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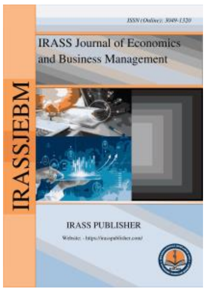

Impact of Financial Inclusion on Household Consumption Expenditure in Nigeria

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Abstract: This study examined the effect of four financial inclusion variables namely Commercial Bank Lending Rate (CBLR), Commercial Bank Advances and Loans (CBAL), Microfinance Bank Advances and Loans (MBAL), the Number of Commercial Bank Branches (NCBB) in Nigeria on Household Consumption expenditure in Nigeria. The estimation technique deployed is the Autoregressive Distributed Lag (ARDL) technique and its Bounds Test for the determination of a long run relationship between the variables. Specifically, the Bounds Test revealed the existence of a long run relationship between the financial inclusion variables and household consumption expenditure in Nigeria. The results further showed that in the long-run, a unit change in MBAL will instigate a significant change in household consumption expenditure by 0.002036 while a unit change in NCBB will cause a significant change in household consumption expenditure by 0.145708. In the short-run, a one unit change in CBAL and NCBB will result in a significant change of 0.000125 and 0.025867 respectively in household consumption expenditure. The R-squared of 89% showed that the independent variables have high influence on the dependent variable. Likewise, on the basis of the F-statistic of 0.0000 in the model, the study concluded that the financial inclusion variables have significant impact on household consumption expenditure in Nigeria. Among other things, the study recommended that government and monetary authorities should ensure microfinance banks advances and loans get to the hands of those intended as this will encourage more to enter formal banking so that they can benefit from such loans. Also efforts should be made by both government and commercial banks to increase the quantity of loans through innovative means and also increase the presence of the commercial banks in remote areas as this will go a long way in attracting people into the banking system.

Keywords: Financial Inclusion, Household Consumption Expenditure

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1. Introduction

Regardless of a country's position in the spectrum of development, financial inclusion is the lubricant that keeps the wheel of the country's economy running without grinding to a halt. The Center for Financial Inclusion (2010) succinctly defines financial inclusion as the ease of access to inexpensive and safe financial services in an economy for all individuals irrespective of social status. It must be made clear that financial inclusion encompasses easy and affordable access to an individual's personal finance or income kept in financial institutions as well as easy and affordable access to products of financial institutions such as loans.

Demirguc-Kunt and Klapper (2012) identify four crucial dimensions of financial inclusion that demand attention: access, quality, usage, and impact. While these dimensions are interconnected, it is crucial to recognize their distinctive characteristics for an enhanced comprehension and effective implementation of financial inclusion measures. Firstly, access denotes the extent to which individuals can reach, through various channels, formal financial services and products specifically tailored to cater to their daily financial requirements. In other words, financial services must be widely spread in the population and across all economic sectors. Having access to financial resources opens up endless possibilities for individuals. It enables them to seize business opportunities, make profitable investments, secure their retirement funds, and safeguard against potential risks. Several indicators help us measure the extent of financial access. These include, but are not restricted to, the density of commercial bank branches per 100,000 adults, the prevalence of ATMs per 100,000 adults, and the concentration of registered mobile money agent outlets per 100,000 adults. Ghosh (2019) explains that quality can be measured by the degree to which the existing formal financial services and instruments align with the specific lifestyle needs of individuals. Quality therefore highlights the importance of ensuring that financial services cater to and enhance the overall well-being of consumers. Thus apart from access, financial services must be divergent and flexible enough to meet the specific needs of individuals. Issues such as privacy, security and the quickness of financial transactions are fundamental to quality. Financial service providers often use quality of financial services as a competitive edge over their rivals. The better the level of quality and customer satisfaction the greater the customer loyalty.

The utilization of financial services emerges as a crucial aspect, not only because it is a convenient benchmark for measuring financial inclusion, but also because it can be empirically observed. While individuals may possess access to these services, it is possible to witness hindrances causing them to refrain from utilizing valuable financial services. Illiteracy, religious beliefs, cultural practices, and sheer ignorance are among the multitude of reasons that may contribute to the lack of usage. Poor quality can have a significant impact on usage as many individuals choose to discontinue their use of financial services if they are dissatisfied with the level of service provided. This observation sheds light on the fact that quality is a very essential ingredient in the retention of customers. To accurately assess the extent of adult usage or engagement with financial services, several indicators come into play. Key metrics including but not limited to the number of mobile money transactions, deposit accounts at commercial banks, whole life insurance policy holders, non-life insurance policy holders, and credit accounts with commercial banks serve as crucial yardsticks. These indicators provide valuable insights into the level of involvement adults have with financial services and examining them will not only give insight into how individuals interact with financial services but also help gauge the efficacy of different financial institutions (Demirguc-Kunt and Klapper, 2012). Lastly, impact refers to the profound effects that individuals undergo in various aspects of their lives, notably their overall welfare and financial behaviour. It measures the magnitude and scope of changes experienced by individuals as a direct consequence of their accessibility to financial services.

The efficacy of financial inclusion in promoting economic growth is not a matter of much contention in economic literature as there is consensus that it is a major catalyst of growth (Nathan and Keyamo, 2024). However, the focus of discussions on financial inclusion extends beyond its role in stimulating economic growth. More crucially, it highlights how financial inclusion can promote inclusive growth and bring about enhancement of the quality of life for citizens, especially those who are marginalized or living in poverty. While indicators like per capita income and literacy rates have traditionally been used to measure citizen well-being, there is now a growing emphasis on assessing welfare through household consumption. This shift in focus underscores the importance of understanding the effect of financial inclusion on household consumption in Nigeria, and how it can potentially boost consumption levels. On the basis of this, it is imperative to delve into the connection regarding financial inclusion and household consumption in Nigeria, and explore how greater financial access could serve as a catalyst for increased consumption and overall well-being for the country's citizens. This issue serves as the central focus of this study. Specifically, four important measures of financial inclusion namely Commercial Bank Lending Rate, Microfinance Bank Advances and Loans, Commercial Bank Advances and Loans and the Number of Commercial Bank Branches in Nigeria will be examined pointedly in terms of their impact on household consumption expenditure in Nigeria from 1986 to 2022.

Although the nexus between financial inclusion and household consumption as an area of study is relatively fledgling especially in Nigeria, the fact is that the existence of a relationship between the duo is not new in economics. This is because virtually all theories of consumption in economics make implicate admittance of the need for easy accessibility to finance or income as a means of attaining any desired level of consumption. For instance, the Relative Income Hypothesis of consumption by James Duesenberry (1949) which suggests that individuals consume in such a way as to maintain a preferred social status or keep up with the Joneses. This implies that individuals must have convenient accessibility to financial services that facilitate and sustain the level of consumption necessary to match their preferred social status. Without such access, maintaining this desired social status becomes considerably challenging. Also, the Life Cycle Hypothesis by Franco Modigliani, Albert Ando and Richard Brumberg (1954) indicates that an individual's consumption patterns remain remarkably steady and predictable over their lifetime, in stark contrast to the unpredictable nature of income fluctuations. Thus, it becomes imperative for individuals to adopt reliable financial services that allow them to save during periods of financial abundance and borrow during times of financial constraint as this ensures a continuous and consistent level of consumption, keeping the rollercoaster of income volatility at bay.

In economics, household consumption, also known as household consumption expenditure, is a pivotal component of a country's Gross Domestic Product (GDP). This principal component of GDP comprehensively encompasses all the expenditures made by individuals in a nation to fulfill their fundamental daily requirements, including food, clothing, housing, transportation, healthcare, energy, education, and more. Its measurement is based on the total outlay made by citizens within a specific duration (Martin, Thomas and Joachim, 2014). It is worth noting that household consumption expenditure extends beyond the mere act of purchasing goods or services. Rather, it encompasses the intrinsic value of goods, such as agricultural produce, both produced and consumed by citizens. Furthermore, an essential element integrated into household consumption is the evaluation of the rent value attributed to owner-occupied houses. This must not be omitted in any computation of household consumption.

2. Literature Review

2.1 Household Consumption in Nigeria

In the most recent decadal report released from the National Bureau of Statistics (NBS 2020), the results of a comprehensive survey which provides key insights into the standard of living in Nigeria was showcased. The focus of the survey is on household consumption, revealing valuable information at the national, urban/rural, and zonal levels. According to the NBS report, income and consumption are vital factors in measuring the standard of living, with consumption being highlighted as the superior indicator due to its simplicity in data collection, especially in agricultural communities and among self-employed individuals. The NBS stresses the significance of household consumption in reflecting the overall demand for goods and services in a country. It was unveiled that household consumption contributes an average of sixty percent to the Gross Domestic Product (GDP) in most countries around the world. This decadal survey offers key insights into the economic landscape of

Nigeria, providing policymakers and stakeholders with the necessary information to make informed decisions. As at 2021, the (NBS, 2020) report reveals that household consumption expenditure in Nigeria accounted for 62.15 percent of the country's Gross Domestic Product in 2021 as shown in Figure 1.

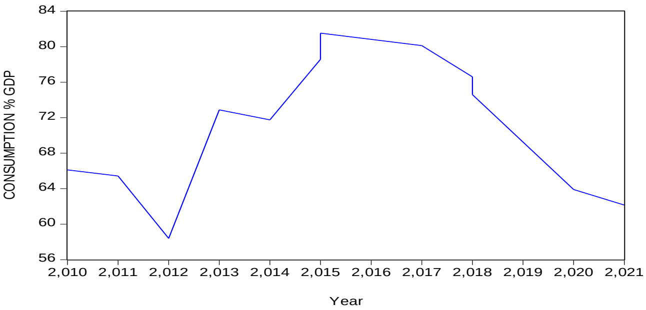

Figure 1: Consumption as percentage of GDP in Nigeria 2010-2021

A staggering N40.2 trillion was utilized for aggregate household consumption expenditure on both food and non-food items in 2019 at the national level. Interestingly, 56.65 percent of this expenditure was allotted to food items, with the remaining 43.35 percent going towards non-food items. This marks a significant increase from the N21.6 trillion spent in 2009, where 60.2 percent was dedicated to food items and 39.8 percent to non-food items. The top food items in 2019 included grains and flour, fish and sea foods, tubers and plantain, vegetables, and starchy roots, which accounted for a whopping 59.19 percent of total food expenditure. On the other hand, non-food items such as healthcare, transportation, education, and financial services took the lead in 2019, making up approximately 79.4 percent of total non-food expenditure. This data sheds light on the evolving consumer patterns and preferences in the country.

In urban areas in 2019, a total of N19.4trillion was spent as household consumption expenditure in contrast to N3.5trillion in 2009. Also, N21trillion was spent as household consumption expenditure in rural areas in 2019 in contrast to N9.3trillion in 2009. Further, total urban household consumption expenditure on food items in 2019 stood at N9.8trillion in contrast to N3.6trillion in 2009. On the other hand, ***rural*** household consumption expenditure was N12.9trillion in 2019 compared to N9.3trillion in 2009. Both areas consumed mostly starchy foods, rice, plantain and tubers as major food items while rent, education, transportation as well as financial and other services were the major non-food items in urban areas compared to healthcare, transportation and education as major non-food items in rural areas.

In terms of the zonal level in 2019, the South West zone has emerged as the undeniable frontrunner. With an astonishing N12 trillion, the South West accounted for a staggering 29.95 percent of the total household consumption expenditure across the country. On the flip side of the coin, the North East zone reported the lowest household consumption expenditure for the same year. With a modest N2.4 trillion, this amount represented a mere 6.14 percent of the total household consumption expenditure nationwide. It is clear that the economic landscape in the North East presents some challenges that have resulted in a significantly lower expenditure rate compared to other zones. This may not be unrelated to the insurgency in the region.

Table 1: Household consumption by zone in Nigeria in Trillion Naira

Zone	Food Exp	% of Total Exp	Non-food Exp	% of Total Exp	Total Exp	% of Total Exp
North Central	3.4	15.3	2.1	12.4	5.6	14.0
North East	1.5	6.9	0.8	5.0	2.4	6.1
North West	4.3	19.0	2.5	14.3	6.8	17.0
South South	4.5	20.0	3.8	22.0	8.4	20.9
South West	6.1	27.1	5.8	33.6	12.0	29.9
Total	2.7		17.4		40.2	

Source: National Bureau of Statistics (NBS) 2020

2.2 Theoretical Framework

The 2022/2023 cash crunch cum inaccessibility to financial services in Nigeria prompted by the poor implementation of the Naira redesign policy is perhaps the clearest example to illustrate the crucial significance of financial inclusion in every country as well as the role the government needs to play in ensuring no individual is financially excluded. The repercussions of the Naira Redesign policy were both profound and alarming, showcasing the vital role financial inclusion plays in any country's wellbeing. When easy access to financial services is restricted, the consequences are nothing short of disastrous as was clearly seen. The very foundation of the economy crumbles, bringing small businesses to a grinding halt and causing even large corporations to stagnate. The lack of financial inclusion casts a dark shadow on each individual's livelihood, stripping them of the purchasing power necessary to meet their basic needs for everyday survival. This unfortunate situation serves as a stark reminder that financial inclusion is not just a mere luxury, but an absolute necessity that should be treated by government as a public good. It underscores the significance of ensuring that every individual, regardless of their background or socioeconomic standing, has the means to engage fully in the financial system.

The foregoing serves as a prelude to hinge this work on the public good theory of financial inclusion which was made popular by Kamath and Arun (2011). This theory suggests that financial services should be readily available to all members of society, without any form of exclusion or competition. This places a great deal of responsibility on the government to act as the primary provider of these services. It is crucial to recognize the vast benefits that these initiatives bring to society as a whole. Under this theory, individuals are not required to directly pay for the financial services they use, as the government covers the costs through the financial system. This means that bank account holders receive free debit cards and face no additional charges for using Automated Teller Machines (ATMs). This is based on the belief that financial institutions absorb the cost of providing these services as a necessary part of their operations. However, it is worth noting that these institutions often rely on government subsidies to offer a variety of financial services to the public. These subsidies play a key role in alleviating financial pressure on these institutions and ensuring continued access to essential services. The public good theory of financial inclusion stresses the importance of making financial services easily accessible and equitable for all members of society. The government's significant role in ensuring that these services remain affordable and within reach for everyone is vital in promoting the overall prosperity and well-being of the entire community.

2.3 Empirical Literature

Alem and Townsend (2014) meticulously looked into the effects of financial inclusion on consumption and investment, specifically focusing on the role of financial institutions in Thailand. Armed with panel data and the theory of risk-bearing, their research shed light on the transformative impact of these institutions. By employing both Ordinary Least Squares and IV estimation techniques, the research was able to derive some fascinating results as the outcomes of the study clearly showed that financial institutions play a pivotal role in smoothing consumption and stimulating investment. Moreover, they discovered that these positive effects were most pronounced among farmers and small business operators. Among the various financial institutions studied, the government-owned Bank for Agriculture and Agricultural Cooperative (BAAC) emerged as a key player in facilitating credit access for households and consequently enhancing their consumption patterns.

In Nkwede (2015) the effect of financial accessibility on the economic performance in African countries was thoroughly examined. By analyzing a collection of time series statistics from the period of 1981 to 2013, the study aimed to provide insight with respect to the complex connection between financial accessibility and economic performance. Through the utilization of the ordinary least squares multiple regression analysis technique, while also taking into account other macroeconomic factors, it was determined that financial accessibility has consistently had a noteworthy inverse effect on economic growth throughout the years. The research work attributed this unfortunate outcome primarily to the substantial exclusion of bankable adults in Africa as a whole. In order to combat this issue and achieve greater financial inclusion in Africa, the study suggested implementing concerted efforts to promote financial inclusion, particularly in rural areas.

Anthonia (2016) conducted an in-depth analysis to investigate the impact of financial inclusion on Nigeria's overall inclusive growth. Utilizing a regression analysis model, the researcher made use of data spanning over three decades, from 1981 to 2014, in order to draw conclusions regarding the correlation between financial inclusion and economic development. The study produced intriguing results, highlighting the significance of factors such as liquidity ratio, credit to the private sector, and money supply in driving Nigeria's economic growth. These findings strongly support the finance-led growth theory, indicating that policymakers should focus on implementing comprehensive financial inclusive policies to ensure the sustained progress of the financial sector and ultimately boost the country's economy.

in Okaro (2016), the intricate relationship between financial inclusion and the Nigerian economy was closely analyzed. The research spanned a quarter of a century, from 1990 to 2015, and delved into the effect of financial inclusion on the country's economic performance as indicated by growth rate. Various indicators, including financial intermediation activities of deposit money banks, financial accessibility, institutional infrastructures, and financial deepening, were utilized to gauge the level of financial inclusivity. On the flip side of the coin, the growth of the Nigerian economy was measured using the real Gross Domestic Product (RGDP) as a key indicator. Through the application of the Ordinary Least Squares (OLS) regression technique using e-views 8, the study revealed some fascinating results. It was found that financial accessibility, financial intermediation, institutional infrastructures, and financial development all had a significantly parallel effect on RGDP. In other words, these factors played a crucial role in driving economic growth in Nigeria. However, a rather unexpected finding emerged from the study, namely, despite the positive impact on economic growth, financial inclusivity had no discernible cause on poverty alleviation. This puzzling result suggests that while financial inclusion can stimulate overall economic development, it may not be sufficient to address the issue of poverty in Nigeria if not well harnessed.

Adebowale and Dimova (2017) embarked upon an investigation into the profound consequences of accessibility to conventional financial services for the welfare and inequality in Nigeria. Armed with valuable micro-level data from the country, the duo employed cutting-edge treatment effect modeling and decomposition techniques to unravel significant insights. Their findings revealed a dual effect of access to formal financial services. On the one hand, it bolstered household welfare, empowering individuals and families with greater financial stability and possibilities. However, on the flip side, it exacerbated inter-household inequalities, amplifying disparities within Nigerian society. Interestingly, the work shed light on the role of financial services in mitigating certain inequalities. Specifically, access to financial services served to lessen the inequality gap between urban and rural residents. Similarly, it acted as a leveller between the literate and illiterate, bridging the divide that often arises due to differences in education. To conclude, the study's findings emphasized the urgent need for a comprehensive and holistic approach to enhancing both welfare and equality in Nigeria as merely focusing on one aspect without considering the broader picture may prove insufficient.

In their recent study, Nwangi and Atieno (2018) delved into the realm of financial inclusion in connection with its impact on household welfare in Kenya. Their research honed in on a variety of financial measures, ranging from single components like insurance and pension to more complex measures including credit, savings, and investment. Utilizing detailed household financial data stretching from 2009 to 2016, the researchers employed the dynamic panel regression method to estimate their findings. What they discovered was a range of outcomes tied to the use of different financial products, with credit standing out as the most effective tool for improving household welfare. Surprisingly, even a small shift in credit usage was found to have a profound effect on welfare levels. The empirical study also noted that the financial inclusivity index coefficient played a positive and significant role in explaining household welfare. Building off of these results, the researchers recommended a focus on reducing transaction costs and broadening the array of formal financial products and services available. Their belief is that such measures would cultivate a competitive financial market, ultimately benefiting individuals and households seeking to boost their welfare.

Similarly, in their collaborative work, Velenkosini and Derek (2020) inquired into into the pressing issue of financial inclusion in South Africa, shedding light on its connection to unemployment, poverty, and inequality. Through the use of the National Income Dynamics Study (NIDS) and statistical techniques such as OLS and probit regression, the researchers uncovered some important insights. Their findings highlighted that older and more educated individuals who are heads of families in most cases have higher levels of financial inclusion. However, a stark contrast was observed in families led by individuals with lower education levels, especially in rural areas and among the black population in provinces like Limpopo, Eastern Cape, and KwaZulu-Natal. These areas are facing challenges of high unemployment, low income, and limited livelihood opportunities. Moreover, the study revealed a concerning reciprocal linkage between financial accessibility, poverty levels as well as inequality in the country. This calls for urgent attention from the government to implement policies that promote financial inclusivity among the population.

In their topical study, Beza, Simon, and Taddess (2020) have emphasized the critical role of financial accessibility in driving higher levels of sustainable economic performance and inclusive economic prosperity in East Gojjam, Ethiopia. Through their research involving 454 individuals surveyed via questionnaires, the authors utilized Binary Logistic Regression analysis to identify pivotal factors contributing to financial inclusivity in the region. According to the research findings, trust, accessibility, awareness, documentation, financial literacy, and income emerged as the primary determinants of financial inclusion in East Gojjam. By addressing these key factors, the study suggests that efforts can be directed towards enhancing the social well-being of individuals and facilitating greater access to financial services. The researchers advocate for a sustained focus on promoting the significance of financial services through continuous education and awareness campaigns. By increasing awareness and sensitizing the community, more individuals will be empowered to make use of innovative financial products and reap the benefits of increased accessibility to finance in East Gojjam.

Ajefu (2020) looked into the association between financial accessibility and the mental well-being of Nigerians. The work relied on robust sources of data, including the Nigerian General Household Survey (GHS) data from 2015/2016 and the Insight2Impact (i2i) GIS data. Employing the instrumental variable methodology, the study uncovered a significant and positive effect of financial inclusion on mental health. This effect was observed through various channels, such as remittances, levels of food expenditure, and the use of risk-coping mechanisms. Ultimately, the study's findings imply that financial inclusion has the potential to alleviate symptoms of depression, providing further evidence to support its importance in enhancing mental well-being.

Manisha and Subhankar (2021) focused their attention on the association between accessibility to finance and the general wellbeing of individual Indians. Through the utilization of the consumption diversification Entropy-Based approach, the researchers aimed to analyze this complex connection. By employing Entropy-Based indicator by Theil as a determinant of wellbeing, the study sought to gauge the level of diversification in household consumption. Data was collected from households across India using a household panel, enabling a comprehensive evaluation of the impact of enhanced financial inclusion on welfare. The outcomes of the study were particularly intriguing, revealing a noticeable upward movement in the diversity of non-consumable items as financial inclusion improved. This shift in consumption patterns indicated a move away from consumable items towards non-consumable items among individuals. Moreover, the study unveiled compelling evidence of an overall enhancement in the welfare of both rural and urban dwellers as a result of the push for heightened financial accessibility

In their study, Akeeb, Alwell, Okechukwu, and Monday (2021) delved into the connection between financial inclusivity and the level of poverty alleviation in Nigeria. Employing the dynamic ARDL technique, the researchers examined data with a specific emphasis on variables like deposit penetration level, domestic investment to GDP ratio, bank branch penetration, and credit penetration. The main focus was on how these factors influenced the poverty rate in Nigeria over both short and long periods. The findings of the study were quite compelling. Deposit penetration level and bank branch penetration were identified as key factors in reducing poverty levels in Nigeria, showcasing significant impacts in both short and long terms. This highlights the importance of improving access to banking services and increasing savings rates in tackling poverty. Meanwhile, the effects of credit penetration on poverty were more nuanced, with mixed results in the short term but a positive influence in the long term. This indicates that access to credit could prove to be beneficial in the long-term fight against poverty. Surprisingly, the ratio of domestic investment to GDP was found to have a negative impact on poverty in Nigeria in the long term. This unexpected discovery suggests that an increase in domestic investment could potentially exacerbate poverty levels in the country. Additionally, the study revealed that while interest rates had an insignificant and negative effect on poverty in the short term, they had a positive relationship with poverty in the long term. This implies that although high interest rates may pose temporary obstacles to poverty reduction efforts, they can ultimately contribute to poverty alleviation in the long run.

3. Methodology

3.1 Model Specification

The model for this study is specified as follows:

CE = f(CBLR, CBAL, NCBB, MBAL) --------------- (1)

Where:

- CE = Household Consumption Expenditure
- CBLR = Commercial Banks Lending Rate
- CBAL = Commercial Banks Advances and Loans
- NCBB = Number of Commercial Bank Branches
- MBAL = Microfinance Banks Advances and Loans

The last four variables (CBLR, CBAL, NCBB and MBAL) represent different aspects of financial inclusion.

When linearized and put in logarithmic form for computation ease, equation 1 takes the form:

$Log\text{CE} = \beta o + \beta_1\text{CBLR} + \beta_2 Log\text{CBAL} + \beta_3 L\text{NCBB} + \beta_4 Log\text{MBAL} + U_1$ ------- (2)

βo is the intercept while β_1, β_2, β_3 and β_4 are all parameters to be estimated. U_1 is the stochastic or disturbance term in equation 3.2. The a priori expectation is that all the parameters except CBLR will have a positive sign.

In the event that the variables are not well-behaved, the model is re-specified as follows:

$\Delta\text{CE} = \beta o + \beta_1(\Delta\text{CBLR}_t) + \beta_2(\Delta\text{CBAL}_t) + \beta_3(\Delta\text{NCBB}_t) + \beta_4(\Delta\text{MBAL}_t) + U_1$ ------ (3)

Where:

- Δ = Difference Operator
- β = Parameters to be estimated
- t-i=Unknown lags
- U_1 = Stochastic Term

If evidence of a long run relationship among the variables is established, equation 3.3 above converges to the Error Correction Model (ECM) which is expressed below:

$\Delta\text{CE} = \beta o + \beta_1(\Delta\text{CBLR}_t) + \beta_2(\Delta\text{CBAL}_t) + \beta_3(\Delta\text{NCBB}_t) + \beta_4(\Delta\text{MBAL}_t) + \beta_5(\text{ECM}_t) + U_1$ ------------- (4)

Where:

- B_5 = Speed of adjustment coefficient

3.2 Data and sources

Secondary data were used in this work and they were sourced as indicated in Table 2 below.

Variable	Source
Consumption Expenditure (CE)	CBN Statistical Bulletin 2022
Commercial Banks Lending Rate (CBLR)	CBN Statistical Bulletin 2022
Commercial Banks Advances and Loans (CBAL)	CBN Statistical Bulletin 2022
Number of Commercial Bank Branches (NCBB)	CBN Statistical Bulletin 2022
Microfinance Banks Advances and Loans (MBAL)	CBN Statistical Bulletin 2022

3.3 Estimation Technique

This worked relied on the Autoregressive Distributed Lag (ARDL) technique in estimating the relationship between the financial inclusion variables and household consumption expenditure. The ARDL estimation technique is very effective and widely used in establishing both the short-run and long-run dynamics between economic variables. In addition, a number of supplementary tools such as the Unit Root Test for stationarity, graphs and statistical test of significance will be used to complement the ARDL technique.

4. Data Analysis and Interpretation of Results

4.1 Trend among variables

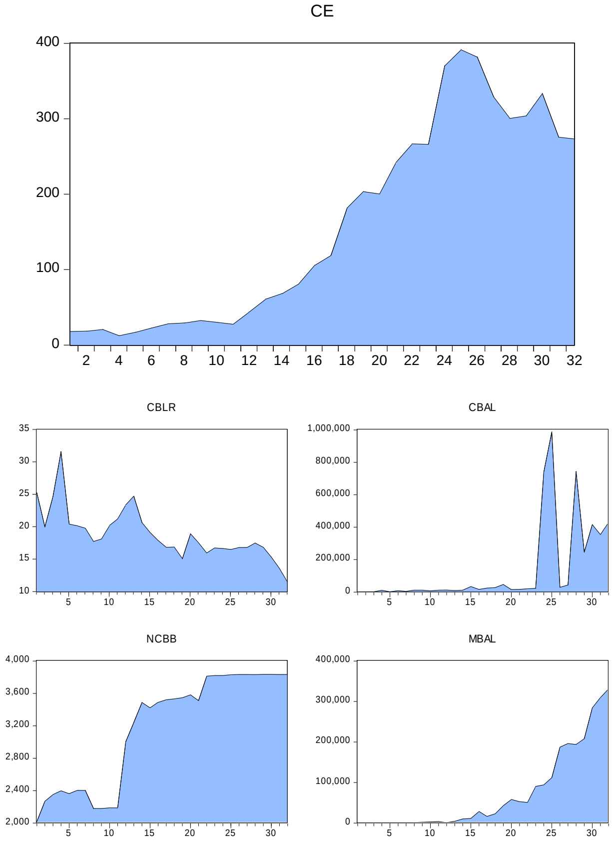

Figure 2: Trend of CBLR, CBAL, NCBB and MBAL in relation to CE and HDI

Source: Author's computation, Eviews 9

Figure 2 shows the movement of the independent variables CBLR, CBAL, NCBB and MBAL in relation to the dependent variable CE. Interestingly, as expected, a cursory look at the area graphs reveals that the independent variable CBLR has a negative relationship with the dependent variable CE. This implies that as the lending rate of commercial banks increases, what households are able to spend on consumption decreases and vice versa. Thus, lowering lending rates is a sure way of improving the level of financial inclusion which will translate into higher consumption and better wellbeing of households. On the other hand, except for some periods of fluctuations, the independent variables CBAL, NCBB and MBAL generally have a positive relationship with the dependent variable CE as expected.

4.2 Unit Root Test

Presented in Table 3 is the stationarity or unit root test among the variables.

Table 3 Unit Root Test (Augmented Dickey Fuller Statistics)

Variables	Levels	First Difference	Order of integration
CE	-0.742076	-4.458078	1(1)
CBLR	-2.318296	-6.002326	1(1)
CBAL	-1.262518	-8.179677	1(1)
NCBB	-1.396936	-4.616348	1(1)
MBAL	4.653793	-1.209820	1(0)

Source: Author's computation, Eviews 9

Table 3 clearly shows that the variables display a varied order of integration but none is stationary beyond first difference. This forms the basis for the utilization of the ARDL technique and its Bounds Cointegration Test.

4.3 Bounds Test

Table 4: ARDL Bounds Test for CE, CBAL, MBAL, CBLR and NCBB

ARDL Bounds Test
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	16.67718	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Author's computation, Eviews 9

With reference to the Bounds Test results presented in Table 4, it is evident that the F-statistic of 16.67718 is much greater than the critical value of 4.01 at the five percent significance level, as well as at all other significance levels. This suggests that there is a long run relationship between the independent variables (CBLR, CBAL, NCBB, MBAL) and the dependent variable (CE). Thus, the Bounds Test Null Hypothesis is rejected. Based on this analysis, it can be concluded that financial inclusion, as represented by the independent variables, has both short run and long run impact on household consumption expenditure in Nigeria. Specifically, this long run and short run estimates are presented in Tables 5 and 6 respectively.

Table 5: Long run estimates model one

Long Run Coefficients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CBLR	-0.332671	2.216765	-0.150071	0.8830
CBAL	-0.000005	0.000132	-0.034755	0.9728
MBAL	0.002036	0.000489	4.161106	0.0011
NCBB	0.145708	0.029144	4.999655	0.0002
C	-291.8924	76.161584	-3.832541	0.0021

Source: Author's computation, Eviews 9

Table 5 shows that in the long-run, commercial banks lending rate and commercial banks advances and loans both have a negative but insignificant impact on household consumption expenditure. Pointedly, a unit change in commercial bank lending rate will induce a change in household consumption expenditure by -0.332671 while a unit change in commercial bank advances and loans will cause a change in household consumption expenditure to the magnitude of -0.000005. Furthermore, microfinance banks advances and loans as well as the number of commercial bank branches in Nigeria with P-values of 0.0002 and 0.0021 respectively both have a positive and significant impact on household consumption expenditure in Nigeria. Specifically, a unit change in microfinance banks advances and loans will instigate a change in household consumption expenditure by 0.002036 while a unit change in the number of commercial bank branches while cause a change in household consumption expenditure by 0.145708.

Table 6: Short run estimates model one

Dependent Variable: CE

Cointegrating Form

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CE(-1))	-0.512284	0.151539	-3.380537	0.0049
D(CE(-2))	0.546353	0.234450	2.330359	0.0365
D(CE(-3))	0.879083	0.232088	3.787717	0.0023
D(CBLR)	-0.126477	0.830631	-0.152266	0.8813
D(CBAL)	0.000125	0.000018	6.827413	0.0000
D(CBAL(-1))	0.000006	0.000020	0.307619	0.7632
D(CBAL(-2))	0.000015	0.000023	0.633679	0.5373
D(CBAL(-3))	0.000140	0.000028	5.086475	0.0002
D(MBAL)	-0.000930	0.000372	-2.498013	0.0267
D(MBAL(-1))	-0.000617	0.000248	-2.494070	0.0269
D(MBAL(-2))	-0.002013	0.000539	-3.732344	0.0025
D(NCBB)	0.025867	0.010519	2.458983	0.0287
D(NCBB(-1))	0.006306	0.015453	0.408073	0.6899
D(NCBB(-2))	0.010463	0.016506	0.633896	0.5371
D(NCBB(-3))	-0.041456	0.012325	-3.363675	0.0051
CointEq(-1)	-0.380185	0.097822	-3.886509	0.0019

Cointeq = CE - (-0.3327*CBLR -0.0000*CBAL + 0.0020*MBAL + 0.1457 *NCBB -291.8924)

R^2=0.89 DW=1.81 Prob(F-statistic)=0.0000 Source: Author's computation Eviews

It is evident from Table 6 that in the short-run the previous values of household consumption expenditure have a significant impact on its current value. However, while a one unit change in one period lag will stimulate a change of -0.512284 in the dependent variable, a one unit change in two and three period lags will induce a change of 0.546353 and 0.879083 respectively in the dependent variable. Commercial banks lending rate has a negative and insignificant impact on household consumption expenditure in Nigeria. A one unit change in its value will cause a change of -0.126477 in household consumption expenditure. On the contrary, commercial banks advances and loans (CBAL) have a positive and significant effect on household consumption expenditure in Nigeria. A one unit change in CBAL will result in a change of 0.000125 in household consumption expenditure. The lag values of commercial banks advances and loans have a positive impact on household consumption expenditure. However, only lag three has a significant impact on household consumption expenditure such that a one unit change in lag three of CBAL will cause a change in household consumption expenditure to the tune of 0.000140. The current value of microfinance banks advances and loans as well as the one and two periods lag values all have a negative and significant impact on household consumption expenditure. A one unit change in its current value as well as its one period and two period lags will induce a change in household consumption expenditure to the tune of -0.000930, -0.000617 and -0.002013 respectively. Further, the number of commercial bank branches in Nigeria has a positive and significant impact on household consumption expenditure in Nigeria such that a one unit change in it will cause household consumption expenditure to change by 0.025867. However, its one period and two period lags have a positive but insignificant impact on household consumption expenditure such that a one unit change in one period and two period lags will induce a change in household consumption expenditure to the tune of 0.006306 and 0.010463 respectively. The three period lag of the number of commercial bank branches in Nigeria has a negative and significant impact on household consumption expenditure in Nigeria. A one unit change in the three period lag will instigate a change in household consumption expenditure by -0.041456. It should be noted that Coint Eq(-1) is the error correction term. It is negative and significant and this is a pointer to a satisfactory speed of adjustment. The coefficient of determination of 89% shows that the model has a good goodness of fit. In other words, the financial inclusion variables are actually responsible for changes in household consumption expenditure. Also the Durbin-Watson statistic of approximately two (1.81) indicates that the model is free from autocorrelation. Finally, on the basis of the F-statistic of 0.0000, it is appropriate to infer that financial inclusion as proxied by the variables of this study has a significant impact on household consumption expenditure in Nigeria.

5. Conclusion and Recommendation

This work set out to examine the nexus between financial inclusion and household consumption expenditure in Nigeria.

Financial inclusion was measured by Commercial Bank Lending Rate, Commercial Bank Advances and Loans, Microfinance Bank Advances and Loans as well as the Number of Commercial Bank Branches in Nigeria while Household Consumption Expenditure is considered a pointer of the wellbeing of individuals. Based on the F-statistics which is a test for overall significance, it is safe to conclude that financial inclusion has a significant impact on household consumption expenditure in Nigeria. More specifically, commercial banks advances and loans (CBAL) can be deployed to improve the welfare of Nigerians since it has a significant link with household consumption expenditure in the short-run. The significant impact of Microfinance Banks Advances and Loans (MBAL) on household consumption expenditure in the long-run is a clear indication that government and policy makers can utilize MBAL as a formidable tool in improving the wellbeing of Nigerians. This signals the need for government and her relevant agencies to increase monitoring of these microfinance institutions to ensure strict compliance to subsisting regulations so that the loans they offer are not misused for other purposes but actually get to the hands of rural dwellers and low income earners who may wish to go into small businesses. This oversight is crucial to ensuring that microfinance banks are effectively working to uplift individuals in need and stimulate economic development in Nigeria. Finally, the government and monetary authorities should focus on increasing the presence of commercial bank branches in rural areas and strategic locations like markets to include more unbanked individuals into the formal banking sector.

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