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Demand and Control of Credit from Informal Sources by Rice Producing Women of Akwa Ibom State, Nigeria

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ABSTRACT

This paper employs a cross sectional data set from rice producing women of Ini Local Government Area of Akwa Ibom State, Nigeria to estimate demand function and control index of agricultural credit from informal sources. The study reveals moneylenders and rotational contribution scheme- *Osusu (Etibe)* as the major informal sources of credit by the women. The estimated demand function indicates significant important of farm expenditure, personal income, interest rate, education, spouse income and experience in credit demand by the women. With regards to the level of control on the collected credit, the study reveals high self control index by the women and quite little level of control by their spouses. Based on the findings, the study suggests adequate extension knowledge to women on formation of credit and thrift cooperatives and proper financial management.

Key Words: Demand; Credit; Rice; Women; Nigeria

INTRODUCTION

Though women compose between 60 and 80 percent of the labour force in peasant agriculture (FAO, 1983), they have little or no access to productive resources, especially land and credit. However, where they have access, they lack ability to demand and take control of these resources. Thus, the possibility for them to perform their pivotal role in alleviating poverty and food insecurity because of their strategic position in the households is greatly hampered (Tanko, 1995; Udoh, 1999). In Nigeria, women contribute substantial amount of labour for both domestic and farm work and are involved in planting, weeding, harvesting, transporting, processing, marketing and storing of agricultural produces (Mijindadi, 1993). It therefore follows that women are equally important stakeholders in farming and also equally efficient farm manager as their men counterparts (Blindlish & Robert, 1993; Saito, 1994). In this regards, the need for the women to demand and control productive financial resources in light of their multiple responsibilities can not be overemphasized; especially, in the situation of insufficient equity capital to meet the requirements for increase productivity.

Credit capitalizes farmers and entrepreneurs to expand scope of production, and also help smooth consumption. Granting of credit to rural women is expected to encourage the adoption of improved technologies to enhance the productivity of their homestead base income generation and expenditure saving work (Goets, 1996). Generally, the rural women in Nigeria have limited access to productive resources due to their gender, literacy level, and lack of security. In the case of credit, even though both formal and informal sources are active within their economic environment (Udry, 1990; Adams & Fitchett, 1992), the women's inability to be collaterally compliance imposes restriction to the formal sources. Within the parley of agricultural financing, informal credit sources are unquestionably most popular. Collateral free lending, proximity, timely delivery, and flexibility in loan transaction are some of the attractive features of informal credit (Khandker & Farugee, 2001). Unlike formal finance, informal sources may not be conducive for meaningful development. However, the nature and operation of formal sources which have failed not only in delivery credit to target individuals but also in promoting a viable delivery system has caused an increase in the patronage of rural farmers on informal sources. Further, high covariate risk of agricultural production, information asymmetry and lack of proper monitoring and enforcement of loan contracts, rent seeking as a result of credit rationing are some of the factors alleged for low patronage of formal credit sources (Binswanger & Rosenzweig, 1986; Braverman & Guasch, 1989; Hoff & Stiglitz, 1990).

A rural woman who is basically skewed out from formal finance market would more or less demand informal loans/credits, which are often in kind and purpose-specific. Such could characterize women of Ini Local Government Area of Akwa Ibom State, Nigeria who are actively involved in rice production. Sources of institutional credit are highly elusive to them. Informal credit dominates agricultural financing among the rural households as in the case of other rural settings (Avishay & Guash, 1989). The dominance of informal finance with a lack of market-based rural finance has negative implications for rural growth and welfare (Khandker & Farugee, 2001). Despite these pitfalls, demand for credits from this rather highly segmented

informal market is increasingly high. The policy of providing cheap credit to the agricultural sector by governments in developing economies through formal financial intermediaries has failed. As pointed out by Hoff and Stiglitz (1990) and Basu (1994), apart from the inability of rural dwellers to access these cheap funds, the would-be beneficial trickle-down effect of reducing the usurious rate of interest in the informal sector by lowering the cost of fund to the lenders is far from being achieved. In fact, credit from informal sector continues to dominate agricultural financing in rural settings.

In this regard, it is important to consider the credit needs of rural women farmers. To this end, the study seeks to evaluate some of the demand for informal credit shifters and what make informal finances attractive to the women as well as their level of control over the credit obtained.

Theoretical issues. The concepts of demand and supply have significant bearing on the amount of credit a borrower might receive. As noted by Khandker and Farugee (2001), it therefore becomes difficult to disentangle the demand from the supply since some credit demand shifters are also supply shifters. This gives rise to the problem of selection bias (Malik *et al.*, 1991). Often socioeconomic characteristics of the borrower affect the demand for credit. To a lender, these same characteristics influence the supply of credit. Lenders generally would lend to individuals that have been assessed to have high propensity to repay, which is based on the individual's personal attributes and level of involvement in productive activities. Finding a convincing way of circumventing problem of selection bias involves resolving the endogeneity of credit. This requires identifying any exogenous eligibility criteria the lender considered in selecting a borrower (Pitt & Khandker, 1998), and basing these criteria as instrumental variables in the demand equation.

Individuals that have a demand for credit may either be granted or not. In theory, lenders would like to use similar information to allocate credit as used by interested borrowers in demanding for credit, since these factors will affect the likelihood of repayment. In practice, it may not be possible. We therefore assume explicitly the demand for informal credits and ignore the issue of apparent endogeneity.

The decision of individual to demand credit from informal source is a function of personal attributes, business attributes, area-specific attributes and credit source attributes. A potential borrower of credit will demand credit based on the need for it and the satisfaction to be derived. In essence, demand for credit is a derived demand that if framed within the context of utility function. We therefore specify separate utility function of each individual for credit to contain all conceivable information pertaining to its demand.

$$U = u(P_e, B_i, A_s, C_r) \qquad (1)$$

Where, P_e = Components of personal factors of the borrower, B_i = Business attributes that suggest productivity

and viability of the business that credit is meant for, A_s = Components of area-specific attributes, and C_r = Credit source attributes.

Technically, identifying specific factors that will predict demand for credit would not be exhaustive, ordinarily, each individual seeks.

METHODOLOGY

Study area, sampling and data collection procedure. The study was carried out in Ini Local Government Area of Akwa Ibom State. It has a total landmass of 320,451sq km with estimated population of over 72,121 (NPC, 1991). The area is predominantly agrarian which is noted for rice cultivation, and other food and cash crops. Both men and women are actively involve in crop farming, especially rice production. Greater proportion of local rice varieties consumed in the State and neighbouring states are cultivated in the study area.

Data used in the study are primary data collected directly from the farmers with the use of structured questionnaires during 2002/2003 planting season. A total of 300 questionnaires were randomly administered to women farmers in the 10 political wards. After collection and collation of the questionnaires, only 110 women who actually, collected credits from informal sources were utilized in the study. The baseline survey covers information on input use, socioeconomic profile, sources, demand and control of credit.

The empirical model. The study utilized a demand function that is modified to accommodate some conceivable variable. The study therefore assured a static power function which is twice differentiable in variables. This is given in a linearlised form as:

In Amt = In β_0 + β_1 In Int + β_2 In Age + β_3 M.stu + β_4 In Edu + β_5 In Exp. + β_6 In P.Inc + β_7 In S.Inc + β_8 Fms + β_9 In Fme + w

Where, Amt is the amount of credit collected (N), Int is the interest rate, which is the price paid in using the fund, Age is the age of the farmer (years), Edu represents duration of formal education (years), Exp. is the experience in rice cultivation (years), P.Inc represents personal annual income (N), S.In is the annual income of the spouse (N), FMS represents the farm size cultivated with rice (ha), and W is an error term assumed to be randomly and normally distributed.

A loan control index is estimated as;

$$LCI_i = 1 - \frac{\sum n_I / w}{N} \qquad (3)$$

Where, i = 1, 2 and 3 for self control, spouse and both, respectively, LCI_i = loan control index for ith decision unit, n_i represent activities control by ith decision unit, W represents the total activities that each decision unit can take control over, and N represents the sample size. The categorization of loan control into self-control spouse control and both follows Goetz and Gupta (1996).

RESULTS AND DISCUSSION

Exploratory statistic. Table I shows the descriptive statistics of the shifters that collectively explain and specify the non-institutional credit demand function by women farmers who engaged in rice cultivation.

The result in Table I reveals high rate of interest, which is characteristic of credits from informal source. The mean age of 43.58 years is an indication that the women are mostly above middle age, who according to the statistics on experience, have substantial number of years of experience in rice cultivation. Further, the table reveals low level of literacy among the farmers as well as lower income level than their spouse. As usual in land constraint area of Akwa Ibom State where farmers cultivate marginal pieces of land, the table reveals average farmland of 0.92ha. This small holding may not be unconnected to the fact that the women do not have permanent access tenureship to farmland. Beside, the women in addition to rice, would devote farm-

land for other crops.

Credit sources, average amount and interest rates. Table II reveals that the women demand and obtain credit from different sources. However, rotational contribution scheme-*Osusu* and moneylender were the major sources of credit.

In terms of average amount of credit collected, moneylenders provided the largest amount while friends and relatives source provided the least amount. This trend is also reflected on the average interest rate charged. It is observable from the table that moneylenders charged the highest interest rate while friends and relatives charged the lowest rate of interest. The distribution of patronage as shown on Table II is a reflection of the fact that borrowers who do not have access to institutionalized credit sources would resort to demanding credits from high interest bearing informal sources so as to meet the short-falls in their credit needs. This result collaborate Hoft and Stiglitz (1993), which pointed out that rural money lenders continue to dominate the informal sector, and there is evidence that the

Table I. Descriptive statistic of variables in the model

Variables	Unit	Mean value	Min. Value	Max. Value
Credit Source Variable				
Interest Rate	(%)	20.1%	10	35
Amount collected	(Naira)	15,176	5,041	30,009
Personal Characteristics				
Age	(Years)	43.58	21	67
Marital Status				
Education	(Years)	4.15	0	12
Experience	(Years)	8.7	2	30
Personal income	(Naira)	19,630	9,743	53,682
Spouse income	(Naira)	32,002	15,007	97,621
Farm-specific characteristics				
Farm size	(Hectare)	0.92	0.53	2.83
Farm expenditure	(Naira)	31,465	20,133	101,819

Source: Field Survey, 2003

Table II. Credit sources, volume of credits and corresponding interest rates

Source of Credit	Patronage	Average amount	Average Interest Rate (%)
Rotational contribution scheme	51	13,897	21
Friends and Relatives	11	9,088	10.2
Money lender	44	25,114	30
Cooperative	5	15.007	18
Commercial Bank	0	-	-

Source: Field Survey, 2003

Table III. Estimated Demand Function for Informal Credit

Variables	Unstandardized Coefficient	Standard Error	Standardized Coefficient (βeta)	t-Statistics
Interest Rate	-0.096	0.013	0.116	-7.384***
Age	0.087	0.258	0.003	0.337
Marital Status	0.085	0.109	0.004	0.778
Education	-0.119	0.007	0.103	-17.01***
Experience	0.032	0.018	0.068	1.778*
Personal Income	-0.057	0.009	0.313	-6.333***
Spouse Income	-0.047	0.008	0.097	-5.815***
Farm size	0.025	0.039	0.018	0.641
Farm expenditure	0.412	0.021	0.332	19.619***
Intercept	9.279	1.231		7.54***

$R^2 = 0.68$;   F = 80.889***

interest rates charged by them have been relatively high and unaffected.

Econometric analysis. The estimated demand function for informal credit by rice producing women farmers in the study area is presented in Table III.

The estimated equation shows goodness of fit, which is an indication that the model is well, specified such that the important demand shifters are included in it. The regression result reveals that farm expenditure, personal income, interest rate, education, spouse income and experience are important factors that determined demand for informal source credits by the women. As shown by the respective standardized coefficients, their relative importance follows the order of listing. Thus, total farm expenditure is the most important demand shifter followed by personal income, with the least being experience, However, with regards to direction of relationship, personal income, education, spouse income and interest rate have inverse relationship with the amount of credit collected by the women. It therefore follows that the more educated the women are the less credit they will obtain from informal sources. The same can be said about spouse income effect on the demand for informal credit. Thus, a woman who is married to a man with high income status will seldom collect credit from the informal sources. This is an indication that spouses exert direct and indirect influence on the women production, consumption and investment activities. In other words, women do obtain some of their productive assets from their husbands.

Ownership and control of loan. Table IV presents level of control exerted by the women on the loan collected. Table IV clearly shows that about 74.8% of the women have self control over the loan obtained, which translate to about 0.73 control index. But only 9.35% of the women allowed their spouse to make decision on the utilization of the collected loan. The high credit control index observable for the women is perhaps an indication that the decision to demand and use the credit are the responsibilities of the women, with little of no interference from their spouses.

Summary and conclusion. The study centered on estimating demand function for informal credit among rice producing women and also evaluating the level of their control over the collected amount. The findings of the study show high level of patronage on both osusu and money lenders. Even though, the interest rate of the money lenders was comparatively higher than other sources, the lenders still resorted to borrowing from this source. For the credit demand function, the study reveals farm expenditure, personal income, interest rate, education and spouse income as some importance factors that determine the decision of the women to demand credit from the informal sources. Further, the study also reveals that the women have substantial control on how the credits are utilized, with little or no intervention from their spouses. The implications of these findings therefore have brought to fore a number of issues that need to be addressed. The women should be

Table IV. Distribution of Respondents on Ownership and Control to Loan

Decision Unit	Control index	Percentage
Self control	0.73	74.8
Spouse control	0.091	9.35
Both	0.181	15.88

encouraged to form credit and thrift cooperative societies from which they can access much cheaper credits. Proper and prudent financial management should be extended to the women to encourage personal saving attitude.

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