

Community/Microfinance Banking and Sectoral Growth: An Empirical Lesson from Nigeria

Solomon A. Olakojo and Dayo B. Olanipekun

Department of Economics, Faculty of the Social Sciences, University of Ibadan, Ibadan, Nigeria

Abstract: Community/microfinance finance banking serves a critical role in the economy by providing financial support not only to the small and medium scale enterprises but also to the real sectors in the economy. Using pooled regression and Ordinary Least Squares (OLS) techniques and yearly data covering 1992-2008, an important finding of the study is that the current level of sectoral output is generally positively influenced by loan and advances in the sectors used for the study. However, a sectoral analysis using OLS shows that while loan and advances from microfinance/commercial banks positively influenced output of manufacturing, building and construction and mining and quarrying sector, the same could not be established for the agricultural sector. An important policy recommendation of the study is that caution needed to be made in giving loan and advances to farmers by the microfinance banks but giving incentives in forms of basic amenities in the rural areas, provision of necessary agricultural inputs by government to the sector may go a long way in boosting its output.

Key words: Microfinance banking, loan and advances, sectoral output, pooled regression, ordinary least squares, Nigeria

INTRODUCTION

Banking sector constitute a vital position in the development of an economy. The role of the sector had attracted great interest in Nigeria in the past decade. Governments of most developing countries have several times intended to reduce poverty or raise the standard of living of the population through banking reforms and policies. In order to achieve this aim microfinance banking serve as a tool, since they are seen as closer to the grass root in making fund available to small and medium scale enterprises.

Generally, Microfinance services are provided by three types of sources; formal institutions such as rural banks and cooperatives, semiformal institutions such as non-governmental organizations and informal sources such as money lenders and shopkeepers. Microfinance is about providing financial services to the poor who are traditionally not served by the conventional financial institutions. Three features distinguish microfinance from other formal financial products. These are; the smallness of loans advanced and/or savings collected, the absence of asset-based collateral and simplicity of operations (CBN, 2005). Oluombo and Ogundimu (2006) noted that microfinance institution is now a growing phenomenon all over the world. It is emerging as a rapidly growing

financial services industry worldwide as a solution to the crippling effects of the conventional banks interest on the poor and those operating micro and small scale enterprises. The history of formal microfinance banking in Nigeria can be traced to the establishment of the Nigerian Agricultural and Cooperative Bank (NACB) in 1992 to act as development finance institution extending loans to both small and large scale farmers. As a follow-up, the Agricultural Credit Scheme Fund (ACGSF) was established in 1978 for the purpose of agricultural risk reduction.

The bank guarantees rural banking system, export financing and sectoral allocation of credit. These measures could not be continued with the introduction of liberal economic policies in 1989. The people's bank was established in 1989 with the purpose of taking deposit and lending majorly to the farmers. The Central Bank of Nigeria embarked on the licensing of community banks in 1990 for the provision of credit facilities to the poor and Small and Medium Enterprises (SMEs.)

Community banks developed into microfinance bank in 2005. The transformation of community banks and interested non-governmental organizations to microfinance institutions under the supervision of the Central Bank of Nigeria is a laudable one. In the pursuit of Central Bank of Nigeria financial sector reforms,

microfinance bank policy and framework was launched on December 15, 2005. On the official lunch of the policy and frame work, the CBN governor stated in his address that Nigeria may not achieve a robust economic growth without putting in place well focused programmes to reduce poverty through empowering the people (CBN, 2006). The emergence of microfinance bank was received with great confidence by business community with the belief that it will increase their access to loans which were not readily given in commercial banks because of the lack of collateral securities. The main purpose of these microfinance banks was therefore to provide banking and credit facilities to the poor, the low income earners and to the low and medium scale entrepreneur.

How much the microfinance banks had addressed the need of SMEs and the sectoral growth had raised so many questions. It has been argued that other than the institution providing finances that are required to facilitate long-term growth and development across sector, they are more interested in investing in sectors where they can reap high return.

Aims and objectives of the study: The aim of this study is to determine the impact of microfinance bank on sectoral growth in Nigeria. In order to achieve this aim, the specific objectives are:

- To analyze trends in sectoral performance in terms of output growth vis-a-vis the performance of microfinance banks in terms of loan and advances made available to these sectors
- To estimate sectoral output models to determine the extent to which microfinance banks have contributed to sectoral output growth

Justification of the study: It has been discovered that at early period of microfinance institution in Nigeria, their effort in advancing loan to the SMEs was well felt than the past 2-3 years. The intensive rates of poverty in Nigeria require the support of microfinance institutions to provide short-term loan for small and medium term traders. Also, the episodes of financial reforms embarked upon by the Central Bank of Nigeria on financial institutions in the country make it necessary to carry out a research of this nature to assess the effect of the monetary authority policies on economic performance of various sectors. This requires a practical approach which involves determining the extent to which microfinance banks were able to fulfill their basic responsibility of providing fund needed to real sectors in general and SMEs in particular. Several studies had been done on the effect of microfinance banking on economic growth, however to the knowledge, there exist

no empirical research on the impact on microfinance banking on sectoral growth in Nigeria. This study therefore, intends to expand the body of literature by empirically investigate the effect of microfinance banking on sectoral growth in Nigeria using a time series data that span from 1992-2008.

A review of policies, sectoral performance and microfinance banks contribution to sectors in Nigeria:

The growth rate of microfinance banks loan and advances reduced from 1993-1995 in all the sector except the mining and quarrying sector due to inadequate capital holding of the institution. During 2001-2004 loan and advances to the entire sector move in the same pattern while increasing from 2001-2002 up to 228% and decreasing by 14% in 2004. Microfinance banks operators responded to CBN directives to increase shareholders capital base to ₦20 million through measures such as merger and acquisition in 2006. This contributed in no small measure to increase their capacity to finance agriculture and SMEs. During this period, loan and advances to agricultural and manufacturing sector increased due to Central Bank of Nigeria policies to promote agriculture and SMEs. Recently from 2007-2008, loan and advances to agricultural and manufacturing sector increased sub-stancially while that of mining and quarrying together with building and construction fell by 39%. This can be attributed to intense concentration of agricultural and manufacturing finances by the microfinance banks (Fig. 1). The growth rate of sectoral real output as seen in the Fig. 2 shows at a slow rate from 1993 up to 2001. In 2002, there was a sharp increase up to 55.2% in agricultural sector while that of other sector remained low. The increased in agricultural output rate in this period can be attributed to various federal government policies to promote and reduce the importation of staple foods.

In addition, the microfinance banks' contribution to agriculture during the time showed a remarkable increase. Thereafter, agricultural contribution to real GDP remains low which may be due to inappropriate implementation of the policies directed in financing agricultural sector. In 2008, growth rate of mining and quarrying increased to 12.8% and exceeding that of agriculture that stood at 6.3%.

Review of some empirical literature: Many researchers had examined the effect of microfinance banking in a developing economy. While some concluded that an effective and efficient micro banking is essential to speed the developmental processes of a growing economy, others relax the efficacy of microfinance institutions in its contribution to economic growth. Among the studies in

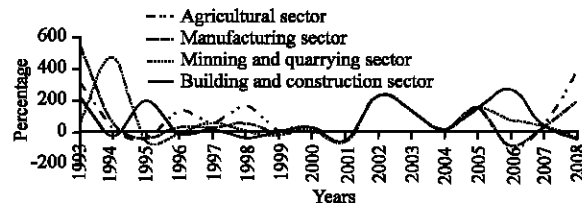


Fig. 1: Growth rate (%) of community/microfinance banks' loan and advances to the real sectors

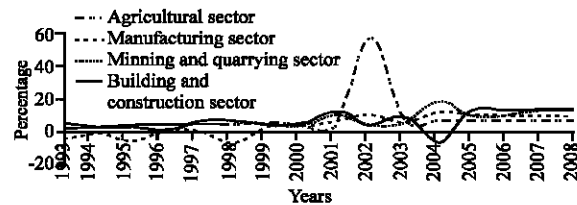


Fig. 2: Sectoral real output growth rate (%)

this area include Mohammed and Hassan (2008), Maksudova (2010) and Nudamatiya *et al.* (2010) to mention a few. Maksudova (2010) study examines the contribution of microfinance to financial sector development and growth using a panel study of 103 countries for 1995-2008 period. Evidence from Granger, causality reveal that microfinance bank Granger cause economic growth only in less developed countries through lagged values in places where formal financial intermediation is immature. Dahiru's study investigates microfinance banking in Nigeria and the prospects of introducing its Islamic version in the light of selected Muslim countries' experience. Their findings show that performance institution charge interest rate high as up to 100% for lending and pay as low as 5% on savings. This led to increase poverty and inequalities in distribution of wealth and income in Nigeria. The study recommended that Nigeria being a Muslim majority, government should endeavor to establish the Islamic version tailored in line with their faith.

Nudamatiya *et al.* (2010) analyze the effect of microfinance on poverty reduction in Adamawa state Nigeria. This study was conducted in a random selection of 88 beneficiaries of four microfinance institutions through a questionnaire survey. The results revealed that majority of beneficiaries were females constituting about 70% and were in the active and group of between 26-45 years representing about 68%. Also, it was found that the respondent were mostly civil servants with the preferred sectors being commerce and crop farming constituting about 85%. The survey also revealed regression coefficient of 0.53, correlation coefficient of 0.71 and computed t-test value of 2.16 all showing

positive impact that microfinance has on the income of beneficiaries. Vanroose and D'Espallier (2009) analyze the relationship between performance of microfinance institutions and the development of the formal financial sector in country in which microfinance institutions are active. Evidence shows that microfinance institutions reach more clients and are more profitable where access to the formal financial system is low. Okpara (2010) examines the impact of microfinance banks in alleviating poverty in Nigeria. The study identified the critical factors that cause poverty in Nigeria and the extent to which microfinance institutions have helped in the alleviation of poverty.

The researcher used the method of regression analysis on quadratic equation model. The result of the analysis identifies low profit, prices of commodities too high, hard economic times, lack of finance to start or expend their business and business not doing well as critical factors causing poverty. The analysis also reveals that the impact of microfinance on poverty can be categorized into two; the take-off stage where poverty in increasing though at decreasing rate as microfinance credit increases. The 2nd category started 2001 which involve persistence increase in microfinance credit reduces drastically the poverty index in Nigeria.

MATERIALS AND METHODS

From the forgoing review of the literature, the framework employ for this research would be a variant of growth model which is a form of aggregate production function can be stated in a panel from as follow:

$$Y_{i,t} = F(A_{i,t}, K_{i,t}, L_{i,t}) \quad (1)$$

Equation 1 can be stated explicitly as:

$$Y_{i,t} = A_{i,t} K_{i,t}^{\beta} L_{i,t}^{\alpha} \quad (2)$$

Where:

Y = Aggregate sectoral real output

K = Stock of capital

L = Stock of sectoral labour

A = Efficiency (or managerial technical efficiency)

β and α are share of capital and labour in the production function, respectively. Taking the logarithm of Eq. 2 gives us the panel model to be estimated:

$$\log(Y_{i,t}) = \delta_{i,t} + \alpha_{i,t} \log(K_{i,t}) + \beta_{i,t} \log(L_{i,t}) + \varepsilon_{i,t} \quad (3)$$

Where:

Y_i = The sectoral GDP

K_i = The sectoral loan and advances obtained from the community/microfinance banks
 L_i = The sectoral stock of labour
 δ_{it} = Represents the managerial efficiency
 ε_{it} = The Stochastic error term

The positive-significancy of which indicates the efficiency of the management technology of production. Equation 3 represents the model to be estimated in the study. The apriori expectations with respect to the signs of the estimated coefficients are:

- $\delta_{it} > 0$: This is based on the assumption that if loan and advances from microfinance banks and labour productivity are held constant, researchers expect production to be positive which is brought about by management technical efficiency
 $\alpha_{it} > 0$: This means that the loan and advances obtained by these sectors from the microfinance banks is expected to boost their production ability
 $\beta_{it} < 0$: This is based on the assumption that the production function will exhibit a diminishing return to scale that is higher the labour employment will eventually lead to decrease in the level of output. However, the condition for this assumption to hold depends on the relative labour intensity in the production function

RESULTS AND DISCUSSION

The study employs the panel data regression methodology (or pooled least square) and Ordinary Least Square (OLS). This is because panel data is used to capture time series dimension, variability and complexity. The data allow us to construct and test more realistic behavioural models that could not be identified using single time series data set. The use of OLS, on the other hand is to compare the result in order to gain more meaningful insight in to the effect of impact of microfinance loan and advances on the growth of the sectors of interest.

The Hausmann specification test (Chi-square (χ^2) test) is in favour of fixed effects model while F-test indicates common intercept specification (model with an overall constant term) as the preferred model. Therefore, analysis is based on common intercept specification which is shown in Table 1. Assessing the statistical significance of the coefficient of the independent variables in Eq. 1, the t-statistics and its probabilities reveal that the coefficient of loan and advances by the microfinance banks to sectors as well as sectoral employment variables are statistically significant at 0.05

level of significant. The coefficients reveal that these variables have a positive influence on the output of these sectors. However, the loan and advance and labour elasticity of these sectors output is inelastic indicating that there is a limit to which output can increase as loan and advances and labour employed increases. This is because 1% increase in loan and advances labour employed will generate only 0.1 and 0.2% increase in output respectfully. The result further show that the production function exhibit decreasing return to scale and this have policy implication as will be seen in future. The common constant value is also significant indicating that there is technical efficiency observed in those sectors used for the study.

Estimation of Ordinary Least Squares (OLS) is necessitated to better appreciate sectoral characteristics though the limited number of observations may limit the robustness of the results and this is the reason for the estimation of the panel shown in the Table 1. Since, it is possible for some variables that reflect sectoral characteristics are included together with the sectoral output equation and expected to yield a different result from the panel shown in Table 1, justifies the estimation of the OLS as shown in Table 2. The sectoral output shown in the Table 2 reflects some basic characteristics of these sectors in Nigeria. Interpreting across the column, the loan and advances elasticity of agricultural output

Table 1: Pooled regression results of the sectoral output

	Common intercept specification	Fixed effect model without an overall intercept-gls (cross section weights)
Variables	Equation 1	Equation 2
Constant	3.1351 (7.721)**	-
AL	0.1135 (7.7210)**	0.1235 (7.6220)**
EMP	0.2704 (7.5102)**	0.3102 (6.9101)**
R ²	0.9210	0.911
Adjusted R ²	0.9190	0.890
DW	1.2080	1.188
F. stat.	379.4480	389.547
Total panel (balanced) obs.	68,000	68,000

**Denotes 5% levels of significance, respectively computed

Table 2: OLS result of sectoral output

Variables	1	2	3	4
C	-27.571 (-3.667)**	14.232 (3.173)**	4.576 (5.864)**	3.135 (3.583)**
Log (AL _i)	-0.037 (-0.646)	0.153 (3.674)**	0.095 (4.633)**	0.113 (3.499)**
Log (EMP _i)	2.349 (5.082)**	-0.354 (-1.179)	0.285 (4.438)**	0.270 (3.485)**
R ²	0.842	0.493	0.912	0.921
Adjusted R ²	0.819	0.420	0.899	0.910
DW	0.740	0.723	1.036	1.154
F. stat.	37.293**	6.800**	72.178**	81.727**
No of observations	17,000	17,000	17,000	17,000

a) t-values are in parenthesis; b) agricultural sector is represented by 1; manufacturing sector, 2; building and construction sector, 3; mining and quarrying, 4; c) **denotes 5% levels of significance, respectively computed

is inelastic and negative. This shows that the higher the loan and advances to this sector the lower the output. This is not found to be significant which means that loan and advances to agricultural sector does not determine its output. On the contrary, agricultural employment elasticity of its output is positive, elastic and significant. The result shows that 1% increase in labour employed in agricultural sector will generate about 2.3% increase in output. Finally, the technical efficiency in agricultural sector can not be said to be efficient. These outcome have a very serious policy implication for agricultural sector which will be discussed latter in the study. For the manufacturing sector, the loan and advances elasticity of its output is inelastic and positive. This shows that the higher the loan and advances to this sector the higher the output. This is found to be significant which means that loan and advances to manufacturing sector determines its output. However, employment elasticity of its output is negative, inelastic and insignificant. The result shows that 1% increase in labour employed in manufacturing sector will generate about 0.35% increase in output. The technical efficiency in manufacturing sector can be said to be efficient.

In the case building and construction sector, the coefficient of loan and advances from the microfinance banks is positive, inelastic and significant while the coefficient of labour employed is also inelastic, significant and positive. The same result is also observed for the mining and quarrying sector.

CONCLUSION

In this study, we have attempted to investigate empirically the impact of community/microfinance banks in terms of their primary responsibility of aiding the real sectors by providing soft loan and advances to the real sectors in Nigeria. The sectors used are agricultural, manufacturing, building and construction and mining and quarrying sector. Using a simple model of production framework. The model is estimated using pooled regression and ordinary least squares techniques and yearly data covering 1992-2008. An important finding of the study is that the current level of sectoral output is generally positively influenced by loan and advances and labour employed in the sectors used for the study. However, a sectoral analysis shows that while loan and advances from microfinance/commercial banks positively influenced output of manufacturing, building and construction and mining and quarrying sector, the same

could not be established for the agricultural sector. Based on the findings of the study, some policy recommendations are provided. An important policy recommendation of the study is that caution needed to be made in giving loan and advances to farmers by the microfinance banks. Caution in terms of monitoring how it is being used. This is because agricultural sector is found to be labour intensive therefore, giving incentives in forms of basic amenities in the rural areas, provision of necessary agricultural inputs (e.g., fertilizers, insecticides and pesticides, tractors, etc.) in the sector will go a long way in boosting the output of the sector more than giving loan and advances which have no significant positive effect on the sector's output. Also, there should be adequate monitoring put in place to by these microfinance banks to verify how the loan and advances giving to other sectors is being utilize. This will help in further enhancing the output of these sectors.

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