



IMPACT OF MICROFINANCE BANKS ON POVERTY ALLEVIATION AND ECONOMIC GROWTH IN NIGERIA

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Abstract

The main focus of this research is to explore the microfinance banks as a panacea for poverty alleviation and economic growth in Nigeria from 1992 – 2016. The study employed the time series data generated from the Central Bank of Nigeria Statistical Bulletin vol. 27 (2016). The study used the Augmented Dickey-Fuller Unit Root test, Johansen cointegration test and Error Correction Model (ECM) for the analysis. The E-view 8 output econometric software was employed. The research findings show that the asset of microfinance has significant effect on poverty alleviation and economic growth in Nigeria; deposit liabilities of microfinance banks have positive but insignificant effect on poverty alleviation and economic growth in Nigeria; and loans and advances of microfinance banks have negative significant effect on poverty alleviation and economic growth in Nigeria. However, the overall significance of the model found that the activities of the microfinance banks cannot be undermined in the pursuance of poverty alleviation and sustainable economic growth in Nigeria. It therefore recommends that the government should create a conducive and secure environment by supporting the microfinance banks in microcredit delivery.

Keywords: Microfinance bank, poverty alleviation, economic growth, loans and advances.

Introduction

Poverty is a crushing weight for most of the world' poor as they search in vain for opportunities that continually elude their grasps. They live out their lives isolated from resources which the rest of the society enjoys. Over the years, every nations of the world whether developing or developed tend to fashion out means to alleviate poverty and achieve economic growth. One of the major key to poverty alleviation strategy in Nigeria is the provision of specially tailored financial services known as microfinance. This create Microsoft credit that enable the poor to engage in economic activities such as trading, tailoring, financing, vulcaninizing and restaurant businesses (Unogbro, 2010). By enabling the poor to engage in various economic activities, leads to self-reliance, employment would be generated, earnings will be increased and standard of living will be improved (UN Report, 2000).Over time, inadequate supply of credit has been an important constraint on production in many developing countries where majority of the population lack access to financial services from formal institutions, either for credit or for savings. Therefore, making credit available, particularly to the rural poor and low income earners, is thus considered essential to alleviate poverty and promote economic development (Rulle, Bamie & Turay, 2008).

Microcredit addresses this problem. It puts the tools of financial growth in the hands of those who need it most. Microcredit and enterprise development are dynamic efforts to enable the rural poor participate in the market economy with the objective of becoming self-reliant (Emelue, 2003). The experience of the past, some current and continuing realities of socioeconomic and policy environment, which could constrain effective outreach, have elicited some concern about the sustainability of micro finance (MF) development in Nigeria. This is because the experiences of countries that have achieved meaningful progress attest to the fact that the development of micro finance activities, in terms of sustainability and proper administration, entails overcoming certain fundamental challenges. The challenges are both general (cut across countries) as well as specific (owing to the peculiarity of the country environment). Apparently, as Nigeria aspires to achieve global standards in the provision of microfinance services, the ultimate goal of the microfinance policy is to serve as a guideline for providing financial assistance to the underprivileged, in order to be engaged in economic activities and be more self-reliant.

This is expected to lead to reduction in poverty and stimulate overall economic growth and development. Microfinance administration is a complex process involving the way and manner in which credit is delivered to the micro entrepreneurs. Microfinance or Microcredit administration involves the application of appropriate credit technology by Microfinance banks or institutions in delivering credits to their client. The term “credit technology” includes a host of activities involved in lending, which includes, client selection, and screening, the application and approval process, product design, repayment monitoring, and delinquency management. It also includes the institutional structure and human resource policies such as hiring, training and compensating staff of financial institutions. Financial institutions employ two general types of credit technologies to administer credits to their clients. They are: group and individual lending technologies. It is believed that effective and efficient microfinance administration through the application of the credit technologies will bring about poverty alleviation and usher in economic growth in Nigeria.

Research Problem

The problem of poverty is not peculiar to Nigeria, it is a worldwide problem hence the eradication of poverty as one of the Millennium Development Goals. Studies show that the poor are bankable and willing to borrow. Microfinance banking concept is to provide financial services to the poor. This banking concept which has helped in the reduction of poverty in many developed and some developing economies of the world, was introduced in Nigeria in 1988 with the establishment of people's bank. This banking concept has been operated for over ten years in Nigeria, yet poverty persists. The population of the poor in Nigeria increased fourfold in absolute terms between 1980 and 1996 (CBN, 2005). There is evidence that the percentage of the core poor increased from 62% in 1980 to 93% in 1996, whereas the moderately poor only rose from 34.1% in 1992 to 56% in 1996 and declined to 28.9% in 2005. However, the percentage is gradually increasing in recent times. The proportion of total income spent on food by the core poor and moderately poor was approximately 75% and 73% respectively. While the non-poor category spent about 53% of their total income on food (CBN, 2005). According to the World Bank (2010) the number of people living below the \$1.25 a day poverty line declined from 1.94 billion (52% of the population of the developing world) in 1981 to 1.29 billion (22%) in 2008, a 33.5% drop.

In the light of the above, Nigeria as a nation is obviously backward. Poverty has been a scourge of the Nigerian people. The United Nations Development reports, (CBN, 2005) state that the Nigerian economy has been suffering from severe digression since the mid 1980s. Its Gross domestic Products (GDP) which was US\$93.3 billion in 1980 is currently less than a quarter of what it was twenty-five years ago". Nigeria is ranked among the poorest countries in the world (CBN, 2005), and the number of those living in poverty has continued to increase over the years. By 1999 when Chief Olusegun Obasanjo came to power a second time, it was estimated that more than 70% of Nigerians live in poverty. An analysis of the depth and severity of poverty in Nigeria showed that the rural areas were the most affected, while female population constitutes almost more than half of this number. Several reasons accounted for this situation, the large concentration of the populace in the rural areas, the subordinate status of the female population and many years of neglect of the rural areas in term of infrastructural development and lack of information on how the Government is run.

The task of poverty reduction has been a particularly daunting one for all developing countries and, more so in Nigeria. It is this awareness that forms the Obasanjo administration to declare in November 1999 that ₦470 billion budgets has been mapped out for the year 2000 “to relieve poverty” in Nigeria (CBN, 2005). Poverty rather than being relieved is on the increase in Nigeria in spite of all the poverty eradication programmes initiated by different administrations in the country,

microfinance banking inclusive. Microfinance banking as a concept was specifically meant for the reduction of poverty. This concept worked in Bangladesh and many other developing and developed countries of the world, though it has its problems in Nigeria but its prospects are good if the concept is properly applied and monitored to ensure compliance. These laudable objectives of these specialized banks are deemed to be failing due to the poor policy implementation and inadequate funding, as their impact on the welfare of the poor in quantitative terms is little felt.

The August 2009 famous bank audit resulted in the revocation of the license of 224 microfinance banks in Nigeria by July 2010 (CBN, 2010). Investigations show that the number of microfinance banks depositors who are frustrated is growing, and more banks are closing their doors on them because of their failure to meet with their depositors' demand. The most disheartening problem is that the poor whom these banks are meant to salvage from the claw of poverty are further impoverished. The poor who deposited their little earnings in these banks with the sole aim of getting small credits, lost all with the collapse of the banks. The problem is that microfinance institutions in spite of their laudable objectives and concepts, in-depth studies and recommendations and manner of policies and programmes initiated by various governments (including Directorate of Food, Roads, and Rural Infrastructures, Better Life Programme, Directorate of Employment, People's Bank, Community Bank, Family Support Programme, Poverty Eradication Programme, National Poverty Eradication Programme, National Economic Empowerment Development Strategy (NEEDS) and lately microfinance banks) to reduce poverty in Nigeria, have not succeeded since poverty is still on the increase.

In addition, scholars and practitioners in the microfinance industry have observed that the performance of majority of the various initiatives has been less than optimal in terms of outreach to the target population and sustainability. It is the above trend of thought that motivated the researcher on the necessity to conduct the study focusing on the impact of microfinance banks on poverty alleviation and economic growth in Nigeria.

Research Questions

Based on the issues raised in the background of the study and the problem statement, this study seeks to find answers to the following research questions:

1. What are the effect of asset of microfinance on poverty alleviation and economic growth in Nigeria?
2. To what extent does the growth in deposits liabilities of microfinance banks impact on poverty alleviation and economic growth in Nigeria?
3. Do loans and advances of microfinance banks have any significant impact to the poorer sections of the society and economic growth in Nigeria?

Objectives of the Study

The main objective of this study is to examine the impact of microfinance bank on poverty alleviation and economic growth in Nigeria. Specifically the study intends:

1. To investigate the effect of asset of microfinance on poverty alleviation and economic growth in Nigeria;
2. To explore the impact of deposits liabilities of microfinance banks on poverty alleviation and economic growth in Nigeria;
3. To examine how efficient the microfinance banks have been able to disburse loans and advances to the poorer sections of the society for economic growth in Nigeria.

Research Hypotheses

In achieving the objectives of the study, the following hypothesis were formulated and stated in null form;

H₀₁: Asset of microfinance has no significant effect on poverty alleviation and economic growth in Nigeria.

H₀₂: The deposit liabilities of microfinance banks do not have significant effect on poverty alleviation and economic growth in Nigeria.

H0₃: The loans and advances of microfinance banks do not have significant effect on poverty alleviation and economic growth in Nigeria.

Significance of the Study

As long as poverty and underdevelopment remain stark realities in Nigeria, the role of microfinance banks cannot be underestimated. The outcome of this research will immensely contribute in various ways. It will add to existing stock of knowledge on research study of this nature. In addition, it will educate clients of microfinance institutions on how to judiciously utilize microcredit services offered to them and on the need to keep business records to enable them have access to repeat loan services.

It is hoped that the findings of this study will help Nigeria and other developing countries faced with the challenges of poverty alleviation in the areas of policy choices and programme implementation. Non State actors like Non-Governmental Organisations (NGOs); Civil Society Organisations (CSOs) and trade union organisations can also benefit from the findings of this study to construct their roles as partners in poverty alleviation and as ingredients for issue framing and agenda-setting through provision of ‘fish hooks’ rather than ‘fish’ to the poor. Equally, future researchers on the subject matter will find a reservoir of literature banks for further improvement and development of the subject matter from this study.

Scope of the Study

This study focuses on the microfinance banks as a panacea for poverty alleviation and economic growth in Nigeria. The study covers a period of 25 years (1992 to 2016). The choice of this period is based on the fact that most of the reforms initiated by the Federal Government of Nigeria through the instrumentality of the apex bank (the Central Bank of Nigeria) in the microfinance banks took place during this era.

Review of related literature

Conceptual Literature of Microfinance

Micro-finance (credit) is fund designed to enable the unemployed, entrepreneurs, small and medium scale enterprises and rural persons participate in the market economy. It has been identified as a major ingredient for the poor and low income people towards poverty alleviation. The financial support will assist the increase of their income and earning capacity, bring investment into the community and create employment. The micro credit involves the receipt of resources (money, materials etc) by a person or group or business enterprise with the promise to make good use of the resources (value) and return slightly higher value at a future date (Emelue, 2003).

According to Osamwonyi and Obayagbona (2012), microfinance literally means building financial systems that effectively and efficiently serve the needs of the poor. Microfinance is the provision of a broad range of financial services such as savings, loans, payment services, money transfers and insurance to the poor and low income persons, households and their micro enterprises; Robinson (2002). Microfinance enables clients to protect, diversify and increase their incomes as well as to accumulate assets and reduce their vulnerability to income and consumption shocks. Roadman (2012) opines that microfinance bank is the provision of financial services to low income earners, including consumers and the self-employed who traditionally lack access to formal money deposit banking and related services. In other words, it is the provision of small loans (microcredit) to poor people to enable them engage in productive activities or grow their businesses.

In some regions, for example Southern Africa, microfinance is used to describe the supply of financial services to low-income employees, which is closer to the retail finance model prevalent in mainstream banking. For some, microfinance is a movement whose object is “a world in which as many poor and near-poor households as possible have permanent access to an appropriate range of high quality financial services, including not just credit but also saving insurance, and funds transfer”. Many of the promoters of the idea of microfinance generally believe that such access will help poor people out of poverty. For others, microfinance is a way to promote economic development, employment and growth through the support of micro-entrepreneurs and small businesses.

Muhammad (2010) considers microfinance as a provision of financial services to low-income clients, including consumers and the self-employed, who traditionally lack access to banking and related services. The vision of micro finance is to create systemic change in financial systems worldwide. Instead of the exclusive financial systems that have for decades benefitted and protected the wealthy, microfinance intends to serve the improvised majorities, help lift them out of poverty, finance small and medium scale enterprise thereby make them full participants in their country's social and economic development (Suberu, 2011). Microfinance is a broad category of services, which includes microcredit. Microcredit is provision of credit services to poor clients. Microcredit is one of the aspects of microfinance and the two are often confused. Critics may attack microcredit while referring to it indiscriminately as either 'microcredit' or 'microfinance'. Due to the broad range of microfinance services, it is difficult to assess impact, and very few studies have tried to assess its full impact.

Theoretical Review

The Grameen Models

Grameen Bank of Bangladesh was established in 1983 as an independent specialized bank after an experimental period of six years starting from 1976 under the supervision of Professor Muhammad Yunus and financed by the Janata Bank, to provide credit to the rural poor, particularly women in Bangladesh. The Grameen Bank experience started with the group concept-informal lending to the poor. It was started to assist landless people in Bangladesh to obtain credit, which could not be obtained through the formal commercial banks credit facilities. The bank was established in order to improve the economic condition of the rural poor through the creation of opportunities for their self-employment.

Grameen Bank loans are not secured by physical collateral like the other commercial banks, instead, they are secured by group collateral complemented with peer monitoring and pressure to enforce repayment. Loans are disbursed through banking units of separate groups of five members for men and women that apply for loan. Individual members of each group receive loans but the entire group is held liable for repayment. In first round, loan is granted to two members to invest in their business. If these members repay their loans successfully, then four to six weeks later, next two members also will be granted for loan. The last one member will be eligible for loan if the previous two members are able to repay their loans. Repayment of each member give room for next loan and continues like that if all members are able to repay their loans. Invariably, if a member defaults, no other member of the group is legible to receive further loan. Six to eight groups are organized into a community referred to as the "centre" and this constitutes the second tier level of participation by which a Bank official deals with these all eight groups.

This centre of eight groups has its own centre chief and centre group leader (Khan & Rahman, 2007). Small amount of loan (US \$100) are granted to a single borrower for a year and bank require a repayment of 10 percent rate per week. This repayment encourages them to save more income. The loans are granted for income generating activities identified and selected by each member with the assistance of group members (Owualah, 1999). However, this model operates using the modality of collective guarantees, close supervision and peer pressure from other members of the group. Therefore, the model had been quite successful as a bank for the poor and as a social movement based on principles of awareness and training, which has facilitated active participation of poor.

The Progressive Lending-Banco Sol Model

This model was adopted by Bancosol in Bolivia when populist government came to power and there were high rate of unemployment in urban areas. Bancosol. A pioneering microfinance institution in the region was developed to address the problem of urban unemployment and provide credit to the cash-strapped informal sector. The idea of progressive lending model combined individual lending together with individual lending. In this model, the amount of loan increases after completion of every repayment schedule. The progressive lending is an extension of Grameen model because it incorporates other characteristics of the Grameen model such as targeting the poor women, group formation and public payment. In the progressive lending, micro lenders are flexible about collateral and lend loan to group with individuals. Many MFIs are now adopting this approach because it is very helpful in areas with low population densities or highly diverse population where group forming is not easy due to different ratio of safe and risky borrowers.

Non Government Organization (NGO) Model

This is also grouped as informal model as it tends to adapt the Grameen principles and usually are gender specific and sector ally motivated. There are women groups, farmers union, trader union etc in this organization. The NGOs with the features of Grameen bank are formed in different countries in the world with different names, e.g. Left Above Poverty (LAPO) can be view as a typical example of NGO that emulate the method of Grameen Bank by channeling credit facilities to the poor who are members in Nigeria. While in Ghana and Gambia, the most successful micro credit programs with these features are women finance associations. The programs were reported to have had high rate of repayment.

The Esusu Model

Esusu is a revolving loan scheme in Nigeria and entrenched in most West African countries operating as an informal micro-credit programme. The group formed to operate the revolving schemes is voluntarily. In this model of microfinance, members make fixed contributions of money at regular intervals. This is quite different from Grameen model because at each interval, one member collects the entire contributions from all. Every member takes a turn until the cycle is completed, and then it starts again. One perfect function of Esusu is that it serves as a saving mechanism for the last person to take his or her turn. The Esusu are very strong program that have assisted in promoting entrepreneurship in most of West African countries, particularly among market women in rural/urban markets. Each Esusu group has a recognized leader and Esus are often used as model by NGOs trying to establish micro-finance programme in urban setting (Akanji, 2008).

The Linkage Model

The framework for linking informal savings collectors to the formal institutions formed the basis of the breakthrough discussed earlier. In view of the banks' readiness to acquire more information about the informal sector and making serious efforts at strengthening group schemes encouraged the successful turnaround of microcredit programs. An example is the recent merger of the Nigerian Agricultural and Cooperative Bank (NACB), peoples Bank of Nigeria and Family Economic Advancement Program (FEAP) to form Nigerian Agricultural Cooperative and Rural Development Bank (NACRDB). Also the current Bankers Committee initiative which is supported by the CBN, for banks to set aside 10% of their profit before tax for equity investment in small scale industries will be tangential to alleviating poverty through the lending window or through joint ventures.

Donors Model

Donors have played a very important role in the micro-credit program, particularly international donors such as UNDP, through the NGOs. The alternative micro-credit delivery model proposed by Gabriel and Ibanga (1997) called "The Ekpuk (family) model worked perfectly well within an extended family structure.

Power Theory of Poverty

This theory further stated that the society has been dominated by the ruling class owners of properties who exploit the non-property owners, made possible by their ownership of the means of production. According to the proponents of this theory, the individual's position in the society depends on whether he owns the means of production or work for someone else. They held religion responsible for sustaining this power structure between the rich and the poor by denying the poor of any initiative to fight to improve their condition which prevails and subject them to poverty (Nyong, 1995). Thus, an effective poverty reduction programme should have exploitative property that could be addressed and dislodged.

The Demand-Following and Supply-Leading Hypothesis

The demand following financial theory refers to a kind of finance development that reacts positively to economic activities. The supply-leading finance on the other hand refers to the establishment of financial institution in some areas before the demand for their service is considered. Demand-following and supply-leading financial theory are rooted in the fact that the financial system may be simultaneously growth inducing and growth induced. Jhigan (2003) emphasized that the most relevant issues for development is the efficiency with which the financial system provides financial institutions. They linked the supply of initiatives, enterprise and finance by financial institution to be the creation, transformation and expansion of industries and other development oriented ventures.

Empirical Review

Quite a number of researches have been conducted world over on the impact of microfinance banks and poverty alleviation on economic growth. Few of these researches are considered relevant and hence reviewed. For instance, Ugochukwu and Onochie (2017) Using the method of OLS regression analysis, examined the impact of micro-credit on poverty reduction in Nigeria from 1999 to 2008. The result showed the expected negative relationship between micro finance lending and poverty alleviation in Nigeria. Okafor, et al., (2016) using the Error Correction Model (ECM) analytical technique investigated the impact of microcredit on poverty reduction in Nigeria from the period 1999 to 2014. The research findings showed that microcredit has negative and non-significant impact on poverty reduction in Nigeria. Interestingly, the size of microfinance banks in Nigeria has a positive impact on poverty reduction. In line with theoretical expectation, interest rate was found to have negative and significant effect on poverty reduction in Nigeria.

Ayodele and Kayode (2014) explore the impact of microfinance to economic growth and development in Nigeria, laying emphases on the primary role of microfinance institutions which is poverty reduction and small scale enterprise financing. The research findings revealed that microfinance activities have a significant impact on economic growth and development in Nigeria. If this is true, it therefore means that more investments by microfinance institutions will mean more reduction in poverty, more employment generation and more contribution to economic growth in Nigeria. Iwaye (2012) using descriptive statistics to analyse the responses of 110 micro business and small entrepreneurs in Lagos State, explore the impact of microfinance banks on SMEs in Nigeria. The research findings indicate that microfinance banks has played a significant role in helping people establish small scale businesses, thereby reducing unemployment and poverty in Nigeria. Maksudova (2010) using panel data approach and in addition to Granger causality test for 103 countries for the period 1995-2008 in order to investigate the role of microfinance to financial sector development and economic growth in Czech Republic. The research findings reveals that microfinance banks granger causes economic growth only in less developed countries through lagged values in countries where formal financial intermediation is immature and underdeveloped.

Onyebinama and Onyebinama (2010) investigate the impact of micro finance banks on the financial frontier and on the exploitation and development of economic opportunities in the informal sector of the Nigerian economy. The research findings show that through deposit mobilization and credit delivery, micro finance banks have substantially expanded the financial frontier thereby significantly integrating the informal sector into the mainstream of the national financial system and consequently contributing to the transformation of the informal sector from subsistence orientation to market orientation. Olakojo and Olanipekun (2011) empirically examined the impact of microfinance bank on the Nigerian economy. They employed pooled regression and ordinary least square econometric technique on annual time series data for the period 1992-2008. The empirical findings show that the current level of sectoral output is positively influenced by loans and advances from the banking sector. However, a sectoral analysis using OLS, the research findings indicate that while loans and advances from microfinance banks positively affect output of manufacturing, building and construction, mining and quarrying sectors, the same could not be established for the agricultural sector.

Knowledge Gap

The prime objective of the studies reviewed here is to explore the empirical studies on microfinance and economic growth in Nigeria. From the review of these prior studies, it is being observed that most of the studies found a positive relationship between microfinance and economic growth. While some had significant impacts, others had insignificant impacts. Also, some microfinance variables have not been adopted in verifying the impact of microfinance on economic growth in Nigeria. These gaps in literature have given impetus to this study which seeks to explore the impact of microfinance banks on poverty alleviation and economic growth in Nigeria using more robust econometric techniques.

RESEARCH METHODOLOGY

Theoretical Framework

This study is anchored on the theoretical framework of volume of loan demanded function; the demand for loan is a function of the rate of interest, the personal characteristics of the borrower, as well as the enterprise characteristics of the borrower-entrepreneur. Thus, the demand of a customer for loan volume D^L can be expressed as:

$$D^L = (i, B, P) \text{-----} (3.1)$$

Where i is the rate of interest and it is expected to be negatively related to the dependent variable D^L ; B is a vector of enterprise-related variables such as the year of establishment, location, nature of business, among others; while P is a vector of personal characteristics of the loanee such as age, formal educational attainment, and so on. Each of these explanatory variables is assumed to be linearly related to the dependent variable. However, interest rate will be descriptively and separately determined

Model Specification

The essence of economic modeling is to represent the phenomenon under investigation in such a way as to enable the researcher to attribute numerical values to the concept. Using the knowledge gained from the literature, the study examined the impact of microfinance banks on poverty alleviation and economic growth in Nigeria by adopting growth model of Okafor, et al., (2016) and Ayodele and Kayode (2014) and modified it to incorporate GDP, poverty rate, Assets of microfinance banks, Deposit Liabilities of microfinance banks, Loans and advances of microfinance banks as the explanatory variables, while gross domestic product proxied by economic growth was used as the dependent variable. Thus, the functional form of the model can be specified as follows:

$$RGDP = f(PR, AMB, DMB, LMB) \text{-----}(3.2)$$

The econometric form of the model can be expressed as:

$$RGDP = \beta_0 + \beta_1 PR + \beta_2 AMB + \beta_3 DMB + \beta_4 LMB + \mu_t \text{-----}(3.3)$$

However, in order to reduce the problem of spurious regression in the analysis, we adopt the log linear model. We thus have:

$$LRGDP = \beta_0 + \beta_1 PR + \beta_2 LAMB + \beta_3 LDMB + \beta_4 LLMB + \mu_t \text{-----}(3.4)$$

Where;

LRGDP = Log of Real Gross Domestic Product proxied by economic growth

PR = Poverty rate

LAMB = Log of assets of microfinance bank

LDMB = Log of deposit Liabilities of microfinance bank

LLMB = Log of loans and advances of microfinance banks

β_0 = Constant

$\beta_1 - \beta_4$ = Estimation parameters

μ = Stochastic error term.

It is expected that $\beta > 0$, $\beta_1 < 0$, $\beta_2 > 0$, $\beta_3 > 0$, and $\beta_4 > 0$.

Estimation Procedure

In order to have a proper analysis of the data sourced, the use of multiple regression and (E-View 8 output) are used. Besides, in order to test the appropriateness of our model, the following statistics would be tested:

Unit Root Test

In order to avoid estimating spurious regression, the stochastic properties of the series were tested. This we did by testing for unit root which involved testing the order of integration of the individual series under consideration. Several procedures for the test of order of integration have been developed in which the most popular one is the Augmented Dickey-Fuller (ADF). The ADF test relies on rejecting a null hypothesis of unit root in favour of the alternative hypothesis of stationarity. The tests were conducted with or without a deterministic trend for each of the series in order to ascertain the level of their stationarity. The general form of the ADF is estimated by the following regression.

$$\Delta y_t = a_0 + a_1 y_{t-1} + \sum_{i=1}^n a_i \Delta y_{t-i} + e_t \text{-----}(3.5)$$

$$\Delta y_t = a_0 + a_1 y_{t-1} + \sum_{i=1}^{n-1} a_i \Delta y_{t-i} + \delta_t + e_t \text{-----}(3.6)$$

Where;

y_t = time series, it is a linear time trend,
 Δ = First difference operator,
 a_0 = constant
 n = optimum number of lags in dependent variable
 e_t = random error term.

Johansen Co-Integration Test

The purpose of the cointegration test is to determine whether a group of non-stationary time series is co-integrated or not. Thus, in this study, Johansen cointegration test will be performed to investigate long-term relationship between microfinance banks, poverty alleviation and economic growth in Nigeria. If trace statistic value is greater than critical value at 5% level of significance, this indicates that long-run relationship exists between microfinance banks, poverty alleviation and economic growth in Nigeria.

Error Correction Model (ECM)

The estimation procedure involved using conventional error correction model (ECM) to investigate the short run dynamics and long run equilibrium relationship among the data series. The application of ECM is necessary because, it is used to correct temporary short run deviation of a series within long run equilibrium relationship. The model for ECM is specified, thus:

$$\Delta Y_t = a_0 + a_1 \Delta X_t + a_2 U_{t-1} + \varepsilon_t \text{-----}(3.7)$$

Where;

$Y_t = Y_t - Y_{t-1}$, a_1 and a_2 are the dynamic adjustment coefficients of the data series, U_{t-1} is the residual lag that refers to as short run deviation from the equilibrium position, and it is estimated to correct long run equilibrium error, ε_t is the error term. This method is applied because the study employed more than one endogenous variable.

Empirical results and analyses

Unit Root Test

Unit root test is a test of stationarity or non-stationarity of series data used in the model. As is the case with similar studies, the Augmented Dickey-Fuller (ADF) test was used to ascertain whether the five variables of the study exhibit unit root property. This is to find out if the relationship between decomposition of microfinance banks variables is spurious or nonsensical.

Table 1: Summary of Unit Root Test Results

Variables	ADF-Statistic	Critical Value			Order of Integration
		1%	5%	10%	
Rgdp	-4.908174	-3.769597	-3.004861	-2.642242	1(2)
Pr	-4.776609	-3.808546	-3.020686	-2.650413	1(2)
Amb	-6.648840	-3.752946	-2.998064	-2.638752	1(1)
Dmb	-7.126149	-3.752946	-2.998064	-2.638752	1(1)
Lmb	-6.284205	-3.752946	-2.998064	-2.638752	1(1)

Source: Author's Compilation Using E-views 8 Output

The results of ADF in table 1 above show that, assets of microfinance banks, deposit Liabilities of microfinance bank and loans and advances of microfinance banks were found to be non stationary at level but on first differencing, they turn out to be stationary while the real GDP and poverty rate were found stationary at second differencing. This shows the possibility of the existence of long run relationship between the variables. Thus, we can now proceed to the second stage of testing for the long run relationship among the chosen variables.

Johansen Cointegration Test

The non-stationary nature of the series having been so established, it became necessary to check the prospect of long-run relationships between the variables in the equation. The results obtained from the Johansen co-integration test were summarized in table 2 below.

Table 2: Co-integration for Trace Statistic test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value 0.05	Prob.**
None*	0.944307	143.6803	69.81889	0.0000
At most 1*	0.863092	85.92224	47.85613	0.0000
At most 2*	0.709958	46.15337	29.79707	0.0003
At most 3*	0.495495	21.39876	15.49471	0.0057
At most 4*	0.320067	7.715222	3.841466	0.0055
Trace test indicates 5 cointegrating eqn(s) at the 0.05 level				
*denotes rejection of the hypothesis at the 0.05 level				
**Mackinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
None*	0.944307	57.75809	33.87687	0.0000
At most 1*	0.863092	39.76887	27.58434	0.0009
At most 2*	0.709958	24.75461	21.13162	0.0148
At most 3	0.495495	13.68354	14.26460	0.0616
At most 4*	0.320067	7.715222	3.841466	0.0055
Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level				
*denotes rejection of the hypothesis at the 0.05 level				
**Mackinnon-Haug-Michelis (1999) p-values				

Source: Author's Compilation Using E-views 8 Output

The Johansen co-integration test result in table 2 above, shows that trace test indicates five co-integrating equation and max – eigenvalue test indicates three co-integrating equation which met the acceptance criterion. Thus, the null hypothesis of no co-integration among the variables is rejected in at five and three co-integrating equation. The test result shows the existence of a long-run equilibrium relationship between the dependent variable and independent variables at 5% significance level. As a result, the error correction model is estimated.

Presentation of Regression Results

Since the variables are co-integrated, the error correction model is required to construct the dynamic relationship of the model. The purpose of the error correlation model is to indicate the speed of adjustment from short run dynamic to the long run equilibrium state.

Table 4: Error Correction Model Results

Dependent Variable: D(LRGDP) Method: Least Squares Date:11/01/17 Time: 15:28 Sample (adjusted): 1994 2016 Included observations: 23 after adjustments				
Variable	Coefficient	Std. Error	t-statistic	Prob.
C	0.054800	0.008758		0.0000
D(PR)	-0.001412	0.000924	6.256909	0.1451
D(LAMB)	0.040472	0.018684	-	0.0448
D(DMB(-1))	0.082063	0.045982	1.527347	0.0922
D(LMB(-1))	-0.096006	0.036716		0.0181
D(ECM(-1))	-0.167311	0.077613	2.166159	0.0457
			1.784668	
			-	
			2.614848	
			-	
			2.155698	

R-Squared: 0.514692; F-statistic: 3.605865;
 Prob(F-statistic): 0.020926; Adjusted R-
 squared: 0.371955; Durbin-Watson Stat:
 1.537451

Source: Author's Compilation Using E-views 8 Output

Discussion of Results

With respect to the coefficients, the constant (C) has a value of 0.054800, whose implication is that if all the explanatory variables are held constant or pegged at zero (0), the explained variable – economic growth (real GDP) will increased by 5.48 units. This shows that regardless of change on the explanatory variables, real GDP will be increased. The assets of microfinance bank (LAMB) and deposit liabilities of microfinance bank (LDMB) shows a positive direction as they possess coefficients of 0.040472 and 0.082063 respectively; indicating that where other variables are held at zero, a unit increase in LAMB and LDMB will boost economic growth by 4.0472%, and 8.2063% respectively. On the other hand, the variable – poverty rate and loans and advances of microfinance banks shows a negative coefficient of -0.001412 and -0.096006, implying that where other predictor variables are held constant, a one unit change in the poverty rate and loans and advances of microfinance banks will precipitate a 0.1412% and 9.6006% decline of economic growth in Nigeria.

Thus, the result of the error correction model indicates that the error correction term ECM (-1) is well specified and the diagnostic statistics are good. The ECM (-1) variable has the correct sign and is statistically significant. The speed of adjustment of -0.167311 shows a low level of convergence. In particular, about 16.7% of disequilibrium or deviation from long run of economic growth in the previous period is corrected in the current year. A consideration of the strength of impact, using the t-statistic shows that assets of microfinance banks (LAMB) whose t-statistics is 2.166159 relates positive significant effect on poverty alleviation and economic growth in the short run given its 0.0448 probability which is below the 0.05% significant margin. This implies that strong capital base is necessary for microfinance banks to perform its expected roles in the economy. The assets base serves as a barometer to determine the long run operational tendency of microfinance banks. Also the deposit Liabilities of microfinance banks relates positive but insignificant effect on poverty alleviation and economic growth in Nigeria.

The t-statistics value of poverty rate revealed negative insignificant effect on economic growth in Nigeria. Furthermore, the loans and advances of microfinance banks show negative significant short run effect with the predictor variable – economic growth in Nigeria. The negative of loans and advances of microfinance banks may be as a result of inefficient use of loans and advances given to the poor by MFBs. It is a general knowledge that the poor may divert these loans to consumption. This worsens the state of the poor. The poor though active, may not have the managerial know-how, size of loans advanced may not be sufficient for meaningful projects and hence the diversification. Poor management of these loans and improper monitoring of the loans advanced of microfinance banks may be another reason for negative relationship between loans and advances, and economic growth in Nigeria.

The statistical evidence emanating from the study of coefficient of determination, R^2 shows that the endogenous variables jointly explained 51.46% of the total variation in the dependent variable – economic growth. The value of the adjusted R^2 (0.371955) which is 37% re-affirms the goodness of fit of the regression remained too low after adjusting for the degree of freedom. The f -statistic shows a probability of 0.020926, which is below the 0.05 significance levels showing that the probability is significant and the model successful, and finally, the value of Durbin–Watson (DW) shows the absence of autocorrelation.

Test of Hypothesis

At the initial stage of this research, precisely in chapter one, some hypotheses were formulated to help in achieving the objectives of the study. Of course, the study is incomplete without subjecting these hypotheses to test following the empirical findings of the study. These hypotheses are restated below as follows:

H0₁: Assets of microfinance banks have no significant impact on poverty alleviation and economic growth in Nigeria.

This is tested using the t-statistic and prob (f-statistic) in table 4 above. The t-statistic value of assets of microfinance banks is 2.166159 and the p-value is 0.0448, it is statistically significance at 5% level. The research rejects the null hypothesis and accepts the alternative hypothesis. Therefore, the assets of microfinance banks have significant impact on poverty alleviation and economic growth in Nigeria.

H0₂: The deposit liabilities of microfinance banks do not have significant effect on poverty alleviation and economic growth in Nigeria.

This is tested using the t-statistics and p-value in table 4 above. The t-statistics value of deposits liabilities of microfinance banks is 1.784668 and p-value is 0.0922. Since 5% level of significance is greater than p-value of t- statistics, we reject the alternative hypothesis and conclude that deposit liabilities of microfinance banks have positive but insignificant impact on poverty alleviation and economic growth in Nigeria.

H0₃: The loans and advances of microfinance banks do not have significant effect on poverty alleviation and economic growth in Nigeria.

The t-value of loans and advances of microfinance banks is -2.614848 and p-value of 0.0181, this implies that the p-value is less than 5% level of significance. Therefore research rejects the null hypothesis and concludes that loans and advances of microfinance banks have negative significant impact on poverty alleviation and economic growth in Nigeria.

Summary, recommendations and conclusion

Summary of Findings

The study investigates the impact of microfinance bank on poverty alleviation and economic growth in Nigeria. It adopts a time-series data spanning 24 years (1992 to 2016) on relevant variables for the study. Data obtained was analysed using the ADF, cointegration test and Error Correction Model (ECM) with the following findings revealed:

1. The assets of microfinance banks have significant impact on poverty alleviation and economic growth in Nigeria;
2. deposit liabilities of microfinance banks have positive but insignificant impact on poverty alleviation and economic growth in Nigeria; and
3. Loans and advances of microfinance banks have negative significant impact on poverty alleviation and economic growth in Nigeria.

Recommendations

1. The monetary authorities should set up an effective regulatory and supervisory framework that would enhance the activities or operations of the microfinance institutions in the country.
2. A conducive and secured environment should be created for non-governmental organizations (NGOs), multinational corporations and all levels of government to operate microcredit schemes in order to create more access to investment capital for micro enterprise projects.
3. More research geared towards promoting and improving the activities of microfinance institutions using modern quantitative techniques should be encouraged. This will be particularly useful to both microfinance bank operators and policy makers in ensuring the sustainability of the credit schemes.

Conclusion

Apparently, as long as poverty and underdevelopment remain global realities, the importance of microfinance banks cannot be overemphasized. Its inherent potentials and ability to spur economic growth coupled with poverty alleviation tendencies, positions it as an area to be further explored for the betterment of economic agents in a society. Undoubtedly, it is a policy instrument that can be manipulated and inculcated in the short, medium and long term development programmes of a nation, especially the developing climes of the world. Indeed, microfinance banks as a panacea for poverty alleviation and economic growth in Nigeria with its numerous benefits as regards enhanced general welfare of economic agents cannot be underestimated.

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