

Effect of Access to Credit on Micro, Small and Medium Scale Enterprises Output in Nasarawa State, Nigeria

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Abstract

Nasarawa State is among states that have benefitted from different sources of credit. Therefore, this study examined the effect of access to credit on Micro, Small and Medium Scale Enterprises (MSMEs) output in Nasarawa State, Nigeria. Survey research design and questionnaire method of data collection were employed in the work. The questionnaire used composed of questions on respondent biodata, firm characteristics, questions on access to credit and MSMEs output was used as research instrument. The population of the study is MSMEs in Nasarawa State and the sample size 393 was determined using Yamane formula. However, the total of returned and well-filled copies of questionnaire were 363. Descriptive and ordinal logistic regression techniques were applied to analyse the responses from the questionnaires and from the findings, it was revealed that access to credit had no significant effect on output growth of MSMEs, particularly credit accessed from commercial bank. However, short duration and higher volume of credit enhanced output growth of MSMEs. Thus, the study recommended that Central bank of Nigeria (CBN) should ensure that commercial banks' lending cost is favourable for small businesses in order to reduce their cost of production and increase output. In addition, measures to effectively control inflation should be adopted by CBN so that MSMEs will be able to acquire more inputs at cheaper rate and produce more output.

Keywords: Credit, Output Growth, Businesses

Introduction

The importance of access to credit in expanding small businesses, particularly Micro, Small and Medium Scale Enterprises (MSMEs) has severally been emphasized and also, MSMEs are known to create jobs, alleviate poverty and boost industrial development in many nations of the world. Micro, Small and Medium Enterprises also contribute to many nations Gross Domestic Product (GDP), hence attempts have been made by governments of developed and underdeveloped countries to improve supply of credit in order to boost. In order to enhance MSMEs productivity, credit guarantee schemes which attract lower interest rate and

less stringent conditions for borrowing have been introduced.

Programmes and schemes aimed at improving access to credit have also been introduced in Nigeria at national and state levels of government. These governments supply credit to businesses in order to alleviate poverty and combat unemployment problems in the country (Obadan, 2002). Some of the policies, programmes and schemes introduced to boost supply of credit in Nigeria are namely: Partial Credit Guarantee Schemes (PCGs) targeted at agriculture MSMEs, microcredit schemes by Bank of Industry (BOI), Microfinance Policy

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Framework which later became the Revised Microfinance Policy, National Economic Reconstruction Fund (NERFUND) amongst others.

Businesses in Nasarawa State have at one point in order benefitted from such policies, schemes and programmes. According to Development Finance Department (DFD) of CBN (2015), Nasarawa State ranked the fourth highest among the 36 states of Nigeria in terms of loans disbursed and guaranteed. The supply of credit in the state is expected to expand the activities and boost the performance of MSMEs, but report by National Bureau of Statistics (NBS) and Small and Medium Enterprises Development Agency of Nigeria (SMEDAN) (2021) indicates that, Nasarawa State has the least number of MSMEs among the North Central states of Nigeria.

Hypothesis

H₀: Access to credit has no significant effect on growth of MSMEs output in Nasarawa State.

H₁: Access to credit has significant effect on the growth of MSMEs output in Nasarawa State.

Literature Review

Concepts of Access to Credit and MSMEs

Access to credit, otherwise known as loan accessibility, has been defined by Buyinza and Bbaale (2013). According to Buyinza and Bbaala, entrepreneur does not just apply for loan, but also receive the loan. The definition shows that, access to credit deals with demand and supply of credit. Musamali and Tarus (2013) have described access to credit as physical access, affordability and appropriateness to the user needs. The description of access to credit by Musamali and Tarus show that access to credit consist of both the demand and supply side. Essien and Arene (2014) have explained access to

credit as a situation where credit institutions approve an application and gives the applicant part or full amount of the loan. The definition implies that, there is an expression of interest (demand side) and disbursement of credit (supply side). According to Eze et al. (2016), access to credit is the amount of loan demanded and supplied to businesses. In other words, it is the demand and supply of loan. It is obvious from all the definitions that, access to credit involves both demand and supply of credit for productivity activities.

Micro, Small and Medium Scale Enterprises is an integral part of the informal sector in most developing countries (Nuwagaba & Nzewi, 2013). Family members serve as employees in most cases and employees are usually less than twenty (20). In addition, that labour intensive method of production is applied in the MSMEs sector. The latest definition of MSMEs by SMEDAN (2021) is, enterprises with 1 to 199 employees/workers that have turnover of 3million to less than ₦1billion. The new definition is based on the criteria of employment and business turnover, instead of its former criteria of employment and asset excluding land.

Theory of Credit and Enterprises

The theory that relates to credit and enterprise behavior towards credit is 'Signaling Theory' postulated by Ross (1977). According to the theory, the methods of financing by a manager of a firm reveals the inside information the manager has about the financial needs of the firm. The inside information serves as an advantage to the firm (enterprise) and makes the firm managers willing to acquire more debt particularly, if the firm has a good future prospect. This means, the future prospect of a business sends signals on whether a manager should acquire debt or not. Micro, Small and Medium Scale Enterprises that has good future prospect can apply for credit to finance business operations in Nasarawa state. The

debt or credit obtained can be used to boost output production.

Empirical Review

The effect of credit on MSEs asset, market share, stock and employees was evaluated by Atandi and Wabwoba (2013). The method of data analysis employed was descriptive statistics. The findings showed that, access to credit did not lead to the increase in asset, market share, stock and employees probably because of poor utilization of credit accessed. Ocholah et al. (2013) found out that, sufficient fund from microfinance institutions boosted women owned enterprises profitability, productivity, growth and expansion. The work reviewed the effect of microfinance on performance of women owned enterprise in Kenya. Factors affecting the performance of MSEs in terms of increase in profit, additional stock and additional employees were examined by Kamunge et al. (2014). Descriptive survey research design was adopted in the study. Charles et al. (2015) assessed the factors affecting performance of small enterprises in Kenya. Performance of small enterprises was measured as increase in productive activities. Descriptive cross-sectional research design was adopted in the study. The study found out that, small enterprises which accessed fund and adopted strategic management performed well in the study area. This shows that credit that is prudently used can boost productive activities of small businesses. Badi and Ishengoma (2021) discovered debt finance enhanced SMEs growth in Tanzania. The study focused on SMEs that have benefitted from formal financial institutions through the assistance of an association known as Private Agricultural Sector Support (PASS). Data collected through questionnaire was analysed using multiple regression technique. A study on strengthening formal credit access and performance through financial literacy and credit terms in MSMEs was carried out by Widyastuti et al (2023). Smart PLS method was used to analyse the data collected

through stratified random sampling method. The study found out that financial literacy and credit terms positively and significantly affected MSMEs access to formal credit and performance. In addition, financial literacy and credit terms were discovered to negatively affect MSMEs performance in the study area.

Research Methodology

Research Design and Source of Data

Survey research design was adopted in this study. According to Osuala (2001), survey research method deals with the collection, interpretation, synthesis and integration of data. It also explains the implication and interrelationship of data, hence facilitated the sourcing of information on the effect of access to credit on MSMEs output in Nasarawa state. Primary data was used since it is a survey research that involves obtaining information from sampled respondents. Information on the effect of access to credit on MSMEs output were collected and evaluated.

Population and Sample Size

The population of this study composed of all MSMEs in Nasarawa state doing one business or the other. Survey report of NBS and SMEDAN (2021) indicates that Nasarawa state has 21,456 formal MSMEs. The sample size formula applied in this work was Yamane (1967). The formula is given as $n = \frac{N}{1+N(e)^2}$ and the sample size obtained through the formular is 393. Thus, the sample size was estimated at 393, but only 363 copies of the questionnaire were well-filled.

Method of Data Analysis

Ordinal logistic regression technique was employed to examine the effect of access to credit on MSME output. The statistical software used to analyse the data collected

was SPSS 26.0. The ordinal logistic regression method was adopted because the test of parallel line for the model was achieved. The violation of this assumption implies that, multinomial logistic regression would have been adopted. The model is expressed as:

$$Y_i = \ln \left[\frac{c_{pj}}{1 - c_{pj}} \right] = a_0 + a_1 \text{SOU} + a_2 \text{VOL} + a_3 \text{DUR} + a_4 \text{INT} - \dots - 1$$

Where:

Y_i = dependent variables (output of MSMEs).

The independent variables for the model is defined as follows:

- SOU = Sources of Credit
- VOL = Volume of Credit
- DUR = Duration of Credit

Result and Hypothesis Testing

Table 1
Model Fitting Information

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Intercept Only	351.308			
Final	306.600	44.708	14	.000

Source: SPSS-26.0

The model fitting shows whether the data adequately describes the model. It expected that the p-value be less than 0.05. Table 1 showed the p-value is 0.000, which is less than 0.05. This means that, the data

adequately describe the model. It also proved that, there is difference between the *intercept only* model and the *final model* as captured in table 1.

Table 2
Goodness-of-Fit

	Goodness-of-Fit		
	Chi-Square	Df	Sig.
Pearson	614.495	582	.170
Deviance	235.699	582	1.000

Source: SPSS-26.0

Goodness of fit statistic was applied to determine whether the model for the estimation of the ordinal regression has a good or a poor fit. The p-value is supposed to be greater than the level of significance

of 0.05 for the model to adequately fits the data. The result in Table 2 showed the p-values (.170 and 1.000) are greater than the significance level of 0.05. Therefore, a good-fit is achieved.

Table 3
Pseudo R-Square

Pseudo R-Square	
Cox and Snell	.108
Nagelkerke	.147
McFadden	.086

Source: Source: SPSS-26.0

Table 3 showed the result of the Pseudo R-Square similar to coefficient of determination. It technically explains the variation that occurred in the dependent ordinal variable (output). The McFadden value is generally used compared to the

others (Cox & Snell, 1989; Nagelkerke, 1991). The value of the McFadden which is 0.086 revealed that there is 8.6 % improvement in the prediction of the outcome as a result of the change predictors.

Table 4
Parameter Estimates

		Estimate	Odd ratio	P-value
Threshold	[OUTPUT = Strongly Disagree]	-7.307		0.000
	[OUTPUT = Disagree]	-6.610		0.000
	[OUTPUT = Neutral]	-4.694		0.000
	[OUTPUT = Agree]	0.576		0.622
Location	[SOURCES OF CREDIT=Friends & Family]	0.695	2.005	0.121
	[SOURCES OF CREDIT=Commercial bank loan]	-0.207	0.813	0.775
	[SOURCES OF CREDIT=Microfinance bank credit]	0.674	1.962	0.377
	SOURCES OF CREDIT [=Government credit scheme]	0.599	1.820	0.334
	[=Cooperative society credit]	0 ^a		
	[DURATION= Short Term (1 year and below)]	1.475	4.369	0.000
	[DURATION= Long Term (3years and above)]	0.970	2.637	0.020
	[DURATION=Medium Term (2-3 years)]	0 ^a		
	[VOLUME=Less than 1m]	-0.851	0.427	0.198
	[VOLUME=1m – 20.9 m]	-1.648	0.192	0.008
	[VOLUME=30m – 40.9]	-1.268	0.281	0.049
	[VOLUME=50m- 70.9m]	-1.201	0.301	0.092
[VOLUME=80m and above]	0 ^a			
[INT=Disagree]	-2.533	0.079	0.203	
[INT=Neutral]	-1.835	0.160	0.090	
[INT=Agree]	-0.667	0.513	0.524	
[INT=Strongly Agree]	0 ^a			

Source: SPSS-26.0

Table 4 showed the result of the ordinal logistic regression where the dependent variable OUTPUT is measured in Likert-

scale with 1 (Strongly Disagree) and 5 (Strongly Agree). The estimation showed the probability of falling above the category

of dependent variable or below the category. The positive (+) sign is associated with an increase in likelihood of falling into the higher category, while the negative (-) sign is associated with an increase likelihood of falling into a lower category.

Therefore, the result on table 4 revealed that credit accessed from (friends/family, microfinance bank, government credit scheme and cooperative society) had positive effect on OUTPUT, while commercial bank credit showed a negative effect on OUTPUT. This means that increase in Sources of Credit (family/friends, microfinance bank, government credit scheme and cooperative society credit) brought about a likelihood increase in OUTPUT of MSMEs in Nasarawa State. Commercial bank loans, which had a negative effect, denotes a decrease in OUTPUT. This means that MSMEs access to commercial bank credit did not increase output.

The impact of Duration of Credit periods (short term, medium term and long term) on OUTPUT of MSMEs in Nasarawa State were found to be positive. The highest value of 1.475 for short term credit means that, the shorter the duration (1 year and below), the higher the likelihood increase in OUTPUT of MSMEs compared to medium term (2-3 years) and short term (3 years and above). This is an indication that short term credit can boost output production of businesses.

It was discovered that lesser Volume of Credit (less than 1million to less than 80million) decreases the likelihood of increase in OUTPUT of MSMEs, while volume of credit above 80million, increases the likelihood of OUTPUT of MSMEs in Nasarawa State. This means that more

goods and services can be provided by businesses that are predisposed to larger volume of credit than those with lesser volume.

The result proved that lower Interest Rate had a likelihood of increasing the OUTPUT level of MSMEs compared to higher interest rate. The higher the interest rate, the lower the OUTPUT, while the lower the interest rate, the higher the OUTPUT level of MSMEs in Nasarawa State. Lower interest rate reduces production cost, hence increase in output.

Odd Ratios

The ratios represent the odd of falling into a higher/lower category on the dependent variable with a unit change in the independent variable. A greater than one (>1) shows that increasing odd of being in the higher category in the predictor, while a less than one (<1) reveals a decreasing odds of being in a higher category with a unit increase in the predictor.

Sources of Credit

1. *Friends & Family*: the odds ratios of higher OUTPUT in MSMEs are 2.005 times more than commercial bank loans.
2. *Microfinance Bank Credit*: the odds ratios of higher OUTPUT in MSMEs are 1.962 times greater than that of commercial bank loans.
3. *Government Credit Scheme*: the odds ratios of higher OUTPUT in MSMEs is 1.820 times greater than in commercial bank loans
4. *Commercial Bank loans*: the odds ratios of lower OUTPUT in MSMEs is 0.813 times low when MSMEs operators seek commercial bank loans.

Duration

1. *Short term (1 year and below):* the odds ratios of higher OUTPUT in MSMEs is 4.369 times compared to the medium term (2-3 years) duration.
2. *Long term (3 years and above):* the odds ratios of higher OUTPUT is 2.637 times higher compared to medium term duration.

Volume

In the case of volume of credit, the 1 million and below, 1 million to 29

million, 30-49 million and 50 to 79 million naira reveals that there are odds ratios of 0.427, 0.192, 0.281 and 0.301 times low OUTPUT in MSMEs than when they access volume of credit of over 80 million naira in Nasarawa State.

Interest Rate

The Odds ratios of higher OUTPUT of MSMES are 0.079, 0.160 and 0.513 times low when interest rate is higher compared to when interest rate is lower.

Table 5
Test of Parallel Lines^a

Model	-2 Log Likelihood	Chi-Square	Df	Sig.
Null Hypothesis	306.600			
General	265.564 ^b	41.036 ^c	42	.513

Source: SPSS-26.0

Table 5 showed the result of the test of Parallel Line. This test of the Parallel Lines is one of the assumptions of the ordinal logistic regression model. It is expected that the p-value be greater than the level of significance of 0.05. Table 5 showed the p-value of 0.513 which is greater than the level of significance of 0.05. This means that the assumption of parallel line has been achieved.

Test of Hypothesis

With respect to hypothesis testing, null hypothesis (H_0) is accepted if p-value is greater than 0.05, if otherwise, alternative hypothesis (H_1) is accepted. The result showed that out of the thirteen (13) only four (4) were less than 0.05 and nine (9) were greater than 0.05. Therefore, the null hypothesis that access to credit has no significant effect on the growth of MSMEs output in Nasarawa State is accepted.

Conclusion and Recommendations

The paper showed that access to credit has no significant effect on the growth of MSMEs output in Nasarawa State. This means that MSMEs operators in the state that accessed credit did not experience progressive level of output. Commercial bank credit specifically, brought about a decrease in output of MSMEs in the study area. It is on this note that this paper recommended the following:

- i. The Central bank of Nigeria (CBN) should ensure that commercial banks' lending cost is favourable for businesses, particularly small businesses in order to reduce their cost of production and increase output.
- ii. Measures to effectively control inflation should be adopted by CBN so that MSMEs will able to acquire more inputs at cheaper rate and produce more output.

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Appendix Questionnaire

Instruction

Please, read the questions carefully and tick appropriately.

SECTION A: BIODATA OR DEMOGRAPHIC OF RESPONDENTS

S/N	Demographic	Options	Code	Responses
1.	Respondent according to gender	Male (2)	2	
		Female 1)	1	
2.	Respondents according to age	Less than 20 years	1	
		20-39 years	2	
		40-59 years	2	
		60 and above	4	
3.	Respondents according to Highest Qualification	No formal Education	1	
		FSLC/SSCE/GII	2	
		OND/NCE	3	
		HND/First Degree	4	
		Postgraduate	5	

SECTION B: INFORMATION ON FIRMS

S/N	Information on Firms	Options	Code	Responses
4.	Respondents according to categories of firms	Micro	1	
		Small	2	
		Medium	3	
5.	Respondents according to types of Business	Agriculture	1	
		Manufacturing	2	
		Trade	3	
		Service	4	
		Others	5	
6.	Number of employees	01- 19	1	
		20 – 49	2	
		50 – 79	3	
		80 and above	4	
7.	Years in business	1-9 years	1	
		10-19 years	2	
		20 and above	3	

SECTION C: INFORMATION ON CREDIT

S/N	Information on Credit (Easy access, duration, volume)	Options	Code	Responses
8.	Sources of credit	Friends and Family	1	
		Commercial bank loan	2	
		Microfinance loan	3	
		Government credit schemes	4	
		Cooperative society	5	
9.	What is the nature of the credit or loan?	Short term 1 (1year & above)	1	
		Medium Term (2-3 years)	2	
		Long term (3years and above)	3	
10.	Were you given the actual amount applied for?	Yes	2	
		No	1	
11.	What was the highest amount you ever applied for?	Less than 1m	1	
		1m – 20.9 m	2	
		30m – 40.9	3	

		50m- 70.9m	4	
		80m and above	5	

SECTION D: QUESTIONS ON INTEREST RATE

S/N	Questions on Interest Rate	SA 5	A 4	N 3	D 2	SD 1
12.	Low interest of credits have increased my profit					
13.	Low interest of credits have increased my output					
14.	Low interest of credits have increased my assets					

SECTION E: QUESTIONS ON OUTPUT

S/N	Questions on Output	SA 5	A 4	N 3	D 2	SD 1
15.	Sources of credits have increased my output					
16.	Volume of credits have increased my output					
17.	Duration of credits have increased my output					
18.	Other service delivery to credits have increased my output					

SECTION F: QUESTIONS ON PROFIT

S/N	Questions on Profit	SA 5	A 4	N 3	D 2	SD 1
19.	Sources of credits have increased my profit					
20.	Volume of credits have increased my profit					
21.	Duration of credits have increased my profit					
22.	Other service delivery to credits have increased my profit					

SECTION G: QUESTIONS ON ASSETS

S/N	Questions on Assets	SA 5	A 4	N 3	D 2	SD 1
23.	Sources of credits have increased my assets					
25.	Volume of credits have increased my assets					
26.	Duration of credits have increased my assets					
27.	Other service delivery to credits have increased my assets					