DOES FINANCIAL INCLUSION INFLUENCE RURAL URBAN MIGRATION AND RURAL POVERTY LEVELS IN NIGERIA?

BARR. UGWUANYI, CHARLES (PhD)
Economics Department,
Michael Okpara University of Agriculture,
Umudike. Nigeria.

&

IBEKILO, COLLINS BRUNO N.
Economics Department,
Chukwuemeka Odumegwu Ojukwu University,
Igbariam, Nigeria.

chbnamdi@gmail.com or cb.ibekilo@coou.edu.ng
+2348064081981

Abstract
The rapid increase in the rate of rural urban migration mainly in developing countries have created reasons for concern especially as urban resources to accommodate these migrants are depleting. This study is thus motivated by the need to investigate and establish the nature of the relationship between extent financial inclusion of rural dwellers influence their migratory behavior especially towards the urban areas and poverty levels as a proxy of wellbeing. Time series date of 1982-2019 was used for the study. Employing OLS to draw these relationships, it was found that financial inclusion helps in determining rural urban migration but does not significantly influence the level of rural poverty. It was thus advised that enabling environment for operation of financial institutions should be created in the rural areas while they should be supported to create deposits.

Key words: Financial inclusion, Rural area, Urban area, Rural-urban migration, Rural poverty, poverty reduction.

JEL codes: E44, G21, J11, J18, P25

Introduction
The relationship between sound and broad financial system, economic growth and development has remained the concern of many researchers because of its pertinent nature. These studies found a strong positive relationship between them. (McKinnon; 1973, King and Levine; 1983, Levine; 1997, 2000, Beck; 2011, Puatwoe & Piabuo;2017, Guru & Yadav;2019)).This relationship equally applies for developing the rural economy. Conversely, these rural areas are highly underserved of financial services by the financial system. According to Global Findex data(2018), 69 percent of the world’s adult population had an account with a formal financial institution or have access to mobile money services. Unfortunately, majority of them are in urban areas while half of the 1.7 billion people that are unbanked globally live in only seven countries which are Bangladesh, China, India, Indonesia, Mexico, Nigeria, and Pakistan. (Gobal Findex data:2018)

Rural- Urban migration has remained highly prevalent in developing countries of Africa, Asia and Latin America. (Du Toit;1990, Todaro;1997, Ajaero & Onokala;2013). It is considered as a movement in search of better life /facilities to make life better and a participant in the economy’s financial system Rural communities face financial constraints while most of them are financially excluded. The associated problems become clearer as the dwellers attempt to deal with some economic and social necessities. Hence Ajide (2013) argued that financial inclusion as a policy that can alleviate the socio-economic conditions of these rural dwellers and considerably reverse their dependence on the urban areas.
Financial inclusion demands availability and ease of access to financial services and products to weaker groups in any society in the most transparent and inexpensive manner especially by the major economic institutions in the economy. (Deepali;2011). It is also a situation where economic units have access to financial services/products that meets their needs (saving, transactions, payments, insurance and credit) in the most sustainable and convenient manner especially low income earners. (Wismantoro;2020, World Bank;2019). Mbutor and Ibrahim (2013) believes that even with the progress made with financial inclusion in Nigeria that gap in desired and actual levels still exist. This arises from avoidance of offering services in rural areas leaving most rural dwellers in need. Weak institutional and managerial capacity of these informal operators has led to charging of steep interest rates (Richer, 2011). Thus, escalating the rural poverty challenges. The country’s extent of financial literacy is equally a problem. As at 2018, urban and rural financial illiteracy in Nigeria was put at 31.1% and 68.5% respectively with 50.3% of men in rural areas being financially illiterate while in urban area it is 49% hence, the desire of government to reduce financially excluded Nigerians from 46.3% in 2010 to 20% in 2020 through the National Financial Inclusion Strategy (NFIS). Unfortunately, it has only been reduced by 2.9 percent (39.7% in 2012 to 36.8%). (www.efina.org.ng, 2020, www.lbs.edu.ng, 2013; lbsinsight.)

All countries experience different degrees/forms of poverty. This accounts for why poverty was adopted as the major indices of development of countries (World Bank, 2009). Poverty incidence in Nigeria impacts mostly the unemployed youths, large households and those headed by informal sector workers and those without social safety nets that are majorly in rural areas. (Federal Office of Statistics;( 1999). Poverty incidence in Nigeria has remained on the rise and has gotten to a globally worrisome dimension. Close to half (40.1%) of her 200 million population live in poverty. This group of people is those earning less than 365 U.S. dollars per year. (National Bureau of Statistics (NBS), (2019). The use of monetary income as proxy for welfare has long been justified by Falkingham and Namazie (2002) due to its high correlation with other causes of poverty. The menace of poverty in the country has led to widespread hunger, disease, malnutrition, ignorance, unemployment, low access to credit facilities/ exclusion and reducing life expectancy as well as a general level of human hopelessness (Abiola and Olaopa, 2008). Okpe and Abu (2009) found poverty level in Nigeria at about 15% in 1960. The figure rose to 28 percent in 1980 and by 1996, the incidence of poverty in Nigeria was 66 percent. It came up 74.2 percent in the year 2000. By 2009, the United Nations Human Poverty Index had already placed Nigeria among the 25 poorest countries of the world. The trend in growth of poverty levels with economic growth in Nigeria has remained paradoxical. This has seen Nigeria to be the country with most poor persons haven overtaken India in 2019. (UNDP,2010; 2019). The resource endowment of Nigeria indicates that the country is a potentially rich one with almost all her states having at least one commercially viable mineral resource suggesting that the people should not have to pass through these ugly states of being.

Rural-urban migration rate in developing countries outweighs that of availability of jobs and amenities in the urban areas. This is in line with Todaro and Smith (2007) which adds that it worsens the severe urban economic and physical inequality between urban and rural areas. Colak, Lima & Gonzalez (2016) on its part concluded that “excessive urbanization” leads to high rate of city congestion, crime, poor infrastructure and other amenities, chronic unemployment and creation of large slums and shanty towns. Unfortunately, formal financial institutions have failed to adequately offer financial services to rural dwellers or have tactfully avoided doing so on excuses of high transaction costs and its low levels and financial illiteracy, thus restraining rural dwellers from unleashing their potentials. Several efforts made by successive governments aimed at breeding banking habits and mainstream the rural people into the financial system failed to achieve desired results. Some of them include; The Directorate of Food, Roads and Rural Infrastructures-DFFRI, The Family Support Programme-FSP programme , The National Poverty Eradication Programme –NAPEP, The Youth Empowerment Scheme-YES , National Economic Reconstruction Fund-NERFUND. Community banking now micro finance banking,etc.They among the rural dwellers (who are relatively poorer) but failed to do so. This paper will thus set out to find out the extent to which financial inclusion has reduced rural poverty in Nigeria and how it has impacted on rural-urban migration in Nigeria.
Review of related literature

As it concerns gender of migrants, Prabhakara (1986) found it higher among males in relation to females to countries where better job, educational opportunities and infrastructure are more available in urban areas. Mehta (1991) also found the migration of people to urban areas is mainly determined by socio-economic conditions of household, transport and communication infrastructure, education, level of population and several other geographical and physical conditions. It equally found percentage of migration to be high among low income groups. Sensarma (1997) also concluded that imbalances in economic opportunities between the urban and rural sector should be minimized as it is the main cause of migration of workforce to urban areas and advocated for more policy focus on creating farm and non-farm income and employment opportunities in the rural areas.

According to Kerr, Kerr & Parsons (2016), the ratio of global population living in another country aside that of their birth as at 1960 was 3% and that in 30 years,( 1990) the percentage of high skilled among the migrants has risen to 130% with their destination narrowed to industrialized countries with United States, United Kingdom, Canada, and Australia hosting up to 75% of them as attracted by factors like wage differentials, complementarities in high-skill productivity, etc. In China, De Brauw & Giles (2017) found that the ease of finding employment by less educated rural migrants is directly proportional to the reducing demand for higher education. It thus concluded that this reducing demand has perpetuated inequality between urban and rural dwellers.

Furthermore, the inverted – U relation between initial income of households and probability to migrate was equally emphasized by Adam (1993). The result drew from estimated pre migration household income using estimated coefficients from a regressed income of those not likely to migrate. It showed that income effect of migration does not outweigh negative impacts of land farmed. This goes to indicate asset poverty as being a major determinant of migration considerations. Kothari (2002) also found that migration decisions of the poor are strongly affected by varying forms of social and financial exclusion. Furthermore that the various types of exclusion that result from lack of control over these different types of resources interact and reinforce one another. This suggests the need for continuous financial development.

That financial development boost overall economic growth and development was equally highlighted by Ajide (2012; 2014), Ajisafe & Ajide (2014) and they all agreed that financial development raises the income of the poor, alleviates poverty and curtail rural-urban migrant. Beck, Demirguc-Kunt and Levine (2004) employed a cross country sample in a bid to study how financial development impacts on changes in income distribution and poverty alleviation efforts. They found that financial development reduced income inequality and boost the income of the poor. The study showed that countries with better developed financial intermediaries experience faster decline in both poverty and income inequality. This is in line with Honohon (2004) wherein financial development as proxied by private credit to GDP is inversely related with per capita poverty. Jalilian and Kirkpatrick (2007) provided the place of financial market development on poverty reduction. Using data of 26 countries (18 of which are developing countries) and bank deposits and net foreign assets as its indices of financial development, the study found a positive relationship between financial development in developing countries and increase in income levels.

Burgess and Pande (2003) found that an increase in the population of rural banked reduces rural poverty while increasing total output through diversification of production activities out of agriculture. Using a double –log equation of OLS frame- work, Egbatunde (2012) found rural economic growth to co-integrate with indicators of bank credit, while deposit of rural dwellers were negatively impacted on rural economic growth; implying that the rate of credit flow to rural area is the major contributor to economic growth therein. Nwankwo and Nwankwo (2014) agreed with the following but added that it is major means for economic growth for Nigeria and other like countries.

As regards efforts developing countries are making to reverse their characteristic ugly trend of migration, Ximena, Mauro &Wagner (2016) found that a 2011Returning Expert Program in Malaysia offers tax inducements to skilled Malaysians living abroad. A cost-benefit analysis of the program revealed a neutral fiscal effect, suggesting that the program offsets its cost which suggests that it should be encouraged in other middle income developing countries. Relying on a twenty year provincial data from China using the panel
co-integration methods, Huang and Zhang (2019) found that financial inclusion contracts the long run urban–rural income inequality while it expands same in the short run. The foregoing indicates that most existing literature in this area did not consider Nigerian peculiarities and are limited in scope, in that they emphasized only on the causes of rural-urban migration- gender, status of migrants, the effects of access to bank credits on rural and national economic growth. None of the previous studies paid attention to how increased financial inclusion will simultaneously impact on rural-urban migration and poverty in Nigeria. They did not attempt to establish whether financial inclusion has reduced rural poverty or bridged the financial gap between rural and urban areas. This has thus necessitated this study. Only Huang and Zhang (2019) came close by studying financial inclusion and urban-rural income inequality. This study is thus a step at filling this void in literature.

Methodology and Data

Definition of variables

Where: POV = Poverty measurement proxy with Per Capita Income (PCI), RBS = Rural Bank Spread, RBD = Rural Bank Deposits (Deposits of rural branches of Commercial Banks plus Microfinance Banks’ deposits), RBLA = Rural Bank Loans and advances (Loans and advances of rural branches of Commercial Banks plus Microfinance Banks’ loans and advances), INT = Lending interest rate. PCI_{t-1} = Lag values of Poverty measurement proxy with lag values of Per Capita Income, RUM = Rural-urban migration, RUM_{t-1} = Lag values of Rural-urban migration.

Model Specification

Model 1: Financial Inclusion and Poverty Reduction

According to Okoye et al (2016) and Arikewuyo et al (2015), financial inclusion is measured by rural bank spread (RBS), rural banks’ deposit (RBD), rural banks’ loan and advances (RBLA) and lending interest rate (INT). the following functional model is thus developed:

POV = f(FIN_INC) .............................................. (1)
FIN_INC = f(RBS, RBD, RBLA, INT) ................... (2)

Econometrically, (2) yields:

\[
\log(PCI_t) = \alpha + \beta_1 \log(RBS_{t-1}) + \beta_2 \log(RBD_{t-1}) + \beta_3 \log(RBLA_{t-1}) + \beta_4 \text{INT}_{t-1} + \beta_5 \log(PCI_{t-1}) + \mu_t \\
\]

Model 2: Financial inclusion and rural-urban migration

Paucity of data on RUM has forced its presentation in line with Goldsmith’s et al (2004) wherein in Senegal it was estimated as M_t = P_u - (1+g)P_{u-1}, where Mt is rural-urban migration, P_u is the total of the urban population in the present year, g is the natural growth rate of the total population, and P_{u-1} is the urban population in the previous year. Model 2 is functionally stated as:

RUM = f(FIN_INC) ............................................. (4)
FIN_INC = f(RBS, RBD, RBLA, INT) .................... (5)

The econometric form of the model is specified thus:

\[
\text{RUM}_t = \alpha + \beta_1 \log(RBS_{t-1}) + \beta_2 \log(RBD_{t-1}) + \beta_3 \log(RBLA_{t-1}) + \beta_4 \text{INT}_{t-1} + \beta_5 \text{RUM}_{t-1} + \mu_t \\
\]

Estimation Techniques and Procedure

Auto Regressive and Distributed Lag (ARDL) model will be used for estimation via econometrics software (E-view 9). ARDL is a choice due to the relatively small sample size of our variables (36 observations) which is little above the conventional thirty (30) mark observations. Stationary test, Johansen co-integration techniques and then estimation of the parameters of our regression model using ARDL were carried out in that order.

Sources of Data

The study relied mainly on secondary from materials such as annual reports and account, CBN statistical bulletin 2019 and World Development Indicators.

Data analysis and results
Unit root test

Table 4.1 Summary of ADF unit test result

<table>
<thead>
<tr>
<th>Variables</th>
<th>Order of Integration</th>
<th>ADF t-statistic</th>
<th>Remarks (at 5% level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOG(PCI)</td>
<td>I(1)</td>
<td>-4.324333</td>
<td>Stationary at first difference</td>
</tr>
<tr>
<td>LOG(RBS)</td>
<td>I(0)</td>
<td>-12.55504</td>
<td>Stationary at level</td>
</tr>
<tr>
<td>LOG(RBD)</td>
<td>I(1)</td>
<td>-3.931383</td>
<td>Stationary at first difference</td>
</tr>
<tr>
<td>LOG(RBLA)</td>
<td>I(0)</td>
<td>-3.676208</td>
<td>Stationary at level</td>
</tr>
<tr>
<td>INT</td>
<td>I(0)</td>
<td>-3.830665</td>
<td>Stationary at level</td>
</tr>
<tr>
<td>LOG(RUM)</td>
<td>I(1)</td>
<td>-4.806331</td>
<td>Stationary at first difference</td>
</tr>
</tbody>
</table>

Source: Researcher’s compilation using EViews 9 (2020).

From table 4.1 above, at 5% level of significance, Per Capita Income (PCI), Rural Banks’ Deposits (RBD) and Rural-Urban Migration (RUM) are stationary after taking their first difference, while Rural Bank Spread (RBS), Rural Bank Loans and Advances (RBLA) and Lending Interest Rate is stationary at their level form.

Bound Cointegration Test

Haven confirmed the stationarity of the data, bound cointegration test is used to test for presence of a long-run relationship among the variables. This is because it is considered to be suitable in ARDL approach. This is also in agreement with Peasaran, Shin and Smith (2001).

Table 4.2: Summary of Bound Cointegration Test

Model one: Series: LOG(PCI) LOG(RBS) LOG(RBD) LOG(RBLA) INT

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>0.860247</td>
<td>3</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>2.72</td>
<td>3.77</td>
</tr>
<tr>
<td>5%</td>
<td>3.23</td>
<td>4.35</td>
</tr>
<tr>
<td>2.5%</td>
<td>3.69</td>
<td>4.89</td>
</tr>
<tr>
<td>1%</td>
<td>4.29</td>
<td>5.61</td>
</tr>
</tbody>
</table>

Model two: Series: LOG(RUM) LOG(RBS) LOG(RBD) LOG(RBLA) INT

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Value</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-statistic</td>
<td>1.761717</td>
<td>3</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>2.72</td>
<td>3.77</td>
</tr>
<tr>
<td>5%</td>
<td>3.23</td>
<td>4.35</td>
</tr>
<tr>
<td>2.5%</td>
<td>3.69</td>
<td>4.89</td>
</tr>
<tr>
<td>1%</td>
<td>4.29</td>
<td>5.61</td>
</tr>
</tbody>
</table>

Source: Researcher’s compilation using EViews 9 (2020).

Given the bound cointegration rule that, if the F-statistic is greater the upper critical bound value at 5% reject the null hypothesis and accept the otherwise. H0: There is no long-run relationship among the series. H1: There is a long-run relationship among the series. The value of F-statistic in model one and two are 0.860247 and 1.761717 respectively. Denoting absence of a long-run relationship in both model one and two. Thus, only the Autoregressive and Distributed Lag (ARDL) model will be adopted without the error correction mode I(ECM).

Presentation of results
**Model one: Financial Inclusion and Poverty Reduction**

**Table 4.3: Summary of the ARDL 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>C</td>
<td>0.709983</td>
<td>0.334578</td>
<td>2.122026</td>
<td>0.0428</td>
</tr>
<tr>
<td>LOGPCI(-1)</td>
<td>1.266576</td>
<td>0.169301</td>
<td>7.481208</td>
<td>0.0000</td>
</tr>
<tr>
<td>LOGPCI(-2)</td>
<td>-0.357478</td>
<td>0.157151</td>
<td>-2.274745</td>
<td>0.0308</td>
</tr>
<tr>
<td>LOGRBD</td>
<td>-0.007105</td>
<td>0.002793</td>
<td>-2.543467</td>
<td>0.0168</td>
</tr>
<tr>
<td>LOGRBLA</td>
<td>0.003216</td>
<td>0.006165</td>
<td>0.521598</td>
<td>0.6061</td>
</tr>
<tr>
<td>LOGRBLA(-1)</td>
<td>0.012441</td>
<td>0.006500</td>
<td>1.914036</td>
<td>0.0659</td>
</tr>
<tr>
<td>LOGRBS</td>
<td>-0.167518</td>
<td>0.114433</td>
<td>-1.463898</td>
<td>0.1544</td>
</tr>
<tr>
<td>INT</td>
<td>0.001499</td>
<td>0.001231</td>
<td>1.217490</td>
<td>0.2336</td>
</tr>
</tbody>
</table>

R²= 0.983383  
Adjusted R²=0.979229

**Source:** Researcher’s computation using EViews 9 (2020)

From Table 4.3, the value of the intercept indicates that PCI will increase by about 71% if all other variables in the model are zero. The estimated coefficient of the first and second lag of per capita income is 1.266576 and -0.357478 respectively. This implies that a percentage change in the first lag of per capita income will trigger about 127% increase in the current value of per capita income while a percentage change in the second lag of per capita income will cause a decrease change in current per capita income to decrease by about 36%. RBS estimate shows that a percentage change in rural bank spread will subsequently decrease per capita income by 17%, all other variables held constant. Similarly, the estimated coefficient of RBD shows that a percentage change in the rural banks’ deposits, will subsequently decrease per capita income by 0.7%; the estimated coefficient for RBLA shows that a percentage change in present and first lag of rural banks’ loans and advances, will subsequently increase per capita income by 0.3% and 1.2% respectively; and finally the estimated negative coefficient of INT shows that a percentage change in lending interest rate, will increase per capita income by 0.2%.

**Model two: Financial inclusion and rural-urban migration**

**Dependent Variable: LOGRUM**

**Table 4.4: Summary of the OLS 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>C</td>
<td>0.035145</td>
<td>0.025368</td>
<td>1.385388</td>
<td>0.1769</td>
</tr>
<tr>
<td>LOGRUM(-1)</td>
<td>1.536602</td>
<td>0.132276</td>
<td>11.61662</td>
<td>0.0000</td>
</tr>
<tr>
<td>LOGRUM(-2)</td>
<td>-0.532663</td>
<td>0.132036</td>
<td>-4.034226</td>
<td>0.0004</td>
</tr>
<tr>
<td>LOGRBD</td>
<td>-0.000247</td>
<td>0.000217</td>
<td>-1.135048</td>
<td>0.2660</td>
</tr>
<tr>
<td>LOGRBLA</td>
<td>-0.000283</td>
<td>0.000600</td>
<td>-0.471279</td>
<td>0.6411</td>
</tr>
<tr>
<td>LOGRBS</td>
<td>0.009153</td>
<td>0.014520</td>
<td>0.630406</td>
<td>0.5335</td>
</tr>
<tr>
<td>LOGRBS(-1)</td>
<td>-0.029200</td>
<td>0.013285</td>
<td>-2.198029</td>
<td>0.0364</td>
</tr>
<tr>
<td>INT</td>
<td>0.000180</td>
<td>0.000107</td>
<td>1.678088</td>
<td>0.1045</td>
</tr>
</tbody>
</table>

R²= 0.999968  
Adjusted R²=0.999960

**Source:** Researcher’s computation using EViews 9 (2020)

From table 4.4, the value of the intercept indicates that Rural-urban migration (RUM) will be 0.035145 if all other variables in the model are zero. The estimated coefficient for the first lag and second lag of RUM are 1.536602 and -0.532663 respectively. This shows that a percentage change in the first lag of rural urban migration will subsequently increase the present rural-urban migration by about 154% in the same vein, a
percentage change in the second lag of rural urban migration will subsequently decrease the present rural-urban migration by about 53%, all other variables held constant. The estimated coefficient for the current RBS shows that a percentage change in rural bank spread will subsequently increase rural-urban migration by about 1% while a percentage change in the previous value of RBS will subsequently cause rural-urban migration in the current period to decrease by about 3%, all other things being equal. Similarly, the estimated coefficient of RBD shows that a percentage change in the rural banks’ deposits, will subsequently decrease rural-urban migration by 0.03%; the estimated coefficient of RBLA shows that a percentage change in rural banks’ loans and advances, will decrease rural-urban migration by 0.03%; and finally the estimated positive coefficient of INT shows that a percentage change in lending interest rate, will increase rural-urban migration by about 0.02%.

Evaluation of result

a. R squared: Model One: The value of the R-squared is = 0.983383 approximately 98%, indicating that the independent variables for financial inclusion account for about 98% of the variation in the dependent variable – per capita income. Model Two: The value of the R-squared is 0.999968 approximately 99%, indicating that the independent variables for financial inclusion account for about 99% of the variation in the dependent variable – rural-urban migration.

b. T-Statistics: (At 5% level of significant, accept the null hypothesis if Prob (t-Stat.) < 0.05, otherwise reject the null hypothesis and accept the alternative hypothesis).

H0: The individual parameters are not significant
H1: The individual parameters are significant

As shown in table 4.3, at 5% level of significance, in model one, Rural Bank Spread (RBS), Lending interest rate (INT) and Rural Banks’ Loan and Advances (RBLA) are statistically insignificant while Rural Banks’ Deposits (RBD), the first and second lag of poverty level (PCI\textsubscript{t} – PCI\textsubscript{t-1}) are statistically significant, while for model two, current Rural Bank Spread (RBS), Lending interest rate (INT), Rural Banks’ Deposits (RBD) and Rural Banks’ Loan and Advances (RBLA) are statistically insignificant while the first lag of Rural Bank Spread (RBS\textsubscript{t-1}) and the first and second lag of rural-urban migration (RUM\textsubscript{t-1}) are statistically significant.

c. F-Statistics: (At 5% level of significance, accept the null hypothesis if Prob (F-stat.) < 0.05, otherwise reject the null hypothesis and accept the alternative hypothesis)

Model One: From our first ARDL result, the F-statistics is 236.7242 and the Prob(F-stat.) is 0.000000 < 0.05. Hence, we reject the null hypothesis and accept the alternative hypothesis that our independent variables are simultaneously significant and the overall regression model is statistically significant. Model Two: From our second ARDL result, the F-statistics is 124294.4 and the Prob(F-stat.) is 0.000000 < 0.05. Hence, we reject the null hypothesis and accept the alternative hypothesis that our independent variables are simultaneously significant and the overall regression model is statistically significant.

Econometrics Criteria (Second Order Test)


H0: There is no autocorrelation. H1: There is autocorrelation

Model One: From the first result, the Durbin-Watson stat is 1.958671 approximately 2. Therefore, there is no presence of autocorrelation in the model. Model Two: From the second result, the Durbin-Watson stat is 2.360518 approximately 2. Therefore, there is no presence of autocorrelation in the model.

Evaluation of research hypothesis

a. Test for Hypothesis one

H0: Financial inclusion has not reduced rural poverty in Nigeria.

Model one: it can be deduced that the components of financial inclusion collectively have a statistically significant impact on rural poverty in Nigeria. Hence, we reject the null hypothesis and accept the alternative hypothesis.

b. Test for Hypothesis two

H0: Financial inclusion has no impact on rural-urban migration in Nigeria.
Model two: it can be deduced that the selected components of financial inclusion have a collective statistically significant impact on rural-urban migration in Nigeria. Hence, we reject the null hypothesis and accept the alternative hypothesis.

Summary, conclusion and policy recommendations

Summary of findings
This study shows that Rural Bank Spread (RBS), Rural Banks Loans and Advances (RBLA) and Lending Interest Rate (INT) were all stationary at level, all other variables were stationary at first difference. ARDL bound cointegration test was adopted to ascertain existence of long-run relationship between the variable. The F-static suggests that there is no cointegration among the series hence, the estimation of ARDL model without considering the error correction mechanism. The study thus found following:

1. The current period and the first lag of Rural Bank Loans and Advances have a positive but statistically insignificant relationship with Nigeria’s per capita income. While on the other hand, Rural Bank Spread has a negative and insignificant relationship with Nigeria’s per capita income.
2. Rural Bank Loan and Advances and Rural Bank Spread have a statistically insignificant negative and positive relationship with rural-urban migration in Nigeria respectively. While there is a negative and significant relationship between the previous period of Rural Bank Spread and Rural Urban migration in Nigeria.
3. The first and the second lag of per capita income have significant impact on the present Nigeria’s per capita income. This shows that previous income per person in the country is a strong determinant of the current per capita income.
4. The first and the second lag of rural urban migration in Nigeria have a significant effect on the present rural urban migration in the country.
5. Rural Banks’ Deposits has a negative and statistically significant relationship with Nigeria’s per capita income. While the Lending interest rate have positive and statistically insignificant impact on Nigeria’s per capita income.
6. The Lending interest rate and Rural Banks’ Deposits have positive and negative relationships on rural-urban migration in Nigeria respectively though statistically insignificant impact.

Conclusion
The study investigated financial inclusion in relation to rural-urban migration in Nigeria from 1982 to 2019. Results of the analysis points that components of financial inclusion- rural bank spreads, rural bank deposits, rural bank loans and advances, lending interest rates-jointly determines rural urban migration by about 99percent with lending interest rates insignificantly impacting rural urban migration. The rural bank deposits and the rural bank loan and advances do not conform to the a priori expectations. This might not be unconnected to the inadequacies of these banks in the rural areas and the shortfalls in deposits and loans owing to the increase in rate of rural to urban migration of people to assess financial services in high brawl urban areas. Another aspect of the study indicated financial inclusion has insignificant impact on poverty rates in the rural areas in Nigeria. The poor state of financial inclusion in the rural areas have led to the inability of the rural dwellers to assess financial services, thereby making them further excluded from investable funds and making them further impoverished.

Policy recommendations
The above findings thus elicit the following recommendations. Since the rural bank spread is negatively impacting rural urban migration in Nigeria, the government should create enabling environment that will induce the establishment of financial institutions in the rural areas. Secondly, Central bank should generate a close to fool proof mechanisms that will ensure that lending rates by banks in the rural areas are somewhat concessional. This will increase the velocity of loanable funds to the rural people and help in curtailing rural-urban migration. Finally, deposit creation by rural banks should be reemphasized given its negative relationship with rural urban migration. This will equally support investments and improve living standards of the rural dwellers while serving as a disincentive to rural urban migration.
References.