# Accessibility of Credit and Performance of Micro, Small and Medium Enterprises in Nandi County, Kenya.

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## Abstract

Micro, Small, and Medium Enterprises (MSMEs) are pivotal drivers of Kenya's macroeconomic objectives, playing a critical role in accelerating economic growth, generating substantial employment opportunities, and sustaining livelihoods across the nation. In response, the government has continually implemented robust policy interventions designed to create an enabling environment where MSMEs can thrive and contribute even more effectively to Kenya's socio-economic development. Despite the numerous intervention initiatives, the performance of the MSME sector has been steadily declining. The persistent lack of operating funds remains a major obstacle, stifling business growth, innovation, and long-term sustainability. This study's objective is to find out the determinants of accessing credit and its effects on the performance of MSMEs in Nandi County. The study uses primary data collected by interviewing 370 individuals who own MSMEs. The MSME owners were selected through a stratified sampling technique according to their type and a structured questionnaire administered. Descriptive statistics and probit regression model were used to investigate various determinants of accessing credit and to investigate the effects of credit accessibility on performance of MSMEs.The study found that gender, tertiary education, perception to credit and registration of business are significant determinants of credit access among MSMEs. Further findings indicate that gender, tertiary education, perception to credit, transport cost, size of the business and distance from the business premise significantly affects the performance of MSMEs.The study concludes that strengthening education and promoting gender equity are crucial to improving credit access for MSMEs, which in turn will significantly boost their performance and long-term success.

Keywords: Performance, Micro Small and Medium Enterprises, Accessibility, Credit

## Introduction

Micro Small and Medium Enterprises (MSMEs) serve as a catalyst for distribution of wealth and development of any nation (Verma, 2019). They lead to economic development through creation of employment, increasing competition, fostering innovation and provision of goods and services (KNBS, 2016). MSMEs contribute to development goals by creation of jobs, innovation and growth of the economy,

improving social conditions, as well as addressing social and environmental challenges (United Nations, 2018). MSMEs have a potential impact on achieving many of macro-economic goals despite their size (International Trade Corporation, 2019).

Globally, they are demonstrated to contribute to a large share of the GDP (Muriithi, 2017) and they account for about 90 percent of all trade worldwide (World Bank, 2018). The influence of MSMEs to the economy is greater in developing economies, with 40 percent of GDP contributed by formal microenterprises (Linet.al, 2022).

Regionally, MSMEs are crucial in reducing unemployment as well as actualizing the Sustainable Development Goals (SDG) (Taiwo, Hakan & Savas 2022). MSMEs are also a remedy for challenges facing Africa such as inequality and unemployment (Devine & Kiggundu, 2016).

It is noted that in Kenya promoting performance amongst MSME traders is an important and an active strategy for achievement of macroeconomic goals (Kawira et. al, 2019). MSMEs are a major source of national income, they improve the nation's competitiveness, as well as promoting economic development leading to resilience and flexibility of Kenyan economy (Kawira et al,2019), which in turn promotes economic growth. MSMEs comprise 93% of all employed people in Kenya's economy, over 90% of private sector businesses, and 24% of the country's gross domestic product (Financial Sector Deepening, 2021). MSMEs produced about 768,000 new employment in 2019 out of the 846,000 thousand total jobs created. These made up around 90 percent of the newly created positions. (KNBS, 2020).

Despite the benefits that MSMEs bring, accessing finances by MSMEs have long been a long-standing global concern. For instance, MSMEs contribute 60 percent of China's GDP, but they only receive less than 30 percent of its total formal financing (Lin et al., 2022). While in Africa it is noted, accessing finance for developing entrepreneurship is still an ongoing challenge to MSMEs (Beck et.al, 2014; Atiase et.al, 2017). Poor accessibility to finance is the main reason for shut down of MSMEs in Uganda (Nagler et.al , 2016) as well as it being a great challenge to establishing MSMEs in Lesotho (Khoase & Govender,2013). In Tanzania, only 30 percent of the MSMEs have access to finances (Ishengoma, 2018.) In Kenya, MSMEs experience innumerable challenges together with inconsistent cash flows arising from high cost of doing business which diminishes their profitability and limited market linkages which limit their ability to grow their businesses (FinAccess, 2022). Onyango, 2022 notes that 45.1 percent of the MSMEs have never accessed credit in Migori County. Moreover, performance of MSMEs in Machakos County is hampered by inaccessibility to credit. (Munguti &Wamugo, 2020). According to an analysis of World Bank Enterprise Survey data from 2019, about 68% of Kenyan MSMEs cite financial inaccessibility as a concern. The International Finance Corporation (IFC) estimates that, or 40% of formal MSMEs in developing countries, have an unmet financing need of US\$5.2 trillion every year, which is equivalent to 1.4 times the current level of the global MSME lending.(World Bank,2020)

This paper notes that performance of MSMEs is imperative to economic development in Kenya.Vision 2030, which is the recent Kenyan development strategy acknowledges the MSME sector as one of the major drivers of the envisioned GDP growth rate of 10% annually (Kenya Vision 2030 Secretariat,2007). It is against this background that the paper sought to determine the determinants of credit access and the effect of credit accessibility on the performance of MSMEs in Nandi County,Kenya. This paper is of significance as it will provide the policy makers with relevant information on the accessibility of credit by small businesses. It will also inform the supply side of credit may have a deeper comprehension of the current need in regards to credit.

**Literature Review**

Jaradat et al. 2018 carried out a study on impact of financial accessibility on performance of MSMEs in Malaysia. A sample of 291 Jordan MSMEs were picked, and data collected through questionnaire method. Structural Equation Model was adopted for analysis. Performance was measured by productivity of an enterprise. It found out that financial accessibility has a negative influence on the performance of an MSMEs. The main variables of the study were financial accessibility and performance. In relation to the current study, the primary goal of the study is also to determine the result of financial accessibility on performance of MSMEs in Malaysia. The study was carried out in Malaysia.

Alumasa and Muathe (2020), carried out a study on credit and performance; Experience and lessons from Micro and Small Enterprises in Kenya. It sought to find out the effect of accessibility and cost of credit on the performance of micro and small enterprises. The research adopted explanatory research design with a target population of the research being the MSMEs in Nairobi City County, Kenya.Ordinary Least Squares (OLS) approach was used. The study was carried out in 5 market towns spread across the city. The study found out that accessibility of credit has a positive significant effect on performance of MSMEs. The current study adopts accessibility of credit as one of the explanatory variables. However, the current study differs in its scope.

Mwangi (2020) examined on effect of training and credit on performance of Micro, Small & Medium Enterprises in Nakuru City County, Kenya. It aimed at determining effect of availability of credit on performance of MSMEs in Nakuru County. Ordinary Least Squares (OLS) was used to find out the relationship between explanatory variables and dependent variables. Performance was measured using profitability. It was found that accessing credit had a significant consequence on performance of an MSME. The main variables of study were; access to credit, entrepreneurial training and performance of MSMEs. The study relates to the current study in use of the same variables; access to credit and performance. However, the study was confined to Nakuru County.

Kidali (2020) carried out a study on access to credit and performance of MSMEs in Kenya. The main objective of the study was to examine the effect of accessing credit on the growth of MSMEs. The main variables were; average labor productivity, performance of MSMEs and access to credit. Cross sectional data from KNBS 2016 MSMEs survey data

was used, with a population of 50,043 enterprises and OLS technique was used for analysis. The study discovered that credit positively influences performance of an enterprise in Kenya. The study also found that MSMEs experience a low transition rate to SMEs due to slow growth justifying the reason for the study of MSMEs instead of SMEs. It is useful to the current study as it justifies the slow growth in MSMEs compared to SMEs. Whilst the study used labor productivity to measure growth which is a pointer of performance, the current study uses profit to measure performance.

Materials and Methods

Assuming there are two choices to be made, whether to access or not access credit an individual chooses according to the utility obtained. If an alternative is chosen, then utility derived from is greater than for the other choice. A denotes choice of taking credit and B denotes choice not to take formal credit. Taking that the error term of the utility function is independent across both choices, then alternative A is chosen if:

$$K_A (X_{iA};\beta)+ \varepsilon_{iA} > K_B (X_{iB}; \beta)+\varepsilon_{iB} \qquad (3.6)$$

Where; $K_j$ is the deterministic component of the utility estimated; j= either choice A or B and $\varepsilon_i$ is the error term and $\beta$ represents the estimated coefficients of the explanatory variable. Equation 3.5 below gives the net utility.

The net utility then becomes;

$$J(x_i; \beta)= K_A (X_{iA}; \beta)– K_B (X_{iB}; \beta) \qquad (3.7)$$

Equation 3.5 is reduced to;

$$V (x_i; \beta) + \mu > 0 \qquad (3.8)$$

The above equation is finally transformed using an underlying latent variable as follows;

$$Y^* = V (x_i; \beta)+ \mu \qquad (3.9)$$

Y=1 if $Y^*>0$ implying that utility obtained from obtaining credit is more than utility gotten from not, hence a trader chooses to utilize credit.

Y=0 if $Y^*<0$ denoting non-accessibility. Where; $Y^*$ is the unobservable latent variable that identifies an individual i, in choosing an alternative $(x_i; \beta)$ is the observable functional index as a result of choosing choice A or B, and $\mu$ is the unobservable component arising from omission of other variables. Y=1 is accessibility of credit and Y=0 is not accessing credit.

Probability that a trader choose to acquire or not is thus given as;

$$P(Y=1|X) =P(U_A>U_B) =P(Y^*>0|X) \qquad (3.10)$$

X being a set of explanatory variables. The first objective is aided by the modification of equation (3.9). Credit accessibility was determined as a function of several factors, including an individual's view of their ability to acquire credit as well as their age, income, gender, and marital status. (Musavi (2018), Mwangi (2020) and Alumasa &Muathe (2020)). The functional relationship is expressed as:

$$ACC=f (AGE,EDUC,GDR,MS,PERC,LCS) \qquad (3.11)$$

Where, ACC is choice to access credit, GDR is gender, AGE is the age of an individual, EDUC is education level, MS is the marital status, PERC is the perception one has on taking a loan and LCS is whether an MSME is licensed or not. Equation (3.11) can further be expressed in its binary form as:

$$P(Y=1|X)=(\beta_0+\beta_1AGE+\beta_2EDUC+\beta_3GDR+\beta_4MS+\beta_5PERC+\beta^6 LCS+\varepsilon_i \qquad (3.12)$$

$P(Y=1|X)$; the probability that credit were utilized; $\beta_0,\beta_1...,\beta_5$ are the parameters of the model to be estimated and $\varepsilon_i$ is the model's error term.

Equation 3.12 can further be modeled as binary choice model as shown below:

$$P(ACC=1│X)=\{P(\beta_0+\beta_1 AGE+\beta_2 EDUC+\beta_3 GDR+\beta_4 MS+\beta_5 PERC+\beta_6 LCS +\varepsilon_i \} \qquad (3.13)$$

Maximum Likelihood Estimation method was used to estimate equation 3.11 and the predicted probabilities used to estimate objective two.

$P(Y=1│X)$; the probability that credit is accessed, $\beta_0$ to $\beta_{10}$ are the parameters of the model to be estimated and $\varepsilon_i$ is the model's error term.

To achieve the second objective, to find out the effect of accessibility on performance of credit, probit maximization model was used. Equation (3.2) was further illustrated as:

$$\pi_i = \beta_0 +\Sigma_{(i=1)}^{(9)} \beta_i \Omega_{ji}+ \varepsilon_i \qquad (3.14)$$

$\pi_i$=Profitability for an ith MSME

$\Omega_{ji}$=jth observed characteristic of the ith MSME. $\Omega_{ji}$ is a vector of the control variables and the variables of interest.

$\varepsilon_i$= Measurement of the error term of the ith MSME.

The specific equation that is estimated from the specified model is:

$$\pi =f(AGE,EDUC,GDR,MS,PERC,EXP,DST,CST,SZ,PRD) \qquad (3.15).$$

The classical linear model is further be expressed as:

$$\pi=\beta_0+\beta_1 AGE+\beta_2 EDUC +\beta_3 GDR+\beta_4 MS+\beta_5 PERC+\beta_6 EXP+\beta_7 SZ+\beta_8 DST+\beta_9 CST+\beta_{10} SZ+ \beta_{11} PRD+\varepsilon_i \qquad (3.16)$$

Ordinary Least Regression method was used to find out the effect of credit accessibility on performance of credit.

Performance is a continuous variable measured by income; $\beta_0$=constant; $\beta_1$-$\beta_{10}$=Regression Coefficients; AGE is ones age, EDUC is education level, GDR is gender ,MS is the marital status, PERC is the perception one has on taking a loan, EXP is the number of years in business, DST is the distance from the business premise to a financial institution , CST is the transport cost incurred by a business owner to the financial institution, SZ is the size of a business, and PRD is the predicted probabilities of credit accessibility equation.

The table below shows definition of variables and its measurements.

Table 3.1 Study variables for determinants of accessibility and effects of credit accessibility on performance of MSMEs

The study's population consisted of MSME entrepreneurs residing Nandi Hills sub-county in Nandi County, Kenya. Stratified random sampling was used to obtain the required samples. MSMEs was classified into different strata according to the type of MSMEs. The target population comprises of representation of various industries including salons, mechanics, groceries, milk vendors, Jua kali and boutiques. Questionnaires that aligned with the research question was adopted for data collection.The questionnaires were administered through interviews to allow for further probing. Descriptive statistics as well as inferential statistics were used

for analysis. Test for endogeneity, heteroscedasticity, multicollinearity, linearity and normality were carried out to avoid any form of biasness in estimating the relationship between variables in the study.

## Results &Discussion

### Descriptive Statistics

The following table shows the individual characteristics of the respondents in the form of gender, marriage, level of education and ownership of land.

Table 4.1 Descriptive Finding of Individual Characteristics

Based on the finding of the study 50.5% of the respondents were male while 49.5% of the respondents are female. Thus, the distribution of gender was evenly and none was dominant since all have equal participation in the industry as per data.

The finding of the study revealed that 52.6% of the respondents are married while 47.4% of the respondents are not married. This imply that the majority of the respondents are married and thus formed part and parcel of their livelihoods to support their families.

The finding of the study established that 38.5% of the business made an average profit of 10,001-15,000 Kenya shillings while 19.6% recouped a profit estimating to be Kshs. 5001-10000 and 17.9% earned monthly profits of less than kshs. 5000. On the other hand, 17.5% of the respondents earned monthly profits above kshs. 25,000 and 12.5% of the respondents earned profits ranging between 15,001 to 20,000 shillings. Further, 7.2% of the respondents recorded a profit of 20,001-25,000 monthly.

### Determinants of accessing credit among Micro, Small and Medium Enterprises (MSMEs) in Nandi County

The study sought to investigate various perceived determinants of accessing credit among MSMEs. The study employed a probit regression model where marginal effects were generated using Maximum Likelihood Estimation and the finding is presented in Table 4.3.

Table 4.3 Determinants of Accessing Credit

The estimated marginal effects indicated that tertiary education has a significant influence on the accessibility of credit among MSMES with no education as the corresponding base (p=0.03<0.05). An additional unit increase in level of education results to 0.06718 percentage increase on probability of accessing credit among MSMES. Education is considered important in gaining knowledge relating to financial management and usage. Education impart businesses owners with financial skills that can enable them make sound financial decisions such as applying for credit and other loans in order to run their business. Education provide them with prudential skills and practices of how to manage their financial activities and running their daily activities. Proper management of financial activities as result of having adequate education is essential in accessing more credit since the aspect of information asymmetry will have been eliminated. According to Musavi & Maingi (2018) credit services has been determined by education level of the owner. The finding by Umiyati et al (2019) also concluded that education, age of business is one of the key determinant of credit access among MSMEs.

Ceteris Peribus individuals of female gender in MSMEs business were likely to access credit by 0.061015 percent as compared to their male counterparts. This imply that female were more likely to express interest on credit access in MSMEs as compared to male counterparts. Female are known to have better management skills on finances based on their background and lifestyle that is more organized. Musavi, (2018) pointed out that credit accessibility is determined individual inherent feature like gender of the person.

The marginal effects of perception to credit has a positive and significant on credit accessibility among MSMEs. Holding other determinants constant improvement of individual perception on credit access enhances the probability credit access by 21.9439 percent. Sensitization of individual on the importance of accessing credit is key in improving their decision making. The positive perception is an ingredient that enable individual to make rational decision regarding the type and nature of credit that is appropriate for their business. Individual will align their thoughts directly to activities and thus financial oriented mind is likely to spur credit access. Creating positive perception regarding credit is key in strengthening credit accessibility among MSMEs. According to Kirui, (2021) financial institutions also have poor perception towards MSMEs as they are termed as risky and not credit worthy.

The probit regression marginal effects indicated that registration of business significantly determined probability of credit accessibility among MSMEs with disagreeing team being the base (p=0.025<0.05). Increasing registration of business by an additional unit will probably enhance credit access by 6.7364 credit accessibility among MSMEs. One of the primary obstacles preventing MSMEs from accessing credit in Kenya is high cost of credit, strict restrictions of collateral, lack of guarantors and a short payback period (Ibrahim et al2022; Gichuki al 2021; Rankhumise et al 2019; Warsame and Ireri 2018; Musavi et al. 2018; Lakuma al 2019). Thus, the cost of registration and factors attributed to the cost of operation affects the access of credit.

### Effects of accessing credit on performance of Micro, Small and Medium Enterprises (MSMEs) in Nandi County

The study sought to determine the effect of accessing credit on performance of MSMEs. The study adopted probit regression model to investigate the effects of credit accessibility on performance of MSMEs and the finding is presented in Table 4.4.

Table 4.4Probit Model of the effect of accessing credit on performance

Based on the marginal effects of the age of respondent has a positive and significant effect on performance of MSMEs (p=0.015<0.05). Increasing age by an additional year enhances probability of improved performance by 0.736 percent. Age is normally associated with accumulated experiences that is key in enhancing performance. A wealth of experience that is accumulated as result of age is vital driver of performance.

The study deduced that marginal effects of tertiary education significantly affected the probability of desired performance among MSMEs with no education has the corresponding reference (p=0.011<0.05). In addition, it was found that primary and secondary education have no significant influence on performance. Therefore, an additional unit of increasing tertiary education consumption leads to increased performance among MSMEs by 0.21979. Dewi et al (2022) noted literacy level was key in enhancing performance of business since it avails strategic information that may inform decision making.

The finding of the study established that gender identity of operators significantly influenced the performance among MSMEs with reference to female (p=0.042<0.05). Based on the marginal effects results, additional of a male respondents will increase the probability of performance of MSMEs by 2.9634 percent as compared to the female counterparts. The MSMEs sector has been dominated by the male individual, building a vast network making their actions and role more feasible in financial space especially in credit access that has been driver of performance. According to Umiyati et al (2019) gender is an essential pillar of credit access and thus enhance performance of MSMEs.

The finding of the study deduced that credit perception positively and significantly affected the performance of MSMEs with negative perception as the reference point (p=0.028<0.05). A rise in positive perception by a point fosters probability of performance by 21.404 percent holding other factors constant. This implied that strengthening of favourable perception concerning credit will improve credit accessibility. Kidali (2020) pointed out that MSMEs experience a low transition rate to SMEs. This is because credit access has a positive influence on the performance of MSMEs in many emerging economies. Perception may create a conducive environment for credit access that avail adequate resources for running business activities daily and this may form basis of desired performance.

While holding other factors constant number of years in business have significantly influenced performance of MSMEs with less than 5 years as the reference point (p=0.035<0.05). An extra year for individuals who have been in business for over five will probably enhance performance by 10.192 percent increase. According Kidali (2020) MSMEs experience a low transition rate to SMEs due to slow growth. This emphasize that years in business may have a negative influence on the growth of business and thus other factors may be attributed to the positive growth of MSMEs.

The cost of transportation was found to have an inverse and significant effect on performance of MSMEs (p=0.0382<0.05). Increase of transport cost a single shilling will result to probability decline of performance by 7.78 percent. Transportation cost is a burden to the operations of MSMEs and hence more accumulation tend to reap benefits accrued by business. Alumasa and Muathe (2020) argued that cost of running business such as credit access and any other cost diminishes profitability of business and thus impede performance.

The finding of the study deduced that coefficient of business registered as member of cooperative significantly influenced desired performance of MSMEs with unregistered business as the reference point (p=0.03<0.05). The extra registration of a member into cooperatives by MSMEs leads to increased probability of performance by 0.1709 percent. Registration of business makes operations of business legal and limited disruptions from the regulating authorities. Registered business always enjoy confidence from other clients and stakeholders because of the predictability that is associated with their activities.

Ceteris peribus business distance significantly and negatively influenced the performance among MSMEs with reference to businesses located in the urban (p=0.043<0.05). Additional distance in terms of a kilometre will lead to a probability decline of performance of MSMES by 11.666 percent in rural areas.

## Conclusion

It can be concluded that gender, tertiary education, perception to credit and registration of business are significant determinants of credit access among MSMEs. The study found out that marital status and age are statistically insignificant. Strengthening of education and promoting gender equity is essential in enhancing credit access among many MSMEs.

The study can conclude that gender, tertiary education, perception to credit, transport cost, size of business and distance from the business premise significantly affected the performance of MSMEs. It was further established that marital status and age have insignificant influence on performance of MSMEs. There is need for businesses to reduce cost that impede their profitability margins in many MSMEs.

## Recommendations

Tertiary education has been found to be significant in determining both credit access and performance of MSMEs. Further, the study established that majority of the MSMEs operators have secondary school certificate. This therefore require the review of secondary curriculum to include concepts and learning materials that nurtures entrepreneurship in the society. Proper tailoring of entrepreneurship subjects in secondary schools can be key unlocking the potential of many MSMEs. It will help in orienting those interested in undertaking businesses to be equipped with foundational knowledge and skills that can be key in enhancing entrepreneurship in the society. The current study focused on the cross section measure of performance and thus conclusive picture of the industry performance may not be accurate. Future studies should asses the performance of many businesses by considering longer periods for a conclusive remark to be obtained.

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| Dependent Variables | Definition | Unit of Measurement |
|---|---|---|
| Profitability ($\pi$) | This is revenue minus costs. | Kenyan Shillings. |

| Explanatory Variables | Definition | Unit of Measurement |
|---|---|---|
| Age (AGE) | Age of a business owner | Number of Years |
| Education (EDUC) | Highest level of education attained by a business owner. | Categorical Variable whereby; No education=1; Primary=2; Secondary=3; University=4 Tertiary=5; Other=6 |
| Gender (GDR) | Gender of the owner business. | Dummy Variable where; Female=1, Male=0 |
| Marital Status (MS) | If a business owner is married or not. | Dummy Variable measured by 1=married,0 otherwise |
| Perception (PERC) | Whether a business owner agrees that credit is accessible. | Use of a Likert scale where; 1=Strongly agree 2=Agree 3=Neutral 4=Disagree 5=Strongly disagree |
| Experience (EXP) | Number of years in doing business by an MSME owner | Years |
| Licensed (LCS) | Registration of an MSME | 1= Licensed 0=Otherwise |
| Accessibility to credit (ACC) | It is the participation of an MSME in borrowing credit from a formal financial institution in the last one year. | 1= access, 0= otherwise |
| Predicted Probabilities (PRD) | Predicted values capturing the probabilities of the respondents who accessed credit. | Number |

**Table 4.1 Descriptive Finding of Individual Characteristics**

| Variable | Features | Frequency | Percentage (%) |
|---|---|---|---|
| **Gender** | | | |
| | Male | 144 | 49.5 |
| | Female | 147 | 50.5 |
| | | | |
| **Residential area of Businesses** | Urban | 211 | 72.5 |
| | Rural | 80 | 27.5 |
| | | | |
| **Marital Status** | Married | 153 | 52.6 |
| | Single | 138 | 47.4 |
| | | | |
| **Education** | No Education | 50 | 17.2 |
| | Primary | 83 | 28.5 |
| | Secondary | 90 | 30.9 |
| | University | 40 | 13.9 |
| | Tertiary | 28 | 9.6 |
| | | | |
| **Land Ownership** | Yes | 175 | 60.1 |
| | No | 116 | 39.9 |
| **Nature of Ownership** | Jointly | 166 | 57.2 |
| | Independent | 125 | 42.8 |
| | | | |
| **Profitability** | Below Kshs. 5,000 | 52 | 17.9 |
| | Kshs. 5001-10000 | 57 | 19.6 |
| | Kshs. 10001-15000 | 36 | 12.5 |
| | Kshs. 15001-20000 | 112 | 38.5 |
| | Kshs. 20001-25000 | 21 | 7.2 |
| | Above Kshs. 25001 | 51 | 17.5 |

Source: Own computation from the study data

**Table 4.3 Determinants of Accessing Credit**

| | Marginal effects (dy/dx) | Coefficient | Delta-method Std. Err. | Z | P>z |
|---|---|---|---|---|---|
| AGE | 0.004716 | 1.021148 | 0.003701 | 1.27 | 0.203 |
| | | | | | |
| EDUC Primary | 0.06755 | | 0.090207 | 0.75 | 0.454 |

| | | | | | |
|---|---|---|---|---|---|
| Secondary | 0.09146 | | 0.094344 | 0.97 | 0.332 |
| Tertiary | 0.06718 | .9176136 | 0.027894 | 2.4084 | 0.03 |
| | | | | | |
| GDR | | | | | |
| Female | 0.061015 | 1.319903 | 0.027976 | 2.181 | 0.023 |
| | | | | | |
| MS | | | | | |
| Unmarried | -0.05023 | .8018393 | 0.057882 | -0.87 | 0.386 |
| | | | | | |
| PERC | | | | | |
| Agree | 0.219439 | 1.035357 | 0.098076 | 2.24 | 0.015 |
| | | | | | |
| LCS | | | | | |
| Yes | 0.067364 | 1.242444 | 0.027978 | 2.4077 | 0.025 |

Source: Own computation from the study data

**Table 4.4 Probit Model of the effect of accessing credit on performance**

| Variable | dy/dx | Coefficient | Delta-method Std. Err. | z | P>z |
|---|---|---|---|---|---|
| AGE | 0.00736 | .9662708 | 0.003591 | 2.05 | 0.041 |
| | | | | | |
| EDUC | | | | | |
| Tertiary | 0.21979 | 1.14622 | 0.086041 | 2.55 | 0.011 |
| | | | | | |
| GDR | | | | | |
| Male | 0.029634 | 1.122403 | 0.012887 | 2.299 | 0.042 |
| | | | | | |
| MS | | | | | |
| Married | 0.00778 | 1.023363 | 0.056963 | 0.14 | 0.891 |
| | | | | | |
| PERC | | | | | |
| Agree | 0.21404 | .9350894 | 0.097367 | 2.2 | 0.028 |
| | | | | | |
| LCS | | | | | |
| Yes | 0.048789 | 1.228279 | 0.02414 | 2.021 | 0.033 |
| | | | | | |
| EXP | | | | | |
| Above 5 years | 0.10192 | .6128633 | 0.047341 | 2.153 | 0.035 |
| | | | | | |
| CST | | | | | |
| Low Cost | -0.0778 | .182094 | 0.038279 | -2.032 | 0.0382 |

| | | | | | |
|---|---|---|---|---|---|
| SZ | | | | | |
| Membership of cooperative | 0.001709 | .238171 | 0.056773 | 0.03 | 0.976 |
| | | | | | |
| DIST | | .155133 | | | |
| Rural | -0.11666 | | 0.057581 | -2.03 | 0.043 |

Source: Own computation from the study data