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The Role of Financial Inclusion in Promoting Financial Literacy in Nigeria

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ABSTRACT

With a concerted global effort to enhance financial inclusion especially among the poor, it is crucial to minimize its potential risks so as to achieve its aim and full potential of financial development and stability. In most literature, financial literacy is used to explain variation in financial outcomes and only very few studies focus on measuring financial literacy as a main objective not alone the role financial inclusion plays. The objective of this paper is thus to determine the impact of financial inclusion on financial literacy. This paper will particularly highlight the relationship between financial literacy and financial inclusion that have become important global financial issues. It will also guide and assist policy makers and practitioners in the financial system in designing and implementing workable financial strategies, schemes and policies for the financially included. Using Autoregressive Distributive Lag Model (ARDL) to estimate a time series data of Nigeria from 1987-2015, the findings show that financial inclusion does not have a significant impact on financial literacy. The implication is that Government and financial policy makers need to make conscious effort to ensure that the financially included are simultaneously financially literate in order to attain the desired financial development and sustainability.

Keywords: Financial literacy, Financial inclusion, Sustainability, Development, Nigeria

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1. INTRODUCTION

Financial literacy gained prominence globally especially from 2002 as financial markets became increasingly deregulated and complex making it difficult for individuals to make informed financial decisions. It is thus considered an important process for financial inclusion, financial development and ultimately financial stability (Ramakrishnan, 2011). Financial inclusion comes with potential inherent hazards. Contemporary experiences in the microfinance field have shown that the poor take credits they are incapable of servicing. Another instance is the mortgage crisis in the United States which deteriorated to a global crisis. There are therefore serious concerns about the financial security of investors and the poor who are financially included but lack the requisite knowledge of making decisions without proper tools (Hung et al, 2009). Hence, except financial literacy goes hand in hand with financial inclusion, instead of relieving the poor, they will be further distressed (Ramakrishnan, 2011).

In broad terms, financial literacy is the ability to understand and be familiar with financial market products and services, especially in terms of associated rewards and risks in order to make informed decision. Financial inclusion does not necessarily imply knowledge about financial products and services (Atkinson and Messy, 2013). With a concerted effort worldwide to enhance financial inclusion especially among the low income group, it is crucial to ascertain its role in and impact on financial literacy so as for it (financial inclusion) to achieve its aim and full potential of financial development and stability.

The relationship between financial inclusion and financial literacy is crucial as they both are twin pillars that go hand in hand (Subbarao, 2010; Chakrabarty, 2011). Financial inclusion without financial literacy has no meaning as the stakeholders cannot grasp the benefits and risks associated (Gandhi, 2015). An underlying challenge for financial literacy peculiar to Nigeria is the politicization of financial inclusion. Several administrations, various politicians create special agency for empowerment programmes and give unstructured loans without the accompanying requirement that will aid financial literacy. A recent example is the Government Enterprises and Empowerment Programme (GEEP) (*MarketMoni)* and National Women Empowerment Fund (NAWEF) under the Government Special Intervention Program (SIP) created to provide financial aid to the under-banked and unbanked (Vanguard, 2017). For *MarketMoni*, the requirements are basically possessing a Bank Verification Number (BVN) and belonging to a registered association or cooperative. Therefore, the implementation of this empowerment process has no financial literacy component which jeopardizes consumer protection in the financial market (CBN, 2015).

Financial inclusion is a step towards being „financially smart"; but it can also result in one"s financial downfall. No matter how many poor are absorbed in the formal financial system, how many bank branches are opened, how many ATM points are on the ground and how much loan is disbursed, if an individual is unaware of the available financial options and policies, financial schemes and instruments will mean little. Hence, it is imperative to study the relationship and effects of these financial inclusion factors on financial literacy so as to minimize the potential risks of financial inclusion. The overall aim of this research is to examine the role of financial inclusion in financial literacy with the specific objective to determine the effect of financial inclusion on financial literacy. Specifically, the study will test the null hypothesis that financial inclusion does not have a significant effect on financial literacy.

Usually, financial literacy is used to explain variation in financial outcomes such as savings, investment and debt behavior and only very few studies focus on measuring financial literacy as a main objective (e.g. Huston, 2010). Furthermore, the role of financial literacy is typically regarded and studied as a determinant of financial inclusion (e.g. Ramakrishnan, 2011; Chithral and Selvam, 2013; Sukumaran, 2015; Ngugi, 2015; CBN, 2015) without attention to the role of the latter in promoting the former. This research will particularly highlight the relationship between financial literacy and financial inclusion that have become important global financial issues. Findings will guide and assist policy makers and practitioners in the financial system in designing and implementing workable financial strategies, schemes and policies for the financially included. This study will also contribute to the few but growing literature on financial literacy and present avenue for further research in the burgeoning area.

This Paper is organized into four Sections. The remaining part of this Section peeps into the financial literacy strategy in Nigeria and reviews related literature on the subject matter conceptually, theoretically and empirically. Section two borders on the methodology while Section three focuses on presentation and interpretation of results. The final Section gives the summary and conclusion as well as recommendations based on the findings of the study.

1.1 Financial Literacy Strategy in Nigeria

Financial literacy is increasingly being recognized as an essential skill vital for financial consumers in the increasingly complex financial setting. It is therefore expected that the government is interested in finding effective approaches to improve financial literacy among the Nigerian citizens (Atkinson and Messy, 2012). National Baseline survey on Financial Literacy carried out in 2014 showed that financial consumers lacked general knowledge of most banking products as 70% of the 98 million surveyed do not have knowledge of mobile money product and more than 30% do not know about current accounts. Less than 50% (46.8%) of Nigerians tracked their expenses, less than half (47.4%) shop around before buying financial products, only 38.6% reconcile their account books whilst only 55.4% engaged in long term financial plan (NDIC, 2012). A financial literacy strategy was therefore launched to reduce the financial exclusion rate in Nigeria from 46.3% percent in 2010 to 20% in 2020 (CBN, 2012).

The National Financial Literacy Framework (2015) defined financial literacy as "the possession of knowledge and skill by individuals to manage financial resources effectively to enhance their economic well-being" (CBN, 2015). It is regarded as an essential requirement for consumer protection as it improves awareness and understanding of policies, financial products, services, prices, and practices. The Financial Literacy Framework was developed in 2015 in collaboration with relevant stakeholders to achieve the following objectives among others:

i. To support the client empowerment component of the financial inclusion agenda;
ii. Empower individuals to make better spending, savings, loans, insurance, pensions and investment decisions;
iii. Assist individuals to set realistic and achievable financial goals;
iv. Increase awareness on the necessity for individuals to have a personal financial plan encapsulated in a budget, adhere to the budget, and prioritize their spendings according to their most pressing needs rather than wants;
v. Help individuals and businesses understand their rights and obligations when they enter into loan contracts and other forms of financial transactions in order to minimize credit risk in the financial system and protect consumers.

(CBN, 2015)

The National Financial Literacy Framework recognizes that there is no "one-size-fits-all" strategy to achieve financial literacy. Accordingly, various methodologies, stakeholders and channels that are suitable for different consumer market segments are proposed (CBN, 2015).

2. CONCEPTUAL AMD EMPIRICAL REVIEW

2.1 Conceptual Review

2.2.1 Financial Literacy

The United States Government Accountability Office (GAO) defines financial literacy as the ability to make informed judgments and to take effective actions regarding the current and the future use and management of money. It includes the ability to understand financial choices, plan for the future, spend wisely, and manage the challenges associated with life events such as job loss, saving for retirement, or paying for a child"s education (Sukuram, 2015). This definition encompasses making informed financial decisions for one"s total wellbeing.

Financial literacy is also defined as the ability to make informed judgments and take effective decisions pertaining to using and managing money (Noctor, Stoney, and Stradling 1992; Beal and Delpachitra, 2003; and ANZ, 2008). Defining financial literacy on a personal level, Vitt et al (2000) and Cude et al (2006) defined personal financial literacy as the ability to read, analyze, manage and communicate personal financial conditions which includes the ability to distinguish financial options, discuss financial issues without (or despite) discomfort, plan for the future and respond competently to life events that affect financial decisions. Financial literacy is therefore the ability to participate effectively and efficiently in the financial system.

2.2.2 Financial Inclusion

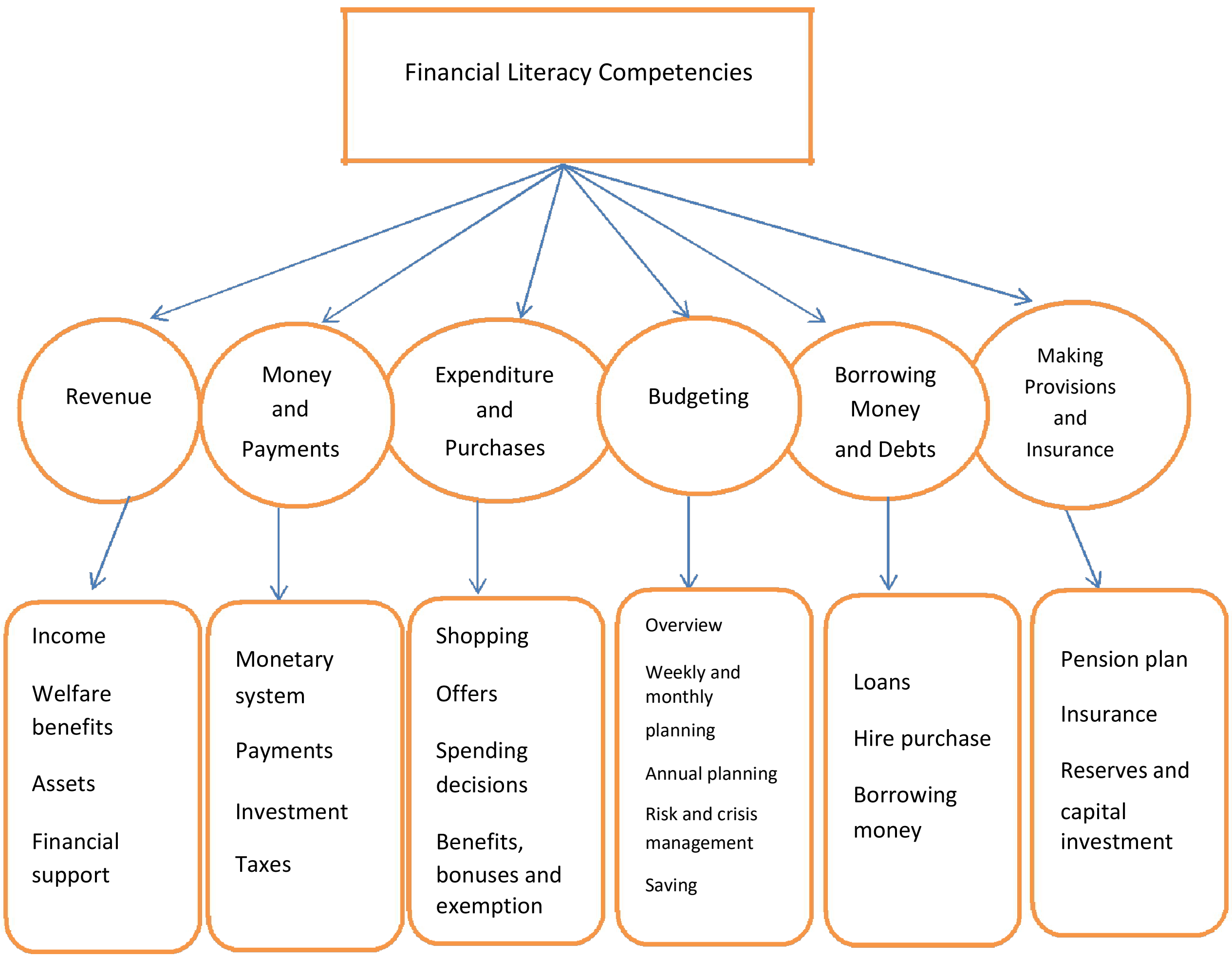
According to Cohen and Nelson (2011), financial inclusion is a multidimensional, pro-client concept which enhances improved access and use of better financial products and services. It is estimated by the Consultative Group to Assist the Poor (CGAP) and the World Bank that about 2.7 billion adults worldwide do not have access to basic financial services such as savings, credit and insurance with a bank or other formal institution (Ehrbeck, Pickens, and Tarazi, 2012). Exclusion from financial services has been attributed to both supply-side and demand-side barriers. Supply-side barriers have been identified as high transaction costs, information asymmetry, and poor regulatory frameworks that inhibit the quantity and quality of financial products and services accessible by the poor. Demand-side barriers include socio-economic and cultural elements, lack of formal identification systems, low levels of financial literacy and absence of appropriate consumer protection mechanisms (Alliance for Financial Inclusion, 2010).

Other factors leading to financial exclusion are lack of awareness of financial services and products, lack of availability of suitable financial products, lack of motivation to pen account due to inability to save, and the risks of dealing with poor customers (ESCAP, 2014 in ADBI, 2015; Ene and Inemesit, 2015). Researchers such as Keats (2012), Crepon et al (2011) and Burgess and Pande (2005) have identified financial inclusion variables such as deposits of rural branches of commercial banks, loans and advances of rural branches of commercial banks, commercial banks" loans to small scale enterprises, number of microfinance banks and number of rural branches of commercial bank (Mbutor and Uba, 2013; Oyewo and Oyewole, 2015; Onaolapo, 2015; Babajide et al, 2015) and financial deepening indicators (Onaolapo, 2015).

2.3 Financial Literacy Models

Several models have been proposed for financial literacy. However, the models reviewed here are The Logic model of financial literacy and The Financial Literacy Competence model. These models are selected for review because they relate financial literacy to financial inclusion. The Logic model of financial literacy demonstrates the inputs in terms of resources and activities, expected outcomes as regards financial literacy program goals as well as the short- , medium- (4-6 months), and long-term (one year) impacts of a financial literacy program (Lown and Nelson, 2012). Proponents of this model have argued that using the logic model serves as roadmap for financial literacy programs as it describes processes for implementation, variables, assumptions and external factors that affect implementation, program decisions and achievement of outcomes (University of Wisconsin, 2002; Bamberger et al, 2006; Lown and Nelson, 2012). A simple logic model for financial literacy proposed by the Canadian Centre for Financial Literacy has the goal of building a foundation for financial stability and capability with the objectives of promoting personal planning and savings and engaging the support of local financial institutions and services. The target population is generally low-income and vulnerable people (Investment Industry Regulatory Organisation of Canada, n.d).

The Financial Literacy Competence model develops and determines competencies required in managing daily financial affairs mainly on a basic education level. The model, which was developed at the German Institute for Adult Education, contains six financial literacy domains with knowledge, reading, writing and numeracy dimensions (Project Curve, 2017). This is the model relevant for this study as it presents financial inclusion components as a requirement for financial literacy. The model is also applicable as competencies described in the model can form the basis for designing financial literacy learning outcomes. The Financial Literacy Competence Model is depicted below.



Source: Adapted from Project Curve/DIE (2017).

Fig 1: The Financial Literacy Competence Model

2.4 Empirical Review

The basic components of financial literacy according to Firli (2015) are savings and borrowings, personal budgeting, economic issues, financial concepts, financial services and investment. With the validity of financial literacy being at the content, competence, and personal level, (Mirshekary and Saudagaran, 2005), factors influencing financial literacy have been identified as gender, age, educational level, marital status, family income, financial decision-making process, budgeting and expenditure (Agarwalla et al, 2015). In terms of implementation, Lusardi and Mitchell (2007) noted that financial literacy needs to be carried out on a large scale majorly through schools and workplaces in order to stimulate savings and wealth accumulation. The three constructs used in measuring financial literacy are financial knowledge, financial behaviour and financial attitude (Atkinson and Messy, 2012).

In Arif (2015), financial literacy of individual investors in Pakistan was assessed using data collected from 154 respondents. The result indicated that the financial literacy level of investors is below average. Significant difference in financial literacy was found between the respondents regarding age, gender, work activity and marital status of the respondents. Results also showed a negative significant impact of financial literacy on the sum of investment factors at 10% significant level (Arif, 2015). Sinha and Gupta (2015) empirically tested the financial literacy level between urban and rural areas along with other demographic variables. Data was collected through questionnaire covering major aspects of financial knowledge and household financial planning in order to obtain data to calculate financial literacy score. A total of 90 respondents, 25 from rural and 65 from urban areas formed the sample population.

The mean financial literacy of rural respondents is found to be much lower than that of urban respondents (Sinha and Gupta, 2015). This could be attributed to low financial inclusion generally associated with rural and/or poor communities. Furthermore, the work of Potrich et al (2015) focused on the socioeconomic and demographic variables that determine financial literacy. Sampling 1,400 individuals in Brazil, financial attitude, financial behaviour and financial knowledge were adopted as the indicators for financial literacy. Descriptive statistics and logit and probit models were used to analyze the data gathered. The result found that men without dependents and those with higher educational and income levels are likely to have higher levels of financial literacy. Majority of the population sampled (67%) were classified as having low financial literacy levels (Potrich et al, 2015).

3. METHODOLOGY

This study employed annual time series data of Nigeria from 1987-2015 to investigate the impact of financial inclusion on financial literacy following the Financial Literacy Competence Model.

3.1 Justification of Variables

The choice of variables for this study is largely informed by the Financial Literacy Competence Model, World Bank‟s Global Findex indicators and empirical evidences from OECD‟s financial literacy measurement constructs. The justification for each variable in the model and how the variables are measured are described below.

3.2 Commercial Banks Loans and Advancement (CBLA)

For the purpose of this study, financial literacy is measured using Commercial Banks Loans and Advances (CBLA) as proxy. Taking loans and advances means improved financial behaviour as a result of financial knowledge. Literature often uses financial knowledge to predict positive outcomes that depend on behaviours consistent with financial wellbeing (e.g. Atkinson and Messy, 2012).

Commercial bank customers who have taken CBLA demonstrate the competencies required in managing daily financial affairs in terms of the financial literacy domains of knowledge, reading, writing and numeracy as proposed by the Financial Literacy Competence Model (Project Curve, 2017). Use and management of loans are likely to indicate higher levels of financial understanding than an average commercial bank customer in terms of knowledge on various financial products, compound interest, risk, interest rate and management of personal finance; with a higher tendency to engage in long term financial goal setting, planning and active saving. These are some of the factors that make up financial knowledge, behaviour and attitude which are used to measure financial literacy (Lusardi and Mitchel, 2007; OECD, 2013). No loan is granted by commercial banks without applicants having a bankable project and sound management and repayment plan. CBLA is measured in billions of Naira.

Number of Commercial bank branches (CBB)

Commercial Bank Branches are important source of all the financial literacy competence domains highlighted by the Financial Literacy Competence Model especially in terms of income, significance of non-financial assets, financial support, monetary systems, payments, saving, loan and the investment sub-domains. Awareness of available financial products is one of the basics for financial literacy. Empirical study on financial literacy carried out by Atkinson and Messy (2012) revealed that in all countries, people who were aware of at least 5 financial products had higher levels of financial literacy than those who were less aware (Atkinson and Messy, 2012). Commercial bank branches are important source of financial information as regards availability, cost and quality of financial products and services especially in the rural areas where financial illiteracy and exclusion is most prevalent. It is therefore expected that CBB should have a positive effect on financial literacy.

Deposits of Rural Branches of Commercial Banks (RUDE)

From the Financial Literacy Competence Model, rural deposits is an indication of the monetary system, saving and payments subdomains. Data from several countries in an OECD study carried out by Atkinson and Messy (2012) showed that financial illiteracy and financial exclusion generally occur among those who live in rural areas and those with low and/or irregular incomes. According to OECD (2013), low awareness levels about essential mechanisms designed to protect consumers (e.g. deposit insurance or consumer protection) is likely to decrease the demand for appropriate products. RUDE is measured in millions of Naira and expected to impact on financial literacy positively.

Commercial Banks Loan to Small Scale Enterprises (LSCE)

This is an importance source of financial literacy through the borrowing money and debts competence domain of the Financial Literacy Competence Model. Lack of awareness of the different types of financial products and whether or not they meet particular business requirements coupled with low level of confidence, inhibit use of, and trust in, formal financial products create barriers to access. Poor knowledge of how products work and their likely costs also reduce the likelihood of inclusion (OECD, 2012). This also expected to have a positive effect on financial literacy and is measured in millions of Naira. Lastly, financial deepening indicators - Ratio of Money Supply to GDP and Ratio of Credit to Private Sector to GDP – are included in the model to determine if they have an effect of financial literacy as they are important determinants of financial inclusion.

Ratio of Money Supply to GDP (RMSG)

Ratio of money supply is a financial deepening indicator which has effect on increasing liquidity thereby enhancing access to finance for opportunities and investment. Following the Financial Literacy Competency Model, RMSG will affect financial literacy through borrowing money and debts domain, expenditure and purchases and money and payments domains as well as through the reserves and capital investment sub domain and the saving aspect of the budgeting domain. This is measured as a percentage of GDP. However, its effect on financial literacy cannot be determined a priori.

Ratio of Credit to Private Sector to GDP (CPSG)
Through the borrowing money and debts domain, expenditure and purchases and money and payments domains, ratio of credit to private sector to GDP can influence financial literacy. It is an important source of money transmission as it promotes consumption, production and capital formation. This is measured as a percentage of GDP and expected to have a positive effect on financial literacy.

3.3 Model Specification

Financial literacy is regressed on financial inclusion variables from the Global Findex indicators (World Bank, 2016). This is given as

FL = f(FI)

FI= f(CBB, RUDE, LSCE, RMSG, CPSG)

Where:

FL = Financial Literacy {financial behavior represented by Commercial Banks Loans and

Advancement (CBLA)}

FI = Financial Inclusion

CBB = Number of Commercial Bank branches

RUDE = Deposits of rural branches of commercial banks
LSCE = Commercial banks loan to small scale enterprises
RMSG = Ratio of money supply to GDP

CPSG = Ratio of credit to private sector to GDP

The regression equation is specified as:

$$CBLA_t = \beta_0 + \beta_1 CBB_t + \beta_2 RUDE_t + \beta_3 LSCE_t + \beta_4\ RMSG_t + \beta_5 CPSG_t + e_t$$

With

β_0 = Intercept

β_1, β_2,....... β_6 = Parameter estimates

e = Error term

3.4 Rationale for Time Frame and Data Sources

This study conducts a time series analysis from 1987 to 2015. The choice of the time period is as a result of the introduction of the Structural Adjustment Programme (SAP) in 1986 which initiated financial sector reforms. Although the deregulation reforms started in the fourth quarter of 1986, the banking sector reforms did not take effect until January 1987 (Ikhide and Alawode, 2001; Asogwa 2005; Adegbite, 2005). Data for all the variables is sourced from CBN statistical bulletin (2015).

4. RESULT AND ANALYSIS

The empirical result for the preliminary tests of Unit Root (Table 1) and Cointegration (Table 2) are presented before proceeding to the data estimation (Table 3) and lastly the serial correlation test (Table 4).

4.1 Data Estimation

Prior to the estimation, unit root and cointegration tests were conducted to check for stationarity and long run relationship among variables after which Autoregressive Distributive Lag Model (ARDL) was used to analyse the data based on the results of previous tests.

4.1.1 Unit Root Result

The results of the unit root test indicated the presence of unit root and all variables were found to be stationary at first difference using Augmented Dickey-Fuller (ADF) tests.

Table 1: Unit Root Result

Variables	ADF	Order of Integration
CBLA	-5.037055*	I(1)
CBB	-3.013554**	I(1)
CPSG	-5.277967*	I(1)
LSCE	-4.860165*	I(1)
RMSG	-4.862333*	I(1)
RUDE	-5.034549*	I(1)

Note: * and ** denote 1% and 5 % level of significance respectively

4.1.2 Co-integration Test

Given that all variables are stationary at first difference, a cointegration test is conducted; result of which is presented in Table 2.

Table 2: Co-integration Test Result

Date: 12/09/17 Time: 16:39
Series: CBLA CBB RUDE LSCE RMSG
CPSG
Sample (adjusted): 1992 2004
Included observations: 13 after adjustments
Null hypothesis: Series are not cointegrated
Cointegrating equation deterministics:
C
Automatic lags specification based on Schwarz criterion
(maxlag=1)

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
CBLA	-3.332544	0.6555	-11.61090	0.6493
CBB	-1.438378	0.9969	-3.980857	0.9999
RUDE	-3.002950	0.7717	-10.35704	0.8109
LSCE	-3.095704	0.7405	-11.21326	0.6954
RMSG	-3.525929	0.5853	-11.36065	0.6728
CPSG	-4.343824	0.3172	-13.24316	0.4545

*MacKinnon (1996) p-values.

Table 2 shows that the cointegration test is not significant based on the tau and z statistics looking at the p value. Since the p value for most of the variables is greater than the significance level, we therefore accept the null hypothesis that the series are not cointegrated. As a result, Autoregressive Distributive Lag Model (ARDL) will be used to estimate the model.

4.1.3 Autoregressive Distributive Lag Model (ARDL)

The result of Autoregressive Distributive Lag Model (ARDL) which will be used to determine the impact of financial inclusion on financial literacy is presented in Table 3.

Table 3: Autoregressive Distributive Lag Model (ARDL) Result

Dependent Variable: CBLA
Method: ARDL
Date: 12/09/17Time: 16:44
Sample (adjusted): 1988 2015
Included observations: 28 after adjustments
Dependent lags: 1 (Fixed)

Dynamic regressors (1 lag, fixed): CBB RUDE LSCE RMSG CPSG
Fixed regressors:

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
CBLA(-1)	0.889880	0.362080	2.457689	0.2460
CBB	0.009111	0.164462	0.055402	0.9648
CBB(-1)	-0.001701	0.171288	-0.009929	0.9937
RUDE	-0.012580	0.018035	-0.697553	0.6122
RUDE(-1)	0.026519	0.020862	1.271184	0.4243
LSCE	-0.007711	0.008968	-0.859822	0.5479
LSCE(-1)	0.010645	0.011909	0.893880	0.5356
RMSG	4.126527	65.15582	0.063333	0.9597
RMSG(-1)	107.4887	86.42802	1.243679	0.4311
CPSG	-32.85130	66.12867	-0.496778	0.7065
CPSG(-1)	-153.8842	103.8349	-1.482008	0.3779

R-squared	0.978809	Mean dependent var	451.2117
Adjusted R-squared	0.966904	S.D. dependent var	405.7203
S.E. of regression	46.42941	Akaike info criterion	9.862170
Sum squared resid	2155.690	Schwarz criterion	10.30667
Log likelihood	-48.17302	Hannan-Quinn criter.	9.697601
Durbin-Watson stat	3.108533		

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

From Table 3, the coefficient of determination (R^2) is 98% which indicates that 98% of variations in financial literacy are explained by the explanatory variables. This implies that the model is in good fit. The Durbin-Watson statistics of 3.11 however shows the presence of negative serial correlation in the model. Hence, a serial correlation test is conducted to confirm the presence or otherwise of serial correlation among the variables.

Table 4: Breusch-Godfrey Serial Correlation LM Test Result

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.000329	Prob. F(1,2)	0.9872
Obs*R-squared	0.000000	Prob. Chi-Square(1)	1.0000

Test Equation:
Dependent Variable: RESID
Method: ARDL
Date: 12/08/17Time: 10:11
Sample: 1992 2004

Included observations: 13
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CBLA(-1)	-0.006962	0.690001	-0.010090	0.9929
RUDE	-2.17E-06	0.010244	-0.000212	0.9999
RUDE(-1)	-4.81E-05	0.008679	-0.005539	0.9961
LSCE	-3.85E-05	0.007570	-0.005083	0.9964
LSCE(-1)	0.000137	0.012022	0.011375	0.9920
CBB	-0.000124	0.297476	-0.000417	0.9997
CBB(-1)	-0.001995	0.320177	-0.006230	0.9956
CPSG	0.045806	21.07467	0.002173	0.9985
CPSG(-1)	0.405031	36.73383	0.011026	0.9922
RESID(-1)	0.020889	1.152128	0.018131	0.9872

R-squared	-0.000531	Mean dependent var	1.115418
Adjusted R-squared	-4.502921	S.D. dependent var	44.17316
S.E. of regression	103.6227	Akaike info criterion	11.99430
Sum squared resid	21475.34	Schwarz criterion	12.39839
Log likelihood	-61.96579	Hannan-Quinn criter.	11.84469
Durbin-Watson stat	1.989810		

Table 4 shows that there is no serial correlation among the variables. With the p value greater than the significance level, the null hypothesis is accepted that the variables are not serially correlated. From the result obtained in Table 3, it can be seen that the number of commercial bank branches influences financial literacy positively but insignificantly during the year under review. A unit change in the number of commercial bank branches will induce a 0.009 unit increase in financial literacy. This means that as more commercial bank branches are established, the number of financially literate people increases. This follows a priori expectation as the widespread of formal financial institutions is expected to increase general awareness and knowledge of financial products.

Surprisingly, rural deposits of commercial bank branches is seen to have a negative and insignificant effect on financial literacy as one unit increase in rural deposits decreases literacy level by 0.01 unit. However, the lagged value of rural deposit is shown to have a positive impact on financial literacy with a unit increase in rural deposit leading to a 0.03 increase in financial literacy. Although insignificant, this means that it is the rural deposits of the previous year that has the tendency to improve financial literacy level in the current year. This makes common sense that individuals who already have funds with the banks are likely to have a higher level of financial knowledge as savings are beneficial outcomes of financial literacy.

Similarly, a unit increase in loan to small scale enterprises influences financial literacy negatively and insignificantly. This indicates that a unit increase in loan to small scale enterprises actually reduces financial literacy by 0.008 unit. Just as is shown for rural deposits of commercial bank branches, similar relationship is observed here where advancing loans to small scale enterprises this year only simulates financial literacy of the coming year. The ratio of money supply as a percentage of GDP which is the first financial deepening indicator tested has a positive but insignificant relationship with financial literacy. A unit increase in the ratio of money supply as a percentage of GDP induces a 4.13 unit increase in financial literacy. This indicates that as Government increases money in circulation which enhances access to finance, there is an increased opportunity for financial literacy as individuals engage in financial activities.

Lastly, the second financial deepening indicator tested, credit to private sector in Table 3 is shown to have a negative and also insignificant effect on financial literacy with a unit increase in this variable inducing a 32.6 unit decrease in financial literacy during the year under review. This is a rather surprising result which does not follow a priori expectation as even the lagged value is negative. One would expect that increased credit to private sector would facilitate financial literacy by improving financial knowledge (awareness of financial products, costs and risks), financial behaviour (active saving and debt management) and financial attitude (financial planning). Based on the foregoing therefore, the null hypothesis that financial inclusion does not have a significant effect on financial literacy is accepted as all the variables appear to be insignificant.

5. CONCLUSION

The summary and conclusion of the study are presented below and recommendations are made based on the findings of the study.

5.1 Summary

The relationship between financial inclusion and financial literacy is crucial as they both are twin pillars that go hand in hand. This study therefore examined the role of financial inclusion in financial literacy with the specific objective to determine the effect of financial inclusion on financial literacy. The study observed that various methodologies, stakeholders and channels suitable for different consumer market segments are proposed in the National Financial Literacy framework. Reviewing literature for the concept, the study described financial literacy both in broad and narrow terms as well as explored factors affecting financial literacy. Empirical studies of financial literacy among individuals and between urban and rural areas as well as along socioeconomic and demographic variables were also reviewed.

The research methodology highlighted the variables, model and source of data used to analyse an annual time series data of Nigeria from 1987-2015. Based on the results of the unit root and cointegration tests, ARDL was used to estimate the data. The results indicated that the model is in good fit with an R-square of 98%. Findings indicated that all the explanatory variables were insignificant and had a positive effect on financial literacy sans for deposit of rural branches of commercial bank, loan to small scale enterprises and credit to private sector. The lagged values of deposit of rural branches of commercial bank and loan to small scale enterprises were however positive. The null hypothesis that financial inclusion does not have a significant effect on financial literacy was accepted as all the variables were insignificant.

The findings of the study showed that financial inclusion does not play a significant role in financial literacy. This poses serious concern that calls for conscious and rapid intervention by policy makers and practitioners. Financial inclusion policies and goal should not only focus on access but also on how to manage and sustain financial inclusion for national financial development. Otherwise, financial inclusion will not only miss the target, but further endanger the poor and other financially vulnerable groups.

5.2 Conclusion

This study examined the role of financial inclusion in financial literacy in Nigeria. Using ARDL to estimate time series data from 1987-2015, the findings show that financial inclusion does not play a significant role in financial literacy. Hence, financial inclusion is only a necessary but not sufficient condition for achievement of the goal of inclusion. Conscious effort needs to be made for the financially included to be financially literate. Otherwise there would be challenges in the financial system which could have detrimental implications for the macro economy. This research shows that it is imperative for financial inclusion to be accompanied by financial literacy, business processes and financial capacity development support. Financial literacy is a national issue as it matters for the nation as a whole. Policymakers need to decide on the level of public debt, borrowing and pensions; decisions on which will be misleading if founded on inadequate knowledge of key financial accounting concepts. Thus, financial inclusion policies and goal should not only focus on access but also on how to manage and sustain financial inclusion, development and sustainability.

5.3 Recommendations

Given the serious concerns about the financial security of investors and the poor who are financially included but lack the requisite knowledge of making appropriate financial decisions, it is imperative to revisit national financial literacy strategies and overhaul financial inclusion and empowerment programmes as results are not commensurate with level of effort. Financial inclusion policies and strategies need to engage more proactively in financial literacy. Recommendations contained herein will guide and assist policy makers and practitioners in the financial system in designing and implementing workable financial strategies, schemes and policies for the financially included. In terms of theory, the assumed relationship between financial literacy and financial inclusion although exists, but is often exaggerated as there is no evident causal relationship as suggested by this research. Being financial included or possessing financial inclusion-based competencies does not necessarily translate to financial literacy.

5.3.1 Recommendations for Policymakers

Since financial illiteracy has dire consequences for individuals in terms of exposure to shocks, inadequate saving, sub-optimal investment and borrowing too much (Buch, 2017), government should make it mandatory for all financial products and services in financial inclusion programs to include financial literacy component. The Financial Inclusion Strategy should include literacy strategies and programmes with focus not only on the conceptual aspect but more importantly, the practicalities of financial literacy – in terms of the financial knowledge, behaviour and attitude crucial to each proposed financial inclusion program/strategy.

5.3.2 Recommendations for Practitioners

In terms of practice, politicization of financial inclusion does not help the general populace and financial institutions as evident that extending loan facility does not have a significant effect on financial literacy. Therefore, it is important that well established institutions for financial services are better placed since their service comes with appreciable support of financial literacy and guarantee the oversight of required and proper channeling of loans. Thus, it is crucial that commitment to deepen financial inclusion cannot succeed without financial services institutions handling it. In addition, the number of commercial bank branches has an insignificant effect on financial literacy. In this connection, community bank services should be increased in rural areas since majority of the population live in rural and under banked areas. Financial literacy will make people more aware and more comfortable to be financially included.

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