EFFECT OF INFORMAL CREDITS ON FARM HOUSEHOLD'S WELFARE IN SOUTH EAST, NIGERIA: A QUANTILE REGRESSION APPROACH

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Abstract
The study estimated the effect of informal credits on farm household's consumption expenditure in Southeast Nigeria. Primary data were collected using a well-structured questionnaire administered to 240 farm households that had at least borrowed once during the 24 months prior to the survey which were selected using multistage and simple random sampling techniques. Data collected were analysed using: descriptive statistics, ordinary least square regression model and quantile regression model. The effect of informal credit on consumption expenditure at the 25th quantile was positively influenced by gender ($P<0.01$), age ($P<0.05$), education ($P<0.01$), participation ($P<0.01$), non-farm income ($P<0.01$), farm size ($P<0.01$) and asset ($P<0.01$) while negatively influenced by main occupation ($P<0.01$), household size ($P<0.01$) and remittance ($P<0.01$). At the 50th quantile, it was positively influenced by gender ($P<0.05$), education ($P<0.01$), participation ($P<0.01$) and negatively influenced by household size ($P<0.01$) and remittance ($P<0.05$). At the 75th quantile, it was positively influenced by gender ($P<0.01$), education ($P<0.01$), participation ($p<0.01$) and assets ($P<0.01$) while negatively influenced by farm income ($P<0.01$), dependency ratio ($P<0.05$), household size ($P<0.05$) and remittance ($P<0.01$). Participation of farmers should be encouraged through farmers association to help unleash the inherent social capital and information advantages for improved informal financing. Also, government and policy makers should pay more attention on finding relevant credit policy for the poor and disadvantaged households to assimilate informal financial institution into federal government's overall rural banking policy thereby unleashing its potential for accelerated growth and development.

Keywords: informal credit, welfare, consumption expenditure, participation, farm households

Introduction
A vast majority of the rural populace in Nigeria depend on agriculture for their livelihood, (Henri-Ukoha, 2011), and majority of the population are poor and predominantly engaged in the informal sector where there is no guarantee for income and capacity to provide collateral/ security for credit facilities, thus perpetuating poverty among them. Evidence from the empirical literature indicates that credit as a development tool, enables poor households against starvation, illiteracy and all other adversities that impinge on their welfare (Afrane, 2002) and improves household power relations (Pitt *et al.,* 2006). Access to credit affects household welfare outcomes through alleviation of the capital constraints on business and increases the ability of poor households with little or no savings to acquire necessary inputs (Zeller, 1994). It has also been reported that credit from formal sources help boost welfare development (Alhassan and Akudugu, 2012). As a result, successive

governments in Nigeria have never relented in formulating and implementing policy reforms and regulations in the financial sector to ensure increased access to credit by all and increase in agricultural productivity, especially those in the rural areas where agriculture is the main source of livelihood (Awotide *et al*., 2015). Notable amongst these policy reforms and regulations are cooperatives, commercial and agricultural banks like Bank of Agriculture (BOA). However, According to the World Bank (2005), the informal sector remains the leading provider of agricultural credit in Nigeria and Informal market contributes about 85% of the total rural savings and credits in Nigeria (Adegoke, 2014). Again, the three most important sources of rural credit in Nigeria are all informal: Rotating Savings and Credit Associations (ROSCA), family, and friends. Commercial banks came fourth, with only 11percent of rural dwellers sourcing credit from the formal sources (Ammani, 2012). This

has resulted in informal institutions to often fill the gap usually based on informal social capital networks. As clearly stated in a financial sector assessment performed by Finscope survey report of 2014, an estimated 40 percent of the adult population were financially excluded and 18 percent of this population are from south east, Nigeria. 57 percent of adult females were financially excluded and 52 percent of adult Nigerians are financially excluded from formal finance (Finscope, 2014; EFInA, 2018). This shows that establishing a formal credit market does not mean that the more traditional informal credit sector is eliminated as populace must meet their financial obligation.

The informal sector in developing countries is large, resilient and dynamic. It also occupies an important position in the overall development of an economy. The informal sector in Nigeria accounts for 35 percent of Gross Domestic Product (GDP) or $78.5 billion and contributes 80 percent of the labour forces in Africa (Finaccess, 2009). It covers a wide range of activities; these include small and unregistered sole proprietor businesses and joint partnership businesses in the rural and urban areas. The Nigerian informal sector has two major components – the economic and financial segment and the administrative/political segment. The economic and financial segment comprises large number of highly competitive but poor capitalized small-scale operators and the informal financial institutions, which they have developed to sustain their businesses (World Bank, 2005). Informal finance consists of individuals, groups and associations that mobilize local savings and grant credit, mainly in cash, and on principles which are different from those of regular formal credit institutions. The essential characteristic of informal financial intermediaries and markets is that they are loosely organized, monitored and regulated than the formal financial system, despite informal control they are well organized with their own rules and discipline. They flourish in rural and urban areas; carter for the rich and the poor, workers, professionals and people with and without regular income (Mehrteab, 2005).

Informal credit use can be associated with consumption smoothing and risk sharing (Alvi and Dendir, 2009). This is also found by Schindler (2010), who used a qualitative dataset to explain that informal (urban) credit among market women in northern Ghana is very important to trading business and serves mainly as a strategy for managing risks. Loans are used to keep consumption stable and by continuously borrowing and repaying loans (also when no shocks occurred) women try to strengthen their link to informal lenders. Notwithstanding the exorbitant interest payments charged by informal lenders (Schindler, 2010), the informal financial market continues to exist and experience surge with many people across the country relying on it to meet their financial needs and improve their livelihood. Looking at the general notion of informal credit market functioning below their potential in improving the livelihood of its members; the question

therefore is, does informal credit really negatively affects the welfare development of farm households in South East, Nigeria? Empirically, this question has not been answered as available empirical literature on the question above led emphasis on formal credit. Although there have been many studies on the impact of credit on the welfare of poor households in rural areas, less or very little study on informal credit was done qualitatively (Shil, 2009). Thus, a quantitative evaluation of the market becomes necessary to ascertain its effect on the livelihood of farm households in the study area. This paper studied the effect of the informal credit on the welfare (expressed through consumption expenditures) of farm households in south east, Nigeria.

Methodology
The study was conducted in South Eastern Nigeria. The South East geo-political zone is made up of five states, namely, Abia, Anambra, Ebonyi, Enugu and Imo and has a rural population density of 173 persons per square kilometre (Iloka and Anuebunwa, 1995). The zone is located within latitudes $4^{o}30'$ and $7^{o}00'$ N and longitudes $5^{o}30'$ and $9^{o}30'$E. The zone has a total land mass of 10,952,400 hectares with over 16 million resident populations (NPC, 2006). The predominant soil of the area is sandy loam while the natural vegetation is the tropical rainforest and a climate characterized by two distinct seasons; the dry season and the wet season. Farming is the predominant occupation of the people in the zone majority of who are small-holder farmers. The farmers are primarily involved in food production and animal husbandry (Onyeukwu, 2012). The farmers practice mixed farming as well as mixed cropping among which are cocoyam/maize/vegetable/cassava and cocoyam/maize (Nkemalu, 2000).

Sampling Technique
The study employed multi-stage simple random sampling technique in selecting 240 respondents. Three out of the five states in the South East geo-political zone were randomly selected Abia, Anambra and Ebonyi States. In the second stage, two agricultural zones per state were randomly selected giving a total of six Agricultural zones. In the third stage, two local government areas (LGAs) were randomly selected from each of the selected agricultural zones giving a total of 12 LGAs. In the fourth stage, two communities were randomly selected from each of the LGAs giving a sample of 24 communities. In the last stage, based on the list of farmers who participated in informal credit markets obtained from resident Agricultural Development Programme (ADP) Officers and enumerators, 10 farmers from each community were randomly selected giving a total of 240 farmers. Out of this number, 223 questionnaires were correctly filled and used for the analysis.

Data collection and data analysis
Primary data were collected using a well-structured questionnaire and oral interviews.
The study used cross sectional data and panel data collected fortnightly for three months for consumption

expenditure of farm households that participated in informal credit market. Data were analyzed using both descriptive such as frequency, percentages, mean and inferential statistics using ordinary Least Square (OLS) and Quantile Regression (QR) models. Ordinary Least Square (OLS) and Quantile Regression (QR) models were used to estimate the effect of participating in informal credit market on the welfare of farm households (defined here as their level of household consumption expenditure(₦). The purpose of using quantile regression along with OLS was to check whether the rate of change of the conditional quantile of the response variable (household consumption expenditure) depends on the quantile.

Model Specification
Estimation using quantile regression model and ordinary least squares (OLS):
The quantile models assume that the conditional quantile of a random Y is linear in the regressors X and the notational expression of the model is given by equation below:

$$Y_i = X_i \alpha_q + E_{qi} \text{ with } Quant_q(Y_i/X_i) = X_i \alpha_q \ldots\ldots (1)$$

Where:
X_i(i ranges from 1....n) is the vector of explanatory variables and α_q is the vector of parameters.
$Quant_q(Y/X)$ is the qth conditional quantile of Y given X. Estimation of the quantile parameters will be done as the solution (equation (2)):

$$(min_{(\alpha \in R^k)} (\sum_{(i:yi>xi\alpha)} q) \mid Yi - (x_i \alpha_q) \mid + \sum_{(i;yi<xi\alpha)}(1-q) \mid Y_i - X_i(\alpha_q) \mid) \ldots (3)$$

The quantile regression (QR) can provide a more complete description of the underlying conditional distribution than other mean – based estimators, such as OLS. Using QR in line with prior studies (Buchinsky 1998 and Enete 2013), these studies investigated possible differences in consumption expenditure of low spending households compared with those that are medium and high spending.

Regression model
The implicit form of the OLS regression model was:

$$Y=f(X_1;X_2;X_3;X_4;X_5;X_6;X_7;X_8;X_9;X_{10};X_{11};X_{12};X_{13;}\ X_{14})+u \ldots\ldots (4)$$

Description of variables used in OLS and quantile models
Y = Per capita consumption expenditure (Total expenditure on food and non-food items divided by household size)
X_1 = Sex of farmer (1 = male, 0 = female)
X_2 = Age of the household head (years)
X_3 = Education (Years of formal education)
X_4 = Participation level (amount of credit received in the last two years in (₦)
X_5 = Non-Farm Income (money received from off farm work in (₦)

X_6 = Farm Income (receipts of the farm sales in the last one year in (₦)
X_7 = Marital Status (1 = Married, 0 = Otherwise)
X_8 = Farm size (Total household farm size in hectare)
X_9 = Social capital (membership of farmers association: 1 = borrower is a member, 0 = otherwise)
X_{10} = Main occupation (farming = 1, 0 = otherwise)
X_{11} = Dependent Relatives = (Children under 18 years and adults above 65 years)
X_{12} = Household size (Number of household members)
X_{13} = Remittances (money received from relatives working in other towns or cities in the last one year (₦))
X_{14} = Asset = Value of productive assets owned (₦)
u = Error term

Results and discussion
Socio-economic characteristics of household heads
The socio-economic characteristics of the respondents as presented in Table 1 showed that, majority of the respondents (56.05%) were females while 43.95% were males. This agrees with the findings of Okezie (2021) and Akudugu et al. (2012) who reported that females are considered the most vulnerable, disadvantaged, and are therefore likely to opt for informal credit than their male counterparts. This may also be because formal credit markets are relatively more favorably disposed to giving credit to male compared to female farmers. The survey showed that majority (79.30%) of the respondents were within the age bracket of 31-50 years. On the average, the age of respondents was 43 years. This implies that the farmers were in their economically active and productive category which is between 25-59 years as reported by Muhammad-Lawa and Omotesho (2013). This is expected to impact positively on their productivity. Furthermore, the study showed that 81.16% of the respondents were married, 12.56% were single, while, 6.28% were separated or divorced. This is typical of Nigeria rural setting because family members often serve as a source of farm labor together with cultural value attached to marriage. Majority (74.89%) of the respondents acquired one form of formal education or the other. The educational level of the household head could determine the level of opportunities available to improve the welfare of the family. Okojie et al. (2010), reported that the higher the educational level of the household head, the greater the household welfare and food security and, the lower the probability of the household being poor. The household size was large with average of 7 persons per household which could indicate a high supply of labour to the family enterprise (with minimum of 2 persons and maximum of 12 persons). Household size is important as increase or decrease in household size, increases or decreases the number of consumers, thereby putting or reducing pressure on household resources particularly on food and non-food expenditures. This result corroborates the findings of Okezie (2021), and Ibiok (2012) who reported that households with large household size were prone to default and food insecurity. Farming experience of respondents varied widely in the study area, with a mean farming experience of 12 years. This showed that farm

households in the study area had considerable experience in farming. Nwaru (2004), noted that, the number of years a farmer spends in farming business may give an indication of the practical knowledge he has acquired. Also distribution of respondents by years of borrowing experience indicates that about 56.67% of the respondents have been borrowing from informal credit market for at least more than three years. The mean borrowing experience for the respondents was 6 years.

Effect of informal credit market participation on household welfare (indexed by consumption expenditure)
In assessing the factors that determine effects of participation on household consumption expenditure of the respondents the OLS and quantile regression analyses were used. The result of the analysis is as shown in Table 2. It showed that nine of the fourteen explanatory variables were significant for the OLS case and the significant variables were sex, age, education, participation, farm income, farm size, main occupation, remittance and assets. However, while the nine variables were also significant in the case of the quantile regressions, non-farm income, dependency ratio and household size were in addition significant in the quantile regressions. Also, sex, education and participation of the respondents were the only significant and positive variables in both OLS and the quantile regressions while only remittance was the only significant and negative variable in both OLS and the quantile regressions. Table 2 also showed R^2 of 0.828 for the OLS and Pseudo R^2 of 0.61010, 0.6083 and 0.6062 for the 25th, 50th and 75th quantiles respectively, showing measure of goodness of fit. The pseudo R^2 decreased from the lower quantile to the higher quantile, which indicates that the model explained household consumption expenditure better at the lower quantile than at the higher quantile. Sex of the household head was positively and significantly related to household consumption expenditure of the respondents in each of the regressions. The quantile regression showed that the positive impact of sex (male's head of household) increased from the 25th through the 50th and 75th quantiles. The positive effect of sex suggests that male respondents (even though they constitute the less of them from their socio-economic profile of the study) were more advantaged than their female counterparts probably because they had, on the average, higher income. This implies that male had more access and control over vital production resources than female households because of socio-cultural values and norms. Age of household head was significant and positively related to the household consumption expenditure at the OLS (P<0.01) and bottom quantile points (P<0.05). The result of the quantile regression at 25th suggests that low spending on consumption expenditure is positively related to young farmers with respect to their propensity to save since for them the future income is governed by today's consumption under the assumption that all things being equal the more you consume today, the less you will consume in the future. Nguyen (2006) in

Vietnam noted that as person ages, need requirements may change and possibly, the individual may spend more.

Years of formal education were positively and highly significantly related with the dependent variable in all the equations. The result shows that majority of the respondents in this study possessed one level of education or the other. The effect of education on consumption expenditure declined from the 25th quantile through the 50th and was smallest for the 75th quantile. Tran *et al.* (2015) reported similar result in their study on impact of credit on poor household's consumption expenditure in Vietnam. They noted that higher education level would help poor households to easily and promptly update their information as well as comprehend and apply new technologies in farming, they can avail many opportunities to find good jobs with higher income levels. Therefore it will contribute to ensure a better life for their household. Also, Mignouna *et al.* (2015) reported a positive effect of education on household consumption expenditure and concluded that education contributes in various ways to the household expenditure and that education may only be effective if it translates to higher income for them. The coefficient of participation in informal credit market was significantly and positively related to household consumption expenditure of the respondents in each of the regressions at P<0.01 respectively. The positive significant effect of this variable on consumption per capita expenditure at 25th, 50th and 75th quantiles implies that, households who received sufficient amount of credit from informal sources can improve their consumption per capita expenditure. This result nullified the notion that only the poorest participate in informal credit market. This showed that the consumption expenditure of households who participate in informal credit market were high and was highest at the upper quantile (75th). Being highest at 75th quantile may imply wealthy and better off farmers and also, cheap and easy credit facilities of informal financial markets which shifts consumption function upwards thus, rising propensity to consume. This result also implies that participation in informal credit market encourages or supports the respondents in facilitating consumption expenditures and that participant is in position to spend through the use of accumulated savings by accessing the credit market to finance those expenses. In coherence with this finding, Varadharajan (2004) observed that household expenditures per capita correlate positively and significantly with ROSCA participation and Weinberger and Jutting (2001) found that the middle class has the highest coefficient of correlation, suggesting an inverted U-shaped curve, thus rejected the assumption that the poorest people participate in ROSCA. Brainnen (2010) in Tanzania reported similar view that participation in village savings and loan association (VSLA) had a positive impact on welfare of participants. Also, Shindler (2010) who in a study of informal credit participation as a coping strategy among market women in Northern Ghana concluded that informal credit positively influences the welfare outcome of women and their

households. The significance of the result is also in agreement with the opinion of Tshuma and Jari (2013) that the promotion of informal sector activities or at least the elimination of regulations and stifling restrictions could open up sources of income which the poor households could use to escape poverty. This result corroborates with findings of Luiz (2002) who reported that the rise in informal capital market participation plays important role in job creation and labour absorption, which impact the livelihood of households.

Coefficient of non- farm income was found to be statistically significant (p<0.01) and positively affected consumption expenditure of households at the lower quantile (25th). This result indicates that, ₦1.00 increase in non- farm income results in about ₦0.03 increase in household consumption expenditure. This implies that households at the lower quantile, engaging in non-farm activities as an income diversification strategy, are more likely to enjoy higher consumption levels. Furthermore, Akudugu (2014); Tran *et al*., (2015) reported positive and significant effect of non-farm income on household consumption expenditure. They noted that respondents who earn extra income apart from their farm income had more confidence to finance their spending. Coefficient of farm Income was significant with a negative sign on household consumption expenditure at the OLS and 75th quantile at P<0.01 levels respectively. This means that when farm income of household increases by ₦1.00, their expenditure on consumption decreases by ₦10. In addition, the negative and highly significant effect of farm income at 75th quantile, implies that the effect of farm income on consumption expenditure decreases. Possible explanation to this result could be that, households at the upper quantile might be wealthy, farming primarily for consumption and are therefore not selling major part of their farm produce for income to finance the attainment of other welfare outcomes (that is they practice subsistence farming). Also, attitude of household head towards saving could be another reason. The household head may value future consumption more than present consumption thus leading to downward shift in consumption function. This finding is in support of the study of Akudugu (2014) who reported a negative and significant effect of farm income on consumption expenditure and asserted that respondents could be into subsistence agriculture and farm income could be for productive investment and savings for rainy days.

Farm Size was positively and significantly related with the dependent variable and such a relation is only significant at the lower (Q25th) and upper (Q75th) quantiles at P<0.01 and P<0.01 levels respectively. Farmer with large farm size at Q75th spends more than his counterpart at Q25th. The quantile result implies that the need for farm input is highest for farmer at 75th because, he is assumed to be wealthy and with large farm size may decide to go for modernize inputs and improved technologies/ innovation. It was also positive and significant at P<0.05 level for the OLS case. This implies that as the farm increases in size, there is an increased need for farm inputs, hence increase in consumption expenditure. This is in conformity with the findings of Akinola and Young (1991) that the larger the farm, the more quantities of inputs that would be needed in the farm hence greater investment expenditure and also this result is supported by the findings of Barslund and Tarp (2003). The result of farming as a main occupation was statistically significant and negatively related to household expenditure only at 25th quantile and in OLS case at P<0.01 and P<0.05 level respectively. The quantile regression showed that the negative effect of farming as main occupation declined from 25th through the 50th and was smallest for the 75th, though 50th and 75th quantiles were not significant. The significance of the lower quantile (Q25th) result implies that a farmer whose major occupation is farming spends less on food consumption expenditure than their counterparts probably, majority of their foods are gotten from their farms. Secondly, farmer whose main occupation is farming may value future consumption (saving more than they spend) than present consumption thus, spend less on present consumption. The study of Mignouna *et al.,* (2015) on consumption expenditure determinants in Nigeria and Ghana reported negative effect of farming as main occupation on household consumption expenditure. They suggested that farming contributes less to consumption expenditure on foods, probably for the fact that share of respondents food-consumption come from their farms and also, that respondents see farming as an inter- generational transfers to their children thus, households may choose to save rather than spend.

Dependency ratio was significant and negatively related to the household's consumption expenditure only at the top quantile point at P<0.05. This result implies that having more children dependent on the same number of adults together with the elderly would likely reduce consumption expenditure of the household. This result is counter – intuitive but it may arise due to the fact that higher number of children and elderly reduces the probability that a child will enjoy or get chance of getting educated and of the elderly getting the necessary health needs (nonfood expenditure) due to the fact that families may not be in position to sustain the fees involved because of financial constraints or poverty while food expenditure may vary due to reasons like advantages for economies of size for high dependents. Household size coefficient was negatively and significantly related to consumption expenditure of the respondents at 25th, 50th, and 75th quantiles. The result of the quantile regression also showed that the negative effect of household size declined from 25th through 50th for which it was lowest and to 75th quantiles but the decrease in spending was highest at 25th quantile. This result implies that a unit increase in size of the household decreases consumption expenditure across all quantiles respectively. Okezie, (2019) opined that increase in household size reduces consumption expenditure due to increase in number of earning members who contributed to household consumption expenditure. Also, Swain (2008) reported negative effect of household size on

consumption expenditure and asserted that larger family could be a reflection of an increased number of earning members in the household.

Transfer income/remittance was found to have a negative and significant effect on household consumption expenditure at the OLS, bottom (25th), median (50th) and high (75th) quantiles. The a priori expectation of positive relationship was not met but this result is in line with the findings of an earlier study by Gutafsson and Mkkionnen (1993) on poverty and remittances in Lesotho and concluded that remittances do not necessarily lead to poverty reduction and improvement in welfare conditions. Household assets effect on consumption expenditure was positively related at the 25th, 75th and OLS case at P<0.01 level of significance respectively. The result indicates a positive coefficient of 1563.68and 5495.50 for 25th and 75th quantiles respectively. This implies that for every one unit increase in value of household asset, the relative increase in the consumption expenditure was approximately 1563 and 5495 units. The result of this work agrees with Alex (2011) who noted that assets like productive farm equipment could be easily liquidated to generate quick cash in some cases, which probably explain the strong impact of farm equipment in boosting household consumption expenditure relative to the poverty line. Also, the result corroborates with the findings of Filmer and Pritchett (2001) who revealed that participation in VSLAs by households led to an improvement in their income or consumption expenditure overtime since asset can be used as a proxy for income and that participants were in position to borrow from savings pool and the proceeds generated can be used to acquire more assets.

Conclusion
The study estimated the effects of informal credits on farm household's consumption expenditure in southeast, Nigeria. The positive result of effect of participation on per capita consumption expenditure (welfare) of respondents showed that informal credit market in the study area still have potentials to improve the socio-economic lives of people. Also, Result showed that the Pseudo R^2 decreases from the lower quantile to the higher quantile indicating that the model explained household consumption expenditure whose spending is in the lower quantile better than households whose spending is in the higher quantile. Fourteen variables were hypothesized to influence and distinguish respondents into lower, medium and upper quantiles and 12 out of 14 variables were significant. The significant variables are: sex, age, education, farm income, farm size, main occupation, household size, remittance and assets, non-farm income, participation and dependency ratio. Participation of farmers should be encouraged through farmers association, this will help in involvement of borrowers in both operational and policy decisions which constitutes strong participatory elements in management of credit and also, help to unleash the inherent social capital and information advantages for improved informal financing. Also,

Government and policy makers should pay more attention on finding relevant credit policy for the poor and disadvantaged households to assimilate informal financial institution into federal government's overall rural banking policy thereby unleashing its potential for accelerated growth and development.

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Table 1: Socioeconomic characteristics of the respondents

Variables	Frequencies	Percentages	Means
Sex	**N = 223**		
Male	98	43.95	
Female	125	56.05	
Age(years)			
21 – 30	22	9.90	
31 – 40	43	19.30	**43**
41 – 50	134	60.00	
51 – 60	24	10.80	
Marital Status			
Single	28	12.57	
Married	181	81.16	
Separated/Divorced	14	6.28	
Educational Qualification			
No Formal			
Primary	56	25.11	
Secondary	61	27.35	
Tertiary	91	40.81	
	15	6.73	
Household Size			
1 – 3	14	6.28	**Min: 2**
3 – 6	55	24.66	**Max: 12**
6 – 9	73	32.74	**Mean: 8**
9 – 12	81	36.32	
Farming Experience(years)			
1 – 10			
11 – 20	70	31.39	
21 – 30	144	64.57	**13**
	9	4.04	
Borrowing experience(years)			
1 – 5			
6 – 10	136	56.67	
11 – 15	62	25.83	**6**
	42	17.50	

Source: Field survey, 2018

Table 2: Parameter estimate of effect of informal financial market on household consumption expenditure

Explanatory Variables	OLS Linear+ Regression	Standard Error	Coefficient of Q25th	Standard Error	Coefficient of Q50th	Standard Error	Coefficient of Q75th	Standard Error
SEX	41236.56 (4.143)***	9953.594	34022.57 (8.42)***	4041.237	35953.7 (2.37)**	15145.02	54156.29 (6.43)***	8417.419
AGE	1480.82 (2.590)***	571.804	490.20 (2.38)**	205.9084	889.49 (1.07)	860.301	565.59 (1.14)	496.0985
EDUCATION	6.221 (13.765)***	0.452	7.2330 (36.03)***	0.2007263	6.8105 (9.97)***	0.6833132	6.4496 (18.21)***	0.3542126
PARTICIPATION	34806.80 (6.566)***	5300.776	33921.41 (16.14)***	2101.155	27451.28 (3.42)***	8036.924	47122.85 (10.90)***	4321.981
NON-FARM INC	0.015 (0.393)	0.039	0.0285 (2.70)***	0.0105226	-0.03686 (-0.60)	0.0611329	-0.0169 (-0.76)	0.0222766
FARM INC	-4.575 (2.867)***	1.596	-0.2121 (-0.39)	0.5471377	0.3931 (0.16)	2.42509	-10.1990 (-6.05)***	1.685702
MARITAL STATUS	-3197.87 (-0.425)	7526.762	-37.9470 (-0.01)	3369.152	10316.95 (0.91)	11354.8	-3165.85 (-0.48)	6553.093
FARM SIZE	1.745 (2.168)**	0.805	1.4399 (4.75)***	0.3031951	1.4506 (1.23)	1.180811	2.3902 (3.03)***	0.7896328
SOCIAL CAPITAL	-2571.75 (-1.547)	1662.824	-927.42 (-1.43)	650.3806	-823.19 (-0.33)	2484.859	-2004.98 (-1.62)	1236.956
MAIN OCCUPATION	-3410.44 (-2.311)**	1475.452	-3411.90 (-6.34)***	538.5507	-2869.574 (-1.29)	2228.853	-2307.79 (-1.59)	1455.623
DEP ENDENCY RATIO	-0.192 (-1.545)	0.124	-0.0024 (-0.04)	0.0566353	0.0898 (0.48)	0.185705	-0.2203 (-2.21)**	0.0995367
HOUSEHOLD SIZE	-13605.86 (0.772)	17632.353	-2138.21 (-3.12)***	6860.864	-69513.95 (-2.691)***	25867.41	-29918.06 (-2.56)**	11689.55
REMITTANCE	-0.077 (-2.035)**	0.038	-0.0485 (-5.85)***	0.0082934	-0.0892 (-1.971)**	0.0452324	-0.0709 (-4.36)***	0.0162733
ASSETS	3657.13 (2.712)***	1348.503	1563.68 (3.19)***	489.8518	2960.15 (1.46)	2031.104	5495.50 (5.28)***	1041.732
Constant	108111.04 (2.239)**	48276.348	4236.80 (2.26)**	18728.21	94961.92 (1.29)	73543.6	130380.2 (3.49)***	37358.93
F-Statistics	52.638***							
R²	0.828							
	0.828							
R-²	0.812							
Pseudo R²			0.6101		0.6083		0.6062	

***, **, * indicates significant at 1% and 5% respectively, figures in parenthesis are the t-values. + = lead equation

Source: Field Survey, 2018

Okezie, Teran & Enete
Nigerian Agricultural Journal Vol. 52, No. 3 | pg. 301