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Original Research Article

Factors influencing the Disbursements of Loans from Selected Commercial Banks to Small-Scale and Medium-Scale Agro-Based Enterprises in Imo State, Nigeria

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Abstract

This study evaluated the performance of small and medium-scale agro-based enterprises financed by selected commercial banks in Imo State, Nigeria. It identified the dominant agro-based enterprises in the study area; estimated the adequacy of funds disbursed to them by selected commercial banks; determined factors that influenced the disbursements and the relative risk in financing them. A combination of purposive and random sampling techniques was adopted in selecting the respondents (commercial banks and small scale and medium scale agro-based enterprises) for the study. Questionnaire and interview schedule were the main tools for data collection and data collected were analyzed using descriptive and econometric tools. The result showed that the mean amount disbursed to small-scale agro-based enterprises was ₦533, 833.33 ($3558.89) while a mean of ₦1, 813,021 ($12086.81) was disbursed to the medium scale enterprises. The multiple regression coefficient for interest rate (X_3), experience (X_4) and repayment rate(X_6) were positive and significant at 1% while category of enterprise (X_5) was negative and significant at 5% implying that these variables are important factors influencing the amount of loan disbursed to small-scale agro-based enterprises in Imo State while interests rate (X_3) and repayment rate (X_6) were positive and significant at 1% ; coefficient for age (X_2), experience (X_4) and category of enterprise (X_5) were negative and significant at 5%, implying that these variables are important factors influencing the amount of loan disbursed to medium scale agro-based enterprises in the study area. The risk in financing medium-scale agro-based enterprises was higher than that for the small-scale agro-based enterprises. The main constraints faced by agro-based SMEs in obtaining loans were mainly insufficient collateral (100%), and high interest rate (87.45%). It is therefore recommended that commercial banks should make more credit accessible to agro-based SMEs and at better conditions and cheaper lending rate to encourage their increased production and expansion.

Keywords: loan; sampling techniques; descriptive statistics; structured questionnaire; interview.

INTRODUCTION

The Small and Medium Enterprises (SMEs) are industries whose headcount or turnover falls below certain limits. The definitions change over time and depend largely, on a country's level of development (Evbuomwan et al., 2012). Even in the same country, different institutions adopt different definitions. The criteria used in the definitions include capital investment (fixed assets), annual turnover, gross output and employment (Salami, 2003). The concept of agro-based enterprises implies the sum totality of all operations involved in production enterprises on the farm, the manufacturing and distribution of farm supplies and the equalization dispersion services such as storage, processing, standardization, grading, packaging, transportation and mechanization of farm commodities in their items of trade from the farm firm (ARMTI, 2008).

The Small and Medium-Scale Enterprises (SMEs) as suggested in Inang and Ukpong (1992) possess immense potentials for developing domestic linkages for rapid sustainable industrial development, employment generation, enhanced rural income, promotion of growth of non-oil export and the eventual reduction of poverty. This sector of the national economy possesses huge human and material resources that have remained largely unexploited over the planning horizons of the country**.**

Credit has been recognised as an essential tool for promoting Small and Micro Enterprises (Ariri, 2010; Osotimehin et al., 2012). Credit can be considered from its ability to energize or motivate other factors of production. It can make the latent potentials or under-used capacities functional. In such situations, credit can act as a catalyst that activates the engine of growth, enables it to mobilize its inherent potentials and to advance in the expected direction (Ijere, 1998). It can promote economic growth using local raw materials, which could encourage domestic production and employment generation. With an injection of credit facilities into farming, its complementary role to industry would be realised with relative ease.

Many scholars have written extensively on the reluctance of banks to provide production credit to SMEs, farmers in particular and the real sector in general (Olaitan, 2006; Oguoma and Ohajianya, 2006). The inherent risks associated with farm production were often cited as one of

the reasons for this reluctance (Evbuomwan et al., 2012; Oguoma and Ohajianya, 2006; Orebiyi, 2002; Balogun and Otu, 1990). Given the poor performance of agricultural sub-sector in recent years, it continues to be difficult to get and provide financing at economic rates that are profitable for both the lending and recipient enterprises. Lenders are cautious because of perceived volatility of returns. A number of enterprises in the state were also said to exhibit high variability in earnings and high risk of loan default (Oguoma, 2003; Oguoma and Ohajianya, 2006), which makes it imperative to investigate the combination of those enterprises that are bankable in order to reassure the financial institutions as well as guide them in their financing policies.

There has been little empirical attention to ascertain whether adequate funds have been disbursed to small and medium-scale agro-based enterprises in Imo State, Nigeria and if they have similar risk profile. Also, empirical evidence remains largely scanty, isolated and devoid of in depth analysis of the determinants of amount of loan received by small and medium scales agro-based enterprises in the context of their signs and sizes in Imo State, Nigeria. This leaves a void in research. It is against this background that the study raised the following research questions:

i. What is the amount of loan disbursed to small and medium-scale agro-based enterprises in Imo State, Nigeria by commercial banks?

ii. What factors influence the amount of loan disbursed to small and medium-scale agro-based enterprises by commercial banks in the area?

iii. What is the level of risk faced by the commercial banks in financing small and medium scale enterprises in the area?

iv. What constraints face agro-based small and medium-scale in obtaining loans from commercial banks in the area?

MATERIALS AND METHODS

Methodology and description of data collection

The study was conducted in Imo State between November 2010 and October 2011. The State is located in the southeastern region of Nigeria and shares common boundaries with Abia State on the East and Northeast, Rivers State on the South, and Anambra State on the West and Northwest. Imo state lies between longitude $6^{o}35^{1}$ east and $7^{o}28^{1}$ east and between latitude $5^{o}10^{1}$ north and $5^{o}57^{1}$ north. It has a total land area of about 5,067.20 km^2 (Ministry of Lands and Urban Planning, 1992). The population of the state is 3,934,899 persons with many subsisting in farming (NBS, 2006).

A combination of purposive and random sampling techniques was adopted in selecting the respondents (commercial banks and small scale and medium scale agro-based enterprises) for the study. The two main commercial banks involved in lending to agro-based enterprises were purposively selected. The list of loan beneficiaries operating agro-based enterprises were collected with the help of the lending officers from the banks. The lists were merged to obtain one hundred and twenty beneficiaries that constituted the sampling frame. The list was then stratified into small and medium-scale agro-based enterprises. Each stratum was further stratified into crop based and livestock-based enterprises, following which a sample of 18 crop-based and 6 livestock-based small-scale enterprises, and, 18 crop-based and 6 livestock based medium-scale enterprises were selected through simple random sampling to give a total of 48 small and medium-scale agro-based enterprises. This sample is very representative of the population of agro-based enterprises financed by the banks as it gives a percentage of 40. For the purpose of this study, small scale enterprises were defined as industries with a labour size of 5-10 workers or a total cost of not more than ₦5 million ($33,333.33) including working capital but excluding cost of land (Chukwuma, 1999). Medium-scale enterprises were defined as industries with a labour size of 11-50 workers or a total cost of over ₦5 million but not more than ₦20 million ($133,333.33), including working capital but excluding cost of land.

Structured questionnaire and interview schedules were used as instruments of primary data collection. Information collected were on the amount of loan secured by entrepreneurs, total operating cost, number of employed labour of the enterprises, years of experience, amount of loan disbursed to agro-based SMEs by the selected banks. Data collected were analyzed using descriptive statistics, multiple regression analysis, standard deviation as well as the coefficient of variation.

The multiple regression technique was used to determine the factors that influenced the amount of loan disbursed to the small and medium scale agro-based enterprises. Four functional forms (Linear, Double-log, Semi-log, and Exponential) were fitted into the function in this study. The functional form of the equation with the best fit was chosen as the lead equation.

A disbursement model was specified implicitly as:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, U_i) \quad (1)$$

Where,

Y= Amount of loan disbursement.

X_1= Scale of enterprise, Dummy, D_i ($_i$ = 1 for Small-scale, $_i$ = 2 for Medium-scale)

X_2= Type of enterprise, Dummy, Di ($_i$ = 1 for crop ; $_i$ = 0 for livestock).

X_3=Interest rate (%)

X_4= Experience of the entrepreneur (years)

X_5=Credit requirements (₦).

X_6= Repayment rate (%)

X_7= Education (years spent in school)
X_8= Turn over (Total returns from the enterprise for last year) (₦)
X_9 = Age of entrepreneur (years).
e = error term
It was expected, *a priori*, that $\partial Y_e / > 0$; while $\partial Y_e / < 0$;
$X_1, X_2, X_3, X_4, X_6, X_8$ X_5, X_7, X_9

To estimate the relative risk in financing the agro-based small and medium scale enterprises, the model standard deviation model was specified as:

$$\sigma_1 = S^2 = S_i^2 = \Sigma(Xi - \varepsilon \nu)^2 P_i \quad (2)$$

Where,
σ_1= Standard Deviation of Earnings.
S^2 – Variance of the Earnings.
X_j = Earnings of agro-based enterprises
$\varepsilon \nu$ = Expected Value of Earnings
P_j = Probability Distribution of Expected Earnings
The coefficient of variation model was specified as,
$CV = \sigma_1 / \varepsilon \nu$. (Pandey, 2005) (3)

Where,
C.V = Co-efficient of Variation of Expected Earnings.
σ_1 = Standard Deviation of Expected Earnings.
$\varepsilon \nu$ = Expected Earnings.
It is expected a priori that the coefficients for $x_3, x_6, x_8 > 0$; $x_1, x_2, x_4, x_5, x_7 < 0$.

RESULTS AND DISCUSSION

Amount of loan disbursed to small and medium-scale agro-based enterprises

The result of the amount of loan disbursed to the small and medium scale agro-based enterprises is presented in Figure 1 and 2.

Volume of loan disbursed by the selected banks to small-scale agro-based enterprises (%)

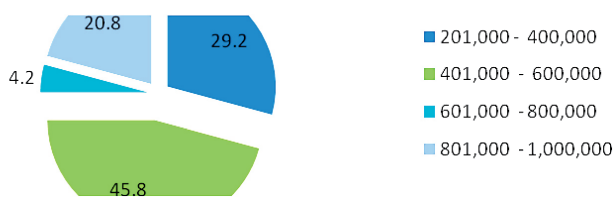

Figure 1. Amount disbursed to small-scale agro-based enterprises

The result of the amount of loan disbursed by the selected banks to agro-based SMES shows that the mean amount disbursed to small-scale agro-based enterprises was ₦533, 833.33 ($3,558.89) while a mean of ₦1, 813,021 ($12,086.81) was disbursed to the medium scale enterprises. This implies that the selected commercial banks disbursed a higher loan amount to medium scale agro-based enterprises. This may imply that the banks view small-scale enterprises as a high-risk venture and as such extend higher amounts to the medium scale enterprises. This may be an indication that the small-scale enterprises may have demanded lower amounts and are limited by the banks stringent conditions for disbursing loans.

Volume of loan disbursed by the selected banks to medium scale agro-based enterprises (%)

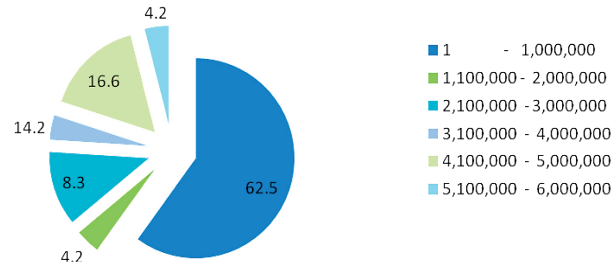

Figure 2. Amount disbursed to medium-scale agro-based enterprises

Factors Influencing the Amount of Loan Disbursed to Small and Medium-Scale Agro-based Enterprises

Table 1 shows the result of the factors influencing the amount of loan disbursed to small and medium-scale agro-based enterprises in the study area. The semi-log function produced the highest value of the coefficient of multiple determination (R^2), the highest number of significant variables and conformed to *a priori* expectation for the small-scale agro-based enterprises. The coefficient of multiple determination was found to be 0.828 implying that about 82.8% of the variation in amount of loan disbursed to medium scale agro-based enterprises is jointly accounted for by the significant variables. The multiple regression coefficient for interest rate (X_3), experience (X_4) and repayment rate (X_6) were significant at 1% while category of enterprise (X_5) was significant at 5% implying that these variables are important factors influencing the amount of loan disbursed to small-scale agro-based enterprises in Imo State.

In addition, as shown in Table 1, the double log function produced the highest values of the coefficient of multiple determination (R^2), the highest number of significant variables and conformed to *a priori* expectations. The coefficient of multiple determination was found to be 0.652

implying that about 65.2% of the variation in amount of loan disbursed to small scale agro-based enterprises is jointly accounted for by the significant variables. The multiple regression coefficients for interests rate (X_3) and repayment rate (X_6) were significant at 1%, while the coefficient for age (X_2), experience (X_4) and category of enterprise (X_5) were significant at 5%, implying that these variables are important factors influencing the amount of loan disbursed to medium scale agro-based enterprises in the study area.

The coefficient for interest rate (X_3) was significant at 1% and had a positive sign for both the Small and Medium-scale agro-based enterprises, respectively. This implies that the higher the interest rate, the higher the amount of loan disbursed to the agro-based Small and Medium-scale enterprises. Banks use the interest rates that an individual is willing to pay as a screening device to identify borrowers with high probability of repayment. However, it is believed that borrowers willing to pay high interest rates may on the average be worse risk (Atieno, 2011).

The coefficient for experience (X_4) was significant at 1% and 5% for the Small and Medium-scale agro-based enterprises respectively. It also had a positive sign. This implies that the amount of loan disbursed to Small and Medium-scale agro-based enterprises increases with higher years of experience. The number of years an entrepreneur has been in business is an indication of the maturity of the business. This means that entrepreneurs with long business experience are given priority in the loan disbursements. This may also imply that they have established a relationship with the banks from prior transactions and the banks consider them safer than the new entrants whose skills are more limited in the business.

The coefficient for repayment rate (X_6) was significant at 1% and had a positive sign for the Small and Medium-scale agro-based enterprises, respectively. This implies that the amount of loan disbursed increases with the repayment rate. The banks' expected returns depends on the probability of repayment. Higher repayment rate increases the amount of loan available for disbursement. The coefficient for category of enterprise (X_5) was significant at 5% for the Small and Medium-scale enterprise. It also had a negative sign for both categories of enterprises. This indicates that livestock-based SMEs benefit more from the loans. This may be because of the higher net returns of livestock based enterprises over their crop counterpart (Oguoma, 2003) as these will influence their repayment ability.

The coefficient for age (X_2) was significant at 5% and had a negative sign for the Medium-scale enterprises only, whereas it was not significant for the Small-scale enterprises. This result implies that a lower amount of loan was disbursed to the older entrepreneurs. Younger entrepreneurs are believed to be risk takers who are willing to venture into new businesses to increase their returns and are quick in decision-making.

Table 1. Result of multiple regression analysis on factors influencing the amount of loan disbursed to small and medium-scale agro-based enterprises

Explanatory variables	**Small –scale Semi-log**	**Medium –scale Double-log**
Credit requirement (X_1)	- 237.994	- 6.7843
	(- 1.55273)	(- 1.70174)
Age (X_2)	141.6484	- 0.67291
	(1.48915)	(- 2.48811)**
Interest rate (X_3)	124.2055	0.350754
	(2.76867)***	(2.839419)***
Experience (X_4)	532.1934	- 0.23888
	(3.20503)***	(2.29392)**
Category of enterprise (X_5)	- 363.602	- 0.07772
	(- 2.34278)**	-2.11009)**
Repayment rate (X_6)	78.71623	0.580795
	(2.564974)***	(2.729084)***
Education (X_7)	-520.221	- 0.69683
	(- 1.22029)	(- 1.72184)
Turnover (X_8)	370.7633	0.124864
	(1.71083)	(0.629541)
Constant	-1623.35	67.0628
R^2	0.828	0.652
F–value	9.009934	3.518029
Sample size	24	24

Source: Field Survey, 2011; ***Significant at the 1% level, **Significant at the 5% level; Values in parentheses are the t-values

The coefficient for credit requirement (X_1), education (X_7) and turnover (X_8) were not statistically significant at 5% implying that these variables were not important factors influencing the amount of loan disbursed to small and Medium-scale agro-based enterprises in the study area.

Estimate and comparison of the risk faced by the banks in financing small and medium scale enterprises in the study area

The results of analysis of risk level of banks in financing agro-based small and medium enterprises were presented in table 2. The result yielded a standard deviation of ₦276,462 ($1842.08) and ₦ 671,079 ($4473.86) for the small and medium scale agro-based enterprises respectively. This implies that there is a higher level of risk associated with funding medium scale agro-based enterprises compared to small scale agro-based enterprises. The coefficient of variation for the small-scale enterprises was 0.38 while that of the medium scale agro-based enterprises was 0.41. This implies that there is a little high level of risk involved in funding medium scale agro-based enterprises as compared to small-scale agro-based enterprises. Generally, it can be deduced that the banks are faced with a level of risk in financing both small and medium scale agro-based enterprises in the study area.

Medium-scale agro-based enterprises risk level

ε ν = 1647080

Variance (S^2)= 4.50348E+11

$\sigma_{1 =}$ ₦671079 ($4473.86)

Computation of the coefficient of variation

$CV_i = \sigma_1 / \varepsilon \nu$.

where i=1 for small scale and i=2 for medium scale

$$C.V_1 = \frac{276462}{723190}$$

$C.V_1 =$ **0.38**

$$C.V_2 = \frac{671079}{1647080}$$

$C.V_2 =$ **0.41**

Table 2. Standard deviation of risk levels of small and medium-scale agro-based enterprises

Range of Net Cash In-flows (₦)	Small-scale enterprise				Medium-scale enterprise			
	Freq	Expected Value EV	Probability	$PJ(X_j\text{-}EV)^2$ Pj	Freq	Expected Value EV	Probability Pj	$PJ(X_j\text{-}EV)^2$
1 - 500,000	9	95000	0.38	1.16E+11	-	-	-	-
501000-1000000	11	345230	0.46	4.22E+10	4	1500000	0.16	3.8E+9
1100000-1500000	4	208000	0.16	1.63E+10	9	2550000	0.38	1.8E+10
1600000– 2000000	-	-	-	-	5	3550000	0.21	2.25E+9
2100000– 2500000	-	-	-	-	3	4550000	0.13	77870000
2600000– 3000000	-	-	-	-	2	5550000	0.08	204000000
3100000-3,500,000	-	-	-	-		3300000	0.04	812000000

Note: Exchange rate is $1: ₦150

Small-scale Agro-based Enterprises Risk level:

ε ν = 723190

Variance (S^2) = 7.643E+10s

$s\sigma_1$ = ₦ 276,462 ($1843.08)

Table 3. Distribution of respondents according to their constraints in obtaining loans

CONSTRAINTS	Small-scale		Medium-scale	
	Frequency	Percentage (%)	Frequency	Percentage (%)
Insufficient collateral	24	100.00	24	100.00
High interest rate	23	95.83	22	91.67
High loan transaction cost	18	75.00	9	37.50
Delay in loan processing and disbursement	16	66.67	3	54.17
Poor documentation	22	91.67	12	50.00

Source: Field Survey, 2011. Multiple responses recorded.

Constraints faced by the agro-based SMEs in obtaining loan

Table 3 shows the distribution of the respondents according to their constraints in obtaining loans from commercial banks. The main constraints faced by agro-based SMEs in obtaining loans were mainly insufficient collateral (100%), and high interest rate (87.45%). This result agrees with Eze (2007) who reported that insufficient collateral and high interest rate accounted for 100% and 88.89% of the limitations faced by agro-based enterprises in obtaining loans from banks.

CONCLUSION AND RECOMMENDATIONS

The major constraints limiting these agro-based SMEs from securing credit from commercial banks in the State where insufficient collateral and high interest rate. Access to capital is a critical factor for the development of industries, particularly the agro-based SMEs. Commercial banks should make more credit accessible to agro-based SMEs and at cheaper lending rate to encourage their increased production and expansion, given the subsistence level of agriculture in Nigeria, and in Imo State in particular. There is also the need for the government to subsidize loans to agro-based small and medium-scale enterprises. The most important factors that influenced the loan disbursement to agro-based SMEs in the study area where, interest rate, experience, repayment rate, category of enterprise and age. Banks use interest rates as screening device to identify borrowers with potentials to repay. However, given the recent attention of the Federal Government on promoting agriculture, it is imperative that the commercial banks reduce the interest rate for agro-based enterprises. The Federal Government should subsidize agricultural loans to encourage banks to improve and increase their lending to this sector of the economy. The banks faced a high level of risk in financing agro-based SMEs. This is expected given the high level of risk associated with agricultural production in the nation, and particularly, Imo state.

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