

## **Influence of Credit on Household Poverty in Iwo Agricultural Development Zone of Osun State, Nigeria**

Sanusi, WasiuAdekinle

Department of Agricultural Economics, LadokéAkintola University of Technology,  
P.M.B 4000, Ogbomoso, Oyo State

---

### **Abstract**

**Background:** The study examined the influence of credit on household poverty in Iwo Agricultural Development zone of Osun State. The study described the different sources of credit and examined the contribution of micro-credit to household income and poverty.

**Methods:** The study made use of multistage sampling technique to sample a hundred and twenty respondents for the study and structured questionnaire were administered to obtain required information. Descriptive statistics, Foster, Greer and Thorbecke (FGT) poverty index and Logit regression were used to analyse the obtained information from the respondents.

**Results:** The result shows that the average age of the respondents was 48.9, indicating a productive and active age in agriculture. About 53% of the respondents were female and more than 45% with secondary school education. 44.2% of the respondents were married with an average household size of 6.7. The result also revealed that 58.8% of the respondents received credit amount to a value between 51000 and 100000 each time. Poverty incidence was estimated at 0.43, the poverty depth or gap was 0.11 and severity was 0.09. The result further shows that the coefficient of age, years of education, occupation, household size, amount of credit and formal credit access were the main determinants of poverty in the study area out of which occupation and household size increases the chance of become poor and age, year of education, amount of credit and formal credit access reduces the likelihood of being poor. Therefore, the study suggest diversification of respondents' income sources to boost welfare of the respondents.

**Keywords:** Agriculture, Household, Income, Poverty, Credit

---

Date of Submission: 16-06-2020

Date of Acceptance: 31-07-2020

---

### **I. Introduction**

Agriculture is the major occupation of rural dwellers in Nigeria, it provides between 80-90% of the food required for its citizenry [1]. Farming in Nigeria has been characterized by low yield, poor input supply, insufficient or lack of credit available for farming operation and postharvest loss. Credit form one of the influence aiding agricultural production in Nigeria. The availability or access to credit is appropriate for improved agricultural production in the country. Smallholder farmers who form the main food producers in the country have limited fund to carry out agricultural activities, hence this affect production and aid postharvest loss along the value chain of typical agricultural produce. Studies such as<sup>2,3,4</sup> have shown the possible effect of limited credit facility to agricultural productivity. Most smallholder farmers have low saving capacity and the poor structure of most rural financial market does not evenly provide accessibility to all-year-round credit. Agricultural innovation adoption are also constrained due to shortage of credit most often<sup>4</sup>. According to<sup>3,5,4</sup>, credit is a major input to adoption of improved and sustainable technologies over traditional agricultural production system by resource poor farmers in a depressed economy.

Informal credit source are indisputably the most common finance source to smallholder farmers, this majored on the fact that formal credit have scared many food crop farmers due to the strain attached to its use<sup>6</sup>. Lack of collateral, uneasy accessibility and timely accessibility of formal credit is a major impediment for most of the farmers in rural area. The need for credit for agricultural activities enable the farmers to glued to informal sources of credit which are characterized by better accessibility, unregulated money supply, and low administration bottleneck<sup>7</sup>.

Agricultural production is however limited due to insufficient credit accrue to farmers from this informal sources, since most could not save enough money to take advantage of increasing range of production. Therefore, a greater majority of the farmers found themselves in purposefully violent cycle of poverty. Considering, the poverty level of the farmers and other rural entrepreneurs, credit use has become vital tool for improving technical progress and production. Since, smallholder farmers are known for little production mainly to feed themselves and the families, which in turn cannot help expand their farm or acquire new technologies to

become less severe from the adverse effect of this cycle<sup>8</sup>. Thus, the research seeks to examine the influence of credit on household poverty in Iwo Agricultural Development zone of Osun State, Nigeria.

## II. Methodology

The study was carried out in Iwo Agricultural Development zone of Osun State. Respondents were sampled using three stage sampling procedure. Two Local Government Area (LGA) were randomly selected out of seven LGAs comprising the zone. The second stage employs random selection of six communities from each of the selected LGAs. And lastly, ten (10) households from each of the communities were randomly sampled for the study. Structured questionnaire was design to obtain primary data from the selected households. This information were then subjected to statistical tools (both descriptive and inferential statistics) to establish the implication of credit on household poverty in the study area.

**Table 1:** Explanatory variables and a-priori expectation

Variables	Description
Gender	Male = 1 otherwise = 0
Age	Age of the respondents in years
Marital status	If the respondent is married or not
Years of education	Years spent to acquire formal education
Household size	The number of individual within an household
Farm size	Total farmland cultivated by the respondents in the last season
Amount of informal credit received	The total amount of informal credit receive within a month
Frequency of informal credit received	How often does the respondents receive informal credit
Formal credit access	If the respondents have access to formal credit = 1 otherwise = 0

### Model specification

This study adapted<sup>9</sup> poverty index to analyze the poverty implications of credit on households in the study area. The model was modify. Assuming we take  $\Omega = (\Omega_1, \Omega_2, \dots, \Omega_k)$  as the household income in ascending order and  $Z > 0$  denote the predetermined poverty line, the FGT poverty measure is defined by:

$$P_{(\Omega;Z)} = \frac{1}{nz\alpha} \sum \Phi k \alpha \dots \dots \dots (1)$$

$K = 1$

From equation (1) above, n is the total number of households,  $\Phi = \Phi(\Omega;Z)$  is the number of poor households,  $\Phi k = Z - \Omega_k$  is the income shortfall (the gap between the household's income and the poverty line) of the k-th (poor) household. This index satisfies the two axioms formulated by<sup>10</sup> for poverty measures and confirms (1) that a reduction in the income of a poor household, ceteris paribus, increases the poverty measure (monotonicity); and (2) that a pure transfer of income away from a poor household increases the poverty measure (the transfer axiom).

Headcount index which measures the incidence of poverty is given by:

When  $\alpha = 0$ ,

$$P_0 = \frac{1}{N} \sum_{i=1}^{\phi} \left( \frac{Z - \Omega_i}{Z} \right)^0 \dots \dots \dots (2)$$

$\phi$  = number of poor below the poverty line.

$n$  = total number of people in the community.

Poverty gap index ( $P_1$ ) which measures the depth of poverty is given by the following specifications:

When  $\alpha = 1$ ,

$$P_1 = \frac{1}{N} \sum_{i=1}^{\phi} \left( \frac{Z - \Omega_i}{Z} \right)^1 \dots \dots \dots (3)$$

$Z$  = the poverty line.

$y$  = average expenditure of the poor people

Severity of poverty ( $P_2$ ) is given by the following specification:

When  $\alpha = 2$ ,

$$P_2 = \frac{1}{N} \sum_{i=1}^{\phi} \left( \frac{Z - \Omega_i}{Z} \right)^2 \dots \dots \dots (4)$$

### III. Results and Discussion

The result in Table 1 shows the age distribution of the respondents. About 30.8 % of the respondents were within age range of 31-40 years, 26.7 % were above 50 years, 25.8 % were within the ages of 41-50 years, 16.7 % were not more than 30 years of age and the mean age was 48.9. This implies that the respondents were still in their productive years. Majority (52.5%) of the respondents were male while 47.5 % were female. About 45.8% of the respondents had secondary school education. 41.7% had no formal education, 9.2% had tertiary education while 3.3% had primary education. In general, all the respondents sampled are literate. The marital status distribution of the respondents shows that 44.2% of the respondents were married, 29.2% were single, and 13.4 % were widowed and 13.3% were divorced. This implies that majority of the respondents had family responsibility to attend to.

About 67.5% of the respondents had less than or about 4 persons in their households, 23.3% had a household size of between 5-8 persons while 9.2% had more than 9 persons in their households. This indicates that most households in the study are maintained a moderate household size. Participation of household members in agriculture may reduce the cost of labour and increase agricultural productivity but will also place greater demand on consumption since there will be many people to feed. The farming experience of respondents indicated that about 26.7% had between 31-40 years farming experience, 25.8 % had between 11-20 years' experience in farming, 23.3% had between 21- 30 years of farming experienced, 12.5% had less than or equal to 10 years of farming experienced while 11.7% had more than 40 years farming experience. About 70.8 % of the respondents cultivated between 2-4 hectares of land, 27.5 % cultivated less than or about one hectare of land, while the remaining 1.7 % cultivated above 4 hectares of land.

**Table 2: Socioeconomic characteristics distribution of respondents**

Socioeconomic	Frequency	Percentage (%)
<i>Age</i>		
≤ 30	20	16.7
31-40	37	30.8
41-50	31	25.8
Above 51	32	26.7
<i>Mean = 48.9</i>		
<i>Gender</i>		
Male	63	52.5
Female	57	47.5
<i>Education</i>		
No formal	50	41.7
Primary school	4	3.3
Secondary school	55	45.8
Tertiary	11	9.2
<i>Marital Status</i>		
Married	53	44.2
Single	35	29.2
Divorced	16	13.3
Widowed	16	13.3

<i>Household size</i>		
≤ 4	28	23.3
5-8	81	67.5
Above 9	11	9.2
<i>Mean = 6.7</i>		
<i>Farming experience</i>		
≤ 10	15	12.5
11-20	31	25.8
21-30	28	23.3
31-40	46	38.4
<i>Mean = 21.4</i>		

Source: Field Survey, 2018

**Relationship between the sender and the household head**

Table 3 shows the distribution of sources of credit. About 34.2% of the respondents receive credit from daily contributions, 33.3 % receive credit from Esusu, while 26.7 receive credit from cooperative society and 5.8 % of the respondents received credit from microfinance banks.

**Table 3:** Distribution of sources of credit

Relationship status	Frequency	Percentage (%)
Daily contribution	41	34.2
Esusu	40	33.3
Cooperative society	32	26.7
Microfinance bank	7	5.8
Total	120	100.0

Source: Field Survey, 2018

**Average informal credit received each time**

Table 4 shows the distribution of the average informal credit receives by the respondents each time money is sent to them. The result shows that 55% of the respondents received an average informal credit ranging from 51000 - 100000 each time they receive money, 27.5% received an average informal credit of the value not more than 50000 while 17.5% received an average informal credit of above 100000 each time they receive money.

**Table 4:** Distribution of respondents on average informal credit receives each time

Credit amount (₦)	Frequency	Percentage (%)
≤ 50000	33	27.5
51000-100000	66	55.0
Above 100000	21	17.5
Total	120	100.0

Source: Field Survey, 2018

**Inflow of Credit**

In examining the inflow of credit, the result presented on Table 5 shows that most (54.2%) of the respondents admitted the monthly inflow of informal credit and 27.5% of the respondents receive informal credit weekly. About, 15% receive informal credit quarterly and only 3% of the respondents indicated that they receive informal credit annually. The result indicate that most of the respondents receive informal credit, this is expected to increase household income.

**Table 5: Frequency of inflow of Credit**

Inflow	Frequency	%age (%)
Weekly	33	27.5
Monthly	65	54.2
Quarterly	18	15.0
Annually	4	3.3
Total	120	100.0

Source: Field Survey, 2018

The result presented on Table 6 shows the poverty status of the respondents as estimated by FGT poverty index. Poverty line was estimated as two-third mean per capita income of the  $i^{th}$  respondent. However, the poverty line estimate was valued at ₦67500.71, the head count ratio or poverty incidence ( $P_0$ ) was 0.43. This implies that 43% of the respondents in the study area were below the poverty line and were relatively poor. The poverty depth or gap ( $P_1$ ) was 0.11, this value indicated that 11% of the respondents were below the poverty line and therefore required an improvement in their income to reach the poverty line. The poverty severity or intensity ( $P_2$ ) was 0.06. This value indicated that 6% of the respondents in the study were severely poor. The result corroborated the findings of <sup>11</sup>, their study evaluate the impact of micro-financing on rural poverty reduction. The study discovered that there is a significant reduction in the incidence of poverty after the intervention. This depicted that credit plays a vital role in combating poverty among rural dwellers.

**Table 6: FGT poverty index estimate**

Poverty index	Estimated value	Percentage (%)
Poverty incidence ( $P_0$ )	0.43	43.0
Poverty depth/gap ( $P_1$ )	0.11	11.0
Poverty severity ( $P_2$ )	0.09	9.0

Source: Field Survey, 2018

The determinants of poverty was estimated and presented on Table 7. The result showed that the coefficient of occupation and household size were positive and statistically significant determinant of poverty in the study area while the coefficient of age, years of education, amount of credit received and formal credit access were negatively significant. The result implied that an increase in age of the respondents will lead to a decrease chance of becoming poor. <sup>12</sup> showed that education of the household head was significant determinant of poverty. This relate to the fact that there increase likelihood of educated household head to increase the household income base, which will lead to reduction in poverty. Also the implication of an increase in year of education, amount of credit received and credit access reduces the likelihood of becoming poor in the study area. This shows the importance of these variable in poverty reduction in the study area. Farming as the major occupation of the respondents was observed to influence increment in poverty, though a number of factors could aid such assertion. For instance, smallholder farming was characterized with cultivation of small portion of farmland and employing traditional method of farming. They received meagre returns as a result of low yield of their agricultural produce, hence they are left with insufficient income to pull them out of poverty. This argument was in conformity with <sup>13</sup>, they observe that most of the smallholder farmers' savings were very low and have little to acquire agricultural innovative technologies. In the same vein, increase in household size increases the chance of more poverty. Many authors have posited the direct link of household size with poverty, and so the findings from this study likewise was in agreement with this. Smallholder farmers employ family member as labour

**Table 7:Regression Analysis**

Variables	Coefficient	Std. Err.	z-value	Prob/z/
Age	-0.6060	0.2942	-2.06**	0.024
Marital status	-0.1099	0.3283	-0.34	0.7378
Years of education	-0.1326	0.0611	-2.17**	0.0174
Occupation	0.1452	0.8088	1.79*	0.0726
Farming experience	-0.1638	0.5315	-0.31	0.7579
Household size	0.1250	0.1828	6.83***	0.0000
Farm size	0.2536	0.4043	0.63	0.5304
Amount of credit received	-0.5980	0.3035	-1.97**	0.0352
Ownership of productive asset	-0.2332	0.2176	-1.07	0.2840
Credit access	-0.2169	0.1291	-1.68*	0.1011
Membership of social group	-0.3063	0.8064	-0.38	0.7040

\*\*\*significant at 1%; \*\*significant at 5%; \*significant at 10%

Source: Field Survey, 2018

#### IV. Conclusion and Recommendation

The study sought to estimate the influence of credit on household poverty in Iwo Agricultural Development zone. With a well design questionnaire, information were elicited from a hundred and twenty farm families sampled through a multistage sampling technique. From the result, this study establish it that most of the respondents were married and they were still young and active productively. Averagely, the respondents have a fairly large household size and a cognitive farming experience. Income in form of informal credit were obtain from household members in and out of the study area. The study further shows that most of the respondents receive informal credit monthly. The poverty incidence was on the high side and need urgent attention. Household size and occupation increases likelihood of more poverty while age, years of education, amount of informal credit received and access to formal credit upsurge poverty reduction. However, this study suggest diversification of income sources for enhance welfare and sensitization on birth control.

#### References

- [1]. Odife. N. Financing Agricultural Ventures”. A Report on Agricultural Financing by the Nigeria Agricultural Co-operative and Rural Development Bank, 2002 pp 4-10.
- [2]. EssienUA. Gender Informal Credit Markets and Determinants of Credit Use by Food Crop Farmers in Akwalbom State Of Nigeria, M.sc Thesis Michael Okpara University of Agriculture ,Umudike, Nigeria 2009.
- [3]. NwankwoGO. The Impact of Government Policies on the Financial System. Bullion, 1983 2 pp33-36.
- [4]. Nwaru JC. Rural Credit Markets and Resource Use in Arable Crop Production in Imo State of Nigeria PHD Dissertation, Michael Okpara University of Agriculture Umudike Nigeria(2004).
- [5]. Emereole,CO Demand for institutional Credit by Farmers in Abia State, Nigeria. A Case study Of the Nigeria Agricultural and Cooperative Banks M.sc Thesis, Federal University Of Technology Owerri Nigeria 1995.
- [6]. Udoh EJ. Demand and Control of Credit from Informal Sources by Rice Producing Females of Akwalbom State Nigeria”. Journal of Agriculture and Social Sciences 2005 1(2); pp153-155.
- [7]. Khandker SR and Farugee RR. The Impact of Farm Credit in Pakistan. The World Bank Technical Paper No 258 Washington, DC 2001.
- [8]. Nwaru JC and Onuoha RE. Credit Use and Technical Change in Small holder Food Crop Production in Imo State of Nigeria”. New York Science Journal 2010 3(11)
- [9]. Foster, J.E., Greer, J. and Thorbecke, E. A Class of Decomposable Poverty Measures, *Econometrica*, 1984 52(3), 761-776.
- [10]. Sen, A. Poverty: An Ordinal Approach to measurement. *Econometrica*, 1976 44(2), 219-231
- [11]. Mustapha M.B, Yusuf, B.I., and Abdullahi, A.N. (2019): Micro-financing and rural poverty reduction: A case of Rima Microfinance Bank in Goronyo Local Government Area, Sokoto State, Nigeria. *Journal of Development and Agricultural Economics* 11(10), pp. 256-264
- [12]. Apata, TG., Apata, OM., Igbalajobi, OA., and SMO Awoniyi. Determinants of rural poverty in Nigeria: Evidence from small holder farmers in South-western, Nigeria. *Journal of Science and Technology Education Research* 2010 1(4), pp. 85 - 91,
- [13]. Oludimu A, Olufemi O. Focus on Agricultural Credit: Financial Management International. *Review of Finance* 2003 1:23-32.

Sanusi, Wasiu Adekinle, et. al. “Influence of Credit on Household Poverty in Iwo Agricultural Development Zone of Osun State, Nigeria” *IOSR Journal of Agriculture and Veterinary Science (IOSR-JAVS)*, 13(7), 2020, pp. 58-63.