International Journal of Economics, Commerce and Management
United Kingdom ISSN 2348 0386 Vol. X, Issue 6, June 2022

http://ijecm.co.uk/

EFFECT OF FINANCIAL INCLUSION AND LITERACY ON POVERTY REDUCTION IN NORTH CENTRAL NIGERIA

Pam Tok Chollom Ph.D.
Dept of Business Administration, Nasarawa State University, keffi, Nigeria
pamtok99@yahoo.com

Pam Yakubu Gyang
Dept of Accountancy, Plateau State Polytechnic, Barkin Ladi, Nigeria
pamyakubu4@gmail.com

Kairo Chinonso Innocent
Dept of Economics, University of Jos, Plateau State, Nigeria
kaironons@yahoo.com

Abstract

This study empirically evaluates effect of Financial Inclusion and Literacy on Poverty Reduction in North Central Nigeria. The objective of study is to assess the relationship between financial inclusion and literacy on poverty reduction in north central Nigeria. This study adopted the structural equation modeling approach. Primary data was collected through the administration of questionnaire. The data collected for this study was subjected to data cleaning and was certified fit for analysis. The result of the analysis revealed that financial literacy and financial inclusion has a significant effect on the poverty reduction in North Central Nigeria. This study, therefore, recommends that building financial literacy and their financial inclusion capabilities will improve personal financial management, which in turn, will be manifested through better financial behaviour and financial outcomes and savings which will smoothen the development of the state through financial risk taking. Consequently, the saving behaviour, will also contribute to availability of investment fund at household and national levels.

Keywords: Financial Inclusion, Financial Literacy, Poverty Reduction, CB-SEM

INTRODUCTION

Financial literacy has assumed greater importance in recent years especially beginning from 2002, as financial markets have become increasingly complex, and the common man finds it very difficult to make informed decisions. Financial literacy is considered an important adjunct for promoting financial inclusion, financial development, and ultimately financial stability. Financial development is widely recognized as an important determinant of economic growth (Levine & Rose, 2005; Khan, Siddiqui, & Imtiaz, 2022). It can be argued that limited financial literacy serves as an important barrier to demand for services (Demirguc-Kunt & Klapper, 2012). If individuals are not familiar or comfortable with products, they will not demand them. Financial Inclusion comes with potential dangers. Recent experiences in the microfinance arena have shown that poor people take loans that they have no capacity to service. Farmers have also taken loans that they have not been able to repay. Many have been driven to suicide because of debt problems. Unless financial literacy goes hand in hand with financial inclusion, instead of helping the poor, they will be put them into more trouble. Another example is the mortgage crisis, in the U.S., which has led to global crisis.

Financial Literacy is the capacity to have familiarity with and understanding of financial market products, especially rewards and risks in order to make informed choices. It refers to the ability to make informed judgments and to take effective decisions regarding the use and management of money. It is regarded as an important requirement for functioning effectively in modern society. Trends in retirement income policies, work patterns and demography suggest its importance can only increase in the years ahead. Raising financial literacy supports social inclusion and enhances the wellbeing of the community

Poverty reduction is a focal point of every economy. This is because poverty is a menace, which has continued to be on the increase world over especially in Nigeria. Poverty depicts the state of inability of citizens to enjoy the minimum acceptable standard of life and well-being as result of lack of the financial and other essentials. Despite the many poverty reduction programmes that have been formulated and implemented in Nigeria, poverty remained a challenge in Nigeria. Report showed that over 87 million Nigerians are extremely poor (Adebayo, 2018).

Evidence showed that lack of financial literacy in the population affected realization of poverty reduction and welfare improvement programs, which suggested the need for integrating personal financial education into poverty reduction programs, such as, microfinance and financial inclusion, entrepreneurship, income and employment creation, and other similar programs aimed at welfare enhancement (Engelbrecht, 2011; Furtado, 2018). Consequently, financial inclusion has been identified as another effective policy tools in reducing poverty, which is an inclusive financing system which can significantly improve the day-to-day management of finances, as well as reduce the growth of informal sources of credit (Onaolapo, 2015).

Building financial literacy and capability of citizens improves personal financial management, which in turn, will be manifested through better financial behaviour and financial outcomes. Personal financial management capability enables people to save for income and consumption smoothing in developing countries where people face various risk, including but not limited to price volatility of agricultural products, illness, death of bread winner, loss of jobs, retirement, posing significant income shocks for many. Financial literacy and its outcome on personal saving behaviour also contribute to availability of investment fund at household and national level (Miller et al., 2009; Subha and Priya, 2014).

Research have shown that earlier policies and programmes directed at alleviating poverty by different regimes have not made much impact for several reasons. For instance, Gowon's Accelerated Food Production Programme (AFPP), Obasanjo's Operation Feed the Nation (OFN), Shagari's River Basin Development Authority (RBDA) and Green Revolution (GR) Babangida's Mass Mobilization for Social and Economic Recovery (MAMSER), National Directorate for Employment (NDE), Directorate for Food, Road and Rural Infrastructural (DFRRI) Better Life for Rural Women Programme (BLP) National Agricultural Land Development Authority (NALDA), People's Bank of Nigeria (PBN) Nigerian Agricultural and Cooperative Bank (NACB), Abacha's Family Economic Advancement Programme (FEAP), Obasanjo's Poverty Alleviation Programme (PAP) etc. all failed not because of poor conception but on account of operationalization, haphazard, non-focused, blurred, corrupt and selfish implementation process. Most often than not these programmes are hijacked by corrupt, selfish and self-centred individuals or groups within the domain of power. The resultant end is always epileptic, dismal implementation or performance of the programme. A good example is the Family Economic Advancement Programme (FEAP), which a lot of enthusiasm, huge amount of money and human resource were committed to the programme but its impact in alleviating poverty is a disappointment because it was never felt

The reduction of poverty is the most difficult challenge facing any country in the developing world where most of the population is considered poor. Evidence in Nigeria showed that the number of those in poverty has continued to increase. For example, the number of those in poverty increased from 27% in 1980 to 46% in 1985; it declined slightly to 42% in 1992 and increased very sharply to 67% in 1996. By 1999, more than 70% of Nigerians lived in poverty. That was why the government declared in November 1999 that the N470 billion budget for year 2000 was "to relieve poverty." Before the National Assembly even passed the 2000 budget, the government got an approval to commit N10 billion to poverty alleviation programme. In the 2001 budget, the government has increased the allocation to poverty alleviation programmed by 150%. (Ogwumike 1995). Based on above problem, the study thus seeks to achieve the following objective:

1. To examine the impact of financial Inclusion on poverty reduction in North Central Nigeria; and
2. To analyze the effect of financial literacy on poverty reduction in North Central Nigeria

In-line with the stated research objective, the following hypotheses were tested:

Ho1: Financial Inclusion has no effect on poverty reduction in North Central Nigeria

Ho2: Financial Literacy has no effect on poverty reduction in North Central Nigeria

Several studies such as Cyn-Young and Ragelio (2015), Migap et al (2015), Nkwede (2015), Joseph and Varghese (2014), Aduda and Kulanda (2012) and Brune et al (2012) have studied on financial inclusion on poverty, economic growth financial sector. Also, studies like Robert et al (2013) and Hieltjes and Patova (2013) have studied the effect of financial literacy on poverty reduction. None of these studies combined financial inclusion and financial literacy on poverty reduction. It is on this premise that these study seek to examine the effect of financial literacy and inclusion on poverty reduction in North Central Nigeria.

LITERATURE REVIEW

Concept of Poverty Reduction

The word "poverty" suggests a standard of living below the minimum needed for the maintenance of life and health. It is a condition characterized by a scarcity rather than a lack of economic necessities. A poverty- stricken person is poor in comparison with a majority of others in his society but his level of living usually does not constitute an immediate threat to life and or health (David, 1981). Thus, the pivot of National Poverty Eradication Programme(NAPEP) is to guarantee a sustainable level of technical assistance to millions of people to remain in productive employment. It is therefore, desired that the multi-prong approach to the epidemic is appropriate. Hornby, (2001) stated that the concept of poverty simply as a state of being poor or a state of social, economic and political inferiority. On his part, Miller (1977) defined poverty in terms of individual or family insufficiency of assets, income and public service. He went further to state that poverty is also lack of certain capabilities, such as being able to participate with dignity in society. The capabilities are absolute, but the commodities needed are relative.

Mencher, (1977) asserted that poverty is a condition of having an income incompatible with a society's national objectives. It is a condition of having an income in the lowest fifth of the income distribution. Edward (1992) posited that, over 200 million Africans today live in wrenching poverty and that if the present trend persist, this number could be more than double over the next twenty years and making sure that this does not happen is the over-arching objective of the World Bank and the International Community in Africa. The bulletin on the Guideline for the Implementation of the National Poverty Eradication Programme of the Federal Government of Nigeria, (2001) saw poverty as one of the most serious problems confronting Nigerians today. The statistics shows that by 1960, the poverty level in Nigeria cover about 15% of the population and by 1980, it grew to 28.0%. In 1985, the poverty level was below 46% and it dropped to 43% by 1992. By 1996, the Federal Office of Statistics estimated the poverty level in Nigeria at 55%. According to the United Nations Report (1999), Nigeria's Human Development Index (HDI) was only 0.416, which places the country among the 25 poorest nations in the world. Furthermore, Nigeria's life expectancy at birth was put at 51 years, literacy rate is 44% and 70% of the rural population does not have access to portable water, healthcare facilities and electricity.

Concept of Financial Inclusion

Financial inclusion means that formal financial services—such as deposit and savings accounts, payment services, loans, and insurance—are readily available to consumers and that they are actively and effectively using these services to meet their specific needs (CGAP 2011). A related but distinct concept is financial development. While financial inclusion is typically measured by gauging how many people own and use formal financial products, financial development is concerned with macro-level indicators, such as the size of the stock market and a country's ratio of credit to gross domestic product (GDP). Many factors influence both a country's level of financial inclusion and financial development, including income per capita, good governance, the quality of institutions, availability of information, and the regulatory environment (Allen et al. 2016; Rojas-Suarez 2010; Karlan et al. 2007; Park & Mercado 2015).

Anwar, Uppun, Reviani (2016), gave different definitions of financial inclusion by different organizations and agencies. For instance, Global Partnership for Financial Inclusion (GPFI) stated that "financial inclusion in which all working age adults have effective access to credit, savings, payments, and insurance from formal service providers. Effective access involves convenient and responsible service delivery, at a cost affordable to the customer and sustainable for the provider, with the result that financially excluded customers use formal financial services rather than existing informal options."

According to financial Action Task Force (FATF) "financial inclusion involved providing access to an adequate range of safe, convenient and affordable financial services to disadvantaged and other vulnerable groups, including low income, rural and undocumented persons, who have been underserved or excluded from the formal financial sector".

Reserve Bank of India (RBI) defined financial Inclusion as "process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low-income groups in particular, at an affordable cost in a fair and transparent manner by regulated, mainstream institutional players". For this study, the definition by Reserve Bank of India (RBI) is the adopted concept of financial inclusion.

Concept of Financial Literacy

Financial literacy is the ability of one to possess adequate knowledge about financial terms such as money, inflation, interest rate, credit and others, but besides this the abilities and skills of that person to use all this information in personal life, being aware about the consequences of its financial actions Onea & Dornean, 2012). Financial literacy has been conceptualized by different studies both in developing and developed countries. This is to arrive at common knowledge that would help in developing the financial literacy studies and interventions applicable to the context of least developing countries.

Marcolin and Abraham (2006) pointed to financial literacy as the ability to make informed judgments and to take effective decisions regarding the use and management of money. Organization for Economic Corporation and Development (2013) also defined financial literacy as, —a combination of awareness, knowledge, skill, attitude and behaviour necessary to make sound financial decisions and ultimately achieve individual financial wellbeing. Lusardi and Mitchell (2013) also coined financial literacy as, —ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions.

Lusardi and Mitchell (2013) succinctly alluded that financial literacy is peoples' ability to process economic information and make informed decisions about financial planning, wealth accumulation, debt, and pensions which become increasingly important to enable individual and household to cope with the ever-growing complexity of products and service in financial market.

Miller et al. (2009) also considered financial literacy as an active process with two sequential outcomes. First, financial literacy imparts knowledge and skills that enable consumers to make financial decision to improve financial wellbeing. Consumer with financial knowledge and attitude to implement lesson learned from financial education will choose financial services and products that are at their best interest.

Onea and Dornean (2012) categorized different definitions given to financial literacy into —theoretical, —applied and —awareness. Socol (2014) also analyzed meaning and concept of financial literacy and financial education on literatures covering a period 2005 to 2014. He pointed out that, the initial concept of financial literacy covers only knowledge and skill elements. Onea and Dornean (2012) understood these types of definitions as theoretical for their focus on what a person knows about finance. Socol (2014) learned that the initial concepts have been moving to include financial behaviour and experience required for better outcome in financial decisions. These for Onea and Dornean (2012) were categorized as practical definitions, which are becoming popular after initial introduction on UK-Financial Service Authority (FSA) in 2006. This approach uses the term financial capability, which is broader than financial literacy used in early studies from USA and has been widely followed in most countries in Europe (Lusardi, 2012). Financial capability is gaining greater importance because of the fact it is a broad concept and assumed translation of knowledge into behaviour and practices.

Financial literacy is a relative term and difficult to quantify for the fact that it depends on the financial system in which individuals and communities operate (Brascoupé and Weatherdon, 2013). Financial literacy is the ability to read, analyze, manage, and communicate about the personal financial conditions that affect material wellbeing. Financial education is the process by which financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or objective advice, develop the skills and concepts to become aware of (financial) risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial wellbeing and protection. Financial capability is being able to manage money, keep track of your finances, plan ahead, choose financial products and stay informed about financial matters (Co-Creation Hub Nigeria, 2013; Organization for Economic Cooperation and Development, 2005). Within the context of financial literarcy, Socol (2014) concept of knowledge and skill elements is adopted.

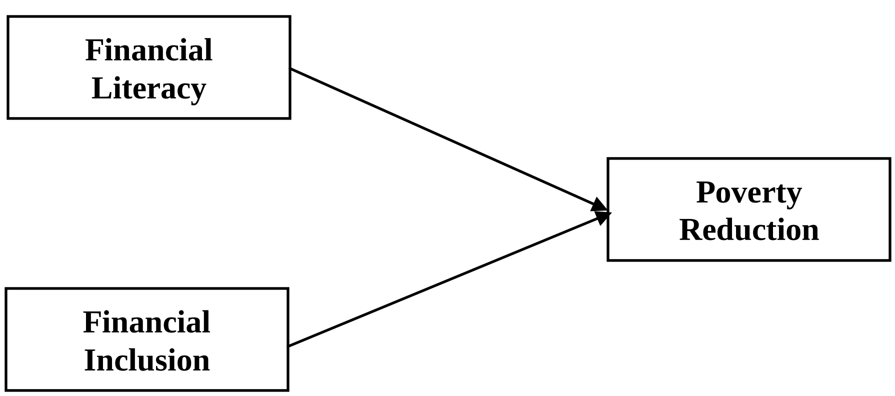

Figure 1: Conceptual Model showing the relationship of Financial Inclusion, financial Literacy and Poverty Reduction

Theoretical Review

Theory of Planned Behavior (TPB)

The Theory of Planned Behavior (TPB) (Ajzen, 1991) was grounded on Fishbein and Ajzen's (1975) Theory of Reasoned Action (TRA). The thrust of the theory of planned behavior is the individual's intention to perform a given behavior and the theory simply indicates the effort that the person will make in other to carry out a particular behavior. The theory assumes that any behavior requires a certain amount of planning, and it can be predicted by the intention to adopt that behavior. The theory fuses "perceived behavioral control" to subjective norms and attitudes, to clearly explain the relationship between behavioral intention and actual behavior. The TPB is one of the most widely used theories in predicting behavior and its applicability to the entrepreneurship domain has received overwhelming acceptance. This study adopted this theory based on the fact that any individual who must come out of poverty must plan with intention of acquiring both financial literacy and inclusion.

Empirical Review

Financial Inclusion and Poverty

That Sarani, 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 Nwanna (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.

Cyn-Young and Ragelio (2015) examined the relationship between financial inclusion, poverty and income inequality in Asia. The study which focused on developing Asian economies sought to determine country-specific factors and macroeconomic variables that affect the level of financial inclusion for selected 37 developing Asian countries. They found that demographic factors and per capita income significantly affect financial inclusion. The study also shows that financial inclusion reduces income inequality and poverty.

Migap et al (2015) examined financial inclusion as a strategy for inclusive growth in Nigeria. The study compared Nigerian financial inclusion index with other emerging economies in the upper middle-income strata. They found that Nigerian financial inclusion indicator is still shallow compared to emerging economies both within and outside Africa. The study suggests that active participation of media and educational institutions should be encouraged to promote financial literacy in Nigeria.

Nkwede (2015) examined financial inclusion and economic growth in Africa, using Nigeria as a case study. Data for the study covered the period 1981 to 2013. The study shows a negative relationship between financial inclusion and growth of Nigerian economy. He attributes the finding to high level of financial exclusion of adults from financial services. Onaolapo and Odetayo (2012) studied financial inclusion in Nigeria from the perspective of microfinance banks using a survey design method. They find that access to financial services through microfinance institutions by less privileged people promotes employment generation, reduction in poverty and overall economic growth.

Joseph and Varghese (2014) studied the role of financial inclusion in the development of Indian economy. The study investigated the activities of five private sector banks and five state banks from June to November, 2013. Onsite and offsite ATM usage, number of bank branches, credit cards and debit cards per customers were used as proxies for financial inclusion variable focusing on rural and semi-urban areas in India. They find that quite a number of people are still excluded from financial services even after the introduction of inclusive banking initiatives in the country.

Aduda and Kulanda (2012) examined financial inclusion and financial sector stability with reference to Kenyan economy. The study which is exploratory in nature reveals that financial inclusion is a prerequisite for economic growth and development in Kenya because various financial inclusion programmes have impact on Kenya financial stability. The study suggests that government should intensify its financial inclusion strategies so that more people would have access to financial services especially people in the informal sector. Brune et al (2012) also find that increased financial access through mobilization of rural savings improves the livelihood of Malawian rural population because poor households have access to savings for agricultural inputs.

Financial Literacy and Poverty

Calvet et al. (2007) and Van Rooij et al. (2011), posits that financially illiterate households and those with lower cognitive abilities are found to have difficulties in managing their daily expenditures, economic transactions, and financial resources. This is particularly true of and troubling for the poor, who, on the one hand, are more likely to be financially illiterate and, on the other hand, face constant and cumulative financial tightness. Therefore, their lack of skills and ability to manage their already limited resources to meet various basic living needs adds to the material hardship of their low and unstable incomes.

Cohen and Nelson (2011) argue that financial literacy helps the poor by making them aware of financial issues and choices that they face and develop strategies to deal with their financial state.

Braunstein and Welch (2002) argued that financial literacy has a positive impact on people's awareness and understanding of available financial services, which is particularly important to encourage the unbanked to become financially included. For those who are currently included, financial literacy also matters because it has an impact on a range of financial behaviors, which are deemed to be crucial for asset building and wealth accumulation, such as savings, retirement planning, financial market participation, investment and debt management

Robert et al (2013) who studied financial literacy and Microfinance Outreach in Uganda and found that client financial literacy and microfinance outreach are not significantly related. And Hieltjes and Patova (2013), who implemented a randomized control trial to examine the effect of financial literacy and transaction cost among low-income people in central Ethiopia Ziway, find no significant effect of financial literacy training and financial awareness message on bank account uptake and usage.

METHODOLOGY

Research Design

This study adopted the quantitative research method which is inclined to cross-sectional survey. The data was sourced via primary method with structured questionnaire. The questionnaire was administered to the target population for this study comprising of small business traders within the North Central Nigeria. The sampling methods used to select the respondents is random sampling which allows for randomization of sampling selection, each sample has equal probability

Sample size Determination

The total Population estimate is 20,266,257 in north Central Nigeria Comprising; Plateau,3,178,712; Benue,4,219,244; Kwara,2,371,089; Kogi 3,278,487; Niger, 3,950,249; Nasarawa,1,863,275 and FCT, 1,405,201 (United Nations, 2018), from which a sample was drawn using the Yamane formula

$n = N/1+N(\alpha^2)$

where:

n = sample size

N = total population size (known or estimated)

α = precision level (0.05)

From the sample size of 400 obtained from the population, a total of 233 questionnaire were retrieved. Giving a response rate of 58.25%.

Variables and Measurement

In this study, effect of financial literacy and inclusion on poverty reduction in North central Nigeria has been conceptualized in the literature review of this study. The nature of the questionnaire used for this study was a five-point Likert-scale, ranging from “strongly agree” to “strongly disagree” (5 = ‘Strongly Agree’, 4 = ‘Agree’, 3 = ‘Neither Agree nor Disagree’, 2 = ‘Disagree’ and 1 = ‘Strongly Disagree’) to reflect the agreement of the respondents on the issues raised.

The data for this study was subjected to data cleaning tests such as out of range, missing values, outliers and normality tests. All the issues relating to the data cleaning were taken care of and the data was certified and used for the final analysis.

Method of Analysis

This study adopted the structural equation model (SEM). The SEM is an extension of the general linear model (GLM) that enables a researcher to test a set of regression equations simultaneously. Structural Equation Modeling (SEM) consists of two types known as the Variance Based Structural Equation Modeling (VB-SEM) and the Covariance Based Structural Equation Modeling (CB-SEM) (Esposito, 2010). While the VB-SEM also known as Partial Least Square Structural Equation Modeling (PLS-SEM) requires small sample size and little or no fitness tests, the CB-SEM requires large sample size of at least 200 and produce many fitness indexes which reflect the appropriateness of a measurement model. This study adopted the Covariance Based Structural Equation Modeling (CB-SEM) given that the sample size for this study is above 200. Table 1 shows the indices for testing the model fit and the benchmark.

Table 1: SEM Model fit Criteria

Indices	Benchmark	Remark
Root Mean Square of Error Approximation (RMSEA)	< 0.05	Values btw (0.05 to 0.10) is good
Normed Fit Index (NFI)	≥ 0.90	Very close to 1 is a good fit
Tucker-Lewis Index (TLI)	≥ 0.90	Very close to 1 is a good fit
Comparative Fit Index (CFI)	≥ 0.90	Very close to 1 is a good fit
Chisq/df	> 2	between 1 and 5

RESULTS

Confirmatory Factor Analysis

Measurement Model

Confirmatory factor analysis (CFA) is often applied in the measurement model of each latent construct as well as to the full measurement model. A measurement model defines the relationship between the observed indicator variables and the construct they are designed to measure (Byrne, 1998). CFA tests measures how well variables represent a smaller number of latent constructs (Hair et al., 2012), confirming or rejecting the measurement theory. CFA assesses the measurement model through the goodness of fit (GOF) criteria indices and the testing of the hypotheses using the structural model. Figure 2 shows the confirmatory factor Analysis. The number of iterations taken by AMOS software to achieve the model is a minimum number of two (2)

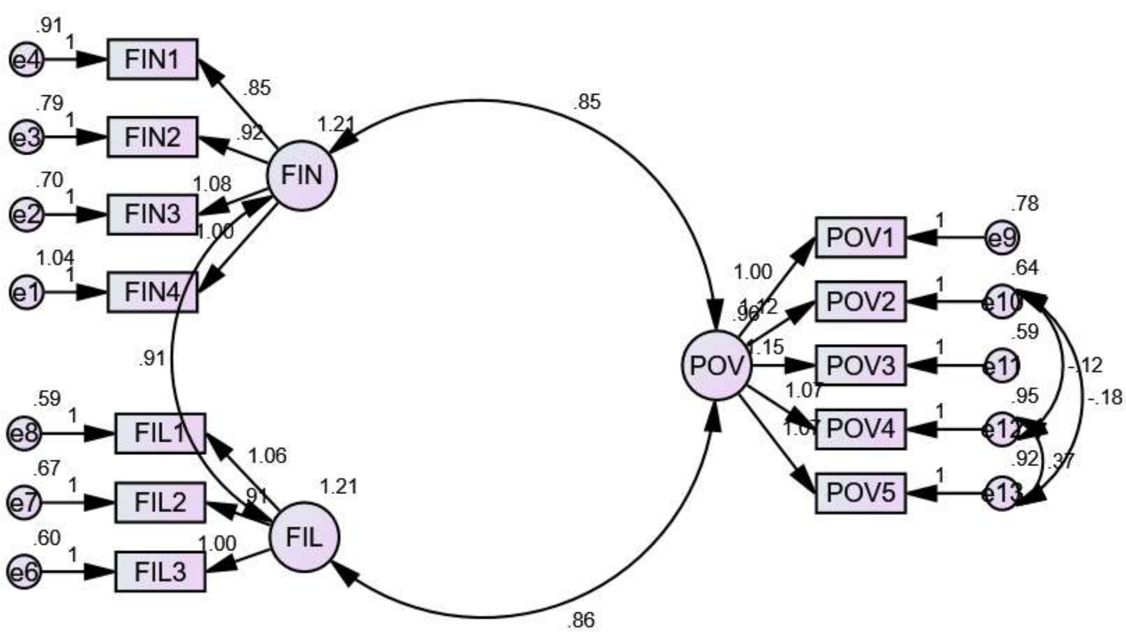

Figure 2: Measurement Model

Table 2: Result of the goodness of fit for confirmatory factor analysis (CFA) (measurement model)

Measurement Index	Benchmark	Values Obtained	Remark
χ^2		184.762	
Df		62	
χ2/df	1<	2.980	between 1 and 5
GFI	≥0.90	0.889	Very close to 1 is a good fit
RMSEA	<0.05	0.092	Values btw (0.05 to 0.10) is good
NFI	≥0.90	0.896	Very close to 1 is a good fit
CFI	≥0.90	0.928	Very close to 1 is a good fit
TLI	≥0.90	0.909	Very close to 1 is a good fit
AGFI	≥0.90	0.838	Very close to 1 is a good fit

Note: χ2 = Chi-square; **df** = degree of freedom; **GFI** = Goodness of fit index; **RMSEA** = Root mean square error of approximation; **NFI** = Normated fit index; **TLI** = Tucker Lewis index; **CFI** = Comparative fit index; **AGFI** – Adjusted goodness of fit index

Source: AMOS 23.0

Table 2 shows the result of the goodness of fit for CFA. (e.g. Chi-Square, TLI, GFI, NFI, AGFI, RMSEA and CFI) were within the recommended level. The model was therefore declaring fit for further analysis.

Validity and Reliability of the Study

It is important that a study using primary data such as this, should ensure that the measurement instrument is valid and reliable for the findings of the study to be generalizable or acceptable as contributing to knowledge. It is in this light that this study ensures compliance. The validity and reliable test conducted/to be conducted are as follows:

Construct Validity

Construct validity is the degree to which the instrument actually measures whether or not an underlying construct is being measured. To ensure that the instrument actually measures the stated construct, questions were asked based on stated research questions/hypothesis which in turn are designed from the constructs that make up the dependent and independent variables, the questions are arranged in such a way as to easily identify their categories, for the facilitation of data analysis. The adoption of the structural equation model for this study also adds to the value of the construct validity for this study just as Hox & Bechger, (2011) observed that the use of Structural equation model for analysis involves greater recognition being given to the validity and reliability of observed scores from measurement instruments.

Table 3: Convergent Validity

	FIN	FIL	POV
FIN	**0.751**		
FIL	0.650	**0.809**	
POV	0.683	0.674	**0.770**

The result of convergent validity is presented in Table 3. Convergent validity is the extent to which observed variables of a particular construct share a high portion of the variance in common (Hair et al., 2012). Factor loadings of construct, average variance extracted (AVE), and composite reliability (CR) estimation are used to assess the convergent validity of each of the constructs. In addition, the ideal standardised loading estimates should be 0.7 or higher, AVE estimation should be greater than 0.5, and reliability estimates should be above 0.7 to show adequate convergent validity. Therefore, in this study, the minimum cut off criteria for loadings >0.7, AVE >0.5, and reliability >0.7 were used for assessing the convergent validity. Hence, convergent validity is confirmed.

Table 4: Discriminant Validity

s/n	Constructs	Factor Loading
1	**Financial Literacy -** AVE= **0.564, CR= 0.838**	
	FIN 1	0.732
	FIN 2	0.818
	FIN 3	0.749
	FIN 4	0.701
2	**Financial Inclusion** AVE= **0.655, CR= 0.851**	
	FIL 1	0.774
	FIL 2	0.836
	FIL 3	0.854
3	**Poverty Reduction -** AVE= **0.593 CR= 0.879**	
	POV 1	0.741
	POV 2	0.808
	POV 3	0.826
	POV 4	0.733
	POV 5	0.738

Table 4 shows the result of the Discriminant validity for this study. Discriminant validity refers to the extent to which a latent construct is truly distinct from other latent constructs (Hair et al., 2012). Discriminant validity was assessed by a method, suggested by Hair et al. (2012), In which the average variance extracted for each construct is compared with the corresponding squared inter construct correlations (SIC), and the AVE estimate consistently larger than the SIC estimates indicates support for discriminant validity of the construct. This procedure was used in this research to assess the discriminant validity of each of the constructs.

Structural Model

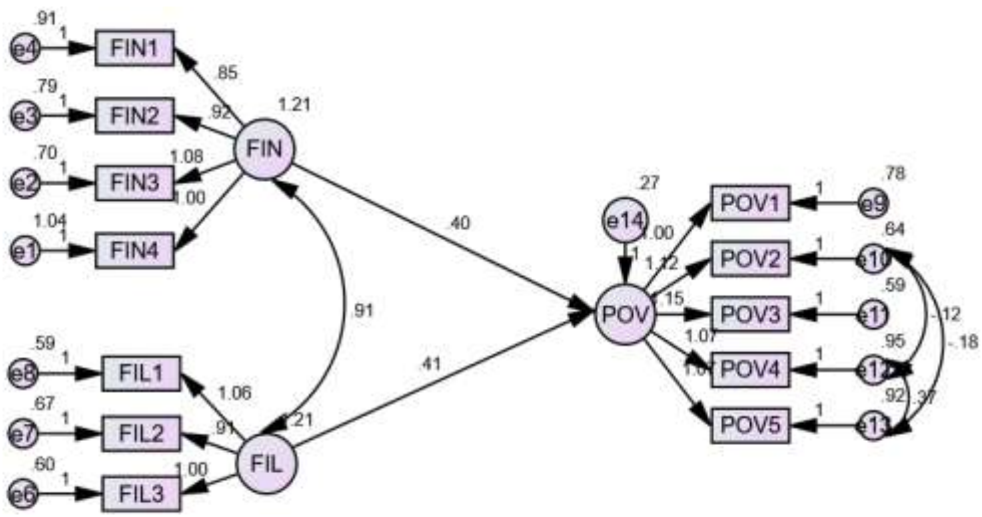

Figure 4: Structural Model

Table 5: Result of the goodness of fit for Measurement Model

Measurement Index	Benchmark	Values Obtained	Remark
χ2		103.191	
Df		48	
χ2/df	1<	2.150	between 1 and 5
GFI	≥0.90	0.930	Very close to 1 is a good fit
RMSEA	<0.05	0.070	Values btw (0.05 to 0.10) is good
NFI	≥0.90	0.939	Very close to 1 is a good fit
CFI	≥0.90	0.966	Very close to 1 is a good fit
TLI	≥0.90	0.953	Very close to 1 is a good fit
AGFI	≥0.90	0.887	Very close to 1 is a good fit

Note: χ2 = Chi-square; **df** = degree of freedom; **GFI** = Goodness of fit index.
RMSEA = Root mean square error of approximation; **NFI** = Normated fit index; **TLI** = Tucker Lewis index; **CFI** = Comparative fit index; **AGFI** – Adjusted goodness of fit index

Source: AMOS 23.0

Table 5 show the results of the measurement model fit after constraining some item that seem problematic. Table 5 indicated that (GFI, TLI, NFI, AGFI, RMSEA and CFI) improved. In addition to these indices, the ratio of $\chi 2/df$ was 2.150, which was within the acceptable threshold level (i.e., $1.0<X2/df<3.0$). This goodness of fit statistics therefore confirmed that the model adequately fitted the data.

Table 6: Regression estimates of latent constructs

Hypotheses	Construct	Direction	Construct	Standardized Estimate	S.E.	C.R.	P-value	Remark
H_1	**POV**	**<--**	**FIL**	0.407	0.086	4.763	0.000	Significant
H_2	**POV**	**<--**	**FIN**	0.400	0.087	4.588	0.000	Significant

Table 6 shows the result of the effect of financial literacy on poverty reduction. Financial literacy was found to have a positive effect in poverty reduction in North Central Nigeria with coefficient values of ($\beta=0.407$, C.R=4.763, $p=0.000$). This result implies that the more people are financially literate, the more there will be poverty reduction in North central Nigeria. This result is not consistent with the findings of Robert et al (2013) who studied financial literacy and Microfinance Outreach in Uganda and found that client financial literacy and microfinance outreach are not significantly related. It was also found that the finding of the work does not corroborate with Hieltjes and Patova (2013), who implemented a randomized control trial to examine the effect of financial literacy and transaction cost among low-income people in central Ethiopia Ziway, find no significant effect of financial literacy training and financial awareness message on bank account uptake and usage.

Consequently, the effect of financial inclusion was found to have a positive effect on poverty reduction in North Central Nigeria with coefficient values of ($\beta=0.400$, C.R=4.588, $p=0.000$). This result implies that the more people are financially included, the more there will be poverty reduction in North Central Nigeria. This result is consistent with the findings of Cyn-Young and Ragelio (2015), examined the relationship between financial inclusion, poverty, and income inequality in Asia. The study also shows that financial inclusion reduces income inequality and poverty. It was also found that the finding of the work does not corroborate with Nkwede (2015) examined financial inclusion and economic growth in Africa, using Nigeria as a case study. The study shows a negative relationship between financial inclusion and growth of Nigerian economy. He attributes the finding to high level of financial exclusion of adults from financial services. But this study result was found to be consistent with Onaolapo and Odetayo (2012), studied financial inclusion in Nigeria from the perspective of microfinance banks using a survey design method. They find that access to financial services through microfinance institutions by less privileged people promotes employment generation, reduction in poverty and overall economic growth. Similarly, it was consistent with Brune et al (2012) who found that increased financial access through mobilization of rural savings improves the livelihood of Malawian rural population because poor households have access to savings for agricultural inputs.

CONCLUSION AND RECOMMENDATIONS

This study is limited to the Effect of financial Inclusion and literacy on poverty reduction in North central Nigeria. It reflects states of North central Nigeria which include, Plateau, Benue, kwara, Kogi, Niger, Nasarawa, and Federal Capital territory. I recommend for further studies in other geopolitical zones of the country. This paper suggested that financial literacy and financial inclusion are economic development and Poverty reduction strategy that manifest themselves as part of the emerging issues in Nigeria, especially in North Central states. Evidence shows that lack of financial literacy and financial inclusion in any society affect the realization of poverty reduction and welfare improvement programs, which suggested the need for integrating personal financial education into poverty reduction programs, such as, microfinance and financial inclusion, entrepreneurship, income and employment creation, and other similar programs aimed at welfare enhancement. Findings and analysis from this study shows that financial literacy and financial inclusion both have significant effect on the poverty reduction in North Central states. This study, therefore, recommends that building financial literacy and their financial inclusion capabilities will improve:

i. Personal financial management, which in turn, will be manifested through better financial behaviour and financial outcomes; and
ii. Savings which will smoothen the development of the North Central states through financial risk taking. Consequently, the saving behaviour, will also contribute to availability of investment fund at household and national level.

REFERENCES

Adebayo, B. (2018). Nigeria overtakes India in extreme poverty ranking. Retrieved from https://edition.cnn.com/2018/06/26/africa/nigeria-overtakes-india-extreme-poverty-intl/index.html

Aduda, J., & Kalunda, E. (2012). Financial inclusion and financial sector stability with reference to Kenya: A review of literature*, Journal of Applied Finance and Banking 2*(6), 95 -120.

Ajzen, I. (1991). The theory of planned behaviour. *Organizational Behaviour and Human Decision Processes*, *50*(2), 179-211. http://dx.doi.org/10.1016/0749-5978 (91)90020-t

Anwar, A., Uppun, I.P., Reviani, T. A. (2016). The role of financial inclusion to poverty reduction in Indonesia. *IOSR Journal of Business and Management, 18*(6), 1-3.

Blake, D.H., & Walter, R.S. (1986). The politics of global economic relations. New Jersey: Prentice-Hall.

Brandit, F. (1979). The new international division of labour. New York: Cambridge University Press.

Brascoupé, S., & Weatherdon, M. (2013). Literature review of indigenous financial literacy in Australia, Canada, New Zealand and the United States, AFOA CANADA, Building a Community of Professionals.

Brune, L., Giné, J., Goldberg, D., & Yang, T. (2012). Commitments to Save: A field experiment in rural Malawi,' *World Bank Policy Research Working Paper,* 5748. Washington, DC.

Byrne, B. (1998). *Structural equation modelling with LISREL, PRECIS, and SIMPLIS.* Hillsdale, NJ: Lawrence Erlbaum.

Calvet, L. E., Campbell, J. Y. and Sodini, P. 2007. Down or out: Assessing the welfare costs of household investment mistakes. Journal of Political Economy, 115, 707–747.

Co-Creation Hub Nigeria (2013). Financial Literacy in Nigeria. Retrieved from http://www.cchubnigeria.com/flc/literacy.html

Collins, D., Morduch, J., Rutherford, S. and Ruthven, O. (2010). *Portfolios of the poor: how the world's poor live on $2 a day*. Princeton University Press.

Cohen, M., & Nelson, C. (2011). Financial literacy: a step for clients towards financial inclusion. *Global Microcredit Summit*, 14–17.

Consultative Group to Assist the Poor (2010). *Financial access 2012: The state of financial inclusion through the crisis*. CGAP/World Bank Group.

Cyn-Young, P., & Rogelio, V. (2015). Financial inclusion, poverty, and income inequality in developing Asia, *Asian Development Bank Economics Working Paper Series*

David, L.S. (1981). *International encyclopedia of social sciences*. New York: Macmillan Company

Demirgüç-Kunt, A., & Klapper, L. (2012). *Financial inclusion in Africa: An overview*. doi:http://hdl.handle.net/10986/9335

Deutsch, K.W. (1984). *Politics and Government*, Boston: Houghton Mifflin Company

Engelbrecht L. K. (2011). The global financial crisis: response of social workers to the financial capability of vulnerable households in South Africa, *J. Soc. Intervention: Theory Pract.* 20(2), 41–53.

Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behaviour: An introduction to theory and research*. Reading, Mass: Addison-Wesley Pub. Co.

Furtado, C. (2018). Economic development of Latin America. In *Promise of development* (pp. 124–148). Routledge.

Hair, J. F., Sarstedt, M., Ringle, C. M., & Mena, J. A. (2012). An assessment of the use of partial least squares structural equation modeling in marketing research. *Journal of the Academy of Marketing Science, 40*(3), 414-433.

Hieltjes, E.H., & Petrova, E. (2013). The impact of financial literacy and transaction costs on bank account uptake and use: A Randomized Controlled Trial in Ethiopia', *Master's Thesis in Economics*, Stockholm School of Economics.

Hox, J., & Bechger, T. (2011). An Introduction to Structural Equation Modeling. *Family Science Review*, 354-373.

Hornby, A.S. (2001). *Oxford Advanced Learner's Dictionary of Current English*. London: Oxford University Press.

Khan, F., Siddiqui, M.A., & Imtiaz, S. (2022). Role of financial literacy in achieving financial inclusion: A review, synthesis and research agenda, *Cogent Business & Management, 9*(1), 1-38. DOI: 10.1080/23311975.2022.2034236

Levine & Ross (2005) Finance and growth: Theory and evidence, in Philippe Aghion and Steven Durlauf, eds.: Handbook of Economic Growth (Elsevier Science, The Netherlands).

Lusardi, A. (2012). Numeracy, *Financial Literacy, and Financial Decision-Making*, *Numeracy 5*(1), Article 2, DOI: http://dx.doi.org/10.5038/1936-4660.5.1.2, Available at: http://scholarcommons.usf.edu/numeracy/vol5/iss1/art2

Lusardi, M., &Mitchell, O. (2013). The economic importance of financial literacy theory and evidence. From http://arno.uvt.nl/show.cgi?fid=129675 (Retrieved on 18 September 2018).

Mandel, E. (1888). *Marxist Economic Theories*, London: The Merlin Press

Mancher, S. (1977). *Poverty in a dictionary of the Social Sciences (ed.) by H.E Reading*, London: Routledge and Kegan Paul.

Marcolin, S., & Abraham, A. (2006). Financial literacy research: current literature and future opportunities‘, 3rd International Conference of Contemporary Business 2006 Leura, 21-22 September, University of Wollongong, available at http://ro.uow.edu.au/commpapers/223

Miller, M., Godfrey, N., Levesque, B., & Stark, E. (2009). The case for financial literacy in developing countries: promoting access to finance by empowering consumers, *The International Bank for Reconstruction and Development/The World Bank*, Washington, DC.

Miller, H. (1977). *Poverty in a dictionary of the Social Sciences (ed.) by H.E Reading*, London: Routledge and Kegan Paul.

Nkwede, F. (2015). Financial inclusion and economic growth in Africa: insight from Nigeria, *European Journal of Business and Management, 7*(35), 2222-2839.

Nnoli. O. (1981). A *short history of Nigerian Underdevelopment*, *in Nnoli.O (ed.) Path to Nigeria's Development*, Dakar: Censor.

Omobowale, A.O. (2014). Livelihood, agro ecological zones and poverty in rural Nigeria, *Journal of Agricultural Science*; *6*(2), 103-113.

Onaolapo, A., & Odetayo, T. (2012). Financial inclusion and micro finance banks in Nigeria, *American Journal of Business and Management, 1*(4), 241-247

Onaolapo, A. (2015). Effects of financial inclusion on the economic growth of Nigeria. *International Journal of Business and Management Review, 3*(8), 11-28.

Oanea, D., & Dornean, A. (2012). Defining and measuring financial literacy: New evidence from Romanian‘ Students of the Master in Finance‘, *Scientific Annals of the Alexandru Ioan Cuza University of Iaşi Economic Sciences, 59*(2), 113-129. DOI 10.2478/v10316-012-0036-3

Ogwumike, F. O. (1995). The effects of macro-level government policies on rural development and poverty alleviation in Nigeria. *Ibadan Journal of the Social Sciences*, 1(1), 85 – 101.

Okonkwo, J., & Nwanna, I. (2021). Financial inclusion and economic growth in Nigeria: An empirical study. International Journal of Research and Innovation in Social Science (IJRISS), 5(1), 323-330.

Rojas-Suarez, L. (2010). Access to financial services in emerging powers: facts, obstacles, and policy implications. *OECD Global Development Background Papers.*

Robert, K. A., Natamba, B., Zulaika, N., Akankunda, B., & Esther, A. (2013). Examining the levels of financial literacy and outreach of microfinance institutions in Uganda, *Issues Bus. Manage. Econ. 1*(7), 193-199.

Socol, A. (2014). From literacy to financial education: a survey of methods to measure phenomena. the particular situation of Romania, *Annales Universitatis Apulensis Series Oeconomica*, *16*(1), 213-220.

South Africa. (2007). *South Africa: Millennium Development Goals Country Report*. Pretoria: South African Department of Social Development and Statistics.

Subha, M.V., & Priya, P. S. (2014). The emerging role of financial literacy financial planning, *Int. J. Innovat. Sci. Eng. Technol*. *1*(5), 400-408.

United Nations (1999). Indicators of Poverty & Hunger. http://www.un.org/esa/socdev/unyin/documents/ydiDavidGordon_poverty.pdf (Accessed, 22/10/2016).Webster, M. (2009). Poverty Encyclopaedia Britain. Mca 2009 student and Home edition.

Thathsarani, U., Wei, J., & Samaraweera, G. (2021). Financial inclusion's role in economic growth and human capital in South Asia: An econometric approach. *Sustainability* 13(2), 1-18.

Van Rooij, M., Lusardi, A., & Alessie, R. (2011). Financial literacy and stock market participation. *Journal of Financial Economics, 101*, 449–472.