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FINANCIAL INCLUSION AND POVERTY REDUCTION: AN EMPIRICAL ANALYSIS OF RURAL COMMUNITIES IN NIGERIA

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Abstract

Using secondary data from the CBN statistical bulletin and Index Mundi, this study looked at the extent of the relationship between financial inclusion of rural populations and poverty reduction in Nigeria from 1986 to 2019. Financial inclusion was proxied by commercial bank loans and advances (CBLA) to rural communities and microfinance bank loans and advances (MFBLA) to rural communities, while poverty reduction was proxied by unemployment rate, GDP per capita income, and the Human Development Index (HDI). The hypotheses were put to the test using the Ordinary Least Square Method. The data found that microfinance bank loans and advances have a strong link with GDP per capita income and the Human Development Index (HDI), but had a negative relationship with unemployment rate. The study concludes that MFBLA has increased the standard of living of the rural dwellers more than CBLA except in the case of employment. The study recommends that MFBLA should be directed to entrepreneurial development other than commercial activities.

Keywords: Loans and Advances, GDP Per Capita Income, Human Development Index

Introduction

Understanding the concept of financial exclusion would undoubtedly make the concept of financial inclusion easier to grasp. This is due to the fact that financial inclusion is the process of resolving financial exclusion issues, which includes obstacles that prohibit individuals and other groups from accessing the formal financial system. Financial exclusion, according to Mohan (2006), occurs when some members of the societal circle lack access to secure, fair, and inexpensive financial products and services from formal financial service providers. Financial exclusion, according to Kama & Adigun (2013), is defined as a scenario in which formal financial products and services are unavailable to individual, household or group. Individuals and groups who are financially excluded are said to be financially excluded, and the process of bringing them into the financial service net is referred to as financial inclusion. Financial exclusion was prevalent in Nigeria prior to the advent of digital banking, with the majority of money in the economy remaining outside the banking system. However, in this era, the goals of financial inclusion can largely be met through the initiative of banks and other financial institutions, hence the encouragement of the public to adopt banking habits (Akhil, 2016, Wokabi & Fatoki 2019).

Nonetheless, in both rich and developing nations, access to formal financial institutions appears to be one of the key obstacles faced by low-income earners and Small and Medium-Sized Enterprises. This is because by increasing the amount of money in circulation in the banking system and providing more credit for productive reasons, more individuals will become involved in the formal financial system, hence raising the country's standard of living (Okonkwo & Nwanna, 2021). As a result, in both emerging and developed economies, financial inclusion is becoming a policy concern.

Scholars have been interested in the extent to which commercial and microfinance banks financially incorporated the rural population, as well as the impact of financial inclusion on economic growth. CBLA has a high and significant link with per capita income, according to Abimbola (2018), Nwankwo & Abah (2013), and Okonkwo & Nwant to (2021), however MFBLA has a negative and non -significant relationship with financial inclusion, according to Ene & Inemesit (2015). Hence this study seeks to examine the extent at which commercial bank loans and advances (CBLA) to rural communities and micro finance bank loans and advances (MFBLA) to rural communities have influenced the GDP per capita, Human Development Index and unemployment rate in Nigeria. Specifically, the study ascertain

1. The extent of the relationship between financial inclusion and GDP Per Capita Income.
2. The relationship between financial inclusion and the Human Development Index of Nigeria.

Conceptual Review

Financial Inclusion

Financial inclusion, according to Abimbola et al. (2018), is defined as having access to formal financial services such as credit, savings, and insurance. Financial inclusion, according to Akhil (2016), is defined as the provision of inexpensive financial services to the poor, whereas El Said, Emara, and Pearlman (2020) define it as household access to and usage of financial products and services. According to Aribaba (2020), financial inclusion can be defined as a process that allows disadvantaged populations, such as low-income earners, to have access to financial services at a cheaper cost during a specific time period. Financial inclusion, according to Ajide (2014), is the process of distributing a country's financial system to its citizens. Financial inclusion, development, and economic growth are all intertwined and interconnected, according to Zulkhibri & Ghazal (2017), because financial inclusion is seen as a critical tool for addressing poverty and inequality, as well as achieving sustainable development goals (SDGs).

GDP Per Capita

What Is Per Capita Income?

Gross domestic product (GDP) per capita is a measure that breaks down a country's economic output per person and is computed by dividing a country's GDP by its population. In other words, the highest per capita GDP is found in small, wealthy countries and more developed industrial countries (Brock, 2020). Per capita income, on the other hand, is a measure of the amount of money earned per person in a country or region. It can be used to calculate an area's average per-person income and to assess the population's level of living. A country's per capita income is computed by dividing its national income by its population (Kenton & Boyle, 2020).

Loans and Advances

A loan is when a financial organization lends money to another company or individual in the form of a debt that must be repaid with interest over a set period of time. In that scenario, an agreement is drafted outlining all of the terms and conditions, including the payback amount and time period, interest, fees, and any other costs that may apply, and so on. However, before approving the loan, the financial institution will conduct a personal loan eligibility check to ensure that the applicant fits the policy's requirements, while advances are a sort of loan provided by a financial institution to a company or an individual in order to address a specific need. Thus, an advance is like a short term credit facility extended to a borrower in need of short term fund (Rishta, 2020).

Human Development Index (HDI)

According to World Health Organization (WHO), HDI is a summary composite measure of a country's average achievements in three basic aspects of human development: health, knowledge and standard of living. It is a measure of a country's average achievements in three dimensions of human development which include a long and healthy life, as measured by life expectancy at birth, knowledge, as measured by mean years of schooling and expected years of schooling and a decent standard of living, as measured by Gross National Income (GNI) per capita in Purchasing Power Parity (PPP) terms in US$. The HDI sets a minimum and a maximum for each dimension called goalposts, then shows where each country stands in relation to these goalposts. This is expressed as a value between 0 and 1, and the higher a country's human development, the higher its HDI value. That is to say that the HDI is a summary measure of human development of a particular country (WHO, 2021).

Theoretical Review

This study is anchored on Systems theory of financial inclusion. According to Ozili (2020), the systems theory of financial inclusion states that financial inclusion outcomes are achieved through the existing sub-systems which financial inclusion rely on, and that a greater financial inclusion will have positive benefits for the systems it relies on. A significant change in a sub-system (one part of the system) can significantly affect the expected financial inclusion outcome. For instance, imposing regulations on economic agents and suppliers of financial services can align their interest with that of the users of basic financial services, and can compel economic agents and suppliers of financial services to offer affordable and quality financial services to users within defined rules that protect users of financial services from exploitation and price discrimination. In line with this theory, the rural communities will be financially included if the financial regulatory authorities in Nigeria will increase the loan to deposit ratio of commercial and Microfinance bank's loan to rural populace.

Empirical Review

Thathsarani, Wei, and Samaraweera (2021) used an econometric technique of panel data with vector error correction models and a Granger causality test to investigate the effect of financial inclusion in economic growth and human development in eight countries in South Asia from 2004 to 2018. Financial inclusion has a long-term good influence on human capital development in South Asian countries, while it has a short-term positive impact on economic growth, according to the findings. Okonkwo and Nwant to (2021) looked at the impact of financial inclusion on economic growth in Nigeria from 1992 to 2018, using financial inclusion variables such as currency outside banking, currency in circulation, microfinance bank deposits, number of commercial bank branches, commercial bank credit to the private sector, loans and deposits of rural commercial bank branches, and nominal GDP. The OLS and Grander Causality tests were used to evaluate the data. The results revealed that loans extended by rural branches of commercial banks have a positive and significant relationship and causal effect on economic growth in Nigeria, while deposits of rural branches of commercial banks have causal effect on GDP in Nigeria and a positive relationship though not significant. Aribaba et al. (2020) examined the effect of the financial inclusion on poverty alleviation among the low-income earners in Nigerian between the periods of (2004 – 2018), using ordinary least squares and error correction model. Loan to Depositor Ratio (LDR), Loan to Rural Areas (LRA), Financial Deeping Indicators (FDI) and Social Investment Loan (SIL) to SMEs were used to proxy financial inclusion while Poverty Index (PI) and Per Capita Income (PCI) were used as a proxy for poverty alleviation. The study shows that financial inclusion schemes play a significant role on poverty alleviation among the low-income earners in Nigerian. It also reduces poverty level and increases per capita income thereby enhance the standard of living through the new social investment scheme. From 2001 to 2016, Soyemi, Haruna, and Olowofela (2020) used the Fully Modified Ordinary Least Square (FMOLS) and Grander Causality test to investigate financial inclusion as a catalyst for attaining sustainable development in Nigeria. The research found that in the short run, there is a causal relationship between a number of commercial bank branches, demand deposits from rural regions, and loans to rural areas and HDI, while in the long run, the explanatory variables have a positive significant impact on HDI in Nigeria. The main conclusion was that financial inclusion has an impact on Nigeria's long-term growth. Ogbiede and Igbinigie (2019) examined the impact of financial inclusion on poverty alleviation in Nigeria using time series data for the period 2002 to 2015. The study employed the ordinary least squares multivariate regression technique. Financial inclusion is found to exert significant impact on per capita income, reduces poverty level and improves standard of living. Nwafor and Yomi (2018) studied the relationship between financial inclusion and economic growth in Nigeria using Two-staged Least Squares Regression Method. Findings revealed that financial inclusion have significant impact on economic growth in Nigeria within the period under review. Abimbola, Olokoyo, Babalola & Farouk (2018) examined the impact of financial inclusion as a catalyst for poverty reduction from 1992 and 2016 using ordinary least square regression technique. Financial inclusion was proxied by the current and savings account balances of Deposit Money Banks, average number of customers of Deposit Money Banks , average cost of loans to the agricultural sector of the economy from Deposit Money Banks, average loan size to the agricultural sector of the economy from Deposit Money Banks, and number of Deposit Money Bank branches in the country while poverty was proxied by the average Per capita income, average current and savings account balances of Deposit Money Banks (CASA), average number of customers of Deposit Money Banks (NBC), average loan size to the agricultural sector of the economy from Deposit Money Banks (LS). The result revealed that all have a strong and significant positive relationship with the per capital income level in the country. Ene and Inemesit (2015) used the ordinary least squares method to analyze the impact of microfinance banks in increasing financial inclusion in Nigeria from 1990 to 2014. The findings also revealed that having access to a microfinance minimum deposit amount has a significant impact on rural dwellers' savings accounts, while microfinance interest rates have a negative and non-significant impact on rural dwellers' financial inclusion, particularly through loans and advances. Fadun (2014) examines financial inclusion, tool for poverty alleviation and income redistribution in Nigeria using structured questionnaires administered to some selected respondents in the study area. The study finding indicates that financial inclusion serves as a veritable tool for alleviating poverty as well as income redistributing in Nigeria. Nwankwo and Abah (2013) examined the impact of micro financing on rural transformation in Nigeria using descriptive analysis. The findings showed that micro-financing is positively related to rural populace by granting them access to finances for farm purpose and other business opportunities for income generation purpose, thereby mitigating the adverse effects of poverty.

Methodology

This is an analytical research work that examined the extent at which financial inclusion has influenced the GDP per capita income and Human Development Index in Nigeria for 33 years, starting from 1986 to 2019. CBLA to rural communities and MFBLA to rural communities were used to proxy financial inclusion, while GDP per capita income, unemployment rate and Human Development Index were used to proxy poverty reduction.

The study made use of secondary data soured from published articles, CBN Statistical Bulletin and Index-Mundi for various years, while the formulated hypotheses were tested using Ordinary Least Square regression

Model of the Study

This study adapted the model of Aribaba et al. (2020) who examined the relationship between Per Capita Income (PCI), Loan to Depositor Ratio (LDR) and Loan to Rural Areas (LRA). The model was expressed as:

$PCI = \alpha_0 + \alpha_1 LDR_t + \alpha_2 LRA_t + \mu$
The models of this study were stated as;
$LGPCI = \alpha_0 + \alpha_1 LMFBLA_t + \alpha_2 LCBLA_t + \mu_t$
$LHDI = \alpha_0 + \alpha_1 LMFBLA_t + \alpha_2 LCBLA_t + \mu_t$
Where
LGPCI = Per Capita Income
LHDI = Human Development Index
LMFBLA = Micro Finance Bank Loans and Advances to Rural Communities
LCBLA = Commercial Bank Loans To Rural Communities
α_0 = a constant the dependent variable
α_n= co-efficient of the regressio*n*
μ_t = the error term
L= log; the variables were logged to express them in the same unit of measurement.

Data Presentation

Table 1: Time series data on UMP, HDI, GPCI, MFBLA and CBLA

Years	HDI	GPCI (₦)	MFBLA (₦'Millions)	CBLA (₦'Millions)
1986	0.251	6843.67	18.90	372.30
1987	0.251	6914.96	27.60	482.20
1988	0.265	7691.77	43.00	692.80
1989	0.271	7958.40	74.60	965.40
1990	0.296	8145.96	96.30	1,396.10
1991	0.311	8857.86	110.00	1692.30
1992	0.349	9045.67	135.80	1,895.30
1993	0.387	12241.2	654.50	10,910.40
1994	0.382	16798.6	1,220.60	1,602.20
1995	0.451	28719.6	1,129.80	8,659.30
1996	0.388	36921.6	1,400.20	4,411.20
1997	0.461	38945.9	1,618.80	11,158.60
1998	0.443	41309.9	2,526.80	11,852.70
1999	0.461	45969.7	2,958.30	7,498.10
2000	0.433	57757	3,666.60	11,150.30
2001	0.441	65668.9	1,314.00	12,341.00
2002	0.452	89438.6	4,310.90	8,942.20
2003	0.443	102782	9,954.80	11,251.90
2004	0.462	133934	11,353.80	34,118.50
2005	0.465	166506	28,504.80	16,105.50
2006	0.475	213102	16,450.20	24,274.60
2007	0.479	236955	22,850.20	27,263.50
2008	0.485	265884	42,753.06	46,521.48
2009	0.49	281623	58,215.66	15,590.50
2010	0.484	344550	52,867.50	16,555.98
2011	0.494	387793	50,928.30	19,980.30
2012	0.512	432650	90,422.25	22,579.97
2013	0.519	471630	94,055.58	739,923.34
2014	0.524	510966	112,110.15	988,587.87
2015	0.527	525445	187,247.34	29,169.15
2016	0.53	551599	196,194.99	43,776.89
2017	0.532	601966	194,024.94	743,580.75
2018	0.534	659159	207,963.32	245,834.76
2019	0.539	693117	284,095.51	416,114.45

Source: *CBN Statistical Bulletin (2019); Index Mundi (2021)*

The data used for the analysis which include time series data on GDP per Capital income (GPCI), Human Development Index (HDI), Microfinance Banks' Loans and Advances

(MFBLA) and Commercial Banks' Loans and Advances (CBLA) to rural communities were presented in table 1.

Restatement and Test of the Research Hypotheses using OLS

Hypothesis One

H0: Financial inclusion has no significant relationship with GDP Per Capita Income.
H1: Financial inclusion has significant relationship with GDP Per Capita Income.

Table 2: OLS Regression for GDP Per Capita Income

Dependent Variable: LGPCI
Method: Least Squares
Date: 07/06/21 Time: 08:52
Sample: 1992 2019
Included observations: 34

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LCBLA	0.033878	0.049353	0.686440	0.4988
LMFBLA	0.581778	0.038658	15.04934	0.0000
C	5.914805	0.319040	18.53939	0.0000

R-squared	0.961063	Mean dependent var	11.81537
Adjusted R-squared	0.957948	S.D. dependent var	1.313551
S.E. of regression	0.269364	Akaike info criterion	0.315453
Sum squared resid	1.813927	Schwarz criterion	0.458189
Log likelihood	-1.416336	Hannan-Quinn criter.	0.359088
F-statistic	308.5318	Durbin-Watson stat	1.257290
Prob(F-statistic)	0.000000		

Source: *Eviews 11.0 Regression Output, 2021*

As shown in table 2, the regression coefficient for log CBLA (0.03387) is positive, indicating a positive relationship between commercial banks' loans and advances and GDP per Capita Income in Nigeria. It follows that every percentage increase in the commercial bank's loans and advances to the rural communities has coincided with a rise in the per Capita income in Nigeria by 0.034 percent. The P-value of 0.4988 is greater than 0.05 indicating that the relationship between commercial banks' loans and advances and GDP per Capita Income in Nigeria is insignificant.

Similarly, the regression coefficient for log MFBLA (0.581778) is positive, indicating that a positive relationship exists between microfinance banks' loans and advances and GDP per Capita Income in Nigeria. By implication, every percentage increase in microfinance banks' loans and advances has been met with an increase in the per Capita income in Nigeria by 0.58 percent. The P-value of 0.000 is less than 0.05 indicating that the relationship between microfinance banks' loans and advances and GDP per Capita Income in Nigeria is significant. The R-squared value of 0.961063 indicates that about 96.1% of the variations in GDP Per Capita Income can be explained by the combined trends in commercial banks' and microfinance banks' loans and advances. As shown in table 2, p-value of the F-statistic, 0.000 is less than 0.05, indicating a rejection of the null hypothesis. It therefore implies that financial inclusion has a significant relationship with on GDP Per Capita Income

Hypothesis Two

H0: Financial inclusion is not significantly related to the Human Development Index of Nigeria.
H1: Financial inclusion is significantly related to the Human Development Index of Nigeria.

Table 3: OLS Regression for Human Development Index

Dependent Variable: LHDI
Method: Least Squares
Date: 07/06/21 Time: 08:51
Sample: 1992 2019
Included observations: 34

Variable	Coefficient	Std. Error	t-Statis	Prob.
LCBLA	0.012975	0.007591	1.7093	0.0998
LMFBLA	0.040786	0.005946	6.859826	0.0000
C	-1.283504	0.049069	-26.15723	0.0000

R-squared	0.873897	Mean dependent var	-0.762286
Adjusted R-squared	0.863808	S.D. dependent var	0.112260
S.E. of regression	0.041429	Akaike info criterion	-3.428732
Sum squared resid	0.042908	Schwarz criterion	-3.285996
Log likelihood	51.00225	Hannan-Quinn criter.	-3.385096
F-statistic	86.62499	Durbin-Watson stat	2.182789
Prob(F-statistic)	0.000000		

Source: *Eviews 11.0 Regression Output, 2021*

As shown in table 3, the regression coefficient for log CBLA (0.012975) is positive, indicating a positive relationship between commercial banks' loans and advances and Human Development Index in Nigeria. It follows that every percentage increase in the commercial bank's loans and advances to the rural communities has coincided with a rise in the HDI in Nigeria by 0.013 percent. The P-value of 0.0998 is greater than 0.05 indicating that the relationship between commercial banks' loans and advances and HDI in Nigeria is insignificant. Similarly, the regression coefficient for log MFBLA (0.040786) is positive, indicating that a positive relationship exists between microfinance banks' loans and advances and HDI in Nigeria. By implication, every percentage increase in microfinance banks' loans and advances has been met with an increase in the HDI in Nigeria by 0.041 percent. The P-value of 0.0001 is less than 0.05 indicating that the relationship between microfinance banks' loans and advances and HDI in Nigeria is significant. The R-squared value of 0.873897 indicates that about 87.4% of the variations in HDI can be explained by the combined trends in commercial banks' and microfinance banks' loans and advances. The p-value of the F-statistic shown in table 3, is 0.000 which is less than 0.05. This indicates that the null hypothesis is rejected. Therefore, financial inclusion is significantly related to the Human Development Index of Nigeria.

Conclusion and Recommendation

Commercial bank loans and advances to rural areas, as well as microfinance bank loans and advances, have favorable associations with Nigeria's GDP per capita income, according to the findings of the study. However, in the case of microfinance banks' loans and advances, the association was barely significant. Loans and advances from commercial banks to rural areas, as well as loans and advances from microfinance banks, have a positive link with the Human Development Index in Nigeria. However, in the case of microfinance banks' loans and advances, the association was barely significant.

As a result of the study's findings, the researchers conclude that MFBLA has improved the standard of living of rural residents more than CBLA. This may be owing to MFB's high lending rate, which makes it difficult for borrowers to repay their loans on time. MFBLA should be directed to entrepreneurial growth rather than commercial activity, according to the report.

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