THE NIGERIAN JOURNAL OF ECONOMIC AND SOCIAL STUDIES

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THE NIGERIAN JOURNAL OF ECONOMIC AND SOCIAL STUDIES

Vol 49, No. 1   March 2007

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MICRO-CREDIT AND MICRO-ENTERPRISE DEVELOPMENT:
An Analysis of Some Rural-based Enterprises in Nigeria

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ABSTRACT

This paper examines the impact of micro-credit, as administered by a UNDP-sponsored microfinance institution (MFI) among some rural-based enterprises in some selected local government areas in Lagos State, Nigeria. The data for the study were obtained from an enterprise survey of 70 micro-enterprises randomly chosen from the list of enterprises financed by the MFI. The analysis suggests that most of the enterprises that received financial assistance in the form of micro-credit reported improvement in their businesses. Furthermore, a linear probability model was specified and estimated and the results exhibit characteristics (both of the enterprises and the entrepreneurs) that were responsible for business success. The paper concludes by calling on national governments and international donors to give more support to MFIs to enable them support wealth-creation programmes, especially among the rural poor in Nigeria. It is also of prime importance that the recent Nigerian microfinance policy be assiduously implemented.

1. Introduction

ACCESS to finance is one of the major requirements for business start-up and development, especially in the informal sector of a developing economy. In developing nations, where informal sector enterprises are denied access to formal financial services, the lack of access to credit and financial services are major drawbacks to their development. A number of reasons have been advanced in the literature for this. First, lending to small enterprises is considered to be highly

risky. This is probably because micro-enterprises are faced with multi-faceted uncertainties that lead to high attrition rates. Similarly, macroeconomic shocks arising from sudden policy changes and external shocks have a higher incidence in small and micro enterprises. Second, the transaction costs of loan processing for small businesses are high and this discourages formal banks from lending to small borrowers. Studies have shown that lending costs to large corporations by banks are in the order of 0.3 – 0.5 per cent of the cost of the loan; whereas, the administrative costs for loans to micro-enterprises are about 2.6 - 2.7 per cent (Levitsky, 2000). Coupled with this is the low educational level of many micro enterprise operators that makes it difficult for them to cope with the paperwork requirements of loan applications and processing. Third, small-scale and micro-enterprise owners do not possess the type of collaterals usually demanded by the formal sector banks as a guarantee for their loans.

This lack of finance by micro-enterprises has led to the development of informal and semi-formal financial institutions that use different specialized methods to serve the large segments of the population that lack access to the formal banking system (World Bank, 1997; Ojo, 2005). These institutions range from purely informal financial organization to semi-formal organizations. Informal financial organizations include: self-help organizations (such as credit unions, cooperative and credit associations, mutual support groups, etc.); individual financial brokers such as mobile bankers who go from house to house to collect deposits and/or lend to clients considered creditworthy; money lenders and pawnbrokers (Ogunrinola, 1991). Non-government semi-formal organizations provide credit and/or savings services to the less wealthy owners of small businesses and micro-enterprises to assist them to sustain and expand their enterprises. More research on these institutions is taking place.

There is an urban bias in both the concentration of informal and semi-formal financial services and the research on them. In recent times, however, there appears to be a shift of some semi-formal financial institutions to the rural areas. The need to encourage this desirable change and to bridge the research gap on the impact of micro-credit in the rural areas is the main reason for writing this paper. The paper, therefore, examines the impact of microfinance, provided by a semi-formal organization, on the development of micro-enterprises in some selected rural areas of Lagos State, Nigeria. The rest of this paper is organized as follows: Section 2 discusses the theoretical perspectives and gives a brief survey of the relevant literature; the methodology of the study is the subject matter of section 3; the results of the analysis are discussed in section 4 and the last section gives the concluding remarks.

2. Theoretical Perspective and Literature Review

The financial intermediation process is very crucial to economic growth and development and involves the mobilization of resources from surplus economic units for onward transmission to deficit units, especially for capital formation. Such intermediation for capital formation redistributes resources from savers to investors. The agents or intermediaries responsible for this are found in the banking and other non-bank financial services sectors.

In developing economies with noticeable dual economic structures, the formal banking sector discriminates against the members of the relatively large informal sector. No more than 5-6 per cent of the population in developing economies have access to the formal banking sector (Okurut, 2004; Smith and Todaro, 2004). Although excluded by the formal banking sector, research studies have shown that informal sector participants also desire both deposit and lending services (Oladeji and Ogunrinola, 1990; Ogunrinola 1991). The literature is replete with some of the salient reasons why poor households in the rural areas and in the urban informal sector value the availability of liquid and secure financial vehicles for savings. They include: the need to spread consumption expenditure between planting and harvesting periods; the need to provide self-support for income losses due to any form of exogenous shock, such as insufficient rainfall, leading to poor harvests; the need to procure inputs needed at the start of the production processes: and the need to set money aside periodically to finance costly ceremonial events such as weddings and funerals and paying for children's education (Ogunrinola et al., 2005).

Given their inability to meet the requirements of formal financial institutions, the rural and urban poor are turning to microfinance institutions (MFIs) to meet their intermediate financial needs. These MFIs, which have varying financial capabilities, have provided the means for overcoming the barriers created by the formal financial sector. Some of these barriers are: the paperwork needed for opening, operating and closing accounts; the high initial amount required for opening an account; the minimum balance required for an ongoing account; the collateral required for loan purposes and the travel time to, plus the waiting period in the banks (Hirschland, 2003). Paradoxically, the two financial sector – formal and informal – coexist in the urban and rural areas of most, if not all, nations of the world, with a larger share of informal financial services in developing countries. The coexistence of the two forms of credit services have been based on two competing paradigms. The first is related to the interest rate repression associated with government controls in the form of maximum lending rate legislation, credit allocation to preferred sectors, and other non market controls. This has led to the spontaneous development of underground lending institutions in the informal sector that can lend at uncontrolled interest rates. The second view maintains that information asymmetries in the credit market lead to differences in

the cost of screening, monitoring, and contract enforcement across would-be lenders, and this represents an important explanatory factor for fragmentation in the credit markets (Mohieldin and Wright, 2000).

The above views run contrary to the classical paradigm of a perfectly competitive situation with respect to the credit market. Thus, the theoretical foundation for the existence and thriving of informal credit markets relies on the existence of several forms of imperfection. This has led to several policy responses by the government of many different nations, where for instance, financial reforms have taken place to liberalize interest rates and/or establish state-funded banks at subsidized interest rates to provide cheap institutional credit to the disadvantaged to avoid leaving them at the mercy of informal moneylenders. These policy responses, however, have failed to formalize or wipe out the informal credit market, rather, the credit market is growing and has attracted the attention of both policy makers and researchers (Hoff and Stiglitz, 1990; Herns and Lensin, 2007). Thus, the microfinance institutions have served the poor and landless in many nations of the world (especially Bangladesh, Indonesia and Bolivia) and enabled them to mobilize capital resources for investment, mostly in self-employment pursuits (Morduch 1999, Sengupta 2007).

It has been argued in the development literature that savings propel development. Savings on the other hand are determined by a host of factors such as the average level of per capita income, the rate of growth of income and the pattern of income distribution between the rich and the poor (Thirlwall, 1986: 259). Since income is low in the rural and informal sectors, it is believed that not much credit can be mobilized from these sectors, hence, not much credit can be dispersed in the sector. This hypothesis is open to debate and research studies. But the fact is that in many developing countries' microfinance organizations do mobilize savings and disperse credit within the rural and informal sectors, with the main purpose of improving the standard of living of participants through poverty eradication incentives. Notable examples of this can be found in the operations of the Grameen Bank of Bangladesh, the Banco Solidario (BancoSol) of Bolivia, the Bank Rakyat of Indonesia, the Village Banks of Latin America and the Bank Kredit Desa (BKD) of Indonesia, among others (Morduch, 1999).

Research conducted to measure the impacts of MFIs have produced up contradictory results. For instance, Khandker (1998), using Bangladeshi data, concluded that access to micro-credit has the potential of reducing poverty significantly; while the conclusion of Morduch (1998) on the same country gave an opposite verdict. In an attempt to study the poverty-alleviating impact of microfinance institutions, Morduch (1999) carried out an extensive review of the operations of microfinance institutions in several countries. The institutions studied included Grameen Bank of Bangladesh, BancoSol of Bolivia, and Bank Rakyat of Indonesia. The study found diversity in the operating structures of these

microfinance organizations in terms of lending strategies (while some engaged in group-lending, e.g., Grameen Bank and BancoSol; others lent to individuals), how they targeted lending to clients and, more importantly, the financial sustainability of each lending outfit. While Grameen Bank's lending policy made it financially unsustainable due to the low interest rates charged on loans to poor landless clients who were mostly women, others, such as Bank Rakyat and BancoSol, were financially sustainable as they lent at relatively high interest rates (32%-50.5%) to largely non-poor clients. The study also carried out a comparative analysis of the impact of loans given to the clients of different types of microfinance institutions.

Mohieldin and Wright (2000) carried out a survey of formal and informal credit markets in Egypt using the probit analytical framework to determine which factors determined loan receipt from each of the formal and informal financial markets. The data used for the study were obtained from a sample of 200 households drawn from four Egyptian villages. The study revealed the variables (in terms of magnitude and direction) that determine the award of formal and informal loans in Egypt. Factors such as type of occupation, household characteristics, financial characteristics, sources of income and religion, were found to be determinants of loan awards.

Joseph Stiglitz (1990) developed a model of peer monitoring in a competitive market to show that the transfer of risk as used by Grameen bank, as compared to other MFIs, led to an improvement in borrowers' welfare. This study employed the use of a linear probability model towards estimating the probability of success (and, by implication, failure) of loans received from a Lagos-based MFI for the purpose of developing enterprises in a rural area of Lagos, Nigeria.

3.   Methodology

3.1 The data for the study

The data for this study were obtained from the rural-based beneficiaries of a Lagos-based microfinance NGO whose main preoccupation was deposit mobilization and credit dispersion among the rural and urban poor. The NGO was established in 1996 as a follow-up to the Beijing Conference of 1995 in which the president and founder (of the NGO in Lagos) pledged an active role in poverty alleviation. The organization was aimed at actualizing economic empowerment for the rural poor through a micro-credit scheme.

The organization operates two types of micro credit schemes. The urban-based scheme targeted at urban women owning micro-businesses and a rural-based micro-credit programme targeted at both men and women in on-farm and off-farm micro-businesses. The rural micro-credit scheme operates in six local government areas and covers eleven communities. Anyone who wished to benefit from the scheme must be a registered cooperative member and also a micro-entrepreneur. By implication, therefore, the scheme does not extend to start-up businesses.

A rural based programme was selected for this study because this area has not received much research attention. Four local government areas, out of six, were randomly selected for the study. From each local government, one community was selected. In all, four communities consisting of 15 cooperative groups with a total membership of 164 were targeted for the interview. The last stage of the sampling process was the selection of micro-entrepreneurs. From the 164 entrepreneurs 82 were selected, representing 50 per cent of the total. The interviews were conducted in the months of September and October 2005; also pre-tested questionnaire was used. However, only 70 useable responses were got from the interviewees, which gave a fairly high response rate of 85 per cent.

3.2 The loan impact probability model

In determining the impact of micro-credit on business success, a linear probability model was formulated. The probability model was constructed on the axiom that the loan received by the micro-entrepreneur might make 'successful impact' or 'non successful impact' on the business. Thus a loan impact probability model was specified and estimated.

Given a linear probability model of the form:

$$Y_j = \beta_o + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k + \mu_j \tag{1}$$

where:

$Y_j =$ a binary variable 0,1. The variable takes a value of unity if the micro-business is considered by the entrepreneur to progress after the receipt of microfinance assistance, and zero if otherwise.

$X_K =$ is the value of attribute for the kth individual;

$\beta_k =$ measures the change in the probability of success when X_k changes; holding other factors constant.

$\mu_j =$ independently distributed random term.

Suppose:

$$E(Y / X_1, X_2 \ldots X_k) = 0 \tag{2}$$

Then:

$$E(Y / X) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots + \beta_k X_k \tag{3}$$

Given the binary value of Y, then

$$P(Y = 1/X) = E(Y/X) \tag{4}$$

That is, the probability of 'success' is the same as the expected value of ,Y so that

$$P(Y = 1/X) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + ... + \beta_k X_k \tag{5}$$

And equation (1) can be written more compactly as:

$$Y_j = \beta_0 + \sum \beta_i X_{ij} + \mu_j \tag{6}$$

Equation (6) on which the ordinary least squares (OLS) estimation technique is applied represents the basic model for this study. The researchers are not unaware of the possible problems that may arise if OLS in a linear probability model of this nature is applied. Some of these are: the non-normality of the disturbances μ_j, the heteroscedastic variances of the disturbance terms; and the possible non-fulfilment of the $0 \leq E(Yi/X) \leq 1$ restriction. The non-normality of the disturbance term associated with the linear probability model is not significant with the OLS procedure, since the estimates obtained remain unbiased (Gujarati, 1995:543). In tackling the problem of heteroscedastic variance of the disturbances, we have tried the data transformation technique using the weighted least squares (WLS) approach. The weight $\sqrt{w} = \sqrt{P(1-P)}$ is then used to transform the basic equation in order to get rid of the heteroscedastic disturbances. The transformed equation is of the form:

$$\frac{Y_j}{\sqrt{w}} = \frac{\beta_0}{\sqrt{w_i}} + \sum \frac{\beta_i X_{ij}}{\sqrt{w_i}} + \frac{\mu_j}{\sqrt{w_i}} \tag{7}$$

The disturbance term in equation (7) is now homoscedastic. However, a comparison of the estimated equation (6) with the transformed version, (7), does not show a significant difference; hence, (6) is retained for the analysis. This is consistent with Cohen et al. (1970).

The problem regarding non-fulfilment of the range of prediction outside the values 0 and 1 is solved by assuming the value 0 for the estimated dependent variable that is negative and 1 for values of dependent variable greater than unity, after having carried out the OLS estimation. Table 1 shows the breakdown of the numeric and qualitative variables used in the model.

Table 1. Variables Used in the Model

S/No	Basic variables	Dummy/derived variables
1	Educational level (educ)	Educ 1 = (1, if no schooling); (0, otherwise)
		Educ. 2 = (1, if primary education); (0, otherwise)
		Educ. 3 = (1, if secondary education); (0, otherwise)
2	Age (actual age)	Age 1 = (1, if 20-29 yrs.);(0, otherwise)
		Age 2 = (1, if 30-39 yrs); (0, otherwise)
		Age 3. = (1, if 40-49 yrs); (0, otherwise)
		Age 4 = (1, if over 50 yrs); (0, otherwise)
3	Business location (bisloc)	Bisloc 1 = (1, if located at Ojo); (0, otherwise)
		Bisloc 2 = (1, if located at Badagary); (0, otherwise)
		Bisloc 3 = (1, if located at Epe); (0, otherwise)
		Biscloc 4 = (1, if located at Ibeju-lekki); (0, otherwise)
4	Marital status (marstat)	Marstat 1 = (1, if single); (0, otherwise)
		Marstat 2 = (1, if married); (0, otherwise)
		Marstat 3 = (1, if widowed); (0, otherwise)
5	Type of business (bistype)	Bistype 1 = (1, if farming); (0, otherwise)
		Bistype 2 = (1, if fishing); (0, otherwise)
		Bistype 3 = (1, if agro-processing); (0, otherwise)
		Bistype 4 = (1, if trading); (0, otherwise)
		Bistype 5 = (1, if craft); (0, otherwise)
6	Training before loan	Trainb4. = (1, if pre-loan training was given); (0, otherwise)
7	Loan frequency	Actual Number of times loan was received
8	Gender	Gender 1 = (1, if male) (0, otherwise)
9	Age of business (bizyr)	Actual number of years business was established
10	Loan amount	Actual amount of loan received
11	Loan impact (limpact)	Limpact = (1, if loan is considered to have made very significant or significant impact on the business), (0, Otherwise)

3.3 Analytical technique

In analysing the data, statistics like frequency distribution, mean, cross-tabulations and percentages were used to summarize the findings on the structure of micro enterprises and entrepreneurs in the survey locations. Furthermore, an ordinary least squares technique was used to estimate the linear probability function specified in section 3.2 above. In view of the large number of the explanatory variables, the stepwise regression procedure was adopted. The dependent variable,

Limpact, is a binary variable which takes value 1, if the entrepreneur considered that the loan(s) taken had a positive impact on his business, and zero, otherwise. The model is expected to help predict the probability of success of businesses that receive loans and uses a subset of the characteristics of individual entrepreneurs and micro-enterprises. The variables used in the model are listed in table 1.

4. Results and Discussions

4.1 Structure of micro-enterprises

The data collection exercises covered four local government areas: Ojo, Badagary, Epe, and Ibeju-Lekki. Idoluwole, Iragon, Ebute-Afuye and Ibeju-Lekki were the communities selected from Ojo, Badagry, Epe and Ibeju-Lekki local government areas (LGAs) respectively. In all, 70 micro- enterprise owners who were the beneficiaries of loans from the selected MFIs were successfully interviewed. Every one of the respondents owned and operated his/her business and worked with (unpaid) family members, in most cases. Most of them were, therefore, the sole proprietor of their businesses. Table 2 shows the distribution of respondents' businesses by LGA and community.

Table 2. Distribution of Respondents by Business Location

Local Government	Number	Percentage	Community
Ojo	20	28	Idoluwole
Badagry	30	43	Iragon
Epe	13	19	Ebute-Afuye
Ibeju-lekki	7	10	Ibeju-Lekki
Total	70	100	

Table 2 shows that thirty respondents representing 43 per cent of the total were from Badagry, 28 per cent of them were from Ojo, 19 per cent from Epe, while the remaining 10 per cent were from Ibeju-Lekki. The sampled business owners engaged in five different types of activities: farming, fishing, and rudimentary agro-processing (mainly cassava processing into fufu and gari, fish curing, local palm oil processing, etc.), trading and crafts, like mat making. The distribution of respondents by type of business activities and location are shown in table 3.

Table 3 shows that fishing and farming were the most dominant activities among the respondents, as each of accounted for 31 and 30 per cent respectively. Agro-processing accounted for 19 per cent, while trading and craft accounted for 13 per cent and 7 per cent respectively. As expected, 80 per cent of the

entrepreneurs were engaged in agricultural activities – that is, 30 per cent (farming), 31 per cent (fishing) and 19 per cent (agro-processing).

Table 3. Distribution of Respondents by Location and Type of Business Activity

Enterprise type	Location of enterprises				Total (N)	Total (%)
	Ojo	Badagry	Epe	Lekki		
Farming	-	17	4	-	21	30
Fishing	11	2	5	4	22	31
Agro-processing	3	5	3	2	13	19
Trading	3	4	1	1	9	13
Craft	3	2	-	-	5	7
N	20	30	13	7	70	100
%	28	43	19	10	n/a	100

In terms of the age of businesses (table 4), majority (33%) of the responding enterprises were 6-10 years old, followed by 20 enterprises (29%) which were 16-20 years old. Only 12 enterprises, representing 17 per cent, had been in existence for over 20 years. The age distribution of enterprises shows that most rural micro enterprises survive beyond five years.

Table 4. Distribution of Enterprises by Age-group of Enterprises and Business Type

Enterprise Type	Age-group of Enterprises					Total	Total (%)
	1-5	6-10	11-15	16-20	21 and over		
Farming	-	16	2	2	1	21	30
Fishing	-	82	8	9	3	22	31
Agro processing	-	2	1	6	4	13	19
Trading	-	3	4	2	-	9	13
Craft	-	-	-	1	4	5	7
Total (No)	-	23	15	20	12	70	100
Total (%)	-	32.8	21.4	28.6	17.1	n/a	100

4.2 Socioeconomic characteristics of respondents

The result of the survey revealed that over three-fifths of the entrepreneurs were male while only 39 per cent were female. In terms of gender distribution by economic activity, the female entrepreneurs were predominant in agro processing and crafts where they made up 100 per cent of those engaged, while men were predominant in farming. In terms of age, none of the respondents was less than 20 years old; 30 per cent of them were between 20 and 30 years, 36 per cent were in the 31-40 years age group, 20 per cent between 41-50 years and 14 per cent, over

50 years old. This shows that 86 per cent of the entrepreneurs were in the prime age of 20-50 years while only 14 per cent were over 50 years old. Thus, the UNDP-assisted micro-credit programme has helped to retain the prime-aged adults in the rural areas and prevented them from migrating to the cities to seek formal sector jobs (that do not exist). With respect to marital status, only 6 (8%) were single; 60 of them (86%) were married while 4 (6%), were widowed.

In terms of attainment of formal education, more than half of the sampled entrepreneurs (54 per cent) had no formal education. Only a third of them had primary education, while the rest had either attempted or completed secondary education before embarking on their rural activities. An analysis of the formal educational level attained by entrepreneurs in different economic activities revealed that those in farming and trading activities had achieved a significant literacy level (up to about 81 per cent of those in farming and 78 per cent of those in trading) while it was zero in crafts, and a mere 23 per cent in each of fishing and agro processing.

Apart from the educational attainment that influenced business choice, the survey also asked the respondents why they engaged in their respective occupations. Their responses revealed the following details: 60 per cent of them inherited their occupation, while 23 per cent took it up to get employed and/or for survival (employment 17%, survival 6%); the remaining 17 per cent engaged in it simply because they love the occupation. This result is not surprising as a significantly higher percentage in the 'inherited' category confirmed the fact that traditional occupations are usually passed down from parents to children (Callaway, 1973). The same is true for traditional agriculture, where ownership of farmland passes from father to son. An analysis of educational attainment and reason for engaging in the occupation revealed that most of those who inherited the occupation had little or no formal education.

4.3 Economic impacts of micro-credit on enterprises

One of the most important contributions arising from the intervention of the UNDP in these micro-enterprises is the provision of microfinance to assist the businesses. For instance, since the inception of this particular MFI in 2000, the beneficiaries of the rural outreach of the UNDP-assisted programme had received business development loans to the tune of about ₦12 million. The interest rate charged was highly concessionary. Initially, micro-credit was given at the rate of 14 per cent per annum, but from 2004, it was raised to 20 per cent per annum. The waiting period of about 2 to 3 months that enables the programme officers to evaluate the genuineness or otherwise of the micro-entrepreneur is the only requirement for registered participants to apply for and obtain a loan. Loans received are, however, expected to be repaid within 12 months. Such repayments are usually done during the monthly meetings of the participants when an extension officer of

the fund visits the village for technical support/counselling and collection of savings – these meetings are compulsory for all members.

Not only were the entrepreneurs given operational loans for procuring the needed inputs, but pre-loan training was also provided by the extension officers from the NGO. Every member of the group, while expecting to receive a loan, was also expected to save from business proceeds. It was hoped that this would encourage the banking habit among rural entrepreneurs who, until then, had little or no access to formal banking services. Up to and including the year of data collection (2005), the books of the MFI showed that total loans to rural micro-entrepreneurs stood at ₦7.43 million, out of which a total of ₦4.64 million was due for payment. Repayment was ₦3.2 million while ₦1.44 million was outstanding. This shows a repayment rate of 69 per cent. The beneficiaries also have saved a total of ₦1.34m. Thus, when the total amount saved by the beneficiaries is factored in, the repayment rate is almost 100 per cent.

Table 5 shows the distribution of respondents by the amount of loan received. Total loans received by all sampled businesses amounted to ₦2.042 million. Farming and fishing received equal shares of 32 per cent each, agro-processing received 17 per cent, trading 10 per cent and crafts 9 per cent. The average loan received per entrepreneur was, however, highest for crafts, which received ₦37,000 and the lowest was in trading, which received ₦23,000.

Table 5. Percentage Distribution of Respondents by Amount of Loan Received and Type of Activity

Enterprise type	Loan amount (group) ₦				Total sum and % share (₦)	Average loan amount per person (₦)
	10-20,000	21-30,000	31-40,000	41-50000		
Farming	24	24	24	28	652,000 (32%)	31,047
Fishing	27	18	41	14	647,000 (32%)	29,400
Agro-processing	46	15	15	24	348,000 (17%)	26,770
Trading	33	56	11	--	207,500 (10%)	23,055
Craft	--	20	40	40	186,500 (9%)	37300
Total	29	24	27	20	₦2,041,500	29,164

The loans received, as reported by the respondents, were used in two broad areas: for the purchase of necessary business equipment, and as working capital for business expansion. Consequently, 67 per cent of the entrepreneurs claimed to have invested the last loan received on business equipment, while the remaining 33 per cent maintained that theirs was spent as working capital for business expansion.

4.4 Loan Impact Assessment by Micro-Entrepreneurs

Entrepreneurs covered in the study were asked this question: Given the micro-credit assistance received from the MFI, do you consider that the loan received by you made any impact on your business? An analysis of responses received, categorized by several factors, are as shown in table 6. Two of the entrepreneurs, representing 3 per cent of the total, considered their businesses very successful as a result of the highly significant impact of micro-credit received; 53 per cent of them were of the view that the micro-credit made a moderate impact, while the remaining 31 of them, representing 44 per cent believed that the loan had no significant impact on their micro-businesses. Overall, 56 per cent of the respondents considered their businesses successful as a result of the loan received while 44 per cent considered otherwise. Table 6 gives the summary of the loan impact assessment by the sampled entrepreneurs.

Analysis by type of business enterprises shows that micro-entrepreneurs in fishing, farming and trading reported impressive levels of business success (68 per cent, 57 per cent and 54 per cent, respectively) as a result of loans received. Agro-processing and craft occupations recorded 46 per cent and 40 per cent respectively. Disaggregated by level of education attained by the entrepreneurs, business success and level of education attained appear to be inversely related. For entrepreneurs with no formal education, 68 per cent reported either a significant or a positively moderate impact on their businesses, while 44 per cent and 33 per cent of those with primary and secondary education, respectively, gave similar success stories resulting from the application of micro-credit received from MFI.

This result may at first appear contrary to *a priori* expectations, as higher educational attainment is expected to result in a better allocation of loans. However, a possible explanation of this result is that the educated in the rural micro-business are not likely to be totally committed to their job in the rural sector, which, in most cases, is regarded as the second option after failure to secure the desired formal sector job. Thus, this group of entrepreneurs might still be nursing the hope of returning to the formal sector and it is not unlikely that part of the loan obtained was used to finance urban job search (Ogunrinola, 1991).

In terms of business location, 86 per cent of businesses in Ibeju-Lekki reported a positive loan impact; while similar figures for Badagry, Ojo and Afuye-Epe are 57 per cent, 50 per cent and 46 per cent respectively. One important factor responsible for business success in the different locations was the number of times respondents received loans from the MFI, among other enabling factors. For instance, while 60 per cent and 40 per cent of enterprise owners in Ibeju-Lekki had received loans once and twice respectively; all sampled entrepreneurs in Afuye-Epe benefited only once. Similarly in Badagry and Ojo locations, over 80 per cent of the entrepreneurs received loans more than once.

Table 6. Analysis of Loan Impact on Business Development by Various Factors

Variable	Significant impact		Moderate impact		No impact		Total	
1. Business Type	No.	%	No.	%	No.	%	No.	% with +ve impact
Farming			12	57	9	43	21	57
Fishing	2	9	13	59	7	32	22	68
Agro-p.			6	46	7	59	13	46
Trading			4	44	5	54	9	54
Craft			2	40	3	60	5	40
Total	2	3	37	53	31	44	70	56
2. Education								
None	2	5	24	63	12	32	38	68
Primary			10	44	13	56	23	44
Secondary			3	33	6	67	9	33
3. Location								
Ojo	2	10	8	40	10	50	20	50
Badagry			17	57	13	43	30	57
Afuye			6	46	7	54	13	46
Ibeju-lekki			6	86	1	14	7	86
4. Age								
20-29			9	43	12	57	21	43
30-39	2	8	13	52	10	40	25	60
40-49			9	64	5	36	14	64
50+			6	60	4	40	10	60
5. Marital Status								
Single			2	33	4	67	6	33
Married	2	3	33	55	25	42	60	58
Widowed			2	50	2	50	4	50

Another variable that was considered important to business success was the age of the entrepreneurs. The percentage of entrepreneurs who reported a positive loan impact on their businesses increased progressively up to the age-group 40-49 years after which it declined slightly. Nine entrepreneurs representing forty-three percent of those in the 20-29 years age bracket reported business success; while 60 per cent, 64 per cent and 60 per cent of those in age groups 30-39 years, 40-49 years and over 50 years similarly reported business success as a result of loans received. Since these rural activities are labour intensive and much of the labour input is

supplied by the owner in person, with and/or without his family members, it is not surprising that business success declined slightly for those of age 50 and above when the owners are less energetic, and when, perhaps, many of their able-bodied children would have migrated to the nearby urban centres in search of better income opportunities.

4.5 Loan impact on micro-enterprises: A linear probability model estimate

To further assess, in quantitative terms, the impact of loans received for business development, we estimated the linear probability model specified in the equation (6) above. The regression result is presented in table 7. Two regressions are reported. Regression 1 is estimated without a constant term, in which case, the coefficients of the variables (both dummy and continuous) measure the intercepts of the categories in each of the variables in question. In regression 2, the constant term was not suppressed and as such the coefficient of each variable measured the differential impact between the variable in question and the variable in the excluded/reference category (Gujarati, 1995).

The values of R^2, adjusted R^2 and F-statistic for each of the equations are indicated in the table. For regression 1, the R^2 is about 81 per cent, while the adjusted R^2 is 71 per cent. Similar figures for regression 2 are 56 per cent and 36 per cent, respectively. Nine basic variables were used in the model, and by the use of dichotomous variables, these were expanded to 33 explanatory variables. The regressions were estimated in stepwise fashion and as stated in table 7, those variables without any coefficient estimate and marked (a) are the variables that the computer had to drop in the stepwise regression process due to low F-level. Those marked (b) are the variables in the reference category which were deliberately dropped in the estimation exercise to prevent a dummy variable trap, arising from perfect multicollinearity. Moreover, the excluded category served as control for those variables included in the model.

Four cardinal variables (actual age; educational attainment, measured by the number of years of schooling; loan frequency, measured by the number of times loan was received; and actual age of business) were used in each of the two models. In both regressions 1 and 2, all the cardinal variables except loan frequency, were negatively related to the probability of business success. Using regression1, which shows the direct effect of the explanatory variables on business success; a unit increase in each of age of entrepreneur and business age reduced the probability of business success by 3.75 per cent, and 3.78 per cent respectively. The education variable was dropped in equation 1 but was included in equation 2 and it related inversely with business success consequent upon loan receipt.

Table 7. Loan Impact Linear Probability Model

Dependent Variable: *LIMPACT*

Explanatory Variables	Regression 1 (without intercept)		Regression 2 (with intercept)	
	Coefficients	T-statistic	Coefficients	T-statistic
Intercept			0.835	1.043
Age (actual)	-0.0375*	-2.012	-0.0378*	-2.086
Age 1 (20-29)	-0.748*	-2.917	(b)	
Age 2 (30-39)	(a)		0.675*	2.613
Age 3 (40-49)	0.649*	2.400	1.282*	2.949
Age 4 (50+)	1.382*	3.262	1.973*	3.370
Gender	-0.118	-0.649	-0.197	-1.109
Marstat 1 (single)	0.00687	0.020	(b)	
Marstat 2 (married)	0.529**	1.534	0.398**	1.732
Marstat 3 (widowed)	(a)		0.677	1.448
Education	(a)		-0.339*	-2.804
Educ 1 (no schooling)	(a)		(a)	
Educ 2 (primary)	-0.360*	-2.023	0.0429	0.311
Educ 3 (secondary)	-0.781*	-3.129	(b)	
Bistype 1 (farming)	0.389	0.729	1.314*	2.346
Bistype 2 (fishing)	0.275	0.548	1.120*	2.114
Bistype 3 (agro-processing)	0.186	0.443	0.805	1.635
Bistype 4 (trading)	0.560**	1.183	1.274*	2.332
Bistype 5 (craft)			(b)	
Loan frequency	0.179*	3.645	0.219*	3.674
Age of business (actual)	-0.036	-0.899	-0.245*	-2.135
BizAge 1 (1-5 years)	3.120*	3.223	0.964**	1.838
BizAge 2 (6-10 years)	1.759*	2.021	(a)	
BizAge 3 (11-15 years)	1.515	1.715	0.0683	0.331
BizAge 4 (16-20 years)	1.406	1.463	-0.0149	-0.085
BizAge 5 (over 20 yrs)	1.147	1.087	(b)	
Whyengage 1	-0.0812	-0.248	(a)	
Whyengage 2	-0.0615	-0.276	(a)	
Whyengage 3	-0.338	-1.427	(a)	
Whyengage 4	(a)		(a)	
Bisloc 1	(a)		-0.263	-1.048
Bisloc 2	(a)		-0.234	-0.892
Bisloc 3	(a)		-0.137	-0.515
Bisloc 4	(a)		(b)	
R^2	0.807		0.556	
Adj. R^2	0.713		0.362	
F	8.563		2.867	
DW	2.133		2.25	

Notes;   a. Variables not picked by the computer in the step-wise regression procedure.
b. Variables deliberately excluded to serve as the reference category
* Significant at 1% level;   ** Significant at 5% level;   *** Significant at 10% level.

At first, this result might appear contrary to a priori expectations but a careful analysis presented in Section 4.4 above justifies the plausibility of such findings. The direct relationship between loan frequency and business success conforms with a priori expectations, and in terms of magnitude and direction, a unit increase in loan frequency increases the probability of business success by about 18 per cent.

In determining the coefficient of differential impacts among the different classes of the variables included in the model, we turn to regression 2. With reference to the excluded category, an increase in the age of entrepreneur (measured by movement from one age group to the other) increases the probability of business success. The reference category in this case is the age group 20-29. Thus, being in the age group 30-39 increased the probability of success by as much as 67 per cent, while being in the age group 40-49, rather than in 30-39, increased the success probability by 60.7 per cent (1.282 minus 0.675). Being in age group 50 years and over, rather than the excluded category (20-29 years) gave a surer guarantee of business success, all other things remaining unchanged. This result appears plausible for the fact that age is one of the principal factors influencing rural-urban migration. As entrepreneurs advance in age, the tendency to migrate diminishes, and this tends to encourage increased commitment to rural business endeavours and is a principal success factor. They are, however, limited by the co-operant factors available, since the labour input of a sole proprietor, employing only self-labour diminishes with age. There appeared to be no significant difference between the success probability of male and female entrepreneurs since the coefficient of the gender variable (male $= 1$, female $= 0$) was not significantly different from zero in the two equations. Those that were married as well as those that were widowed, had a comparatively better probability of business success as compared to the singles (to the tune of about 40 per cent) after having received loan assistance.

The level of educational attainment was statistically significant, but had an inverse relationship to the level of business success after loan receipt as shown by Regression 2. This appears contrary to a priori expectations as one expected that the level of education attained would boost business development. For the sampled respondents, the negative relationship between the two variables was expected on the grounds that those with some level of education may not have committed themselves seriously to rural employment as they, in most case, still had their minds set on moving to urban formal sector jobs, when they became available. It is not even unusual for them to invest part of the loan received to maintain urban contacts to secure the well-desired and more financially-rewarding formal sector jobs. However, in relation to the excluded educational category of secondary education, no education dummy was found to be significant in regression 2. This shows that there was no significant difference among different educational classes of entrepreneurs with regard to business success after a loan receipt. However, in

regression 1, *Educ 2* and *Educ 3* were significant and negative in their impact on business success. This confirms the result in regression 2 earlier discussed. That is, the higher the level of education the lower was the expected business success after a loan receipt, suggesting a substantial investment of the loan received by the educated in rural business in urban sector job searches rather than in the development of their rural businesses.

The frequency of loan receipts impacted significantly on the chance of business survival as shown by the variable 'Loan Frequency' in the regression result presented in table 7. Another interesting variable is the age of business, and the dummies representing the different age groupings. Contrary to a priori expectations, the age of business showed a negative (and statistically significant.) relationship to the probability of business success in regression 2. One would rather expect the contrary as postulated by the traditional economic theory. However, this result seems plausible if one considers that the major form of business ownership was the sole proprietorship form. The sole owner of the business was usually the family head, assisted by the spouse and unpaid kinsfolk with, or without paid employees. Thus, as the business aged, though the owner demonstrates more commitment as his/her chance of city-ward migration reduces with age, yet his ability to work alone and effectively manage the business diminishes with age. The same result is confirmed by the business age dummies (*Bizyear* 1 and *Bizyear* 3) that showed a positive relationship with the probability of business success, relative to the excluded category *Bizyear* 2. For instance, *Bizyear* 1 contributed more to business success, as compared to the *Bizyear* 2 which was the reference category while *Bizyears* 3 and 4 contributed increasingly less.

Business location had no significant impact on the probability of business success, since all the coefficients of the variables were not significantly different from zero. In contrast, however, the type of business activity engaged in affected the chance of business success. For instance, entrepreneurs in trading, farming, and fishing had a better chance of business success compared to the reference category (crafts), while there was no significant difference between crafts and agro-processing.

5. Summary and Conclusion

This study has not only attempted to measure the contributions of the UNDP-assisted micro-credit to some selected micro-enterprises in rural communities in Lagos State, it has also highlighted the key success variables (both for micro-enterprises and entrepreneurs) for its micro-loan facilities to rural micro-enterprises. the findings have shown that MFIs are bridging the finance gap created by the maladapted formal finance sector. The provision of microfinance through MFIs is not only necessary for business survival and growth through the

services to the micro-entrepreneurs, it is also important in checking the rural-urban migration through rural employment creation and retention.

Over three-fifths of the enterprises that received micro-credit reported business success as a result of the application of the loan received. Surprisingly, rather than being poor credit risks, micro-entrepreneurs in this study achieved a very high loan repayment rate of 96 per cent. The micro-credit loans, in addition to making a positive impact on micro-businesses, have also played a major role in reducing the rate of business failure as well as rural-urban migration in developing economies. The scheme, unfortunately, does not provide start-up capital for intending entrepreneurs as only existing and ongoing micro-businesses are qualified for microfinance opportunities.

In conclusion, the operation of the UNDP-assisted MFIs studied has been found to be beneficial to micro-businesses in the survey areas of Lagos State. Improved support by the government would widen the base of their services and, through the multiplier effect, engender more micro-business support and, hence, improved business survival in Nigeria. For instance, a type of support being advocated might be in the form of making MFIs to be recognized by government as credit dispersion vehicles at state and federal levels. In the view, the current policy of the Federal Government of Nigeria on microfinance (CBN, 2005) should be actively pursued to ensure that microfinance institutions are geared towards entrepreneurial development even in the rural areas.

Since new MFIs are to be registered and supervised by the Central Bank of Nigeria, their activities can be monitored and they can become agents of development that will operate in a sustainable way and, at the same time, enjoy the support of both government and donor agencies. Since the latter are familiar with former's areas of operation and, given the current repayment rate of MFI loans, it is almost certain that loans given would be repaid. Moreover, this arrangement can make it possible for the relevant government agencies to capture the necessary statistical data relating to the activities of micro-businesses. This would enhance better planning possibilities for national development.

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