SUPERVISED CREDIT AND THE FINANCE OF SMALL FARM HOLDINGS IN RURAL NIGERIA

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ABSTRACT - The study attempts to analyze the impact of credit supervision on the finances and productivity of small farm holdings in Enugu State, Nigeria. The results show that number of farmers supervised had an inverse relationship with the farmers' income level, while length of service as supervisors, level of formal training in agriculture, and number of farm visits show direct income level relationship. Tobit regression analysis results reveal that the chances of farmers becoming good credit risks will increase when loan size, farm size, income, age, farming experience, formal education level, adoption of innovations, and credit needs increase, while their chances of becoming bad credit risks will increase when distance between home and source of loan, household size, and credit needs increase in magnitude. Programs aimed at increasing the farmers' productivity and income level are among others recommended.

Key words: Supervised credit, small farm holdings, Nigeria.

INTRODUCTION

Supervised credit is a monitored production credit that is offered in conjunction with technical advice and assistance. The credit agent, who must be a trained agricultural extension worker, first helps the farmer to make a production plan for his farm for the coming year. The plan includes an estimate of the amount of credit needed to finance the plan and the possible value of the increased output. Credit is then provided either in cash or in the form of needed specific supplies and

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equipment. The credit agent visits the farmer from time to time, giving technical advice and checking that the farmer is following his specific plan. New inputs, such as new seeds, fertilizers, or machinery services, are offered in some cases. Thus, credit and technical assistance are complementary to each other. The credit ensures that the farmer can finance the new techniques, and these in turn ensure a sufficient increase in income to repay the loans with interest. Close supervision ensures that credit is used productively.

Belshaw (1959) outlined the objectives of supervised credit as follows: (1) to teach improved farm and home practices to the small farmers, their wives and children, using supervisors who are trained and who work directly with these farm families; (2) to place adequate credit facilities within the reach of farmers. This credit is to be executed on a production capacity basis as determined by a previously prepared farm management plan, and not upon a collateral basis. The interest rate is to be modest and the period of repayment extended over sufficient time to facilitate amortization; (3) to assist farmers in selecting and obtaining those implements, seeds, and necessary supplies that most adequately serve their needs at the most reasonable prices possible; (4) to promote and assist, first, in the development of agricultural cooperatives and later, agricultural purchasing and marketing cooperatives; (5) to assist in the redistribution of land and in the adjustment of families to the land by using leases and loans for the purchase of additional land, and possibly, through colonization of new areas by farm families now living in congested areas; and (6) above all, to teach farm families how to improve their farming programs in order to produce sufficient food to satisfy their own and their country's needs.

Brossard (1952) regards credit as a rural welfare service, for credit is only a part, indeed a very essential one, of the system. The basis of any supervised credit program was education; not only to teach the farmer farm practices but also to help educate his entire family (regarded as a basic unit of rural progress). He emphasized that the welfare of the farmer's family was a fundamental concern of a rural credit program. Maris (1953) elaborated that supervised credit did not end with the individual who obtained the loan but was also concerned with the borrower's group and cooperative relationships, which tended to affected his financial status. For example, a loan could be more safely

made to a farmer who was in a position to buy and sell advantageously than to a farmer who was not.

This, therefore, means that the supervised credit system should not be regarded as a banking system, but as a public service for rural welfare. The obstacles that supervised credit is designed to overcome exist whether one particular approach of extension system is attempted or not, and, in any case, this paper's whole argument is that special measures are required in the establishment of supervised credit scheme to minimize obstacles, whatever their form. It is not just enough to provide loans to farmers, the farmer must benefit from the loan. Sometimes the purpose for the credit and the way it is given, determine whether or not the credit benefits the farmer.

Belshaw (1959) identified two types of credit situations, namely: static and dynamic credit situations. In the static situation, a farmer uses credit to produce but is not left with a net increase or positive change in his production capacity. In the dynamic credit situation, the farmer's capacity to produce and maintain his level of consumption is positively changed. The problem, therefore centers on how to deal with the former (static credit) in administering loans to farmers.

Some investigations made on Nigerian farmers' use of credit in their farming activities have revealed that farmers divert loans to non-farm areas (Uzoaga, 1977; Chidebelu, 1983). The supervised agricultural credit scheme has been widely advocated in order to avoid loan diversion, default, and to be able to identify the real farmers, (Ijere, 1972). The Enugu State Supervised Agricultural Credit Scheme became functional in 1980. In terms of supervision, efficiency seemed to be sacrificed due to small supervisor/farmer ratio and some other related problems. In terms of repayment, the farmers were not consistent in the repayment of their loans. Therefore, the two issues affecting that credit scheme are poor supervision and high default rate.

In the light of these problems, this study attempts to analyze the scheme's credit system, with emphasis on credit supervision and repayment performance. The supervisors role in the scheme needs to be evaluated since rationalization is required to maintain the continuous program to upgrade supervisory competence. According to Alvarez-quintero (1976), supervised agricultural credit delivery programs are usually social action programs with an educational and financial content.

METHODOLOGY

Study Area:

The study was conducted in the Enugu State of Nigeria in 1995. The choice of this area was based primarily on its relatively poor supervision and repayment performance at the time of study and, secondarily, because of its proximity to the researchers' residence.

Sampling and Data Collection:

Two hundred cassava-based maize farmer-borrowers enrolled in the state's supervised credit scheme were randomly sampled.

Data were collected through personal interviews using two sets of protested questionnaires.

Method of Data Analysis:

Correlation, Tobit regression, and Descriptive statistics were respectively employed to analyze the supervisory performance, the farmers repayment position, and the problems of the scheme from the supervisors and the farmers view points.

RESULTS AND DISCUSSIONS

Supervisory Characteristics as Related to Farmers' Income (IC):

Number of Farmers Supervised (FS): There is an inverse relationship between IC and FS. The correlation coefficient is -0.72026 (Table 1). This means that farmer income increases as the number of farmers supervised by each supervisor decreases. Further, it implies that as the number of farmers being supervised, decreases, the quality of supervision increases.

Table 1- Correlation coefficients between selected Supervisory Characteristics and Income among SACS Cassava-based Maize Farmers.

IC (in Neira)	1.00000	-0.72026	0.89842*	0.86001*	0.99114**
FS (in persons)	-0.72026	1.00000	-0.59944	-0.90569*	-0.79951
LS (in years)	0.89842*	-0.59944	1.00000	0.88526*	0.39854*
FT (in years)	0.86001*	-0.90569*	0.88526*	1.00000	0.88375*
FV (in frequencies)	0.99114**	-0.79951	0,89854*	0.88375*	1.00000

Note: 22 Naira = 1 US Dollar ($1)
Source: Computed From Field Survey Data, 1995.

Length of Service as Supervisors (LS): LS is positively related to IC. The correlation coefficient of this variable with IC is 0.89842. This means that the more on the job experience the supervisors have, the more they can effectively handle the farmers' problems and consequently enhance the farmer's income.

Level of Formal Training in Agriculture (FT): This supervisory characteristics bears a direct relationship with the farmers' income. The correlation coefficient is 0.86001 (Table 1). In other words, the more agricultural training the supervisor has, the more likely they are to assist the farmer in increasing his income.

Number of Farm Visits (FV): FV is directlv related to IC, with a correlation coefficient of 0.99114 (Table 1). This means that as supervisors visit their supervised farmers more frequently, farmer income increases. The frequent farm visits could bolster the farmers' confidence in and acceptance of new technology since the supervisors help the farmers solve their technical problems.

Tobit Regression Model and Analysis:

In microeconomic terms, the Tobit model describes behavior at a corner solution (Blundell, 1992). The model deals with censored data for which the censuring rule has the form:

$$y_i = \begin{bmatrix} y_i^* & \text{if } y_i^* > 0 \\ 0 & \text{if } y_i^* \leq 0 \end{bmatrix}$$

In this case, y_i^* is observed when $x_i\beta + u_i$ exceeds zero. If this is a model of credit risk position, then farmer i is observed to be a good credit risk when desired repayment of the loan is positive. Estimation of β must account for the censoring in the data. An Ordinary Least Square (OLS) regression of y_i^* on x_i would produce biased estimates of β and so the chi-squared (χ^2) statistic is computed to test the joint effects of the independent variables.

In agricultural credit management, many variables affect loan repayment decisions. The Tobit regression result for farmer and farm variables affecting credit risk position of the farmers under study is given in table 2.

Table 2- Result of Tobit Regression for Farmer and Farm Variables Affecting Credit Risk Position of SACS Cassava-based Maize Farmers

Constant	0.97 (1.862)
Loan Size (SL) (in Naira)	0.15 (5.026)*
Farm Size (SF) (in Hectares)	0.06 (2.000)**
Income (IC) (in Naira)	0.19 (3.656)*
Farmers' Age (AF) (in years)	0.03 (1.947)**
Farmers' Farming Experience (EF) (in Years)	0.06 (2.816)
Distance between Home and Source of Loan (HL) (in kilometres)	-0.11 (0.732)
Farmers' Formal Education Level (LE) (in years)	0.07 (1.894)**
Household Size (SH) (No. of dependants)	-0.04 (0.601)
Adoption of Innovations (IA) (in indexes)	0.15 (2.546)*
Credit Needs (NC) (in indexes)	-0.14 (0.916)
Chi-squared (χ^2)	143.7
Sample Size (n)	200
Degree of Freedom (D.F)	10

* and ** indicate statistical significance at 1% and 10% levels, respectively; Figures in parentheses are t-values.
Source: 22 Naira = 1 US Dollar ($1).
Source: Computed from Field Survey Data, 1995.

Coefficients of the variables are positive with the exception of HL, SH, and NC (Table 2) indicating that the higher the magnitude of these variables, the more likely the farmers are good credit risks and vice-versa. The negative values of the coefficients of HL, SH, and NC, reveal that farmers greatly distanced from source of loan, with large household, and high credit needs are less able and willing to repay their loans. The chi-squared of 143.7 is significant and indicates that the two categories of farmers - good credit risks and bed credit risks - are socio-economically differentiated.

PROBLEMS AND CAUSES OF LOAN DEFAULT

The supervisors of the scheme listed the following as problems they encounter when implementing the scheme:

1. Scarcity of supervisory field staff;
2. Diversion of the loan to other uses by the farmers;
3. Lack of adequate and necessary facilities for the smooth running of the scheme operations;
4. Job stagnation.

Common problems reported by the farmers are: (1) Bad weather condition; (2) Pests and diseases; (3) Low yield; (4) Low prices of their farm products, especially during the harvest periods; (5) High cost of farm inputs; (6) High interest charges; and (7) Delays in processing loan application forms.

The two groups of respondents (supervisors and farmers) indicated the basic causes of loan default. Believed causes of loan default differed between supervisors and farmers. The causes for default reported by the supervisors include: diversion of funds, low prices of farm products, poor marketing, low yield, and negative attitude of farmers towards government owned credit agencies. These are ranked as shown in Table 3.

Table 3- Causes of Loan Default in the Study Area as indicated by the Supervisors

Rank	Causes
1	Diversion of Funds
2	Poor Marketing opportunities
3	Low Price of Farm Products
4	Low Yield
5	Negative attitude of Farmers towards Government owned Credit Agencies

Source: Field Survey Data, 1995.

The causes for default reported by farmers include: bad weather condition, pests and diseases, high cost of farm inputs, and low price of farm products (especially during harvest time) (Table 4).

Table 4- Common Causes of Loan Default as Seen by the Farmers.

Causes[a]	Percentage
1. Bad weather condition	59
2. Pests and Diseases	54
3. High cost of Farm Inputs	47
4. Low Price of Farm Products	46

[a]Respondents indicated more then one cause.
Source: Field Survey Data, 1995.

Based on total responses, the most common causes of loan default are diversion of funds, bad weather conditions, pests and diseases, poor marketing opportunities, and low price of farm products. (Interpretation of the problems and causes must be tempered with caution owing to the subjective nature of the responses).

CONCLUSIONS AND POLICY RECOMMENDATIONS

The major conclusions of this study are:

1. Farmers income level is directly related to all the supervisory characteristics with the exception of "number of farmers supervised," which is inversely related to income level.
2. The farmers' credit risk position is directly related to all the farmer and farm variables with the exception of "distance between home and source of loan," "household size," and "credit needs," which

are all inversely related to the farmers credit risk position.

3. Farmers who are good credit risks have a relatively positive attitude toward the use of credit, repayment, and supervisory assistance. By contrast, farmers that are bad credit-risks have negative attitudes towards these features.

Farmers encountered many problems in securing loans, while the Supervised Agricultural Credit Scheme also had problems in the disbursement and collection of their loans. Considering the immense benefits that can be derived from a well administered credit scheme, the following recommendations are offered:

1. The success of the scheme depends, to a large extent, on the supervisory staff. Where they are well remunerated, they will be in a position to give out their best. Thus, it is suggested that the scheme's supervisors be given adequate encouragement and incentives in the job. Farmers' welfare may be improved by increasing the employment of qualified and experienced supervisory staff. This study showed that the number of farmers supervised by a supervisor has an inverse relationship with the farmers' income level.

2. Efforts should be made to improve the farmers income level by increasing production and improving products marketing systems. Although input subsidies and high loan interest rates can promote more appropriate factor proportions and permit the scheme to add to its lending capacity, their possible removal should be reviewed. The sudden sweeping way in which domestic market liberalization was carried out - often under pressure from the International Monetary Fund (IMF) - has left many problems in its wake, e.g. the devaluation of the local currency and the removal of subsidies on the imported farm inputs farmers depend on for increased production. The "Shock Therapy," used by some advocates of this approach brings disruption to these farmers fragile economies; and they are ill-prepared for the reform. Nigerian small farmers generally favor marketing reforms as a means to adapt and strengthen their ability to take advantage of new market openings. Where demand is not keen, they can obtain better prices by transport their products to nearby markets. But transportation has recently become a serious problem since most of them have no motorized transport and public transport cost is exorbitant. To address the problems besetting

small farmers, the government should embark an a massive program to improve the country's feeder roads upon which most of these farmers depend and ensure a gradual, steady reduction of input subsidies and credit interest rates.

3. Efficiency could be increased if the supervisors gave the farmers basic training in farm management and production techniques. This calls for supervisor training programs.

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