605	1.207	1	.272	.514	.157	1.685
ENTage	.000	.120	.000	1	.997	1.000	.789	1.266
ENTsize			7.422	3	.060			
ENTsize(1)	-1.968	.732	7.219	1	.007	.140	.033	.587
ENTsize(2)	-1.138	.798	2.031	1	.154	.321	.067	1.533
ENTsize(3)	-.841	.843	.995	1	.319	.431	.083	2.252
ENTsector			2.867	4	.580			
ENTsector(1)	.677	.822	.677	1	.410	1.968	.393	9.864
ENTsector(2)	.833	.979	.725	1	.395	2.301	.338	15.665
ENTsector(3)	-.390	.835	.219	1	.640	.677	.132	3.477
ENTsector(4)	-.435	.829	.275	1	.600	.647	.128	3.286
ENTasset	.672	.401	2.810	1	.094	1.958	.892	4.296
INT	-.223	.540	.170	1	.680	.800	.277	2.307
LEND	-1.454	.587	6.128	1	.013	.234	.074	.739
LEP	-.734	.626	3.095	1	.079	.480	.212	1.087
Constant	1.988	1.451	1.876	1	.171	7.297		

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