

Full Length Research Paper

Mitigating loan default in Nigeria through joint liability approach: The case of beneficiaries of microfinance bank agricultural loan in Calabar metropolis, Cross River State, Nigeria

Eucharía Agom Ajah*, Uket Ikpi Ofem and Asuquo Elijah Bassey

Department of Agricultural Economics, Faculty of Agriculture, University of Calabar, Calabar, Nigeria.

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Due to persistent increase in loan default in developing countries especially Nigeria, several lending institutions resort to group lending that is based on joint liability approach to mitigate default. This study analyzes the mitigation of loan default in Nigeria through joint liability approach: The case of beneficiaries of microfinance bank agricultural loan in Calabar metropolis, Cross River State. It specifically analyzes the determinants of loan default among sampled beneficiaries and compares the mean repayment amount between beneficiaries of joint and individual liability. The study used 120 respondents from the selected microfinance institutions in the study area. Data collection was done with the aid of a structured questionnaire. The study used probit model and the Z test to analyze the data. The result revealed that household size and business experience were the key determinants of loan default. There was a significant difference in amounts of loan repaid between joint and individual loan beneficiaries. The study concluded that joint liability is a better approach when it comes to borrowing than the individual liability. The study further shows that the key determinants of loan default were household size and business experience; therefore, beneficiaries are encouraged to reduce their household size as this will reduce default.

Key words: Beneficiaries, default, joint, mitigating, lending, liability, loan, and probit model.

INTRODUCTION

Many studies have shown the importance of credit in promoting economic development and improving household incomes of several countries of the world (Bassey et al., 2016a; Ajah et al., 2014; Enimu et al., 2017). Numerous researchers agreed that the nonexistence of sound - operational credit has been one

of the main barriers to the mitigation of worldwide poverty. Intensifying credit availability can assist those who received it to efficiently allocate resources over a period and excellently manage risk, in this way; credit availability can advance profit making chances for the rural poor.

*Corresponding author. E-mail: ajahagom@yahoo.com. Tel: +2348054654883.

Though, notwithstanding the observable advantages the rural poor usually find it very challenging to acquire loan. During loan agreement, a lender often needs some form of collateral to protect the loan, in case the borrower is not capable of paying the borrowed funds. Nevertheless, the poor hardly ever gets enough assets to use as collateral. The lender will bear all the loss related with a loan default if there is no collateral from the borrower. To alleviate this problem, hence, proper selection, checking and implementing loan terms is very crucial. In all, these efforts are too expensive for the unacquainted lenders to be sufficiently compensated by interest revenue from very small loans that the poor usually need. In the past few years, micro credit institutions have introduced series of small and non-collateralized loans facilities for the poor. One notable feature of microfinance institution is the joint liability lending and has fascinated significant consideration (Agbaeze and Onwuka, 2014).

In spite of this, poor availability of credit is still predominance as one of the key problems facing small scale business persons in developing countries (Ajah et al., 2017; Bassey, 2014; Bassey et al., 2016a). Other studies such as Ike and Umuedafe (2015) and Ike and Idoge, (2016) lend claims to the inability of formal financial institution to meet the credit requirement of Nigerians.

Certainly, group based microcredit program is one of the most significant innovations in development policy in the last five decades (Mamum et al., 2015). This program permits borrowers who cannot provide security, to come together and be jointly accountable for each other's repayments even though loans are provided to individuals separately. Under such lending conditions, the group takes the responsibility for the individual loans of members and that overcome the problematic issue of unsymmetrical information and consequently the problem of excessively high transaction cost (Agbaeze and Onwuka, 2014; Bassey et al., 2016b).

In Nigeria, credit risk continues to be a peril to microfinance banks sustainability. Many lending institutions in Nigeria especially microfinance banks are confronted by the challenge of risking non-performing loan portfolios which eventually end up as defaulted loans. According to Ajah et al. (2014), the issues of loan default are lenders/borrowers related. To the lenders, there is a problem of adverse selection and to the borrower there is a problem of moral hazard with the knowledge that the loan is guarantee. Loan default affects the maximization returns and portfolio growth of microfinance. Access to credit facilities had also been reported to be limited by high rate of loan default (Enimu et al., 2017). Apart from acquiring huge expenses to recovered loans from defaulters, Ajah et al. (2013) ascertain that loan default causes a considerable reduction to loanable funds. However, since future availability of loanable fund depends considerably on the

rate of previous loan repayment, there is need to explore avenues to improve the loan repayment behavior of loan beneficiaries in Calabar metropolis.

The main objective of this study was to analyze the mitigation of loan default in Nigeria through joint liability approach: The case of beneficiaries of microfinance bank agricultural loans in Calabar metropolis of Cross River State. Specifically, the study analyzed the determinants of loan default among sampled beneficiaries and compared the mean repayment amount between beneficiaries of joint liability and individual liability.

EMPIRICAL REVIEW

Using a logit regression model, Balogun and Alimi (2015) studied the factors influencing loan default and delinquency in rural credit programs in Ghana; their findings showed high probability of default when one is single. Also female borrowers rarely default. Those who borrow large sum of money may not default as those who borrow little. In the study conducted by Bassey et al. (2016b) on analysis of loan repayment among joint liability and individual liability beneficiaries in Akwa Ibom State Nigeria, findings showed a significant difference in loan repayment between the joint and the individual liability groups of beneficiaries. Also, while age, educational attainment, availability of surety, total income of beneficiaries and loan size were found to enhance loan repayment, household size and interest rate impacted loan repayment performance negatively. Bassey et al. (2016b) also studied the repayment behavior/performance between joint liability and individual liability beneficiaries in Akwa Ibom State, Nigeria, using a Z-Test analytical tool and found out that there exists a significant difference in the mean amount of loan repaid by joint liability.

MATERIALS AND METHODS

Study area

The study was conducted in Calabar, Cross River State, Nigeria. Calabar lies between latitudes $04^{\circ} 30''$ North of the Equator and longitudes $8^{\circ} 11' 21''$ and $8^{\circ} 30' 000''$ East of the Meridian. The town is bordered on its Eastern and Western side by two large perennial streams viz: The Great Kwa River and the Calabar River respectively. It has an area of 406 km^2 and a population of 371,022 (National Population Commission, 2006). The area is situated in the Southern geographical zone of the state which comprises Calabar Municipality and Calabar South. The main vegetation type in the study area is the mangrove forest, which gives rise to the existence of wetlands. The city of Calabar is known for her hospitality especially the Christmas Carnival which is a yearly event. The area is also blessed with fish and a lot of sea foods.

The two major seasons in Calabar are the rainy season which lasts from April to October and dry season, from November to March. Calabar has total annual precipitation that exceeds 3,000 mm annually. Temperature is respectively constant throughout the course of the year, with average temperature usually ranging from

Table 1. Microfinance banks and number of loan beneficiaries.

Microfinance banks	Total no of loan beneficiaries	Individual	Joint	Total no of beneficiaries sampled
Calabar	171	30	27	57
Ekondo	72	7	15	24
Lapo	117	24	15	39
	360	63	57	120

Source: Field Survey (2017).

25 to 28°C (Nigeria Meteorological Station, 2015). The major occupation of the people is farming and majority of them grow vegetables such as fluted pumpkin and water leaf.

Population of the study

It consists of all the registered Microfinance institutions within Calabar metropolis.

Sampling technique

Respondents used for this study were selected using the multistage sampling technique. The first stage involved a random selection of three microfinance bank: Calabar microfinance bank, Ekondo microfinance bank and Lapo microfinance bank respectively. The second stage involved the selection of thirty-nine respondents from LAPO, fifty-seven respondents from Calabar Microfinance Bank and twenty-four respondents from Ekondo Microfinance Bank making a total selection of 120 respondents (joint 57 and individual 63) that was used for the study. This selection was done in proportion to the size of registered loan beneficiaries in the selected MFIs constituting 33.3% of the total beneficiaries (Table 1).

Method of data collection

Data for the study were collected with the aid of a structured questionnaire to bring about relevant information from the respondents in the study area.

Data analysis

Different analytical techniques were used to analyze the data obtained. Both descriptive and inferential statistics were used such as mean, simple percentages, Probit model and Z statistics.

Model specification

Probit model

The Probit Model used in analyzing the determinant of loan default. It is implicitly expressed as

$$Y = bo + B_i X_i + e_i \quad (1)$$

where Y = endogenous variable which takes the value of 1 if a loan beneficiary does not default and 0 otherwise.

The explicit form of the model is given as:

$$Y = bo + B_1 X_1 + B_2 X_2 + B_3 X_3 + B_4 X_4 + \dots + B_9 X_9 + e_i \quad (2)$$

X₁ = Age of beneficiaries (Years)

X₂ = Sex of beneficiaries (male = 1, otherwise 0)

X₃ = Household size (numbers of persons in a household)

X₄ = Educational level of the beneficiaries (Years of formal education)

X₅ = Availability of surety (Yes = 1, otherwise 0)

X₆ = Income of beneficiaries (naira)

X₇ = Interest amount charged on loan (naira)

X₈ = Loan amount granted (naira)

X₉ = Business experience (years)

e_i = Error term

These variables are similar to those of Bassey et al. (2016b).

RESULTS AND DISCUSSION

Determinants of loan default among sampled beneficiaries

The diagnostic statistic (Table 2) showed the improvement of fit made by the explanatory variables included chi-square statistic of 23.87 which was significant at 1% level of probability, implying that the regressors included in the model significantly predicted the regressand in the probit regression. Two key variables significantly influenced loan default among sampled beneficiaries. The variables were agricultural business experience and household size.

The result indicated that household size had a negative sign, and was significant at 1% level of probability. This implies that as household size decrease the probability of not defaulting will increase by 0.36% and vice versa. This is in line with *apriori* expectation because higher household sizes implied high dependable ratio. The implication is that a greater part of the loaned amount may be channeled into meeting family needs.

The variable for agricultural business experience was inversely and significantly related to loan default at 5% level. Its coefficient shows that as years of business experience decreases the probability of not defaulting increases by 0.033%. This result implies that longer experience in agribusiness, does not necessarily, lead to a better loan repayment rate. The possible reason for this could be due to better knowledge, attitude, skill and high

Table 2. Probit regression model showing determinant of loan default.

Variable	Coefficient	Standard error	Z value
Constant	3.282275	1.543824	2.12**
Age	0.0287969	0.210429	1.37
Sex	-0.0723302	0.35025393	-0.21
Educational qualification	-0.0227354	0.0742441	-0.31
Household size	-0.3561424	0.1029627	-3.46*
Annual income	-3.27e`06	2.95e`06	-1.11
Amount obtained	-9.80e`06	9/06e`06	-1.08
Business experience	-0.0331526	0.0158274	-2.09**
Log likelihood	-33.279798		
Chi square	23.87		
Pseudo R ²			

Source: Field survey Analysis (2017). * = Significant at 10%; ** = Significant at 5%; *** = Significant at 1%.

Table 3. Analysis of loan repayment performance.

Beneficiary group	Frequency	Amount obtained	Amount repaid	Rep. rate
Joint	57	8,445,000	8,039,450	95.20
Individual	63	7,030,000	6,645,526	94.53
Total	120	15,475,000	14,684,976	94.89

Source: author's Computation from Field Survey (2017).

level of education among the respondents.

Loan repayment performance by sample beneficiaries

Findings on loan repayment performance as indicated in Table 3 showed that repayment rate were 95.20 and 94.53% for joint and individual beneficiaries respectively. In Table 3, the total sum of fifteen million four hundred and seventy-five thousand naira was obtained (₦15,475,000) by beneficiaries, only fourteen million six hundred and eighty-four thousand nine hundred and seventy-six naira (₦14,684,976) representing a repayment rate of 94.89%. A breakdown of the repaid amount showed that eight million thirty-nine thousand four hundred and fifty naira (₦8,039,450) and six million six hundred and forty-five thousand five hundred and twenty-six naira (₦6,645,526) translating into 95.20 and 94.53% were repaid by joint and individual liability beneficiaries respectively. The highest repayment rate of 95.20% was recorded by the joint liability beneficiaries group and exceeded that of individual liability beneficiaries by 0.67% implying that joint liability beneficiaries had a higher repayment performance than

their individual liability beneficiaries' counterpart. This finding supports other findings (Bassey et al., 2016b) which reported that joint liability approach enhances loan repayment.

Comparison of mean repayment amount between beneficiaries of joint liability and individual liability

The mean comparison between repayment amount from individual and joint liability revealed that there was a significant difference in their repayment amount. Result in Table 4 shows the difference in the mean repayments amount between the loan beneficiaries. Findings showed that there was a significant difference in amount of loan repaid by the two groups of beneficiaries (joint and individual liability beneficiaries) at 99% confidence level. This is evidenced in the calculated Z value of 3.894 which was greater than the tabulated value of 1.96. This result supports the work done by Bassey et al. (2016).

Conclusion

The study concluded that joint liability is a better

Table 4. Z test showing mean repayment amount between beneficiaries of joint liability and individual liability.

Beneficiary group	No.	Mean amount	S.D of amount repaid	Zcal
Joint liability individual liability	57	₦134833	125581.9	3.894
	63	₦65317	50997.76	

Source: Data analysis (2017).

approach when it comes to borrowing than the individual liability. From the result of this study it shows that repayment rate of beneficiaries is higher when they borrow as a group and not otherwise. This is because in group lending members are able to select trust worthy peers, monitor the use of loan proceeds as well as the enforcement of repayment of the borrowed funds. Furthermore, the study showed that the key determinants of loan default were household size and business experience.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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