

Full Length Research Paper

An analysis of farmers' access to formal credit in the rural areas of Nigeria

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This study examines the factors that influence farmers access to formal banking credit in the rural areas of Nigeria. The data used was collected from rural areas of Katsina State. This study used probit modelling approach to analyse the factors that influence farmers' accessibility to formal credit. This study found that the level of income, collateral, educational attainment and marital status have significant positive influence on farmers' access to formal credit, while age and sex have insignificant positive influence on the farmers' access to credit. On the other hand, interest rate and transaction cost have significant negative influence on the farmers' access to formal credit. Thus, this paper concluded that with the prevailing banking arrangement in Nigeria, rural farmers have little or no access to credit from conventional banks. Therefore, the study recommended the use of both group lending arrangement and character lending, so that farmers in the rural areas could be reached with formal credit.

Key words: Rural farmers' access to credit, rural finance, Agricultural financing determinants.

INTRODUCTION

In Nigeria several programmes were implemented to support agricultural sector; such as Rural Banking, Agricultural Credit Guarantee Scheme (ACGSF), aimed at enhancing availability of credit to rural populace especially farmers at affordable cost. However, the programmes have at one time or the other been influenced by political considerations; hence they recorded little success (Aliero, 2009). In fact the usufruct of the programmes does not reach the targeted beneficiaries. Some of the problems identified as responsible for poor performance in the development of Africa's rural financial markets include excessive controls, ineffective supervision and dearth of qualified manpower (World Bank, 1999). Rural farmers often have to plough back their profit (if any) or rely on informal village money lenders to source finance which in turn be used to pay for the services of the productive factors employed in the

course of farming activities. Farming is virtually subsistence in nature in rural Nigeria, perhaps, commercial agriculture was largely absent in the areas, this is partly because most people dwelling in rural areas are poor, characterized by low income, large family size, lack of adequate formal education, low savings and investment, lack of access to credit facilities and use of crude farm implements. As a result, poor economic base, untold hardship, living from hand to mouth, joblessness, high death rate, etc have characterised the life in rural areas (Olayide et al., 1980).

About two-third of Nigerians are said to be poor and 80% of whom are living in rural areas, they pathetically feel dissatisfied with their present living conditions (Badayi, 2002) and over 80% of the total agricultural produce was derived from subsistence farming activities of this area, at the same time, rural farmers are not paid enough for their produce, whereas price for basic farming tools and other essential inputs are constantly rising beyond their reach (Babasanya et al., 2008). The low income level of rural farmers stem from global instability of the demand for agricultural output as well as the rising

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costs of agricultural input compelling rural farmers to operate purely on subsistence level with low investment as a result of low productivity and low income (Beck et al., 2000). It has been argued by IPAR (2007) that lack of market information and therefore, inadequate access to finance by the rural poor in developing countries, is one of the main reasons why people remain poor. It is in this regard that Burgess and Pande (2003) have argued that access to finance is critical to enable the poor to transform their production systems and thus exit poverty. Access to finance through credit assists the poor not only to smooth their consumption but also to build their assets, which enhance their productive capacity (IPAR, 2007).

The main objective of this paper is to analyse the factors that influence accessibility of formal credit by the rural farmers. To achieve this objective, the rest of the paper is structured into four sections. Second section contains literature review, while section three is the methodology, section four presents the results and discussion and the last section gives conclusion of this paper.

LITERATURE REVIEW

Credit markets in rural areas are often constrained by inadequate property rights and high transaction costs. Despite these problems, some small-scale farmers have managed to produce food for own consumption and the market (Ortmann and King, 2006). Credit is an important instrument for improving the welfare of the poor directly through consumption smoothing that reduces their vulnerability to short-term income. It also enhances productive capacity of the poor through financing investment in their human and physical capital (Okurut et al., 2004). Access to credit is regarded as one of the key elements in raising agricultural productivity (DBSA, 2005).

It is widely recognized that for bank intermediation to deepen, it is necessary that collateral is sufficiently available to borrowers and enforceable to lenders (Sacerdoti, 2005). One way in which a financier can reduce the risk of losing his money due to uncertainty is by requiring collateral. Collateral reduces the problem of uncertainty, since the lender can theoretically recover some, or all, of his loan in the event of default. It also reduces information asymmetries; as it is often easier to value physical assets than to value character. Moreover, the borrowers will find it costly to put valuable collateral if they intend to default with the proceeds of the loan, because they will lose their collateral. Thus, the collateral requirement can also help to weed out rogues from honest borrowers, leaving only those bona-fide applicants who fully intend to repay the loan. The potential loss of their collateral also makes the borrower think twice before investing in risky ventures (Basu, 2006).

Furthermore, most people in rural areas are living in

abject poverty, they do not own assets that are acceptable as traditional collateral on loans, this hinders financial access to the rural poor (Fleising and De la Pena, 2003). Collateral realization processes are often very weak in Sub-Saharan Africa (SSA), this as a barrier to credit protection, was aggravated by the fact that in many countries the issuance of titles is extremely difficult, due to the absence of appropriate procedures for registration of properties, and inadequate resources of property registration offices (Sacerdoti, 2005). One problem in all this, of course, is that the rural poor typically do not have collateral, so they lose out once again. Another problem is that collateral can only provide security to lenders in an environment where households have proper titles to their assets, and where the legal system makes it relatively straight forward for lenders to enforce contracts and repossess collateral (Basu, 2006).

The transaction costs of rural lending in developing countries are high, mainly due to small loans size, high frequency of transactions, large geographical spread, the heterogeneity of borrowers as well as the lack of a rural bank branch network as an additional problem (Sacerdoti, 2005). Given the extent of rural poverty in developing countries, the amount of financial services required tends to be small. The small size of rural loans, resulting in a high transaction cost per loan, exacerbated by the heterogeneity of borrowers, makes it difficult for formal financiers to cover costs. The geographical spread of customers in rural Nigeria further drive up administrative costs after the loan is granted (Olayide et al., 1980). Borrower supervision costs are high, as are compliance costs for customers. Financiers thus, have to achieve a delicate trade-off between minimizing the loan default rate and minimizing administrative and collection costs (Basu, 2006).

The effect of transaction costs on financial service provision can be reinforced by network externalities, where the marginal benefit to an additional customer is determined by the number of customers already using the service (Classens et al., 2003). This is specifically relevant for payment systems, where benefits and thus demand increases as the pool of users expands. High transaction cost can trap a small financial system at a low level equilibrium because of the system's inability to reap the necessary scale economies and network externalities. Due to scale economies and network externalities, problems of access to payment and savings service in many developing countries are related to the oft-found triple problem of smallness – small transaction, small financial institution, and small market size (Beck and la Torre, 2006). In a “friction-less” world (that is, one without asymmetric information and transaction costs) financial intermediation is not problematic and therefore the question of distinguishing between “good” and “bad” borrowers does not arise. All that matters then is whether a project is profitable or not. However, in reality, frictions prevail and lenders need to collect information about

potential borrowers. Information being costly, it may be assumed that lenders try to minimize the costs involved in information-gathering (Anders, 2002). Unless a way is found to raise transaction volume to size scale economies, low-income clients with the need for small and few payment transaction would not constitute a profitable clientele for financial service provider.

Another key determinant of access to finance is the rate of interest which in turn influences investment. Keynes (1936) argued that investment is a decreasing function of interest rate. This implies that whenever interest rate rises up, investment will eventually fall, this is because with higher interest rate the possibility of making profit out of investment is very low, hence high interest rate reduces the marginal efficiency of capital. On the contrary, bank charges interest to investors out of which certain percentage will be paid to savers as deposit rate. At higher deposit rate saving will be attractive and similarly banks will extend more loans, but investors will reject further loans as interest rises. Higher interest rate discourages rural poor to deepen their financial access. Interest rate on micro-credits is very high, due to the large administrative costs in relations to their scale of operations (Sacerdoti, 2005).

More often gender, marital status and age were stressed in the literature among the factors that influences access to finance especially in developing countries. Sabopetji and Belete (2009) argued that men accesses finance more than women. This is because women are mostly poor and illiterate; perhaps they lack critical collateral to use for sourcing credit. They further argued that over 90% of rural women had not accessed formal financial services in rural South Africa. Similarly, Kaino (2005) discovered an insignificant proportion of women accessing financial services in rural Myanmar. It has been argued that, access to finance has the capacity to change women positively thereby enabling them to possess and control over their assets ((Naved, 1994; Zaman, 1999).

Age also plays important role in explaining access to finance in rural areas. Researchers revealed different direction about the influence of age on access to finance. On the one hand, Sabopetji and Belete (2009) contend that decision to take credit decreases with household age that is, there is negative significant influence of age on access to finance. On the other hand, Kaino (2005) observed that age have a significant positive effect on access to finance in rural areas.

METHODOLOGY

Katsina state is located in the north western part of Nigeria and is used as our case study. It is bordered by Niger Republic in the north, Kano state in the south, Kaduna state in the south-west, Jigawa in the east, while Sokoto and Zamfara states are in the west. A cross-sectional primary data was collected from six purposely selected Local Government Areas of the state; which include Mani, Safana, Zango, Kurfi, Rimi and Kankara. A structured

questionnaire was administered on a sample of 167 respondents drawn from the selected rural areas of the state in October 2010.

The data collected were analysed using descriptive and inferential statistics (regression analysis, through probit modelling approach). The probit model assumes that while we only observe the values of 0 and 1 for the variable Y , there is a latent, unobserved continuous variable Y^* that determines the value of Y . The other advantages of the probit model include believable error term distribution as well as realistic probabilities (Nagler, 1994). Probit analysis assumes that there is an underlying theoretical index Y^* defined by the following regression relationship as contained in Aldrich and Nelson (1984):

$$Y_i^* = \sum b_k X_{ik} + \mu_i \quad (1)$$

where: Y_i^* = theoretical index for observation i ; X_{ik} = independent variable k for observation i ; b_k = unknown model parameter for variable k ; and μ_i = error term for observation i .

In real life, Y^* is not observable. Instead, what is observed is a dummy variable that defined Y as follows:

$$Y = 1 \text{ if } Y_i^* > 0 \quad (2)$$

$$Y = 0 \text{ if otherwise}$$

From Equations (1) and (2), it is clear that:

$$P(Y_i=1) = P(Y_i^* > 0) = P(\mu_i < \sum b_k X_{ik}) \quad (3)$$

Therefore, probit model will enable us to analyse the factors that influence accessibility of formal finance by rural farmers. This is based on the fact that the dependent variable is dichotomous in nature.

RESULTS AND DISCUSSION

This result is divided into descriptive and inferential results (Table 1). It could be deduced from Table 1 that the 31 to 50 years age bracket has more access to credit from formal financial institutions than other age brackets. Similarly, the data revealed that farmers' access to finance increases with age between 16 to 50 years and decreases with age between 51 years and above. Analyzing access to credit based on gender of the rural farmers, the data in the above table indicated that 5% of male farmers have access to formal credit and overwhelming majority (95%) of them have no access to formal credit. On the contrary, the data revealed that only 1% of women have access to formal credit and 99% of them have no access to institutional credit. It might be argued that the main reason behind the prevailing gender imbalance in rural areas of Katsina state emanated from socio-cultural setting of Hausa land where women stay in door for purdah not because of lending policies of the conventional banks prioritize men over women. The data is consistence with the finding of Magaji and Aliyu (2007) which shows that over 90% of women in rural Bauchi State have no access to institutional (formal) credit. Moreover, the data in the above Table showed that 91% of married farmers have no access to formal credit from financial institutions, 93% of single have also no access to institutional credit. Similarly, Table 1 revealed that

Table 1. Demographic distribution of respondents.

Variable	Borrowers (%)	Non-borrowers (%)
Age range in years		
16-30	22	78
31-50	26	74
51-65	24	76
66 and above	00	100
Sex		
Male	5	95
Female	1	99
Marital status		
Single	3	97
Married	9	91
Divorced	0	100
Level of education		
Non formal education	9	91
Primary school	27	73
Secondary school	20	80
Equivalent diploma	60	40
Degree and above	80	20

Source: Field survey (2010).

Table 2. Summary of Probit Regression.

Variable	Coefficient	Z-ratio
Age	0.4	0.74
Sex	0.36	1.23
Marital status	0.30	1.66*
Educational qualification	0.28	3.99***
Collateral	0.52	3.00***
Income level	0.39	4.33***
Interest rate	-0.17	-2.55**
Transaction cost	-0.70	-4.33***
Pseudo R ²	0.28	
LR chi ²		121.13***
Cases predicted correctly		80%

* ** ***. Significance at 10, 5 and 1% probability levels; Source: Data analysis, 2010.

access to finance increases with respondent's level of education, for instance, the data showed that farmers with above secondary school certificate have more access to finance than those below secondary education.

The result of probit model used in this study is presented in the Table 2. From the results it could be discerned that the coefficient of age is positive but not significant. It means that age has an insignificant positive effect on the farmers' access to finance. This finding is consistent with the findings of Anders (2002), Winter-Nelson and Temu (2002) and that of Kaino (2005).

Incidentally, commercial banks in Nigeria give no much emphasis on age as compared to possession of collateral. Similarly, the coefficient of income is positive and significant at 1% level of significance. This finding shows that farmers with high level of income have more probability of accessing credit from formal financial institutions. In other words, poor farmers have less chance of accessing a formal credit because they lack traditional collateral needed by lending institutions to provide security of the loan advanced.

On the other hand, this study revealed that gender has an insignificant influence on access to finance. This finding disputed the findings of Kaino (2005) and that of Sebopetji and Belete (2009). However, the finding is consistent with the findings of Winter-Nelson and Temu (2002). We similarly found that marital status has a significant positive influence on accessibility to finance by rural farmers. This finding does not differ with the finding of Sebopetji and Belete (2009). This study similarly finds that collateral has significant positive influence on access to finance. This finding concurs with the work of Atieno (2001) and that of Hainz and Teksoz (2006). Thus, the positive influence of collateral implies that the more collateral a farmer possessed the more is his likelihood of accessing formal credit. The coefficient of educational qualification is found to be positive and significant at 1% level of significance. This indicates that access to credit increases with the farmers' level of education. In other words, rural farmers with high educational qualifications have more likelihood of accessing credit from formal financial institutions.

On the contrary, it appears that interest rate has a significant negative effect on access to finance. This negative influence of interest rate on access to finance is consistent with the finding of Dueker (2000). Therefore, the inverse relationship between interest rate and access to finance implies that an increase in interest rate will reduce financial accessibility in rural areas. We further found that transaction cost has a significant trickling down effect on access to finance among rural farmers. This finding concurs with that of Babasanya et al. (2008) and also in line with *a priori* expectation.

Conclusion

From the preceding discussion, access to finance is found to be positively influenced by the respondents' age, marital status, level of literacy, income level and collateral possession among other things, it could therefore be concluded that with the prevailing banking arrangement where collaterals are required and banks charge high interest, rural farmers will continue to find it difficult in accessing formal credit from the conventional banks. Since possession of collateral is one of the major obstacles to the rural farmers' access to finance, it is hereby recommended that an alternative arrangement for securing loans in the rural areas be initiated. Specifically,

we recommend the use of both group lending arrangement and character lending as is obtained in Bangladesh and Indonesia. This is expected to give rural farmers more opportunity to obtain formal bank loans.

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