

Factors Affecting Microfinance Banks Credit Supply to Farmers in Imo State

M.O Okwara J.I Lemchi D.O Ohajianya F.O Nwosu

Department of Agricultural Economics, Federal University of Technology, Owerri, Nigeria

Abstract

The study examined the factors affecting microfinance banks credit supply to farmers in Imo State, Nigeria. Specifically the study identified the socioeconomic characteristics of the beneficiaries; the amount of credit supplied to the farmers and identified the constraints affecting the performance of microfinance banks in lending to agriculture in the study area. Data were collected with the aid of two sets of structured questionnaire administered to 136 loan beneficiaries and 26 microfinance banks using purposive and simple random techniques. Data collected were analyzed with the use of descriptive statistics and multiple regression models. The result indicated that the mean of the credit supplied by the microfinance banks to the farmers was N163,212.50. The result of the multiple regression showed that variables for average farm income, loan period, gender and distance were significant at 1% and 5% levels and are important factors affecting supply of credit by microfinance banks in the study area. It is concluded that there is need for microfinance banks to help look into conditions for granting loans to farmers, so that the poorest of the poor will be able to take advantage of the productivity enhancing technologies that abound in agriculture.

Keywords: Microfinance, farmers, lending, credit.

INTRODUCTION

One reason for the decline in the contributions of agriculture to the economy is the inadequate provision of formal credit to farmers. In the 70's, agriculture was the major contributor to the gross domestic product of the country but this is not the case presently due to poor policies of the past and paucity of credit institutions. The provision of appropriate macroeconomic policies and enabling institutional finance for agricultural development is capable of facilitating agricultural development with a view to enhancing the contributions of the sector in the generation of employment, income and foreign exchange. Agriculture is an important industry and like other industries requires capital. Due to the peculiarities of agriculture, especially its uncertainties, low return, high rate of risk etc. a large number of producers cannot meet up with the needed finance without recourse to borrowing. One of the most important lessons of universal agrarian history is that the agriculturist must borrow, due to the fact that capital is locked up in his lands and stocks (Sadhu and Singh, 1993). For stimulating the tempo of agricultural production, it is necessary that the farmer must be provided with adequate and timely credit (Njoku, 2002). To raise agricultural production farmers have to borrow. It is thus in the interest of agriculture and general progress that credit be made available to farmers in adequate amount and at appropriate costs (Pinaki, 1998). Credit enhances productivity and promotes the standard of living by breaking the vicious cycle of poverty of small scale farmers (Ololade, 2013).

The consultative group to assist the poor (CGAP, 2003) defined credit as a device for facilitating the temporary purchasing power from individual (s) or organisation to others. The important role of credit with respect to agricultural development not only lies in the use to which credit is put but also the problem that may arise from a lack of it. Credit not only helps to enhance agricultural productivity, it also helps the farmer with family expenses especially during off seasons. It is a catalyst which drives the machinery of production to optimum performance (Ijere, 1992). The provision of credit does not lie solely on the formal lending institution or agricultural banks.

Microfinance banks have been a key player in agricultural credit supply over the years. Microfinance is defined as the provision of financial services to low-income clients, including consumers and the self-employed, who traditionally lack access to banking and related services (Gonzalez-Vega, 2008). They extend loans to farmers and increase their capacity to earn an income, pay wages, and procure inputs like seeds, fertilizers and herbicides. Although, microfinance banks are not a panacea for poverty, associated with small holder farmers, they are expected to fill the gaps created by commercial banks. They can do this by providing a broad range of microfinance services that would support farmers in their efforts to improve their own prospects and the prospects of their families. More so, without agricultural microfinance, the millions of cash starved small scale farmers who dominate the rural landscape will be unable to adopt most productivity enhancing technologies that abound in agriculture. Microfinance banks extend loans to these farmers and increase their capacity to earn more income.

In spite of the roles credit play in the lives of farmers, they still are faced with difficulties in acquiring it thus negatively affecting their productivity. The paper therefore seeks to answer the following questions for the afore mentioned reasons.

1. What are the socioeconomic characteristics of the loan beneficiaries?
2. What is the amount of credit supplied and factors that affect microfinance banks in credit supply to farmers?
3. What constraints do the microfinance banks face in supplying credit to farmers?

Objectives of the study

The broad objective of this study is to analyze the factors affecting microfinance banks credit supply to farmers in Imo State.

The specific objectives are to:

- (i) identify the socioeconomic characteristics of the loan beneficiaries
- (ii) examine the factors affecting credit supply to farmers
- (iii) identify the constraints faced by the banks in lending to farmers .

MATERIALS AND METHODS

Primary data for this study were sourced from both primary and secondary sources. The primary data were collected using structured questionnaire which were administered on the selected beneficiaries. The variables on which information were collected include age of respondents, gender, education, household size, annual farm income, type of enterprise, farming experience, loan size, type of collateral, farming experience, dependency ratio, farming objective, loan period, distance. The questionnaire was face validated by placing it side by side with the specific objectives of the study. The reliability of the questionnaire was tested using the test-re-test method. The questionnaire was administered twice in one month to twenty (20) of the loan beneficiaries with the help of trained assistant. The product moment correlation coefficient (r) between the first and second tests was computed and found to be significant at both 5% and 1% probability levels thereby making the questionnaire a valid and reliable instrument for the field survey.

Secondary information was obtained from past research reports, microfinance institutions publications, internet, documents from Ministry of Agriculture and other relevant materials. Both simple random sampling and purposive sampling techniques were used in the study. A list of microfinance banks were collected from the Owerri office of Central bank of Nigeria. From this list, 26 MFBs were selected. The purposive selection was based on the microfinance banks that had the highest number of agricultural loan beneficiaries. The lists of agricultural loans beneficiaries were obtained from the microfinance banks compiled by the credit officers. A total of 194 beneficiaries were obtained from the list and this formed the sampling frame. From this sampling frame, 136 loan beneficiaries were randomly selected. The beneficiaries selected represented 70% of the sampling frame. The information contained the names of the beneficiaries and their locations.

The Multiple Regression Model

The factors influencing credit supply by microfinance banks to farmers was achieved by the use of multiple regression analysis. The multiple regression model is specified according to Nwosu *et.al.*, (2014) as follows:

Where

Y = amount of microfinance bank agricultural credit supply (N)

X₁ = Age (years)

X₂ = Education (years)

X₃ = Household size (Number of persons)

X₄ = Net farm income (N)

X₅ = Loan period (months)

X₆ = Gender (Dummy Variable, male=1, female=0)

X₇ = Distance (Km)

X₈ = Farming experience (years)

X₉ = Enterprise type (Crop production =1, 0 otherwise)

e = error term

It is expected *a priori* that the coefficients of x₁, x₂, x₄, x₆, x₉, >0; x₃, x₅, x₇, <0.

In estimating the regression model, the data collected were fitted to the four functional forms and the form that gave the best fit, based on the value of the coefficient of multiple determinations (R²), number of significant variables and conformity to *a priori* expectations was chosen as the lead model (Odii,2001). The general forms of the equations are as shown below.

Double log function

$$L_n Y = a_0 + a_1 L_n x_1 + a_2 L_n x_2 + a_3 L_n x_3 + a_4 L_n x_4 + a_5 L_n x_5 + a_6 L_n x_6 + a_7 L_n x_7 + a_8 L_n x_8 + a_9 L_n x_9 \dots + e$$

Exponential function

$$L_n Y = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 x_4 + a_5 x_5 + a_6 x_6 + a_7 x_7 + a_8 x_8 + a_9 x_9 \dots + e$$

Linear function

$$Y = a_0 + a_1 x_1 + a_2 x_2 + a_3 x_3 + a_4 x_4 + a_5 x_5 + a_6 x_6 + a_7 x_7 + a_8 x_8 + a_9 x_9 \dots + e$$

Semi log function

$$Y = a_0 + a_1 L_n X_1 + a_2 L_n X_2 + a_3 L_n X_3 + a_4 L_n X_4 + a_5 L_n X_5 + a_6 L_n X_6 + a_7 L_n X_7 + a_8 L_n X_8 + a_9 \dots + e$$

RESULTS AND DISCUSSION

Table 1: Distribution of Microfinance Bank Loan beneficiaries by age

Age (years)	Frequency	Percentage
21 – 30	12	8.82
31 – 40	34	25
41 – 50	50	36.8
51 – 60	34	25
61 – 70	6	4.4
Sex		
Male	83	61.02
Female	53	38.98
Marital Status		
Married	123	90.44
Single	10	7.35
Widow	3	2.21
TOTAL	136	100
HouseholdSize(No of persons)		
1-3	21	15.44
4-6	84	61.76
7-9	23	16.91
10-12	8	5.89
TOTAL	136	100

Data collected from sampling 136 loan beneficiaries showed that the mean age of the sampled beneficiaries was 44.62 years with over 70% of them within this age bracket. This implies that they are still in their active stage of life to perform tedious farm work. This also means that the respondents are expected to be more economically active and willing to explore avenues and adopt new methods in order to raise productivity. This is consistent with the findings of (Olagunju and Ajiboye, 2010) who stated that young farmers are very active and take advantage of modern farming methods to boost productivity. A greater portion which is 62.02% of the loan beneficiaries were males while 38.98% of them were females. This does not mean that women are denied access or do not borrow but may indicate that men have relatively greater capital formation than their female counterparts. This is consistent with the findings of (Akubude,2010). The household size ranged from one person to 12 persons per household and a mean of five persons per household. This implies that the loan beneficiaries spent a moderate amount of their income on feeding, clothing, children’s school fees, hospital bills etc.

Table 2: Distribution of microfinance banks by the amount of credit supplied

Amount supplied (₦’000)	Frequency	Percentage
≤ 24	1	0.74
25-124	67	49.26
125-224	28	20.59
225-324	21	15.44
325-425	4	2.94
≥ 426	15	11.03
TOTAL	136	100
Mean	163212.50	
Minimum	22,400	
Maximum	500,000	
Standard deviation	125,294.80	

Source: Field data, 2013.

The table shows that 49.26% of the respondents received between 25,000 and 124,000 naira worth of credit. The other 20.59% received between 125,000 and 224,000 naira as credit. Furthermore, 30.15% of the respondents received between 225,000 and 500,000 naira for their farm operation. The result implies that a greater percentage of the respondents that is 49.26% received micro loans which were found to be between 25,000 naira and 124,000 naira and this confirms that microfinance banks are naturally situated to grant micro loans to small scale entrepreneurs. This finding is also consistent with the results of Akubude, (2009) who discovered that farmers were also granted small loans that are rather inadequate for major farm operations.

Furthermore, 15.44% of the respondents borrowed between 225,000 and 324,000 naira worth of loan

while 11.03% of the respondents borrowed greater than 425,000 naira. The mean amount of credit supplied to the respondents was ₦163,212.5.

Factors influencing credit supplied by microfinance banks to farmers

The result of the multiple regression analysis on the factors influencing credit supply by microfinance banks to farmers is represented in Table 3

Table 3: Results of Multiple regression analysis on factors influencing credit supply by Microfinance banks to farmers.

Explanatory variables and important statistics	Double log	Semi-log	Linear	Exponential	Double log P>/t/
Age (X ₁)	0.314507 (1.6825)	57046.4 (1.5507)	13767.3 (1.4416)	0.005306 (1.0974)	0.0942
Education (X ₂)	-0.12629 (-1.5255)	-32583.4 (-1.9999)*	-2145.2 (-1.0364)	-0.00408 (-0.3866)	0.1289
Household (X ₃)	0.160035 (1.6624)	22410.1 (1.18247)	18929.4 (0.4918)	0.021285 (1.1225)	0.0982
Farm income (X ₄) (Net)	0.421095 (5.9225)**	80774.4 (5.7726)**	0.3851 (5.5616)**	1.94E-06 (5.4909)**	1.65E-08
Loan period (X ₅)	0.625821 (6.2539)**	92442.1 (4.6938)**	12333.9 (4.6749)**	0.084069 (6.2517)**	3.01E-08
Sex (X ₆)	-0.17092 (2.0638)*	-20390.4 (-1.2510)	-26874.3 (-1.6568)	-0.19519 (-2.3608)*	0.0405
Distance (X ₇)	-0.35982 (-3.6146)**	-37798.7 (-1.9294)	-4737.8 (-2.2979)*	-0.04532 (-4.3122)**	0.0003
Farming experience(X ₈)	-0.10252 (-1.6725)	-30491.8 (-2.5276)*	-2479.7 (-2.2979)	-0.00611 (-1.0706)	0.0962
Enterprise type (X ₉)	0.13049 (1.62705)	20195.2 (1.2795)	25899.9 (1.6242)	0.176048 (2.1659)*	0.1055
Constant	5.289963	1018298	13537.95	10.85334	
R ²	0.565017	0.458496	0.4608204	0.564159	
F- value	25.11282*	16.36969	16.523616	25.02535	2.85E-27
Sample size	136	136	136	136	

Source: Computed from field data, 2013

Figures in parenthesis are t-ratios

** = P 0.01 and * = P 0.05.

t_{0.05 and 0.01} = 1.96

The results show that the double log function produced the highest value of the coefficient of multiple determinations (R²), the highest number of significant variables and conformed to a priori expectations. The test of significance of R² produced an F- value of 25.11 which is significant at 0.01 levels, implying that the double-log function gave a good fit and therefore was chosen as the lead equation.

The coefficient of multiple determinations was found to be 0.565017, implying that about 56.5% of the variation in the amount of microfinance bank agricultural credit supply to farmers is jointly accounted for by the independent variables investigated as well as the other variables. For microfinance banks, the factors that significantly affected credit supply were age, household size, net farm income, loan period, gender, distance and farming experience. The factors that were not significant were education and type of farm enterprise.

Age:

This is how old the farmers are and it is measured in years. It was hypothesized to have a positive relationship with credit supply. This result upheld the *a priori* expectation strongly and this is because the more mature a person is, it is assumed the more experience he/she would accumulate overtime when compared with younger people who have not experienced much in life. This finding is in line with Arene (1992) who found out that age has a positive relationship with loan repayment performance and credit supply. Oni *et. al* (2006) also confirmed that the age of the respondents positively influenced the probability of a default.

Household size:

This is the number of people in a particular household. It was expected *a priori* that the coefficient of the variable (household size) should be negative or an inverse relationship with credit supply, implying that the credit supply should increase with reduced household size. This variable was significant at 1% but went contrary to a priori expectations. This maybe because microfinance banks target the poor and these poor are usually

associated with large family sizes unlike what is obtainable in commercial banks, whose focus maybe on the elite who have fewer children. This finding is consistent with that of Oni (2005) who observed that the household size was statistically significant but went contrary to a priori expectation with respect to the sign.

Net farm income:

This variable was positive and significant at 1%. This went in line with a priori expectations of direct relationship. This implies that credit supply increases with increased net farm income of the farmer. This also means that as the net farm income of the farmer increases, the more likely it is for the farmer to obtain a facility from a bank and the easier it would be for him to repay within the payback period.

Loan period:

This indicates the tenure of the loan or how long the loan is expected to last. In other words, this is the duration of the loan. The coefficient of the variable was positively significant at 1%. This went against a priori expectations of inverse relationship. This may be theoretical.

Sex:

Sex was found to be negative and significant at 5%. This result goes against *a priori* expectations. This negative sign on the coefficient of gender indicated that credit supply is skewed towards the females meaning that more female farmers obtained credit when compared with the male respondents. This in line with the results of Suraya (2011) who observed that women are given more credit in microfinance institutions because they are more responsible and show less repayment problems.

Also, Abosede (2011), whose research findings collaborated with this result argued that microfinance banks are gender sensitive but suggested that gender distribution characteristics should not be the determinant of their mode of operation in Africa.

Distance:

This is the distance from the house of the beneficiary to the bank or vice versa. The coefficient of the variable was found to be inversely related to credit supply and significant at 1%. This is finding is consistent with a priori expectations of inverse relationship. It implies that credit supply increases as the distance to the bank reduces, meaning that the shorter the distance from the house of the beneficiary to the bank, the higher the amount disbursed. Shorter distances will help the microfinance banks appraise potential projects and those already existing ones easily as well as take necessary actions in the case of a default. This also cuts down the cost of loan recovery in the event of a default as well.

Farming experience:

The coefficient of farming experience was observed to be significant at 10% but went contrary to the hypothesis of direct relationship. This could be theoretical than what is obtainable in real life situations.

Table 4: Distribution of microfinance banks by the constraints affecting their lending performance to agriculture.

Constraints	Frequency*	Percentage
Repayment	6	23.08
Poor loan supervision due to cost	12	46.15
Illiteracy	9	34.61
Seasonality of agriculture	20	76.9
Loan diversion	15	57.69

*Multiple responses were recorded
 Field data, 2013.

The result in table 4 indicated that 76.9% of the banks had problems in granting loan for agricultural purposes due to the seasonality of agriculture. This could be attributed to the fact that microfinance banks are established to grant micro loans for a limited duration but most aspects of agricultural production are long term thus discouraging them from granting loan for such purposes.

Loan diversion accounted for 57.69% of the constraints. This problem results when beneficiaries use the loans given them to solve domestic needs instead of using them for the purpose for which they were given. The loan diversion could also be due to the time taken to process the loan and the time taken to obtain it. The other 46.15% complained that the cost of supervising loans granted for agricultural purposes eats into the little profit made from it, thereby discouraging them from supervising. This often leads to the beneficiaries defaulting thus discouraging the banks from granting loans to those who want to borrow loans for agriculture.

Conclusion and Recommendation

Inadequate supply of credit to farmers limits the farmers' scope of expansion, his productivity and income in the study area. The study investigated factors affecting microfinance bank credit supply to farmers in Imo state.

Factors such as annual farm income, household size, loan period, sex and distance were significant and important factors that affected the supply of credit by microfinance banks to agriculture. These coefficients have

agreed and also deviated from *apriori expectations*.

But the amount of credit flowing to agriculture is altogether small and discouraging for improved farm productivity, employment creation and income generation. This implies that these factors are key variables considered by microfinance banks before granting loans to beneficiaries. Therefore microfinance banks should make more funds available to farmers to help them take advantage productivity enhancing technologies that would help move them to a more profitable scale of operation.

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