

DETERMINANTS OF SMALLHOLDERS' TRANSACTION COST OF PROCURING NON-BANK LOANS IN NIGERIA

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1. Introduction

The involvement of non-bank institutions such as the Agricultural Credit Corporations and Agricultural Development Projects in credit delivery in Nigeria has been one of the ways of encouraging massive participation of small-scale farmers in formal credit programmes. To date, however, the use of formal credit by most of the farmers is still highly restricted. One of the critical constraints is the high cost of borrowing (Olo-mola, 1990). Elsewhere, studies have shown that the transaction cost of borrowing constitute serious impediments to the acquisition of credit and they have advocated cost-reducing policy innovations in agricultural lending (Adams and Nehman 1979, Ladman and Adams, 1978).

Some of the problems have arisen as a result of policy interventions in the form of interest rate restrictions, selective credit policies and loan portfolio requirements in favour of the agricultural sector in many developing countries. Credit intermediaries have been found to circumvent such regulations through non-price mechanism which often result in high transaction costs. In some instances, borrowing transaction costs have been used as effective rationing device in rural credit markets (Cuevas and Graham, 1986).

From a theoretical perspective of borrowing transaction costs, loans to borrowers cannot be regarded as a homogeneous commodity. The money given out as loans has several dimensions including short-term, medium-term and long-term for large and small-scale farmers. Each of them can be viewed as a separate commodity with its own cost implications (Gonzalez-Vega, 1977). With such a distinction, the competitive rates of interest will not be the same for all types of borrowers. For instance, longer term and more risky loans are expected to command higher prices to reflect the differences in their productivity. When the interest rate is fixed by deliberate policy intervention as it is often the case in many developing countries, credit institutions with limited supply of loanable funds tend to place emphasis on non-price factors in order to eliminate excessive credit demand. Such factors may include collateral, quotas, compensating deposit balance, bureaucratic procedures, long delays in disbursement and other quantitative restrictions which may vary from one institution to another. These factors need to be considered in determining the effective transaction costs of procuring credit.

It is imperative to examine the true transaction costs on the demand side because a borrower's demand for credit will depend on his ability to obtain the credit at mini-

imum transaction cost. The addition of costs such as the cost of transportation and inconvenience indicates that the efficient opportunity sets of borrowers would vary not only with the size of their portfolios but also with physical location and the opportunity cost of their time. Thus, the magnitude of the transaction costs and the borrowers' ability to meet the costs are vital in explaining credit accessibility.

In Nigeria, it has been difficult to articulate appropriate cost-reducing measures to enhance the access of small-scale farmers to production credit partly because the size and structure of borrowing transaction costs are not known with any reasonable degree of precision. There has been little or no empirical research in the country concerning the transaction costs incurred by borrowers securing loans from the non-bank credit agencies. An attempt is made in this study to bridge the knowledge gap in this respect. Specifically, the study seeks to determine the components of the transaction costs associated with borrowing from the non-bank institutions, analyse their determinants and draw some policy implications.

2. Coverage and Data Collection

Specifically, the Ondo State Agricultural Credit Corporation (OSACC) and the Ekiti-Akoko Agricultural Development Project (EA-ADP) also in Ondo State were selected for this study. The OSACC was established in 1976 with headquarters in Ado-Ekiti as a parastatal charged with the provision of credit to farmers in Ondo State at reasonable rates and terms. Note that by October 1996, Ekiti State was carved out of Ondo State and Ado-Ekiti became the state capital. Credit is usually granted in cash for production purposes and borrowers are required to pay part of the loan amount as deposit. A deposit of N50 is often deducted from a loan that is less than N1000 while N100 is deducted as deposit in the case of a loan that is at least N1000. The prescribed maximum amount that could be granted to a small farmer is N2000 while the minimum is N500; but this is rarely strictly adhered to in practice. The 1985 loans carried a 9-percent interest rate.

In terms of lending procedure, a potential borrower purchases an application form at the rate of N10. The forms are usually available between November and January preceding the planting season during which the loan will be used. There is no collateral but the applicant must provide two acceptable guarantors. The applicant is also required to pay loan processing fee, which is one percent of the loan or N15, whichever

ver is higher. On approval, the farmer signs the loan agreement forms and receives his loan by cheque and usually on instalmental basis. There are occasions when loan disbursement cannot go beyond the first instalment out of the pre-arranged three instalments.

The EA-ADP started in 1981 as a World Bank assisted project covering the five Local Government Areas (LGAs) of Ekiti Central, North and East as well as Akoko North and South. The project has since moved out of these enclave areas and is at present operating state-wide. The provision of credit was one of the most important components of the package of assistance offered by EA-ADP to project farmers. Under the EA-ADP credit scheme, potential borrowers are expected to be resident in the project area. Credit is granted in kind and only for production purposes. The prevailing interest rate in 1985 was 10.5 per cent. The maximum amount of credit that could be granted to a farmer is fixed at N2000 while the minimum is N200. In practice, however, farmers received far less than this maximum and in 1985 many farmers obtained loans much smaller than the stipulated minimum. Loan application forms are sold at the rate of N5.00. Completed forms are submitted in duplicate to the extension staff of EA-ADP who are to identify the applications. Successful applicants collect and fill loan agreement forms in quadruplicate and thereafter collects his credit from the credit assistants in the Farm Service Centre nearest to him. No collateral is required but loan applicants must provide two guarantors of means as a mark of probity. There must also be evidence of ownership of land or permission to use the farm land for a specified period. The loans are supposed to be jointly supervised by the extension officers who should ensure efficient use of inputs and credit officers who are to recover the loan.

It is clear from the foregoing that the two institutions are similar in some respects but differ in several specific ways. In terms of similarities, they focus on the same category of borrowers (i.e. smallholders), they provide production credit for the same purpose (farming) and they do not require tangible collateral. The differences are evident in their lending procedures. Whereas EA-ADP offers credit in kind as a way of minimising risk, OSACC grants credit in cash but demands compensating deposit balance. The former employs its network of extension services for loan monitoring whereas there is no extension component in the credit scheme of the latter. Moreover, loan processing attracts a fee in OSACC whereas in EA-ADP no charge is imposed. The cost of the loan form and interest rate also differ between the two institutions. Moreover, credit disbursal is instalmental in OSACC whereas in EA-ADP individual beneficiary collects the credit in full. Against this background of varying lending pro-

cedures the structure of borrowing transaction costs is expected to differ between the two institutions.

The data collected from the borrower farmers included the loan size, farm size, number of days spent in negotiating, acquiring and repaying the loan, distance from loan office, loan disbursement lag (time interval between the submission of loan application and collection of the loan), and borrowing experience. The list of borrowers obtained from the institutions served as the sampling frame and comprised 385 OSACC borrowers and 228 EA-ADP borrowers who participated in the small-scale farmers credit scheme in 1985. A random sample of 200 borrowers was drawn from each list. The 400 respondents so selected were traced to their locations using the individual specific addresses earlier obtained from the official records of the institutions. However, 69 borrowers could not be reached on account of death, relocation and falsification of contact addresses. Of the remaining 331 respondents for which there were reliable data, 157 were OSACC borrowers located in 57 towns and villages in the state while 174 were EA-ADP farmers located in 43 towns and villages within the project enclave.

3. Structure of Borrowing Transaction Cost

The transaction costs borne by the farmer borrowers are decomposed into explicit and implicit costs. The explicit costs include administrative and transportation costs whereas the implicit cost refer to the opportunity cost of the time spent by a borrower on negotiating, acquiring and repaying the loan. Administrative costs comprise such expenses as application fees, legal service fees, loan processing fees and cost of passport photograph. The total transaction cost incurred by a borrower averaged N22.56 in EA-ADP and N74.21 in OSACC (Table 1). The explicit and implicit component represents about 87 and 13 percent respectively for EA-ADP borrowers and about 91 and 9 percent respectively for OSACC borrowers. The total transaction costs represent 7.55 percent of the average loan amount obtained from EA-ADP and 7.58 percent in the case of OSACC. These figures represent about 72 and 84 percent of the nominal interest rate charged by EA-ADP and OSACC respectively.

Table 1: Comparison of Borrowing Transaction Costs Between OSACC and EA-ADP Borrowers

Components of Transaction Costs	EA-ADP			OSACC		
	Per Borrower	% of Loan (p)	% of NIR (p')	Per Borrower	% of Loan (p)	% of NIR (p')
Administrative Cost	13.59	4.55	43.33	52.25	5.34	59.33
Transportation Cost	5.95	1.99	18.95	15.34	1.57	17.44
Implicit Cost	3.02	1.01	9.62	6.33	0.66	7.33
All Costs	22.56	7.55	71.90	74.21	7.58	84.22

Source: Survey data, 1987.

Note: NIR is nominal interest rate. The interest rate was 10.5% in EA-ADP and 9% in OSACC during the survey year. All reported costs are in Naira whose value at the time of the survey was N4.19 = \$1.

$p' = [(p/\text{NIR})] \cdot 100$

A comparison of these costs with findings from other studies show that they are indeed quite high. For instance, studies conducted at the farm level in some Latin American countries indicated that borrowing transaction costs as a percentage of loan amount averaged 3.0 percent in Honduras (Cuevas, 1984) while in Panama, Ecuador and Peru the average was 5.2, 2.8, and 1.2 percent respectively (Inter-American Bank, 1983). The results of these studies further indicate that borrowing transaction costs as a proportion of interest rate averaged 23.1 percent in Honduras while in Panama, Ecuador and Peru the average was 46.4, 22.9 and 4.0 percent respectively. The only available evidence of higher transaction cost was documented in a study undertaken in Bangladesh. The study revealed that borrowing transaction costs averaged 21.7 percent of the loan amount and 180.8 percent of the nominal interest rate (Ahmed, 1982). The observed borrowing transaction costs in this study can therefore not be ignored if the constraints imposed by high borrowing costs among small-scale farmers in Nigeria are to be ameliorated.

In both institutions, administrative cost is the most important component of the borrowing transaction costs; and it is followed by transportation and implicit costs. However, the transaction cost incurred by OSACC borrowers appear to be generally higher than that of EA-ADP borrowers. Although there is no significant difference in the implicit component of the transaction cost of borrowing from the two institutions,

the costs incurred on transportation and administrative matters differ significantly. The administrative, transportation and total transaction costs incurred by OSACC borrowers exceed that of their EA-ADP counterparts by about 284, 158 and 329 percent respectively. In what follows, we examine the significance of these differences and the determinants of the transaction costs.

4. Factors Influencing Borrowing Transaction Costs

Variations in loan transaction costs at the farm level could be determined by a number of factors such as the size of loan, disbursement lag, borrowing experience, farm size and borrower's distance from the loan office. The borrower farmers are characterized by low scale of operation as evidenced by the size of their farms and their loan requirements. These characteristics often define the preference of lenders in the granting of loans. If lenders are satisfied with the loan size and farm size of some borrowers and they have reasons to believe that such borrowers are credit worthy, the negotiation, processing and delivery of loan will progress smoothly and quickly. On the other hand non-preferred clients could be made to face numerous hurdles which will affect the borrowing transaction costs. For instance, they may be required to visit the loan office several times to negotiate, obtain and repay the loan, to wait in long queues during each visit and to fill out numerous forms to obtain the loan. Such borrowers are likely to incur higher transaction costs.

The effect of farm size on borrowing transaction cost cannot be determined *a priori* with a high degree of certainty. In other words, farm size may affect transaction cost directly or inversely depending on the system of loan administration. When the lenders grant credit in kind (in the form of inputs such as fertilizer, pesticide and herbicide) rather than cash, as it is the case with EA-ADP, loan requests by farmers will depend largely on the farm size; which in turn may eventually affect the farmers' ability to repay the loan. Since lenders often prefer borrowers with good repayment capacity, borrowing transaction cost is likely to vary inversely with farm size. However, a direct relationship between farm size and transaction cost may be expected in a situation where the borrower has to pay loan processing fees which involve farm inspection by the credit officials. In such a situation, borrowing transaction cost will be an increasing function of the farm size. Also, the borrowers' distance from the loan office is expected to vary directly with the transaction costs. The borrowing experience

is considered to be a possible determinant of transaction cost because experienced borrowers are likely to face less hurdles in negotiating and acquiring the loan. If the borrower has demonstrated good repayment performance for instance, he is likely to be on the preference list of the lenders and thus the tendency for lenders to impose undue transaction costs will be minimal.

The loan disbursement lag is apt to have effect of borrowing transaction costs in view of the fact that borrowers may be compelled to pay several visits to the loan office when the delays associated with loan negotiation and acquisition appear to be unbearable. Thus, it is expected that the loan disbursement lag will vary directly with the borrowing transaction costs.

With regard to the EA-ADP borrowers included in the study, about 83 percent of them lived within a radius of 8 kilometres from the loan office; another 14 percent were within a range of between 9 and 20 kilometres while the others (about 3 percent) stayed within a range of between 25 and 32 kilometres away from the nearest loan office. About 68 percent of the OSACC borrowers were located within a radius of 8 kilometres from the loan office; while about 21 percent of them could be reached within a range of between 9 and 20 kilometres. The remaining 11 percent lived within a range of between 25 and 40 kilometres.

The period of loan negotiation and acquisition ranges from six months in EA-ADP to nine months in OSACC. About 84 percent of EA-ADP borrowers obtained their loans within three months of submitting their applications whereas the disbursement lag in respect of the remaining 16 percent is between three and five months. As regards the OSACC borrowers, about 72 percent got their loans within three months of submitting loan applications, another 20 percent got their loans between three and six months while others (about 8 percent) got their loans more than six months after their applications have been submitted.

The relationship between borrowing transaction costs and each of the identified variables was examined in a transaction-cost model which can be specified implicitly as follows.

$BC = f(\text{LOAN, DISTANCE, FARMSIZE, BOREX, DISLAG})$

where,

BC = borrowing transaction costs;

LOAN = amount of loan obtained by a farmer;

DISTANCE = distance of borrower from loan office (km);

FARMSIZE = land area cultivated by the borrower (ha);

-
- BOREX = borrowing experience, which is a dummy variable with a value of unity for experienced borrowers and zero for first-time borrowers; and
- DISLAG = loan disbursement lag, defined as the time interval (days) between the submission of loan application and the collection of the loan.

The borrowing transaction cost, BC, is expected to be positively related to distance, loan size, and disbursement lag; and inversely related to farm size and borrowing experience. However, when measured as a percentage of the loan amount, BC is expected to be inversely related to the loan amount. In estimating the model, a Cobb-Douglas functional form was applied using the OLS technique as follows.

$$\ln BC = \ln \beta_0 + \beta_1 \ln LOAN + \beta_2 \ln DISTANCE + \beta_3 \ln FARMSIZE + \beta_4 \ln DISLAG + \beta_5 \ln BOREX + u$$

where β_0 is the constant term, u is the error term and the β_i ($i = 1, \dots, 4$) are parameters which when estimated can be interpreted directly as elasticities.

4.1 *The Estimated Borrowing Transaction-Costs Functions*

The results of the two variants of the estimated transaction cost function are presented in Table 2. In the first estimation, the dependent variable (borrowing transaction cost) was expressed on per borrower basis; while in the second estimation it was expressed as a percentage of the loan amount. With regard to OSACC borrowers, the result shows that the explanatory variables included in the first model account for 25 percent of the variations in borrowing transaction costs; whereas in the second model they account for about 86 percent of the variations in the dependent variable. The distance from loan office turned out to be the only variable which has significant effect on borrowing transaction costs of OSACC borrowers. The result shows that a one-percent increase in borrowers' distance from loan office is associated with a 0.164 percent increase in borrowing transaction costs.

Table 2: *Coefficients of Estimated Borrowing Transaction-Costs Functions*

Variable/ Parameter	OSACC BORROWERS		EA-ADP BORROWERS	
	Model I	Model II	Model I	Model II
Constant (β_0)	3.403	8.009	0.781	2.261
Loan (β_1)	0.057 (0.037)	-0.943** (0.037)	0.244** (0.027)	-0.489** (0.058)
Distance (β_2)	0.164** (0.025)	0.164** (0.025)	0.255** (0.035)	0.407** (0.076)
Farmsize (β_3)	0.043 (0.049)	0.043 (0.049)	-0.006 (0.063)	-0.039 (0.136)
Dislag (β_4)	0.023 (0.046)	0.023 (0.046)	0.156** (0.031)	0.529** (0.067)
Borex (β_5)	0.074 (0.075)	0.074 (0.075)	-0.019 (0.071)	-0.079 (0.152)
R ²	0.25	0.86	0.68	0.49

Note: The parenthesized figures are standard errors.

** significant @ 1% level.

As regards the EA-ADP borrowers, the estimated functions indicate that the explanatory variables included in the first model account for about 68 percent of the variations in the dependent variable; whereas in the second model they account for about 49 percent. All the estimated coefficients have the expected signs; although not all of them are statistically significant. The result shows that borrowers' distance from loan office, the loan amount and loan disbursement lag are the significant determinants of transaction costs. A one-percent increase in borrowers' distance from loan office, disbursement lag and loan amount, is associated with an increase in borrowing transaction costs of 0.255, 0.156 and 0.244 percent respectively. These elasticity coefficients are very much below unity; and in the case of loan amount it is an indication that borrowing transaction costs is likely to increase at a decreasing rate as the loan size increases. There is therefore, the tendency for the transaction costs per naira borrowed to decrease as the loan amount increases. Indeed, this is corroborated by the results of the second model which show that transaction costs as a percentage of the loan amount are a decreasing

function of the loan amount. Evidently, the coefficients, of loan amount in the estimated equations have the expected negative signs and are highly statistically significant. With regard to OSACC borrowers, the result shows that a one-percent increase in loan amount is associated with a decrease of 0.943 percent in average transaction cost; while in the case of EA-ADP borrowers the decrease is 0.489 percent.

The foregoing results largely indicate that the farm size and borrowing experience have no significant effect on borrowing transaction costs among the sample of borrowers from OSACC and EA-ADP. Actually, the main connection of farm size with transaction costs is through the payment of loan processing fees by the borrowers. The non-significance of farm size is an indication that such fees do not vary according to the size of the borrowers' farms. On the other hand the non-significance of borrowers' experience implies that both the first-time borrowers and the established borrowers were accorded similar treatment by the lenders. This finding is striking because elsewhere, lenders have been found to treat new borrowers in a way that make them incur higher transaction costs. The lenders tend to make the procedures too cumbersome to such an extent that prospective borrowers have to pass through intermediaries, present gifts and in some cases offer bribes, in addition to paying numerous visits, waiting in line for long periods and travelling long distances (see Adams and Nehman, 1979).

The difference in the set of determinants for the two groups of borrowers is a reflection of the differences in loan administrative strategies in OSACC and EA-ADP. Irrespective of such strategies, however, the borrowers' distance to the loan office turned out to be a crucial variable to be considered in an attempt to minimize loan transaction cost.

5. Policy Implications and Conclusions

Over and above interest payments, small-scale farmers procuring credit from non-bank institutions in the study area incur considerable transaction costs amounting to about 8 percent of the loan amount. With regard to EA-ADP, borrowing transaction cost is as high as 72 percent of the nominal interest rate while it is about 84 percent in the case of OSACC. An examination of the structure of the costs shows that administrative expenses constitute the highest component; being about 60 percent in the case of EA-ADP borrowers and 70 percent for OSACC borrowers.

The implication of the foregoing is that any action aimed at reducing the transaction costs of borrowing by small-scale farmers will need to focus on the administrative aspects of the production credit. The key issues to be addressed relate to the magnitude of the paperwork, the charges for loan processing and the frequency of visits for the negotiation, collection and repayment of the loan. Although it is required that the credit agencies need to charge some fees in order to be viable, this should not be done to the detriment of the borrowers. In other words, the credit agencies have to ensure that their operations generate reasonable transaction costs. Such costs are those that will sustain the farmers' access to credit while at the same time guaranteeing the viability of lending.

The fact that the study confirms the significance of loan disbursement lag as a determinant of borrowing transaction cost also indicates that overhauling the administration of credit retailing should be a step in the right direction. Agricultural credit agencies need to recognize the crucial importance of timeliness in loan negotiation and delivery in view of the time-specific nature of many agricultural operations. Excessive delays will not only raise transaction costs but can also jeopardize the viability of the credit institution. For instance when loan delivery misses the critical period of use, there is the tendency that such a loan when it finally arrives may be diverted to relatively less productive or utterly unproductive activities. With rampant cases of such diversion, loan recovery becomes exceedingly difficult and expensive. Thus, the problems of inadequate skilled personnel, bureaucratic procedures, and in-built operational bottlenecks (including instalmental disbursement of loans) which are usually the sources of delay have to be eliminated if the credit market is to function effectively. A reduction in loan disbursement lag will ensure proper loan utilization and thus enhance repayment performance.

The great distances that separate borrowers from lenders also have to be reduced. With rising transportation cost in the country, borrowing transaction cost is apt to become unbearable to many small-scale farmers and they may have to exit the credit market. This will have adverse consequences on increased food production in the country. To minimize borrowing transaction costs, credit agencies have to locate offices within the vicinity of their customers. By so doing they are likely to have increased volume of transaction at greatly reduced costs on the long run.

Furthermore, in view of the tendency for the transaction per unit of loan to decrease as the loan size increases, it is reasonable to suggest that lenders should refrain from granting loans to farmers in small bits. However, in situations where inadequacy

of loanable funds preclude substantial increase in the size of individual loans, credit transactions could be more cost-effective if the group lending approach is adopted.

Finally, the issue of interest rate restrictions has to be addressed. During the Structural Adjustment Programme (SAP) which was introduced in 1986 emphasis was on the deregulation of interest rate. However, since 1994 interest rate has been under the control of the government (in what is considered to be guided deregulation); although there was no explicit concessional rate for agriculture as it was the case before SAP. If lenders have no restrictions in charging market rate for their loans, there will be no need to raise transaction costs deliberately and to employ non-price devices to ration credit.

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Abstract

In spite of the involvement of non-bank institutions in credit delivery to farmers in Nigeria, access to this financial resource remains highly restricted. One of the major constraints is high transaction costs. This paper examines the structure and determinants of transaction costs of borrowing under farm credit schemes.

Administrative expenses constitute the highest proportion of the borrowing transaction costs. And the costs are significantly affected by the size of loan, the borrowers' distance from loan office and loan disbursement lag. The costs are quite high when compared to the situation in rural credit markets in other developing countries. The remedial measures should include the establishment of loan offices within the vicinity of the farmers, minimization of delays in loan processing and disbursement, and employment of adequate and competent staff to enhance the effectiveness of credit operations.

LES DÉTERMINANTS DU COÛT DE TRANSACTION DES PRÊTS NON-BANCAIRES POUR LES PETITS EXPLOITANTS AGRICOLES

Résumé

Malgré la présence d'institutions non bancaires dans le réseau de distribution du crédit aux exploitants agricoles au Nigeria, l'accès à cette ressource financière reste très limité. Cet article analyse la structure et les déterminants des coûts de transaction des prêts octroyés dans le cadre de deux schémas de crédit à l'agriculture.

Les frais administratifs sont la composante majeure des coûts de transaction dans les prêts, mais les coûts sont également influencés de manière significative par la dimension des prêts, la distance de l'emprunteur du bureau qui les octroie et le délai de déboursement. Les coûts sont aussi élevés par rapport aux marchés de crédit rural d'autres pays en voie de développement. Pour remédier à cette situation il faudrait, entre autres, établir des bureaux de crédit plus facilement accessibles aux exploitants agricoles, réduire les temps de traitement et de déboursement des prêts et embaucher des fonctionnaires compétents et en nombre suffisant pour améliorer l'efficacité des opérations de crédit.

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