Microfinance Bank Lending And Poverty Reduction In Nigeria

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ABSTRACT
The work examined microfinance bank lending and poverty reduction in Nigeria. The focus of the study is to determine the effect of microfinance bank lending on poverty reduction in Nigeria. The study employed ex post facto design and secondary data were used for the work and were collected purely from Central Bank of Nigeria (CBN) statistical bulletin 2018 edition. Econometric techniques such as unit root and autoregressive distributive lag were used for the analysis. The result of the analysis showed that microfinance bank lending to the various sectors had no significant effect on poverty reduction in Nigeria in the short run but had significant effect in the long run. The researchers recommended that: government and well meaning Nigerians should support microfinance banks to grant funds to agriculture and forestry sector to create more jobs, boost their productivity and reduce poverty; government and well meaning Nigerians should assist microfinance banks by providing adequate funds to manufacturing and food processing industries and patronize the made in Nigeria products in order to create jobs for her citizens and ultimately reduce poverty etc.

Keywords: Poverty, poverty reduction, poverty index, Microfinance, Bank lending, Lending to various sectors

INTRODUCTION
Microfinance bank was established to cater for poor entrepreneurs who are excluded from the financial system because of the stringent lending conditions of the deposit money banks. The banks give loans to the poor entrepreneurs who ordinarily cannot access fund from the conventional banks. This money received as loan will enable them boosts their businesses, improve the level of income and increase their standard of living (UNDP, 2009). The poor in this context refers to the active poor, that is, the poor entrepreneurs who are engaged in economic activities but do not have enough fund that can liberate them from the shackle of poverty (CBN 2005). The poor people, especially rural dwellers, have very limited, if not, no access to the financial services provided by commercial banks due to the disparities between their needs and concerns, and the procedures of the banks (Olomok, Kabeer 1999). The government of Nigeria has sought to strengthen and support the poor entrepreneurs towards improved efficiency and productivity in line with its commitment to engendering sustainable economic growth and general improvement in quality of life of the Nigerian people (CBN 2005). As a strategy for achieving the above, the government provides financial services to the poor entrepreneurs mostly through commercial banks. The commercial banks still face constraints in reaching dispersed poor clients due to lack of improved services infrastructure. Collateral requirements help them in determining the credit worthiness of potential borrowers. Since the poor have no collateral requirements, they cannot access financial services (Ehigiamusoe, 2011). Guaranteeing rural people’s access to credit for meaningful economic activities required specific financial schemes that mobilized savings and intermediate financial services. Micro credit schemes emerged to fill
this gap in the financial services delivery system. Modeled after the Grameen bank poverty reduction
initiatives in Bangladesh, micro-credit schemes mediate the delivery of small, low interest and non
collateralized credit to the rural and urban poor, relying on social collateral and joint liability (Aryeteey
2005; Olomola 2000).
Microfinancing is not a new phenomenon in Nigeria as evidenced by such cultural, economic activities as
Esusu, Adashi, Otataje, etc. which was practiced with the sole purpose of providing funds for producers in
our rural communities. What is current however is the effort of governments in Nigeria to modernize it in
rural and urban communities to improve the productive capacity of the rural and urban poor, enhance
their economic standing which elevates the level of their national economy (Onyeneke & Iruo, 2012).

To put micro-finance banks in a proper perspective, the Nigerian government launched the micro-finance
policy, regulatory and supervision framework on 15th December 2005. The policy seeks to: cover the
majority of the poor but economically active population by 2020, increase the share of micro credit as a
percentage of total credit to the economy from 0.9 percent in 2005 to 20 percent in 2020, increase the
share of micro credit as a percentage of GDP from 0.2 percent in 2005 to at least 5 percent in 2020,
promote the participation of at least two third of states and local governments in micro credit financing by
2015, improve women’s access to financial services by 5 percent annually and increase the number of
linkages among universal banks, development banks etc by 10 percent annually.

With the launching of the microfinance policy in 2005, all community banks were mandated to convert to
microfinance bank and increase their capital base to twenty million naira (N20,000,000). This means that
microfinance bank is the offshoot of community bank and their data (community bank and microfinance
bank data) were used for the work. The bank (microfinance bank) in order to achieve its mandate, started
to mobilize deposit from the public and to give out loans to different sectors of the economy. The
economy were classified into Agriculture and Forestry sector, Mining and Quarrying sector,
Manufacturing and Food Processing sector, Real Estate and Construction sector, Transport and
Commerce sector and Other sectors (CBN statistical Bulletin 2017) for the purpose of administration and
orderliness.

The problem bedeviling the poor is that, they have limited access to credit to liberate them from the
shackle of poverty. Commercial banks’ requirements for credit facilities are very stringent for them. As
a result of their inability to access loan facilities, they are subjected to low level of income, financial
dependency, poor business growth and low standard of living. Worst still, they are exposed to poor
maternal health, HIV/AIDS, malaria and other diseases, poor educational attainment, environmental risks,
etc (UNDP 2016). With the establishment of microfinance banks, they could be liberated from the shackle
of poverty. Microfinance banks grant facilities to these poor people who are excluded from the system.
This loan will help to boosts their businesses and reduce poverty level to the bearest minimum.

Although, studies have been conducted by both national and international organizations and individuals
on how microfinance banks help in reducing poverty. For example, Alemu (2002) conducted a research
on micro-credit and poverty reduction, Zaman & Hassan (2005) assessed the impact of micro credit on
poverty and vulnerability in Bangladesh, Asemelash (2003) carried out research on micro-credit and
poverty reduction etc., To the best of our knowledge, all used primary data especially questionnaires for
their work. And also none used bank lending to various sectors as a proxy for microfinance bank. Those
that carried out researches in this area used the overall activities of microfinance bank such as lending,
saving and deposit mobilization. Therefore the need to conduct a research using secondary data and
lending to various sectors constitute a gap to be filled. These gaps become the core problem of this study
which the research is designed to fill.

Objectives of the Study
The objective of the study is to ascertain the effect of microfinance bank lending on poverty reduction in
Nigeria.

Research Hypothesis
The researchers stated the null hypothesis for the conduct of the study:

H1: Microfinance bank lending has no positive and significant effect on poverty reduction in Nigeria.
LITERATURE REVIEW

Theoretical Framework

The theories relevant to the subject of this study are:

i) Commercial Loan Theory
This was propounded by Adam Smith in 1776. The theory stated that short-term loans advanced to finance businesses are the most liquid loans that banks can make. These are self-liquidating loans because the goods being financed will soon be sold. The loan finances a transaction and the transaction itself provides the borrower with the funds to repay the bank. The goods move quickly from the producers through the distributors to the retail outlet and then are purchased by the ultimate cash-paying consumer. The essence of the theory is that short term loans are preferred by banks as they will be repaid from the proceeds of transactions they facilitate and finance. Microfinance banks give loans on a short term period to their customers (the active poor), who invest the money, grow their business, boost their income and return the capital and interest back to the bank. The research work is anchored on this theory.

ii) The Commercial Intermediation Theory
This theory was propounded by Gurley and Shaw in 1960. They said that if there is information asymmetry in the financial system, it will result into high cost of transaction, lack of complete information in useful time and in method of regulation, problem of adverse selection, concomitant moral hazard and market imperfection. The theory advocates that there should be a financial institution that will act as an economic agent to link those with surplus economic funds and deficit economic funds together to avoid information asymmetry in the system. Microfinance banks perform this role. They provide a non collateralized fund at a low cost to the active poor and useful information that they need to boost their businesses.

iii) Individual and Structural Theory of Poverty
This theory was propounded by Paul Ryan in 1954. The view is that, poverty is caused by both individual and the institutional structure. On individual side, people are in poverty because they are lazy, uneducated, ignorant, or otherwise inferior in some manner. On the institutional structure, people are in poverty because they find themselves in holes in the economic system that delivers them inadequate income. Microfinance bank provides fund and educate them to establish businesses that can liberate them from this situation.

METHODOLOGY

According to Ihenetu (2008), research design is a blueprint, framework for collecting and analyzing data. The researcher adopted expost facto design for the work.

Data were collected purely from secondary sources. The data were collected from Central Bank of Nigeria (CBN) statistical bulletin 2018. The data collected here were very useful, valid and reliable having been audited by both internal and external auditors.

The data collected were microfinance loans to Agriculture and Forestry, microfinance loan to Mining and Quarrying, microfinance loan to Manufacturing and Food Processing, microfinance loan to Real Estate and Construction and microfinance loan to Transport and Commerce and also trade credit to Small and Medium Scale Enterprises and Real Gross Domestic Product from 1992-2018 all in CBN statistical bulletin 2018.

The researcher employed stationarity test and autoregressive distributed lag (cointegration and longrun approach) tests for the analysis.

(i) Unit root test
Unit root was used to determine the stationarity of the time series data employed. This is to ensure that employment of the data will not lead to spurious estimates. In this perspective, according to Brooks (2009), the Augmented Dickey Fuller (ADF) test is employed. The decision rule is to reject the null hypothesis if the ADF test statistic is absolutely greater than the corresponding Mackinnon’s Critical Values at 5% levels of significance.
(ii) Autoregressive Distributive Lag (ARDL) tests (longrun and cointegration approach)
ARDL was developed by Pesaran & Shin (1999). The test was adjudged to be superior to Johansen’s cointegration because of the following: firstly, it requires small sample size. Two sets of critical values are provided, low and upper values bounds for all classification of explanatory variables into pure I(1), I(0) or both Secondly, Johansen’s procedure requires that the variables should be integrated of the same order, whereas ARDL does not require that the variables should be integrated of the same order. Thirdly, ARDL approach provides an unbiased longrun estimates with valid t-statistic if some of the model regressors are endogenous. Fourthly, this approach provides a method of assessing the short run and long run effects of one variable on the other and as well separate both once an appropriate choice of the order of the ARDL model is made. In this regard, Akaike info criterion (AIC) is chosen.

Model specification is given as:
The mathematical model:

ENTG = f(MLAF, MLMFP, MLMQ, MLRC, MLTC)  --------- equ 1

This model can be transmuted to econometric model as:

ENTG = β₀ + β₁MLAF + β₂MLMFP + β₃MLMQ + β₄MLRC + β₅MLTC + µ  --------- equ 2

Autoregressive Distributive Lag (ADRL) test:

\[ \Delta DENTG_t = \alpha + \sum_{i=1}^{n} \beta_{1i} \Delta DENTG_{t-1} + \beta_{1} \Delta DENTG_{t-1} + \sum_{i=1}^{n} \beta_{2i} \Delta DMLAF_{t-1} + \]
\[ \Delta Dβ₂MLAF_{t-1} + \sum_{i=1}^{n} \beta_{3i} \Delta DMLMFP₂t₁ + \beta_{3} \Delta DMLMFP₂t₁ + \]
\[ \sum_{i=0}^{n} \beta_{4i} \Delta DMLMQ₃t₁ + \Delta Dβ₄MLMQ₄t₁ + \sum_{i=0}^{n} \beta_{5i} \Delta DMLRC₄t₁ + \]
\[ \beta₅ΔDMLRC₅t₁ + \sum_{i=1}^{n} \beta_{6i} \Delta DMLTC₄t₁ + B₆ΔDMLTC₄t₁ \]  --------- equ 3

Where ENTG = Entrepreneurial growth
MLAF = Microfinance banks lending to agriculture and forestry
MLMFP=Microfinance banks lending to manufacturing and food processing
MLMQ = Microfinance banks lending to mining and quarrying
MLRC = Microfinance banks lending to real estate and construction
MLTC = Microfinance lending to transport and commerce
α = constant intercept
\( \beta, \Delta b \) = parameter
\( \beta₁, \beta₂, \beta₃, \beta₄, \beta₅ \) = Coefficient of independent variables
μ = error term.

Also Note that:
i. Coefficient of determination R was used to describe the goodness of fit of the regression.
ii. T-test was used to test for the significance of each of the variables in the model.
iii. F-test was used to test the overall significance of the model.
iv. Durbin-Watson was used to test for serial autocorrelation.

On the apriori, the study expects: \( b > 0 \), \( b > 0 \), \( b > 0 \)  \( \mu = \) error term.
PRESENTATION, ANALYSIS AND DISCUSSION
The data used for the work is presented below:

Table 1 Poverty Index (PI), Microfinance Bank Lending to Agriculture and forestry (MLAF), Microfinance Bank Lending to Mining and Quarrying (MLMQ), Microfinance Bank Lending to Manufacturing and Food Processing (MLMF), Microfinance Bank Lending to Real Estate and Construction (MLRC) and Microfinance Bank Lending to Commerce and Transport (MLCT) in percentages.

<table>
<thead>
<tr>
<th>YEARS</th>
<th>PI (%)</th>
<th>MLAF1 (%)</th>
<th>MLMQ1 (%)</th>
<th>MLMF1 (%)</th>
<th>MLRC1 (%)</th>
<th>MLCT1 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1992</td>
<td>57.1</td>
<td>21.72312</td>
<td>2.724595</td>
<td>14.65</td>
<td>10.7511</td>
<td>33.58</td>
</tr>
<tr>
<td>1993</td>
<td>54.76</td>
<td>18.82353</td>
<td>0.870894</td>
<td>19.80</td>
<td>7.257448</td>
<td>42.78</td>
</tr>
<tr>
<td>1994</td>
<td>55.9</td>
<td>12.73144</td>
<td>2.638047</td>
<td>14.65</td>
<td>10.7511</td>
<td>33.58</td>
</tr>
<tr>
<td>1995</td>
<td>57.1</td>
<td>8.727208</td>
<td>1.584351</td>
<td>11.05</td>
<td>9.081253</td>
<td>50.96</td>
</tr>
<tr>
<td>1996</td>
<td>63.5</td>
<td>16.38337</td>
<td>1.256963</td>
<td>11.10</td>
<td>6.620483</td>
<td>49.64</td>
</tr>
<tr>
<td>1997</td>
<td>60.6</td>
<td>22.69582</td>
<td>1.760563</td>
<td>12.35</td>
<td>6.98641</td>
<td>45.09</td>
</tr>
<tr>
<td>1998</td>
<td>61.9</td>
<td>38.09957</td>
<td>1.226848</td>
<td>11.85</td>
<td>2.65533</td>
<td>41.27</td>
</tr>
<tr>
<td>1999</td>
<td>63.1</td>
<td>34.04658</td>
<td>0.912686</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2000</td>
<td>64.4</td>
<td>34.04663</td>
<td>0.912686</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2001</td>
<td>65.7</td>
<td>34.04671</td>
<td>0.912687</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2002</td>
<td>66.9</td>
<td>34.04662</td>
<td>0.912687</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2003</td>
<td>53.5</td>
<td>34.04658</td>
<td>0.912686</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2004</td>
<td>53.3</td>
<td>34.04657</td>
<td>0.912686</td>
<td>9.92</td>
<td>2.43044</td>
<td>48.94</td>
</tr>
<tr>
<td>2005</td>
<td>53.02</td>
<td>34.04659</td>
<td>0.912686</td>
<td>9.92</td>
<td>2.43045</td>
<td>48.94</td>
</tr>
<tr>
<td>2006</td>
<td>53.12</td>
<td>3.07127</td>
<td>2.731456</td>
<td>2.99</td>
<td>15.52826</td>
<td>30.87</td>
</tr>
<tr>
<td>2007</td>
<td>52.99</td>
<td>3.071308</td>
<td>2.731442</td>
<td>2.99</td>
<td>15.52827</td>
<td>30.87</td>
</tr>
<tr>
<td>2008</td>
<td>53.6</td>
<td>7.845754</td>
<td>0.964690</td>
<td>4.69</td>
<td>5.003502</td>
<td>56.05</td>
</tr>
<tr>
<td>2009</td>
<td>53.5</td>
<td>8.136814</td>
<td>0.978603</td>
<td>3.91</td>
<td>4.158847</td>
<td>48.64</td>
</tr>
<tr>
<td>2010</td>
<td>54.43</td>
<td>9.630592</td>
<td>0.98214</td>
<td>4.10</td>
<td>4.260342</td>
<td>49.02</td>
</tr>
<tr>
<td>2011</td>
<td>54.9</td>
<td>9.187819</td>
<td>0.646792</td>
<td>3.39</td>
<td>3.387998</td>
<td>70.91</td>
</tr>
<tr>
<td>2012</td>
<td>55.01</td>
<td>8.192316</td>
<td>0.33037</td>
<td>2.52</td>
<td>4.111858</td>
<td>60.46</td>
</tr>
<tr>
<td>2013</td>
<td>55.21</td>
<td>5.106677</td>
<td>0.641379</td>
<td>3.12</td>
<td>2.78134</td>
<td>56.79</td>
</tr>
<tr>
<td>2014</td>
<td>55.9</td>
<td>6.90007</td>
<td>0.166883</td>
<td>2.82</td>
<td>4.89386</td>
<td>52.47</td>
</tr>
<tr>
<td>2015</td>
<td>55.8</td>
<td>6.281274</td>
<td>0.208753</td>
<td>1.80</td>
<td>2.786826</td>
<td>62.89</td>
</tr>
<tr>
<td>2016</td>
<td>57.2</td>
<td>7.345917</td>
<td>0.119357</td>
<td>2.42</td>
<td>2.710618</td>
<td>63.41</td>
</tr>
<tr>
<td>2017</td>
<td>61.2</td>
<td>8.70909</td>
<td>0.181687</td>
<td>2.35</td>
<td>5.129476</td>
<td>69.75</td>
</tr>
<tr>
<td>2018</td>
<td>53.5</td>
<td>7.525415</td>
<td>0.212749</td>
<td>1.8719035</td>
<td>4.7342148</td>
<td>59.092163</td>
</tr>
</tbody>
</table>

Source: CBN Statistical Bulletin 2018. Author’s computations using Excel software (23)
Key:
P = Poverty index is already in percentage
MLAF = Microfinance Bank Lending to Agriculture and forestry / Total Microcredit Disburse x 100
MLMQ = Microfinance Bank Lending to Mining and Quarrying / Total Microcredit Disburse x 100
MLMFP = Microfinance Bank Lending to Manufacturing and Food processing / Total Microcredit Disburse x 100
MLRC = Microfinance Bank Lending to Real Estate and Construction / Total Microcredit Disburse x 100
MLCT = Microfinance Bank Lending to Commerce and Transport / Total Microcredit Disburse x 100

Prior expectation: A positive significant effect is expected between microfinance banks lending variable such as MLAF, MLMQ, MLMFP, MLRC, and MLCT and Poverty index (PI).

Table 2 Stationarity (Unit Root) Test Results

<table>
<thead>
<tr>
<th>Variables</th>
<th>Level</th>
<th>1st difference</th>
<th>Order of Integration</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI</td>
<td>-2.350731</td>
<td>-5.091359</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DMLAF</td>
<td>-1.878709</td>
<td>-4.445219</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DMLMQ</td>
<td>-3.991594</td>
<td>-6.263567</td>
<td>I(0)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DMLMFP</td>
<td>-3.228313</td>
<td>-5.149829</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>DMLCT</td>
<td>-3.565828</td>
<td>-5.334131</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

Significant at 5% level, ADF test > Critical Value, then the variable is stationary

Source: Extracts from E-Views 9 Output

Table 2 presented the unit root stationarity test results for the employed data. Generally, the absolute values of the ADF test statistic for all the employed study variables were greater compared to all their corresponding Mackinnon’s critical values at 5%. In all, the PI, MLAF, MLMFP, MLRC and MLCT variables were integrated at order I(1), whereas MLMQ was integrated at order I(0). Since these variables are stationary at 5% level of significant, they are therefore deemed fit for utilization and subsequent estimations.
The use of this approach is guided by the short data span. The researcher chose a maximum lag order of 2 for the conditional ARDL vector error correction model by using the Akaike information criteria (AIC). Number of models evaluated was 486 and the result showed that the best model is ARDL (1,0,2,2,0) which was summarised in figure 1 above.

Table 3 Auto-Regressive Distributed Lag (ARDL) shortrun result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(DMLAF)</td>
<td>0.111286</td>
<td>0.195956</td>
<td>0.567915</td>
<td>0.5798</td>
</tr>
<tr>
<td>D(DMLMQ)</td>
<td>-1.652988</td>
<td>1.698453</td>
<td>-0.973232</td>
<td>0.3482</td>
</tr>
<tr>
<td>D(DMLMFP)</td>
<td>-1.153907</td>
<td>0.981833</td>
<td>-1.175258</td>
<td>0.2610</td>
</tr>
<tr>
<td>D(DMLMFP(-1))</td>
<td>1.475208</td>
<td>0.636409</td>
<td>2.318018</td>
<td>0.0374</td>
</tr>
<tr>
<td>D(DMLRC)</td>
<td>0.145770</td>
<td>0.483081</td>
<td>0.301751</td>
<td>0.7676</td>
</tr>
<tr>
<td>D(DMLRC(-1))</td>
<td>0.485115</td>
<td>0.300376</td>
<td>1.615025</td>
<td>0.1303</td>
</tr>
<tr>
<td>D(DMLCT)</td>
<td>0.083260</td>
<td>0.107336</td>
<td>0.775690</td>
<td>0.4518</td>
</tr>
<tr>
<td>CointEq(-1)</td>
<td>-0.337783</td>
<td>0.248792</td>
<td>-5.377111</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

The probability of the t-statistic 0.5798
was more than 0.05 power of test. The coefficient 0.111286 showed positive but no significant effect on poverty reduction in Nigeria.

Secondly, the analysis further revealed that microfinance bank lending to mining and quarrying (MLMQ) did not have significant effect on poverty index in Nigeria under the period of the study. The probability of t-statistic 0.3482 was more than 0.05 power of test. The coefficient of -1.652988 showed negative meaning that 1% increase in bank lending to mining and quarrying (MLMQ) decreased poverty reduction by 1.65%.

Thirdly, the analysis also confirmed that microfinance bank lending to manufacturing and food processing (MLMFP) had no significant effect on poverty index in Nigeria. The probability of the t-statistic 0.2610 was more than 0.05 power of test. The coefficient -1.153907 showed that 1% increase in microfinance lending to this sector decreased the poverty reduction by 1.15%.

However, the analysis further revealed that microfinance bank lending to manufacturing and food processing (MLMFP) of the previous year had positive significant effect on poverty index in Nigeria. The probability of the t-statistic 0.0374 was less than 0.05 power of test. The coefficient 1.475208 showed that 1% increase in microfinance lending to this sector increased the poverty reduction by 1.48%.

Fourthly, the analysis also showed that microfinance bank lending to real estate and construction (MLRC) had no significant effect on poverty index in Nigeria. The probability of the t-statistic 0.7676 under the period of the study was more than 0.05 power of test. The coefficient 0.145770 showed positive but no significant effect on poverty reduction in Nigeria.

Finally, the analysis also revealed that microfinance bank lending to transport and commerce (MLTC) had no significant effect on poverty index in Nigeria within the period of study. The probability of t-statistic 0.4518 was more than 0.05. Therefore the null hypothesis was accepted. The 0.083260 coefficient showed positive but no significant effect on poverty reduction in Nigeria.

Table 4 ARDL Bound cointegration test

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>k</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>4.785559</td>
<td>5</td>
</tr>
</tbody>
</table>

Critical Value Bounds

<table>
<thead>
<tr>
<th>Significance</th>
<th>I0 Bound</th>
<th>I1 Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>2.26</td>
<td>3.35</td>
</tr>
<tr>
<td>5%</td>
<td>2.62</td>
<td>3.79</td>
</tr>
<tr>
<td>2.5%</td>
<td>2.96</td>
<td>4.18</td>
</tr>
<tr>
<td>1%</td>
<td>3.41</td>
<td>4.68</td>
</tr>
</tbody>
</table>

Source: Extracts from E-Views 9 Output
*level of significance at 5%

The result of the cointegration test, based on the ARDL bound testing approach, was presented in table 4 above. Cointegration was tested on model using poverty index as the dependent variable. The results showed that the F-statistic 4.785559 was higher than the lower bound critical value 2.62 at 5% level
significance using restricted intercept and no trend in specification for the model. The null hypothesis was rejected when the value of F-statistic is more than the upper bound and accepted when the value of F-statistic is lower than the lower bound and declared inconclusive when it fall short of both. Since the value of F-statistic was higher than the lower bound, it indeed implied that the microfinance bank lending selected independent variables and poverty index have long run relationship in Nigeria, which means that the variables included in the model in the shortrun can be corrected in the longrun.

Table 5 ARDL short run error correction model result

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.*</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI(-1)</td>
<td>-0.182984</td>
<td>0.241178</td>
<td>-0.758709</td>
<td>0.4698</td>
</tr>
<tr>
<td>PI(-2)</td>
<td>0.466071</td>
<td>0.199391</td>
<td>2.337469</td>
<td>0.0476</td>
</tr>
<tr>
<td>MLAF</td>
<td>-0.209244</td>
<td>0.091373</td>
<td>-2.289990</td>
<td>0.0513</td>
</tr>
<tr>
<td>MLMQ</td>
<td>0.067126</td>
<td>0.045047</td>
<td>1.490129</td>
<td>0.1745</td>
</tr>
<tr>
<td>MLMQ(-1)</td>
<td>-4.777263</td>
<td>1.277728</td>
<td>3.738873</td>
<td>0.0057</td>
</tr>
<tr>
<td>MLMFP</td>
<td>0.466071</td>
<td>0.199391</td>
<td>2.337469</td>
<td>0.0476</td>
</tr>
<tr>
<td>MLRC</td>
<td>-3.900830</td>
<td>1.475257</td>
<td>2.644170</td>
<td>0.0295</td>
</tr>
<tr>
<td>MLRC(-1)</td>
<td>0.549319</td>
<td>0.213526</td>
<td>2.586786</td>
<td>0.0323</td>
</tr>
<tr>
<td>MLCT</td>
<td>0.061548</td>
<td>0.042664</td>
<td>1.442619</td>
<td>0.1871</td>
</tr>
<tr>
<td>ECM-1</td>
<td>0.160869</td>
<td>0.068970</td>
<td>16.83143</td>
<td>0.0000</td>
</tr>
<tr>
<td>ECM(-1)-1</td>
<td>0.851074</td>
<td>0.249005</td>
<td>3.417901</td>
<td>0.0091</td>
</tr>
<tr>
<td>ECM(-2)-1</td>
<td>0.282674</td>
<td>0.165225</td>
<td>1.710842</td>
<td>0.1255</td>
</tr>
<tr>
<td>C</td>
<td>31.24048</td>
<td>13.67530</td>
<td>2.284445</td>
<td>0.0517</td>
</tr>
</tbody>
</table>

R-squared    | 0.989679    | Mean dependent var | 57.21727 |
Adjusted R-squared | 0.972908  | S.D. dependent var | 4.624394 |
S.E. of regression | 0.761166   | Akaike info criterion | 2.551995 |
Sum squared resid | 4.634984   | Schwarz criterion | 3.247494 |
Log likelihood    | -14.08514  | Hannan-Quinn criter. | 2.716751 |
F-statistic       | 59.00948   | Durbin-Watson stat | 2.855342 |
Prob(F-statistic) | 0.000002   |                      |          |

*Note: p-values and any subsequent tests do not account for model selection.

From the result in table 5, the poverty index of last two years and last year were considered as determinant factors. The poverty index of last two years, microfinance bank lending to manufacturing and food processing and microfinance bank lending to real estate and construction for both last year and present year had positive significant effect on poverty index whereas microfinance bank lending to mining and quarrying of both last year and present year had negative significant on poverty index. However, poverty index of last year, microfinance bank lending to agriculture and forestry and microfinance bank lending to commerce and transport had no significant effect on poverty index.

The result of the ARDL short run error correction model showed that the model had a good fit on the data. This is demonstrated by the high values of coefficient of determination (AdjustedR²) of 0.972908 (97.29%). This implied that variations in all the explanatory variables account for 97.29% of the variations in poverty index, while the rest 2.71% of the variations was attributable to other variables not captured in the study.

The F-statistic measures the overall significance of the model. The F-statistic was 59.00948 and the probability of F-statistic 0.000002 which was less than 0.05 power of test. This meant that microfinance bank lending to MLAF, MLMQ, MLMFP, MLRC and MLTC had a significant effect on the poverty
index in Nigeria. 31.24048 in the regression equation was constant, autonomous and uninfluenced intercept that did not change by the changes of the independent variables. Durbin Watson 2.855342 suggested the absence of autocorrelation. The error correction model (ECM) showed that it will take about 85% speed adjustment to correct the error of the short run.

CONCLUSION AND RECOMMENDATION
The findings showed that microfinance bank lending had no significant effect on poverty reduction in the short run but in the long run, it had a positive and significant effect poverty reduction. The researchers therefore recommend that:

• Government and well meaning Nigerians should support microfinance banks to grant funds to agriculture and forestry sector to create more jobs, boost their productivity and reduce poverty.
• Government and well meaning Nigerians should assist microfinance banks by providing adequate funds to manufacturing and food processing industries and patronize the made in Nigeria products in order to create jobs for her citizens and ultimately reduce poverty.
• The mining and quarrying sectors should also be supported through microfinance banks, government and well meaning Nigerians by way of funding, seminars, symposium and workshop to develop their competence, skills and technical know-how which will ultimately reduce poverty in the country.
• The real estate and construction industries should be encouraged by microfinance banks, government through awarding contract to indigenous companies and non-governmental organization to boost the industries and reduce poverty.
• Indigenous transport and commercial industries should also be encouraged by the government and non-governmental organization by way of patronizing them to create more jobs for the people of Nigeria and subsequently reduce poverty.

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