INVESTIGATING THE IMPACT OF MICROFINANCING ACTIVITIES ON POVERTY REDUCTION: EVIDENCE FROM THE NIGERIAN SCENARIO

By

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Abstract

The overview of the study is to investigate the impact of Microfinance banks on poverty in Nigeria. The study utilized data sourced from CBN statistical bulletin, financial of some microfinance banks and World development indicators ranging from 1990 to 2024. Autoregressive Distributed Lag (ARDL) model was used as the estimator technique. The estimated results indicated that microfinance bank assets base have a positive and insignificant impact on poverty index in the short run but negative and significant impact in the short run period. It therefore denotes that Microfinance banks assets base hampered poverty in Nigeria during the study period. The coefficient of the error correction term (ECM-1) was properly signed with negative (-0.792) and significant at the 5 percent level. This indicated that about 79.2 percent of the deviations of the model from its equilibrium value in previous period were corrected in the current period. The study hence, recommends that; policies aimed at stabilizing the economy and stimulating foreign investment in the microfinance segment of the economy should be encouraged by the monetary authorities in order to stimulate credit giving capacity of the microfinance banks in the Nigerian economy.

Keywords: Microfinance Banks, Poverty, Capital Adequacy, Interest Rate, Loans to Depositors
JEL: G20, G21, G23, O17

INTRODUCTION

Background to the Study

In most cases, individuals whose economic rights are undermined can easily fix up their lives with the provision of minimal income or resources. Micro-financing becomes a veritable instrument in gradually pulling impoverished individuals from abject poverty and predetermined squalor. All over the world, many people in different societies have been plagued by extreme poverty. Approximately 40% of the global population lives below the poverty line (World Bank, 2019). The same report from the World Bank shows that several persons in the global south lack access to formal financial services, and are impoverished as a result. Consequently, countries have promoted sustainable economic development through diverse financial policies targeted at poverty reduction. One of such financial policies is the microfinance scheme. To effectively eradicate poverty, the finance and economic experts have extensively commented on the potency of microfinance banking. Hence, microfinance policies have predominantly been featured as a poverty reduction strategy across the world (Thrikawala, Locke, & Reddy, 2013). It is based on this premise that microfinance banks are established to extend affordable and accessible financial services to the low-income earners who are often excluded from accessing formal financial services due to high lending rate and collateral demands associated with large financial institutions like commercial banks, lack of bank branches and financial illiteracy in the rural areas, the high tendency of credit default risk among the poor, etc. (CBN, 2020). In Nigeria, like other developing countries, microfinance institutions avail the major source of funds for microenterprises that are usually owned by low-income earners (or the economically active poor).

Nigeria has initiated different programs in an attempt to eradicate poverty and improve the lots of the poor in the country. Some of these programs include small and medium scale development agency of Nigeria (SMEDAN), introduction of entrepreneurship development study as a compulsory course across Nigerian Universities and the introduction of microfinance banks by the central bank of Nigeria (CBN) in the country in 2004 among others. The latter is seen as a deliberate effort on the part of government to swiftly and effectively contend and minimize the tide of poverty that have eating deep into the fabrics of the Nigerian society.

Thus, the introduction of microfinance banking led to the facing off of the 'Community Banks' which were once known as 'The Peoples' Bank'. According to CBN (2005) and the revised new regulatory guidelines CBN (2012), microfinance entails providing financial assistance to the poor who cannot have access to micro-financial services from the conventional financial institutions; also the microfinance banks perform three basic distinct functions from the other financial institutions. These are (i) the small nature of loans given to customers as well as the savings that are collected; (ii) no collateral security attached, and (iii) simplicity of operations. In the same policy framework, it was evidently stated that the formal financial sector provides financial assistance to about 35 per cent of the economically active population while the remaining 65 percent that are excluded and can't have access to the financial services are left at the mercy of the unregulated financial activities of informal financial sector made up of Non-Governmental Organizations (NGO), microfinance institutions, credit unions, moneylenders, Osusu scheme, friends and families among others (Egboro, 2015).

In the light of the critical role of credit in the stimulation of productive economic activities, entrepreneurial spirit, creative and innovative endeavors that can reduce poverty, there is a need to investigate the empirical nexus between the microfinance bank and poverty reduction, using the evidence from their credit intermediation role.

The fundamental objective of this study is to investigate the impact of microfinance on poverty in Nigeria. This paper is arranged in five sections. The first section addresses the introductory background. In section two, relevant literatures, ranging from theoretical and empirical were all considered. The theoretical framework was taken into account in section three. Empirical analysis, results presentation, discussions, and concluding remarks as well as recommendations were addressed in sections four and five respectively.

LITERATURE REVIEW

Conceptual Review

Microfinance banks

Microfinance banks are financial institution designed to cater for the financial needs of the underserved community within financial space of any economy. It is fundamentally aimed at serving the financial needs of the poor through a viable financial system. It is also averred as documented by Mago (2014), that microfinance banks aim at providing a wide range of

financial services such as deposit mobilization, the advancement of micro-loans, money transfer and other forms of payment services to the low-income earners and poor persons, households as well as their micro or small-scale enterprises. Succinctly put, the idea is that the poor earn more, accumulate assets, and become less vulnerable to external shocks as they can have financial services they need (Christensson, 2017; Obayagbona, 2024).

Micro-financing means developing a financial system that effectively and efficiently meet the needs of the poor and are a powerful tool for fighting poverty across the globe (Osamwonyi & Obayagbona, 2012). The reason is when the poor are able to get financial services; they can earn more, build assets and protect themselves against external shocks as they arise (NMDS, 2012). According to the Asian Development Bank (2011) and the Central Bank of Nigeria (2013), Micro financing is the provision of a wide variety of financial services primarily to assist the poor and low income persons, households and their small businesses. Rodman (2012) sees microfinance bank as the provision of financial services to low income earners, who were hitherto not serviced by the formal deposit money banks. In other words, it is the provision of microcredit to poor people to enable them engage in meaningful ventures and grow them accordingly.

In line with Osamwonyi and Obayagbona (2012), microfinance involves building efficient financial systems that function to meet the requirements of the poor. It involves providing wide-ranging financial services that include savings, loans, payment services, transfer of money, insurance to the poor, as well as persons with low income, households, in addition to their microenterprises CBN, (2013). Through the microfinance, clients can protect, diversify and increase their incomes, in addition to accumulating assets that reduce their vulnerability to income and consumption shocks. To this end, it entails providing small loans (microcredit) to the poor, which allow them to take part in economically productive activities or nurture and develop their businesses. It is a critical tool for the enhancement of economic growth, employment creation and poverty reduction through the support of entrepreneurial initiatives and small-scale enterprise.

Poverty

The study of poverty and its alleviation are not new. Rather what are revisited are the spatial differences in levels of poverty among real units. Poverty is a global phenomenon, which affects continents, nations and peoples differently. It afflicts people in various depths and levels, at

different times and phases of existence Oyeyomi, (2003). The most commonly way to measure poverty is based on income or consumption line. A person is considered poor if his or her consumption level falls below 1USD per day, a level necessary to meet basic needs. This minimum level s called the poverty line The World Bank, (2002). In the views of Ovenseri-Ogbomo and Amiji (2025) poverty as a state where an individual is not able to cater adequately for his or her basic needs; such as food, clothing and shelter; is unable to meet social and economic obligations, lacks gainful employment, skills, assets and self-esteem; and has limited access to social and economic infrastructure such as education, health, portable water, and sanitation; and consequently, has limited chance of advancing his or her welfare to the limit of his or her capabilities. Narayan et al (2000) systematically defined poverty when he said that "don't ask me what poverty is because you have met it outside my house. Look at the house and count the number of holes. Look at my utensils and the clothes that I am wearing. Look at everything and write what you see. What you see is poverty".

According to Ganga (2012), at the very heart of these debates is the question of whether poverty is merely about material deprivation or is an issue that also affects a broader set of needs beyond mere material needs. On his part, Sen (1999) submitted that poverty is an issue of deprivation (with respect to capability) rather than low incomes. However, capability approach to poverty does not ignore the fact that low income is also responsible for poverty, since lack of resources is also a primary reason for a person's capability deprivation. More emphatically, deprivation that poor people are facing really on daily basis goes beyond mere income poverty but encompasses issues such as vulnerability, ill-health, social inferiority, powerlessness, humiliation and isolation among others (Ovenseri-Ogbomo & Eburajolo, 2025).

Microfinance Bank in Nigeria.

Long before the advent of modern microfinance banking in Nigeria, the issue of credit has been an important aspect of Nigeria's economic and socio-political relations among the various ethnic groups, particularly the low income earners or the poor. Credit has often been used as a tool for helping the poor and stimulating economic growth. Over the years, government and international donor agencies have tried to provide credit at a subsidized rate to small farmers in the developing countries, particularly Nigeria, not available to all. According to Anyanwu (2004), the very failure of the reduce loans to get to the poor, led to the introduction of another microcredit scheme that would enable the poor have convenient access to financial services on a

regular basis. Indeed, microfinance has metamorphosed through three basic stages or types in the last decades in Nigeria.

The introduction of microfinance banking led to the facing off of the 'Community Banks' which were once known as 'The Peoples' Bank'. According to CBN (2005) and the revised new regulatory guidelines CBN (2012), microfinance entails providing financial assistance to the poor who cannot have access to micro-financial services from the conventional financial institutions; also the microfinance banks perform three basic distinct functions from the other financial institutions (Egboro, 2015). Microfinance banking is about providing financial services to the economically active poor and low income household, who are traditionally not served by the conventional financial institutions. These services include credit savings, micro-leasing, micro-insurance and payment transfers to enable them engage in income generating activities (Asemota, 2023).

Theoretical Literature Review

Several theories have been used to explain Microfinance Banks. This study examined four theories of Microfinance Banks as related to this study. These are discussed below:

Demand following and Supply leading hypotheses

The role of financial institutions in enhancing economic productivity could be explained by the demand following and supply leading hypotheses. The demand following the hypothesis is based on the premise that financial development reacts positively to economic growth. On the other hand, the supply leading hypothesis is hinged on the notion that the establishment of financial institutions comes first before the demand for financial services. As such, the demand following and supply leading hypotheses are based on the premise that the development of financial institutions can be concurrently growth-inducing and growth induced (Addae-Korankye, 2012). However, many studies support the supply leading hypothesis that the efficiency with which financial institutions operates is the most important issue for the economy (Taiwo, Agwu, Aregan, & Ikpefan, 2016). These studies considered the supply of innovations as well as initiatives, enterprise, and finance as the major tool for creating, transforming and expanding the industrial sector and other business-oriented activities in the economy (Kaidi, Mensi, & Amor, 2019). Consequently, based on the supply leading hypothesis, it is established that finance-led economic growth would as well generate significant poverty reduction.

Theory of Financial Services

Agene (2011) viewed microfinance as the provision of a full range of financial services comprising micro-credit (including micro-leasing), micro-saving, insurance, and fund transfers to low-income (poor) clients, including consumers and the self-employed, who traditionally lack access to deposit money banks and related financial services, to help them grow microenterprises or engage in other productive economic activities.

Aigbokhan and Asemota (2011) argued that access to credit affects welfare outcomes by alleviating the capital constraints on poor households for their agricultural and micro and small scale non-agricultural enterprises. They further asserted that access to credit also increases the poor household's risk-bearing and risk-coping abilities and enables consumption smoothing over time. One inference that can be drawn from the above arguments is that microfinance means integrating the financial needs of the poor and low income into a country's mainstream financial system. This is based on the assumption that they are economically active and can empower themselves if they have access to credit.

Grameen Bank Model Theory.

Microfinance banks were specifically established to enhance the social wellbeing of low-income earners. In this regard, social microfinance banking is tied to the Grameen Bank model proposed in 1976 by Muhammad Yunus in Bangladesh (Taiwo et al., 2016). The model focused on the low-income earning households while the bank functions as a unit headed by a Field Manager and bankers (workers) to oversee approximately 15 to 22 villages. These villages were usually visited by the manager and workers of the bank to familiarize themselves with their potential clients and to explain the functions, purposes, and operations of the bank. Under the Grameen Bank model, to receive a loan, prospective borrowers were grouped into five from which two groups received loans at first while the other groups took theirs in turns on a later date. Hence, the two groups that received loans were closely observed for one month to ensure that they conform to the rules of the bank.

Empirical Literature Review

Several empirical works abound on the relationship between poverty reduction and microfinance banks activities across the globe, especially in the developing economies.

Obadire (2022) examined the extents to which microloans are available to develop small and medium enterprises. Primary data were analyzed using Chi-square Test, Pearson correlation and

Analysis of Variance (ANOVA) test. The results revealed that the relationship between the standard of living of the respondents and the impact of microfinance banks loans on their household was positive and significant; the result also revealed that the poor have good access to credit facilities from microfinance bank for the development of micro-enterprises.

Similarly, Obayagbona (2024) empirically examined the impact of microfinance bank on poverty alleviation in Nigeria. The study covers a period of 33 years (1990 to 2023). The correlation coefficient and the ordinary least square (OLS) econometric technique were used for the empirical investigation. The results from the empirical analysis reveal that microfinance assets and loan-to-deposit ratio are major determinants of poverty alleviation in Nigeria; Micro-finance deposits and liquidity ratio failed the 5 percent level of significance indicating that they do not have any significant impact on poverty reduction in Nigeria.

Also, Nwanna and Okeke (2023) examined the relationship between microfinance credit and alleviation of poverty in Nigeria. The study covered a period of eleven years from 2008 to 2022. Ordinary least square regression analysis was used in testing the hypotheses of the study. The regression result found that there is a significant relationship between microfinance bank and unemployment rate in Nigeria.

Corroborating the earlier views, Chikwira, Vengesai and Mandude (2022) examined the role of micro-financing in poverty alleviation in Zimbabwe by employing a Vector Error Correction Model on quarterly time-series data. The results reveal a significant long-run relationship among the variables poverty, micro-financing, SMEs, and agricultural growth. Contrary to expectations, Micro-financing was found to decrease poverty in the long run. Similarly, Onyele and Onyele (2020) investigated the nexus between microfinance banking and poverty reduction from 1992 to 2018 using the Autoregressive Distributed Lag (ARDL) approach to regression analysis. The long-run estimates suggested that the MFBs loans-to-deposit ratio and liquidity ratio caused poverty reduction in the long-run. On the other hand, the short-run estimates indicated that the MFBs were unable to ensure poverty reduction within a short period, though all the variables exhibited significant coefficients within one year. These findings imply that the ability of MFBs to reduce poverty takes a long period.

Otekunrin, Onyegiri, Eluyela, Okoye and Ibrahim (2022) ascertained the effect of microfinance banks on the economic development of Nigeria. Secondary data were obtained from the CBN Bulletin and records of the National Population Commission from 1996 to 2019. The study used

Vector Autoregressive (VAR) estimates to test the effect of the independent variables (microfinance banks' total loans and advances, total investments, and total deposits) on the dependent variable (per capita income). The VAR results show that the activities of microfinance banks have a positive but insignificant effect on Nigeria's economic development in the short term.

Ochonogor (2020) explored the performance of microfinance institutions (MFIs) and its impact in promoting economic development in Nigeria using error correction model. The OLS was used for long-run analysis following findings from the co-integration result that established the existence of a long run equation. The study found a positive relationship between human development index and microfinance loan. The findings suggest that microfinance institutions promote economic growth and social capital formation in Nigeria.

In the same vein, Onyele and Onyekachi-Onyele (2020) analyzed the nexus between microfinance banking and poverty reduction is well documented in banking and finance literature. As a poverty reduction strategy, the microfinance initiative is expected to create room for financial accessibility to the economically active poor people. Consequently, this study estimated the effect of microfinance banks' (MFBs) on poverty reduction in Nigeria from 1992 to 2018 using the Autoregressive Distributed Lag (ARDL) approach to regression analysis. The long-run estimates suggested that the MFBs loans-to-deposit ratio and liquidity ratio caused poverty reduction in the long-run. On the other hand, the short-run estimates indicated that the MFBs were unable to ensure poverty reduction within a short period, though all the variables exhibited significant coefficients within one year.

METHODOLOGY

Theoretical Framework

The theoretical underpinning of this study is the Grameen Bank Theory that connects poverty reduction to micro-credit activity. The theory links the prevalence of poverty and its causes to a lack of access to credit and other incentives. The theory states that individuals with not enough collateral from starting business activities are prone to poverty (Granville & Mallick, 2006).

Model Specification.

The study examined the impact of microfinance banks on poverty in Nigeria by adopting of Usifoh and Ezeanyeji (2017) and Okafor 2016 and modified it to incorporate, Domestic

investment proxied by Gross fixed capital formation, foreign direct investment (FDI), and inflation. Thus, the functional form of the model can be specified as follows:

PI = f (MFA, LNS, RGDP, INTR, FDI, INF) - - - - - - (3.1)

Since poverty rate is not only a function of Microfinance banks, other determinants of poverty in Nigeria are thus included as controlled variables in order to avoid the problem of omitted variable bias in the estimation process, The model is thus modified as follows;

PI = f (MFA, LNS, RGDP, INTR, FDI, INF) - - - - - - - (3.2)

Taking the econometric specification as well as the log of variables in order to avoid the problem of large coefficient variables, the autoregressive distributed lag model is specified as thus;

$$\Delta PI_t = \beta_0 + \sum_{i=1}^{p-1} \beta 1 \Delta PI_{t-1} + \sum_{i=1}^{p-1} \beta 1 \Delta LnMFA_{t-1} + \sum_{i=1}^{p-1} \beta 2 \Delta lnLNS_{t-1} + \sum_{i=1}^{p-1} \beta 4 \Delta lnRGDP_{t-1} + \sum_{i=1}^{p-1} \beta 2 \Delta INTR_{t-1} + \sum_{i=1}^{p-1} \beta 4 \Delta lnFDI_{t-1} + \sum_{i=1}^{p-1} \beta 5 \Delta INF_{t-1} + \lambda ECT_{t-1} + \varepsilon_{t-1} - - - (3.3)$$

Where,

ECT = Error correction Term

Ɛ = Stochastic Error Term

Table 3.1 Description of Variables

Variable	Description	Measurement	A priori Sign	Source of Data
PI	Poverty	Poverty Index		World Development Indicators
MFA	Microfinance Banks Assets base	Microfinance Banks Assets base (Billion Naira)	Positive	CBN Statistical Bulletin
LNS	Microfinance Banks Loans	(Billion Naira)	Positive	Financial Statements of leading Microfinance Banks
RGDP	Real Gross Domestic Product	RGDP (GDP Discounted by price)	Positive	CBN Statistical Bulletin
INTR	Interest Rate	Lending rate (Percent)	Negative	CBN Statistical Bulletin
FDI	Foreign Direct Investment	FDI (Million Dollars)	Positive	World development Indicators
INF	Inflation Rate	INF (Total percentage)	Negative	World development Indicators

Source: Author's Compilation

Estimation Technique

Descriptive statistics

Descriptive statistics are used to summarize data in an organized manner by describing the relationship between variables in a sample or population. Calculating descriptive statistics represents a vital first step when conducting research and should always occur before making inferential statistical comparisons. Since descriptive statistics condense data into a simpler summary, they enable public decision-makers to assess specific populations in a more manageable form, Yellapu (2018). Other pre-diagnostic tests to carried out in this study include correlation analysis, unit root test, and co-integration analysis.

ARDL Estimation

The auto regressive distributed model was the model adopted for the estimation process in this study. This technique addresses all the objectives earlier stated in this study. It simultaneously provided both short- and long-run parameter estimates of the specified model given that there is a co-integration among the variables. Both the restricted and unrestricted versions of this technique were considered for robustness of the analysis. Although the estimation was preceded by optimal lag length selection and the Aikaike Information Criterion was considered in this regard.

Data Sources

The data used in this study are secondary data obtained from published documents. The time series data are obtained from various issues of the Central Bank of Nigeria (CBN) annual statistical bulletins, World Bank statistical indicators and annual abstract of Nigerian Bureau of statistics.

PRESENTATION AND INTERPETATION OF RESULTS

Descriptive Statistics.

Descriptive statistics are concise informational coefficients that summarize a given data set, which can be either a representation of the entire population or a sample of a population. The descriptive statistics of each variable used in the study are presented in the table below:

Descriptive Statistics

	PI	MFA	LNS	INTR	INF	FDI	RGDP
Mean	65.85351	77.39168	42.60042	15.29714	16.15437	3.36E+09	45598.55
Median	69.35000	85.25062	41.68055	15.81000	12.38637	2.35E+09	44467.46
Maximum	71.50000	173.5545	123.9321	19.55000	72.83550	8.84E+09	71387.83
Minimum	54.10000	1.324700	10.74789	11.31000	5.388008	3.00E+08	19979.12
Std. Dev.	6.419654	62.45379	29.94879	2.008198	14.71667	2.65E+09	19519.20
Skewness	-0.881486	0.033906	0.944015	-0.483577	2.918464	0.721691	0.004960
Kurtosis	2.092464	1.383176	3.261471	2.812701	10.80387	2.309395	1.390699
Jarque-Bera	4.586977	3.055171	4.238526	1.132212	110.7984	2.986999	3.021606
Probability	0.100914	0.217059	0.120120	0.567732	0.000000	0.224585	0.220733
Sum	1843.898	2166.967	1192.812	428.3200	452.3223	9.41E+10	1276759.
Sum Sq. Dev.	1112.723	105312.8	24217.11	108.8872	5847.667	1.89E+20	1.03E+10
Observations	28	28	28	28	28	28	28

Source: Authors' compilation (2025)

This table showed descriptive statistics of the variables used in this study. Annual poverty index (PI) was ranged from 54.1 to 71.5 with an average of 65.9 in the period; 1995 to 2020. The standard deviation of PI was 6.42. The coefficient of variation (standard deviation divided by mean) value was 0.1. This suggested that there was a very small variation in the economy over the period. The skewness value of -0.88, and kurtosis value of 2.09, indicated that annual PI data was negatively skewed and platykurtic, respectively. The Jarque-Bera value of 4.6 was not significant at the 5 percent level. This meant that PI data was normally distributed.

The kurtosis showed that microfinance banks assets (MFA), INTR, foreign direct investment (FDI) and Real GDP (RGDP) were platykurtic distribution which indicates a flat peakness these variables. On the other hand, while Microfinance loans (LNS) showed a mesokurtic distribution, inflation rate (INF) was a leptokurtic distribution indicating a steep peakness of distribution set. The Jarque-Bera which reveals the normality of distribution showed that, all the independent variables used in the study were normally distributed given their respective Jarque bera value

and their corresponding p-values except for INF which was not normally distributed as seen in the table above. Since most variables were normally distributed, the statistical analysis was conducted using the two tail test.

Correlation Analyses

Correlation Analysis is a statistical method that is used to discover if there is a relationship between two variables/datasets, and how strong that relationship may be. The correlation coefficient of dataset are presented below:

Correlation Matrix

	PI	MFA	LNS	INTR	INF	FDI	RGDP
PI	1						
MFA	0.435240	1					
LNS	-0.092790	-0.201713	1				
INTR	-0.174473	0.351824	-0.402419	1			
INF	-0.430054	-0.379067	0.015294	-0.140235	1		
FDI	0.209647	0.595246	-0.62833	0.612084	-0.29693	1	
RGDP	0.454789	0.728851	-0.040092	0.24306	-0.37944	0.40749	1

Source: Authors' compilation (2025)

The results showed that the pairwise Pearson's correlation coefficients ranged from -0.63 to 0.61. This indicated that all the pairwise Pearson's correlation coefficients were less than 0.9. The implication is to expect an absence of multicollinearity among regressors in the estimated regression model. This supports the assumption of no multicollinearity in the estimated real gross domestic product regression results.

Stationarity Test

This research uses the Augmented Dickey Fuller (ADF) to test for a unit root in the time series as well as the KPSS as a confirmatory test. Thus:

Unit Root Test for Stationarity

Variable	**ADF Results**		**KPSS Results**		**Order of Integration**
	Levels	**1St Difference**	**Levels**	**1st Difference**	
PI	-2.987812 (-2.876263*)		0.323000 (0.463000*)		I(0)
MFA	-1.132195 (-2.976263)	-5.433045 (-2.981038*)	0.564770 0.463000	0.152244 (0.463000*)	I(1)
LNS	-1.908427 (-2.976263)	-6.305144 (-2.981038*)	0.119061 (0.463000*)		I(1)

INTR	-2.443139 (-2.976263)	-6.628748 (-2.981038*)	0.188782 (0.463000*)		I(1)
INF	-3.407064 (-2.976263*)		0.355041 (0.463000*)		I(0)
FDI	-2.988675 (-2.998064*)		0.226220 (0.463000*)		I(0)
RGDP	-2.973035 (-2.998064*)		0.642642 0.463000	0.197348 (0.463000*)	I(0)

Source: Authors' compilation (2025)

The unit root tests presented above indicates that PI, INF, and FDI moved in synchronicity for the ADF and KPSS to show that these variables were stationary level form implying that they are I(0) variables. While MFA, LNS and INTR was found stationary after the first difference as shown by both the ADF and KPSS. Lastly, while RGDP was stationary at levels according to the ADF test, the KPSS showed the presence of unit root in the data set at levels and became stationary only after the first difference. Summarily, the unit root test indicates the presence of both I(0) and I(1) variables in the model.

ARDL Model

For this study, the Bounds test for co-integration was employed. Bound testing as an extension of ARDL modelling uses F and t-statistics to test the significance of the lagged levels of the variables in a univariate error correction system when it is unclear if the data generating process underlying a time series is trend or first difference stationary. This test is carried out on ARDL estimates in order to prove that co-integrating relationship exists in the model or not.

Bounds Test for Co-integration

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.240954	10%	1.99	2.94
K	6	5%	2.27	3.28
		2.5%	2.55	3.61
		1%	2.88	3.99

Source: Authors' compilation (2025)

The results of the autoregressive distributed lag (ARDL) bounds test of co-integration of the model were displayed. In the bounds test of co-integration, a null hypothesis of no co-integration among the variables in a model is rejected if the F-statistic is greater than the 5

percent upper bound value. The results showed that there was co-integration among the variables in the model. A null hypothesis of no co-integration among the variables in the model was rejected since the F-statistic value of 4.2 was greater than the 5 percent upper bound value of 3.28. The existence of co-integration among variables in this model implied that a long run and short run ARDL estimations can be performed. This is also referred to as the error correction model version of ARDL estimation.

ARDL Error Correction Regression

Dependent Variable: D(PI)				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
D(MFA)	0.047268	0.038231	1.236378	0.2382
D(LNS)	-0.070016	0.037179	-1.883213	0.0822
D(INTR)	-1.525831	0.460702	-3.311972	0.0056
D(INF)	0.125747	0.064387	1.952971	0.0727
D(FDI)	8.32E-10	2.63E-10	3.328870	0.0067
D(RGDP)	0.000184	0.000311	0.591022	0.5646
CointEq(-1)*	-0.791901	0.125902	-6.289842	0.0000
R-squared	0.703309	Mean dependent var		0.591348
Adjusted R-squared	0.614302	S.D. dependent var		5.578641
Durbin-Watson stat	2.304849			

Source: Authors' compilation (2025)

The short run result of the ARDL model based on the (1,1,1,1,1,1,) process selected. The coefficient of the error correction term (ECM-1) was properly singed with negative (-0.792) and significant at the 5 percent level. This met with *a priori* expectation and indicated that about 79.2 percent of the deviations of the model from its equilibrium value in previous period were corrected in the current period. The model therefore converges to its equilibrium value over time. The coefficient of determination is 0.703 while the adjusted R-squared is 0.614 when adjustments were made for the degree of freedom. This implies that 70.3 percent of the variations in poverty index (PI) was explained by all the explanatory variables (MFA, LNS, INTR, INF, FDI RGDP). This is a good fit as only about 29.7 percent of the systematic variation is left unexplained. We characterize this unexplained variation to variables not explicitly included in the model and measurement errors both of which effects are captured by the stochastic error term.

The Durbin- Watson Statistic of 2.3 which is approximately 2 reveals the absence of autocorrelation in the short run though Durbin Watson lacks the sufficiency to test for Autocorrelation due to the presence of lag of dependent variable among the explanatory variables. We will there for test for the presence of Autocorrelation in the model employing the instrumentality of other methods. Given the soundness of goodness of fit as analyzed above, we could thus rely on the estimated parameters of the variable.

The results showed that the estimated coefficient of microfinance banks investment captured by their asset base (MFA) was positive thereby refuting the *a priori* sign expectation. The result was similarly non-significant at the 5% level. The coefficient value of 0.047 indicated that a 1 unit rise in MFA would lead to a 0.05 unit fall in PI.

Estimated coefficient of loans disbursed (LNS) was negative and significant at the 10 percent level. The coefficient value of 0.07 implied that, on average, a 1 unit increase in LNS led to 0.07 unit decrease in PI, this findings consequently supports the *a priori* expectation that loans from microfinance banks limits the sting of poverty . This therefore suggested that there was a negative and significant relationship between loans and poverty in the country. Furthermore, the estimated coefficient of microfinance interest rate (INTR) was negative. This was found significant at 5 percent level of significance. Specifically, the result showed that a 1 unit increase in INTR led to 1.5 unit decrease in PI. This outcome suggested that interest rate and poverty are negative and significantly related over the period considered.

Consequently, inflation rate (INF) was found to maintain a positive and statistically significant relationship with PI as given by the t-test. This result further supports the *a priori* expectation; more explicitly, the results show that ceteris paribus, a 1 unit increase in INF will translate into an increase in poverty by 0.13 units. The results further showed that foreign direct investment (FDI) has a positive and statistically significant impact on poverty in Nigeria during the period evaluated. The result indicates that as FDI inflow into the economy grows, poverty is rather on the increase as against the theoretical *a priori* expectation. In particular, it indicates that a 1 unit increase in FDI led to 8.32 unit increase in poverty; the highest among the explanatory variables.

Finally, the independent variable; Real gross domestic product (RGDP) was found to be positively associated with Poverty in Nigeria. This finding did not meet our theoretical *a priori*

expectation because; an increase RGDP implies an improvement in poverty. It was further found to exhibit a statistically non-significant impact on poverty in Nigeria. It explicitly denotes that a 1 unit increase in RGDP would result to a negligible 0.0002 unit rise in poverty.

Long Run ARDL model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
MFA	-0.169554	0.085384	-1.985783	0.0645
LNS	-0.204320	0.065980	-3.096688	0.0069
INTR	-3.157794	0.776569	-4.066338	0.0009
INF	0.076985	0.083898	0.917609	0.3724
FDI	6.30E-10	7.13E-10	0.883426	0.3901
RGDP	0.000660	0.000260	2.540176	0.0218
C	104.2183	11.36125	9.173134	0.0000

Source: Authors' compilation (2025)

The estimated coefficient of microfinance bank investment (MFA) was negative and statistically significant at the 10 percent level. Its coefficient value implied; a 1 unit rise in MFA led to 0.17 percent rise in poverty in Nigeria in the long run. Also, microfinance bank loans (LNS) had a negative coefficient significant at the 5 percent level. In addition, interest rate had a negative coefficient which was significant at the 5 percent level. This coefficient value implies that, on average, a 1 unit increase in INTR led to a 3.15 unit decrease in poverty in the long run. Thus, a negative relationship existed between the two variables in the long run.

Consequently; the findings for the long run estimation show that both inflation rate (INF) and foreign direct investment (FDI) had a positive coefficient that was not significant at the 5 percent level of significance. The coefficient value indicated, holding other factors constant, a unit rise in both INF and FDI led to 0.08 unit and 6.3 units increase in poverty respectively in the long run. Lastly, the long run result indicates that, RGDP has a positive and significant impact on poverty in the long run period. These findings negate the *a priori* sign expectation. Its coefficient value showed that ceteris paribus, a 1 unit increase in RGDP caused poverty to surge by 0.0006 units.

Diagnostic Test

After the ARDL estimation the test for autocorrelation and heteroscedasticity was carried out. The Breusch-Godfrey Test is used to test for autocorrelation above the Durbin Watson statistics. The Durbin-Watson Test is restricted to detecting first-order autoregression, the Breusch-

Godfrey (BG) Test can detect autocorrelation up to any predesignated order p. It also supports a broader class of regressors. The Breush-Pagan test measures how errors increase across the explanatory variable, Y. The test assumes the error variances are due to a linear function of one or more explanatory variables in the model. That means heteroskedasticity could still be present in your regression model, but those errors (if present) are not correlated with the Y-values.

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	19.07979	Prob. F(2,4)	0.4390
Obs*R-squared	23.53318	Prob. Chi-Square(2)	0.1274

Source: Authors' compilation (2025)

The test for serial correlation has its null hypothesis that there is no serial correlation in the residuals. From the test carried out; the p-values of the chi-square distribution is greater than 0.05(5% critical value) so therefore we cannot reject the null hypothesis of no serial correlation in the residuals for the model.

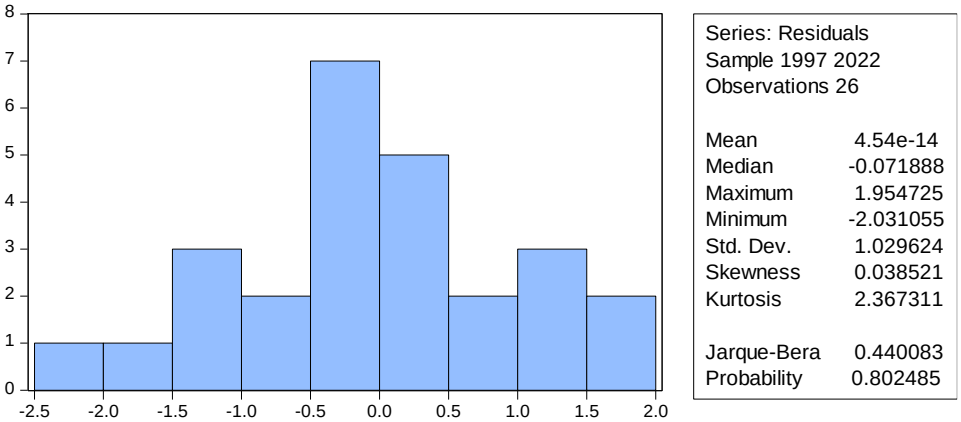
Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.551049	Prob. F(19,6)	0.1250
Obs*R-squared	23.13603	Prob. Chi-Square(19)	0.2314
Scaled explained SS	0.842330	Prob. Chi-Square(19)	1.0000

Source: Authors' compilation (2025)

The test for heteroscedasticity carries a null hypothesis that there is homoscedasticity. From the result, the p-values of the chi-square distribution is greater than 0.05(5% critical value) so therefore we cannot reject the null hypothesis of homoscedasticity for estimated.

Histogram Normality Test



Source: Authors' compilation (2025)

The Jarque-Bera value of 0.44 and its probability value of 0.8 (5% level of significance) indicates that the residual series maintained a normal distribution as shown above and thus, we cannot reject the null hypothesis that the residual series are normally distributed. Further, the histogram diagram maintained a bell shape indicative of a normal distribution of the residual series.

Ramsey RESET Test

	Value	Df	Probability
t-statistic	0.489571	5	0.6452
F-statistic	0.239679	(1, 5)	0.6452

Source: Authors' compilation (2025)

The Ramsey RESET test of misspecification of the estimated model indicated that the model was adequately specified. This was based on the Ramsey RESET F-statistic value 0.24 that was not significant at the 5 percent level. Thus; we conclude that the model was correctly specified and void of specification bias; indication the stability of the overall specification.

Discussion of Findings

The estimated results for the Autoregressive distributed lag model showed that investments into microfinance banks had a positive and non-significant relationship with poverty in the short run period; while in the long run; it indicated a negative but statistically significant relationship at the 10 percent level of significance. It therefore implies that investments into Microfinance bank enhanced poverty in Nigeria in the short run period, while in the long run, it impeded poverty. Theoretically, it can be adjudged that investments into microfinance banks takes a certain period of time to begin to significantly impact on poverty as buttressed by this study. These findings were in tandem to those of Usifo and Ezeanyeji (2017), Murad and Idewele (2017) as well as Okereke (2016) who all established the significance of microfinance bank assets inform of various investments directed into this banks as it does cause a reduction in poverty in Nigeria. Similarly, the results purported the findings of Idowu and Oyeleye (2012) who also established that assets acquisition by microfinance banks in Nigerian significantly reduced poverty in the economy.

The results also showed that Microfinance banks loans had a negative and significant impact on poverty in both the short run and the long run estimation. More explicitly, it indicated that loans and advancement by microfinance banks against apriori sign did not significantly affect poverty in Nigeria. This findings were supported by those of Usifo and Ezeanyeji (2017) whom established that loans and advances of microfinance banks have negative significant effect on poverty alleviation and consequently; economic growth in Nigeria. The results of Murad and Idewele were also re-emphasized as they had stated that even though microfinance bank credits has a significant impact on poverty reduction in Nigeria, the relationship between both variables was a positive one. Likewise, the results negated those of Idowu and Oyeleye (2012), Okereke (2016) and Ozekhome (2019) who also found a negative and significant relationship between microfinance credits to poverty in Nigeria.

Lastly, The findings of the estimated ARDL short run results showed that microfinance bank interest rates has a negative impact on poverty index in both the long run and the short run periods, this findings while the portray economic reality, it was found to contravene apriori expectation. Consequently; the findings differ from those of Usifo and Ezeanyeji (2017) who found a positive and insignificant relationship between microfinance bank deposit on poverty reduction in Nigeria in both the short and the long run. The results however were in consonance to those of Okereke (2016) and Ozekhome (2019) who found a negative and significant relationship between these variables.

RECOMMENDATIONS AND CONCLUSION

Policy Recommendations

Drawing from the discussions of findings of this study, it is expedient that meaningful deductions be made to further support or advice policy makers and government on the best way(s) to handle policy issues and programmes. In the light of this, the following policy recommendations and suggestions are germane to ensure progress and growth of the Nigerian economy.

Firstly, microfinance banks investments as a variable was able to significantly impact on poverty both in the long run hence; government, policy makers and microfinance bank managers should seek to build robust and stable assets base for microfinance banks through adequate investment structures as it hence solidifies the existence of such banks as well as their

ability to disburse loans and other advancements which could cause a reduction in poverty in Nigeria.

Finally, with the growing popularity of microfinance banks in Nigeria through various fintech platforms, and with the discovery that loans has the influence to pull the populace out of poverty, policy makers should investigate the various schemes these loans have been directed to ensuring that loans obtained are not used for other endeavours like household or private consumption, rather, they are utilized for various kinds of small scale businesses and investments which can translate to poverty reduction in the long run.

Conclusion

It is beyond dispute that microfinance institutions play a crucial role in the significant reduction of poverty through the credit (financial) intermediation channel, as well as in other productive endeavours, thanks to their enormous multiplier effects on investment, entrepreneurship development, and employment creation. The study experimentally examined the impact of microfinance operations on poverty in Nigeria based on this concept. The study hence concludes that microfinance bank investments significantly cause a reduction in poverty in Nigeria. On the bases of the findings of the study, it can be concluded that microfinance bank loans so far have significantly caused a reduction of poverty in Nigeria.

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