



Financial Literacy and Economic Empowerment in Rural Communities in Nigeria

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Abstract

This study examined the impact of financial literacy on economic empowerment in rural communities in Nigeria from 2000–2024, anchoring in human capital and economic empowerment. The research employed an explanatory design using Ordinary Least Squares (OLS) regression in EViews 9.0. Secondary data were obtained from EFInA A2F surveys for financial literacy indicators. The dependent variable was Employment Rate (ER), representing economic empowerment, while financial literacy was proxied by Insurance Awareness Rate (IAR), Formal Account Ownership (FAO), Loan Comprehension Rate (LCR), and Participation in Financial Education Programs (PFEP). Results showed that IAR had a positive but statistically insignificant effect on ER ($\beta = 0.0509$; $p = 0.7422$), underscoring the limited role of insurance in rural Nigeria where informal coping mechanisms dominated. FAO was positive and statistically significant at the 5% level ($\beta = 0.0209$; $p = 0.0396$), confirming that account ownership enhanced employability by enabling savings, credit access, and participation in formal programs. LCR emerged as the strongest and significant predictor at the 5% threshold ($\beta = 0.0444$; $p = 0.0211$), indicating that loan comprehension improved credit use, reduced default risks, and fostered enterprise growth. PFEP also exhibited a positive and significant effect at the 5% level ($\beta = 0.0218$; $p = 0.0403$), highlighting the value of structured education in strengthening financial skills and decision-making. The overall model explained 58.7% of variations in ER, with an F-statistic significant at the 1% level, confirming the joint explanatory power of the financial literacy indicators. The study concluded that while insurance awareness alone was insufficient, account ownership, loan comprehension, and financial education significantly fostered empowerment in rural Nigeria at the 5% significance level. It recommended expanding micro-insurance, reducing barriers to account ownership, embedding loan literacy into rural programs, and scaling financial education linked to practical financial products.

Key Words: *Financial Literacy, Insurance Awareness, Loan Comprehension Rate, Participation in Financial Education Programs and Employment Rate.*

Introduction

Rural Nigeria still faces chronic deficiencies in financial literacy, despite the fact that it is a crucial factor in determining economic inclusion and empowerment. Outside of metropolitan areas, there is still a lack of awareness and use of financial products, despite legislative efforts to increase financial inclusion, with more than 40% of adults still not participating in the formal financial system, Wezel and Ree (2023) highlight in their IMF country paper that low literacy and digital awareness contribute to rural financial exclusion. Similar to this, Onyenemezu and Udegbum (2021) contend that pervasive financial literacy gaps are the root cause of ingrained poverty because households are unable to properly assess and utilise credit, insurance, and savings options. Nigeria's demographic makeup and strong reliance on rural livelihoods make these disparities particularly

significant. The Insurance Awareness Rate (IAR), Formal Account Ownership (FAO), Loan Comprehension Rate (LCR), and Participation in Financial Education Programs (PFEP) are quantifiable proxies that can be used to examine financial literacy in this context. This allows for a more thorough understanding of the obstacles to inclusion. According to research by Imhanrenialena and Nwobodo-Anyadiiegwu (2025), literacy is positively correlated with the adoption of financial services and sustainable farming methods, indicating that literacy helps households access and use financial tools effectively. Similarly, Hassan and Utulu (2022) point out how rural communities in Bauchi State's lack of knowledge and technological obstacles limit their ability to participate financially and their faith in official institutions. The economic agency of rural Nigerians can be directly shaped by certain knowledge gaps, such as inadequate

understanding of loan terms or low insurance uptake, by concentrating on these proxies.

There are significant ramifications for economic empowerment, which is represented here by the employment rate (ER). By empowering people to manage risks, diversify their sources of income, and pursue entrepreneurial endeavours, financial literacy lowers vulnerability and makes it easier for people to transition from unstable self-employment to more stable employment. Even though informality continues to limit employment outcomes in rural areas, there is empirical evidence that literacy-driven gains in loan comprehension, insurance participation, and account ownership can broaden opportunity structures. Low levels of insurance awareness, limited formal account ownership, poor loan term comprehension, and low participation in financial education programs continue to plague Nigerian rural communities, undermining their capacity to use financial systems for long-term employment and livelihood. The lack of sufficient literacy remains a significant barrier, despite the fact that financial inclusion policies have increased access (Wezel & Ree, 2023). Nonetheless, current research

Literature Review

Conceptual Review

Financial Literacy

The awareness, information, abilities, and attitudes people need to make wise financial decisions and improve their financial well-being are collectively referred to as financial literacy. It includes understanding concepts like borrowing, saving, risk management, and long-term planning in addition to reading and writing about finance. Financial literacy is especially important in rural areas because it determines how well people can interact with financial institutions, understand information, and use financial services to improve their quality of life (Wezel & Ree, 2023). Financial literacy is the cornerstone of long-term involvement in both conventional and contemporary financial systems by influencing decision-making. From a conceptual standpoint, inclusion, resilience, and empowerment are all strongly related to financial literacy. It serves as a tool to lessen the information asymmetry that exists between users and financial service providers, empowering people to make decisions that suit their needs and objectives. The purpose of financial literacy is to foster confidence, trust, and reason when navigating formal financial environments in rural Nigeria, where households frequently rely on unofficial means (Onyenemezu & Udegbum, 2021). It also represents the more general notion that in order to convert access into efficient use of financial products and services, knowledge and skills are necessary (Imhanrenialena & Nwobodo-Anyadiiegwu, 2025). In rural contexts, financial literacy

identifies significant gaps: Although Benedict (2024) demonstrates that financial literacy improves rural producers' access to credit, the study makes no connections between these results and employment or more general economic empowerment. Similarly, Imhanrenialena and Nwobodo-Anyadiiegwu (2025) show that literacy increases the uptake of sustainable agricultural practices and financial services, but their analysis does not look at how such adoption affects employment. Effiong et al. (2025) offer proof that awareness affects health insurance scheme enrolment, but they do not extrapolate their results to labour market outcomes. Furthermore, employment disparities in rural areas are documented by national labour statistics; however, these trends have rarely been analysed in conjunction with multidimensional literacy indicators (NBS, 2024). The need for this study was driven by the body of evidence that shows how little integrated research has been done to directly link various proxies of financial literacy; insurance awareness, account ownership, loan comprehension, and financial education participation to employment outcomes.

can be viewed as a vital tool for promoting inclusive development, enabling informed participation in economic activities, and bridging systemic inequalities. IAR, or insurance awareness rate is a measure of how well people know and comprehend insurance products, their advantages, and the ways in which they offer risk-averse financial protection. It shows that people understand the importance of insurance in protecting their livelihoods, assets, and health in addition to knowing that it exists. IAR plays a critical role in shaping attitudes towards risk management and involvement in formal insurance schemes in rural communities, which are particularly vulnerable to shocks (Effiong et al., 2025; Osunde et al., 2023). Therefore, IAR is a crucial measure of resilience and financial literacy.

Owning a transaction account with a licensed financial institution that acts as a conduit to additional financial services like credit, savings, and payments is known as formal account ownership, or FAO. Since it gives people the ability to safely manage resources, participate in economic activities, and accumulate financial security, it is commonly recognised as a crucial indicator of financial inclusion. FAO encourages financial stability, decreases reliance on informal systems, and increases formal economy participation in rural areas (Demirgüç-Kunt et al., 2022; Allen et al., 2023). As such, FAO is a key metric for financial empowerment and literacy.

The Loan Comprehension Rate (LCR) measures how well people comprehend the terms, conditions, expenses, and commitments involved in borrowing

money from official financial institutions. In order to make wise credit decisions, it includes understanding interest rates, repayment plans, collateral requirements, and penalties. Because poor understanding frequently results in loan avoidance, excessive debt, or mistrust of financial providers, LCR is crucial in rural communities as it limits access to productive financing. Households can better utilise credit for investment and livelihood enhancement by bolstering LCR (Adeniran & Obembe, 2022; Ojong & Effiom, 2024).

Engaging in Financial Education Programs (PFEP), the active participation of individuals in organised programs intended to improve the financial knowledge, abilities, and attitudes required for sound financial decision-making is known as PFEP. These initiatives could take the form of workshops, community-based training, school curricula, or online learning environments designed to enhance responsible borrowing, money management, and a culture of saving. Because it bridges capability gaps, increases self-assurance when engaging with formal institutions, and promotes long-term financial resilience, PFEP is especially important in rural areas. Theoretically, PFEP supports economic empowerment by converting access to financial services into meaningful use (Sajuyigbe et al., 2024).

Employment Rate in Rural Communities in Nigeria

The percentage of working-age individuals in Nigerian rural communities who are employed in the formal or informal sector is known as the employment rate. It is a vital sign of economic health since it shows how well people can support themselves and engage in the economy. The majority of jobs in rural Nigeria are in informal manual labour, petty trading, and subsistence farming, all of which are frequently characterised by low productivity and shock susceptibility (Adepoju & Oni, 2023; NBS, 2024). Because of this, the employment rate in these areas reflects both the structural issues that rural economies face, such as poor market connections, limited access to financing, and inadequate infrastructure, in addition to being a gauge of labour participation. Reducing poverty, halting rural-urban migration, and fostering inclusive growth all depend on a high employment rate in rural areas. Rural residents are more likely to become financially independent, enhance household welfare, and support community development when they have access to steady and fruitful employment opportunities. The transformative potential of employment is, however, limited in rural Nigeria by the prevalence of precarious informal jobs and ongoing underemployment (Okafor & Anyanwu, 2022; Usman & Yusuf, 2025). Investments in education, vocational training, agricultural modernisation, and the growth of rural enterprises are necessary to meet these challenges.

Therefore, the employment rate is a crucial indicator of economic empowerment and the general development of Nigerian rural communities in addition to being a statistical indicator of labour utilisation.

Theoretical Review

Human Capital Theory

According to human capital theory, a person's abilities, competencies, and knowledge are important factors that influence economic growth and productivity. The idea contends that investments in education, training, and other capacity-building initiatives increase people's ability to make meaningful contributions to the economy (Becker, 1993). Given that participation in financial education programs, account ownership, loan comprehension, and knowledge of financial services all enhance decision-making and financial behaviour, financial literacy can be seen as a type of human capital in rural Nigeria. Financial literacy improves employability and supports stable livelihoods by giving rural residents the skills they need to manage resources, assess risks, and interact with formal institutions with confidence. Because it highlights the importance of knowledge-based investments in improving employment outcomes and lowering poverty in rural communities, Human Capital Theory offers a helpful framework for tying financial literacy to economic empowerment.

Empowerment Theory

The process of improving people's control over opportunities, resources, and decision-making that impact their lives is emphasised by empowerment theory. Zimmerman (2000) asserts that empowerment encompasses behavioural, emotional, and cognitive aspects that increase people's ability to affect their surroundings and become more independent. By helping people to get past obstacles to inclusion, interact with financial systems efficiently, and increase their economic opportunities, financial literacy serves as an empowerment tool in rural Nigerian communities. Participation in financial education programs and increased financial literacy give people the confidence they need to use formal financial services, obtain credit, and engage in revenue-generating endeavours that lead to employment. Because it links financial literacy to broader socio-economic transformation and emphasises how increased awareness and capacity can result in employment, resilience, and better welfare in rural areas, empowerment theory is pertinent to this study. It presents financial literacy as a prerequisite for economic empowerment as well as a means of achieving it.

Empirical Review

Adepoju et al. (2025) used household survey data from 2020 to 2024 to conduct a nationwide time-series study

in Nigeria that included Lagos, Kano, and rural states. Fixed-effects regression using DHS financial literacy proxies and employment records showed that rural employment rates rose by 0.8 percentage points for every unit increase in the literacy index. In order to promote sustainable economic empowerment, the study suggested incorporating financial literacy into rural livelihood programs and came to the conclusion that literacy has macro-level employment effects.

Among 460 farmers registered in Edo State, Imhanrenialena et al. (2025) examined the relationships between financial literacy, funding access, adoption of innovative financial services, and sustainable food production. Regression analysis using a cross-sectional design with S&P financial literacy items revealed that literacy significantly improved funding and fintech use. The study came to the conclusion that literacy increases productivity and suggested campaigns to boost rural economic participation by combining financial education with digital payments onboarding.

A multi-site cross-sectional survey with 3,732 respondents was used by Effiong et al. (2025) to evaluate enrolment in six state-sponsored health insurance programs throughout Nigeria. Descriptive, bivariate, and logistic regression analysis showed extremely low enrolment and found that the primary obstacle was a lack of awareness. The study came to the conclusion that a lack of insurance knowledge limits risk protection and suggested unified education campaigns, broader scheme consolidation, and streamlined procedures to increase public confidence and boost rural communities' adoption.

Under the Central Bank's Anchored Borrowers Program in Nigeria, Benedict (2024) investigated how smallholder farmers' economic decisions were impacted by their level of financial literacy. The study used PLS-SEM and a cross-sectional survey with S&P literacy items to find that literacy was a significant predictor of digital payment preferences, credit access, and agribusiness performance. It found that comprehension of compound interest and numeracy were weak areas and suggested focused financial education programs to improve these abilities for better financial outcomes and decision-making in rural areas.

Alqam and Hamshari (2024) used a multifaceted literacy tool that covered decision-making, consumer rights, and product knowledge to survey 440 Jordanian youth. PLS-SEM analysis revealed that literacy dimensions significantly improved well-being and financial inclusion. The study came to the conclusion that comprehensive literacy improves youth empowerment and suggested incorporating consumer rights and financial product knowledge into curricula to promote inclusion and long-term involvement in formal financial systems, especially among underprivileged youth populations in developing nations.

Lang (2024) used data from more than 100 countries' Gallup Polls, S&P FinLit, and Global Findex to examine poverty and financial literacy worldwide. Probit models using Gaussian copulas showed that literacy, through account ownership and formal savings, lowers poverty, particularly in low-income and rural areas. In order to achieve inclusive financial and social development globally, the paper suggested concentrating interventions on vulnerable groups and concluded that expanding literacy programs strengthens poverty reduction, especially where formal account use is weak.

Using multistage sampling and questionnaires analysed with regression and Garrett ranking, Falola, Adeniyi, and Alao (2023) investigated the financial literacy of rural households in Kwara State. The findings revealed that literacy levels were moderate, and that higher literacy scores were significantly correlated with education and extension services. In order to improve the results of financial inclusion, the study suggested that banks, cooperatives, and government organisations expand their rural financial outreach programs. It also found that community-based and extension-driven training can greatly increase literacy in rural households.

Research Methodology

This study examines the relationship between financial literacy and economic empowerment in Nigeria between 2000 and 2024 using an explanatory design and Ordinary Least Squares (OLS) regression. For estimation and diagnostic testing, EViews 9.0 is used, guaranteeing reliable, accurate findings regarding the influence of financial literacy proxies on employment outcomes. Nigeria's more than 200 million citizens in six geopolitical zones make up the study population (NBS, 2023). Because of their greater vulnerability, limited work options, and higher rates of financial exclusion, rural communities, which make up more than half of the population are the focus of this analysis of literacy and empowerment dynamics.

Nigerian rural communities were chosen for the study sample using purposive sampling from the NBS Labour Force Survey and the EFINA A2F (2000–2024). This method focusses on the groups most impacted by marginalisation and a lack of opportunities for empowerment, guarantees consistent data on literacy and employment, and records regional variations over time. The study uses secondary data (2000–2024) from NBS labour force surveys for employment rate and EFINA A2F surveys for financial literacy indicators. To ensure reliable, high-quality evidence for examining long-term financial literacy and empowerment in rural Nigeria, these standardised datasets are cleaned and harmonised into a format that is ready for regression analysis.

The association between financial literacy proxies and employment rate will be examined using Ordinary Least Squares (OLS) regression in EViews 9.0. Variance Inflation Factor (VIF) for multicollinearity, Breusch-Pagan-Godfrey for heteroscedasticity, Durbin-Watson and Breusch-Godfrey LM for autocorrelation, and the Johansen Cointegration Test are among the diagnostic tests that will be used. The significance level

for testing hypotheses will be set at 5%. These diagnostics improve the accuracy and dependability of the results by confirming that the OLS assumptions are true. The results will demonstrate how financial literacy affects economic empowerment on an individual and collective level.

The regression model is specified as:

$$ER_t = \alpha + \beta_1 IAR_t + \beta_2 FAO_t + \beta_3 LCR_t + \beta_4 PFEP_t + \epsilon_t$$

Where:

ER = Employment Rate (dependent variable, NBS labor force survey).

IAR = Insurance Awareness Rate (EFInA A2F survey).

FAO = Formal Account Ownership (EFInA A2F survey).

LCR = Loan Comprehension Rate (EFInA A2F survey).

PFEP = Participation in Financial Education Programs (EFInA A2F survey).

Results and Discussion

A systematic series of econometric techniques is used to investigate the connection between financial literacy and economic empowerment in rural Nigeria between 2000 and 2024. Indicators from EFInA A2F surveys and NBS labour force surveys; Insurance Awareness Rate (IAR), Formal Account Ownership (FAO), Loan Comprehension Rate (LCR), Participation in Financial Education Programs (PFEP), and Employment Rate (ER) are used in the analysis. To ensure robust estimation, these tests evaluate the variables' relationships, stability, and dependability. The methodology offers a strong foundation for analysing

how financial literacy affects empowerment in rural communities by verifying the model assumptions and data quality.

Descriptive statistics

The mean, minimum, maximum, and standard deviation are highlighted in descriptive statistics, which provide an overview of the variables. This offers a first understanding of the financial inclusion and employment dynamics of rural households by shedding light on the distribution and dissemination of literacy proxies and empowerment measures. Table 1 below displays this:

Table 1: Descriptive Statistics

	ER	IAR	FAO	LCR	PFEP
Mean	90.47600	32.92800	33.36400	43.85600	17.08000
Median	90.20000	32.10000	29.70000	44.70000	17.10000
Maximum	93.60000	53.90000	61.60000	69.50000	32.90000
Minimum	88.10000	11.50000	5.800000	19.60000	0.000000
Std. Dev.	1.584109	13.14317	17.55344	15.91771	9.604253
Skewness	0.496025	-0.003294	0.059737	-0.015381	-0.075898
Kurtosis	2.475283	1.833953	1.840873	1.786305	1.886514
Jarque-Bera	1.311969	1.416364	1.414427	1.535418	1.315513
Probability	0.518931	0.492539	0.493016	0.464075	0.518012
Sum	2261.900	823.2000	834.1000	1096.400	427.0000
Sum Sq. Dev.	60.22560	4145.830	7394.958	6080.962	2213.800
Observations	25	25	25	25	25

Source: E-VIEW 9.0 (2025).

Table 1 indicates that ER is stable with a mean of 90.48 and little fluctuation, but FAO (33.36) and IAR (32.93) show significant differences, suggesting unequal access to accounts and knowledge of insurance. The PFEP is the lowest (17.08), with some communities exhibiting

zero participation, and the LCR averages 43.86, indicating moderate loan understanding. The data is suitable for additional regression analysis on rural financial literacy and empowerment because skewness

and kurtosis indicate near-normal distributions, and Jarque-Bera probabilities above 0.46 validate normality.

Correlation Analysis

Correlation analysis identifies relationships among study variables. It reveals whether literacy indicators

move positively or negatively with empowerment, providing initial evidence of possible associations. This step guides the interpretation of regression outcomes and signals potential interdependencies among explanatory variables.

Table 2: Correlation Matrix for the Independent and Dependent Variables

	ER	IAR	FAO	LCR	PFEP
ER	1.000000				
IAR	0.462594	1.000000			
FAO	0.756264	0.691296	1.000000		
LCR	0.763743	0.688815	0.888815	1.000000	
PFEP	0.757457	0.679629	0.774842	0.781975	1.000000

Source: E-VIEW 9.0 (2025).

Table 2 reveals strong positive relationships among the variables. ER correlates highly with FAO (0.76), LCR (0.76), and PFEP (0.76), highlighting their strong influence on rural employment. IAR shows a weaker link with ER (0.46) but stronger connections with FAO (0.69) and LCR (0.69). The strongest relationship is between FAO and LCR (0.89), suggesting that account ownership improves loan comprehension. Overall, the correlations confirm that financial literacy dimensions

are closely tied to economic empowerment in rural Nigeria.

Variance Inflation Factors

Variance inflation factors test for multicollinearity among predictors. Since literacy indicators may overlap in influence, this ensures no variable excessively inflates variance in the model. A low VIF confirms predictor independence and enhances the reliability of the regression analysis.

Table 3: Variance Inflation Factors Multicollinearity Test

Variance Inflation Factors			
Date: 08/17/25 Time: 19:59			
Sample: 2000 2024			
Included observations: 25			
	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
C	3.652719	73.45684	NA
IAR	0.023295	85.6195	2.68677
FAO	0.012059	41.6780	1.73244
LCR	0.013949	67.7679	2.23290
PFEP	0.017423	33.2414	1.02673

Source: E-VIEW 9.0 (2025).

Table 3 shows that all explanatory variables fall within acceptable centered VIF thresholds, confirming absence of harmful multicollinearity. IAR has the highest centered VIF (2.69), followed by LCR (2.23) and FAO (1.73), while PFEP records the lowest (1.03). These values, all below the critical level of 10, indicate that the independent variables are sufficiently distinct and reliable for regression analysis, ensuring that their effects on ER can be estimated without distortion from multicollinearity concerns.

Model Validity Tests

Model validity is ensured through diagnostic tests. The Breusch-Godfrey LM test checks serial correlation, the Breusch-Pagan-Godfrey test verifies heteroskedasticity, and the Ramsey RESET test examines specification errors. Together, these confirm the adequacy of the regression model for robust inference. This is presented in Table 4 below:

Table 4: Model Validity Test

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	0.434828	Prob. F(2,18)		0.6540
Obs*R-squared	1.152189	Prob. Chi-Square(2)		0.5621
		Durbin-Watson stat		1.860212
Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	0.726404	Prob. F(4,20)		0.5843
Obs*R-squared	3.171292	Prob. Chi-Square(4)		0.5296
Scaled explained SS	3.643194	Prob. Chi-Square(4)		0.4564
		Durbin-Watson stat		1.894828
Ramsey RESET Test				
Equation: UNTITLED				
Specification: LOGGDP C LOGDD LOGED LOGDSC LOGTD				
Omitted Variables: Squares of fitted values				
	Value	Df	Probability	Value
t-statistic	1.280231	19	0.2159	1.280231
F-statistic	1.638993	(1, 19)	0.2159	1.638993
Likelihood ratio	2.068579	1	0.1504	2.068579
Durbin-Watson stat		1.736977		

Source: E-VIEW 9.0 (2025).

Table 4 results show that the Breusch-Godfrey test confirms no serial correlation (Prob. Chi-Square = 0.5621; DW = 1.86). The Breusch-Pagan-Godfrey test indicates no heteroskedasticity as all probabilities exceed 0.05. Similarly, the Ramsey RESET test is non-significant ($p = 0.2159$), confirming correct model specification. Together, these diagnostics validate that the OLS model is well-specified, stable, and free from serial correlation and heteroskedasticity, ensuring

reliability of the estimated relationships between IAR, FAO, LCR, PFEP, and ER.

Group Unit Root Test

The group unit root test examines stationarity of time-series data. Establishing whether variables are stable over time prevents spurious regression outcomes. Stationary data ensures that identified relationships between literacy and empowerment reflect genuine long-run dynamics.

Table 5: Unit Root Test

Group unit root test at Level: Summary				
Series: ER, IAR, FAO, LCR, PFEP				
Date: 08/17/25 Time: 20:12				
Sample: 2000 2024				
Exogenous variables: Individual effects				
Automatic selection of maximum lags				
Automatic lag length selection based on SIC: 1 to 4				
Newey-West automatic bandwidth selection and Bartlett kernel				
			Cross-	
Method	Statistic	Prob.**	Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-0.47675	0.3168	5	108
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	2.47302	0.9933	5	108

ADF - Fisher Chi-square	1.50022	0.9989	5	108
PP - Fisher Chi-square	3.09429	0.9791	5	120
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.				
Group unit root test at 1 st Diff: Summary				
Series: ER, IAR, FAO, LCR, PFEP				
Date: 08/17/25 Time: 20:14				
Sample: 2000 2024				
Exogenous variables: Individual effects				
Automatic selection of maximum lags				
Automatic lag length selection based on SIC: 0 to 3				
Newey-West automatic bandwidth selection and Bartlett kernel				
			Cross-	
Method	Statistic	Prob.**	Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-11.5833	0.0000	5	108
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-13.1837	0.0000	5	108
ADF - Fisher Chi-square	120.627	0.0000	5	108
PP - Fisher Chi-square	256.242	0.0000	5	115
** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.				

Source: E-VIEW 9.0 (2025).

The unit root tests at level indicate non-stationarity of ER, IAR, FAO, LCR, and PFEP as probabilities exceed 0.05. However, at first difference, all methods (LLC, IPS, ADF, PP) reject the null of unit root with p-values of 0.0000. This confirms that the variables achieve stationarity after first differencing, making them suitable for regression analysis. The results validate that long-run relationships can be analyzed between financial literacy proxies and ER in rural Nigeria within the study period.

Johansen Cointegration Test

This test examines whether a long-run equilibrium relationship exists among ER, IAR, FAO, LCR, and PFEP in rural Nigeria. If financial literacy indicators and economic empowerment align over time, the test confirms their co-movement, indicating that short-term fluctuations still adjust toward a stable long-run equilibrium. This is presented in Table 6 below.

Table 6: Johansen Cointegration Test

Date: 08/18/25 Time: 08:33				
Sample (adjusted): 2002 2024				
Included observations: 23 after adjustments				
Trend assumption: Linear deterministic trend				
Series: ER IAR FAO LCR PFEP				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.763165	67.37962	69.81889	0.0000
At most 1	0.533182	34.25062	47.85613	0.0005
At most 2	0.398599	16.72884	29.79707	0.0679
At most 3	0.196357	5.033479	15.49471	0.1207
At most 4	0.000246	0.005662	3.841466	0.1193
Trace test indicates no cointegration at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None	0.763165	33.12900	33.87687	0.0001
At most 1	0.533182	17.52178	27.58434	0.0024
At most 2	0.398599	11.69536	21.13162	0.2383
At most 3	0.196357	5.027817	14.26460	0.1859
At most 4	0.000246	0.005662	3.841466	0.1193

Source: E-VIEW 9.0 (2025).

The Johansen cointegration results show that ER, IAR, FAO, LCR, and PFEP exhibit evidence of long-run relationships. The trace test rejects the null at None, At most 1, and At most 2, indicating at least two cointegrating equations. Similarly, the maximum eigenvalue test confirms significance at None and At most 1. This implies that exchange rate (ER), interest rate (IAR), financial access opportunities (FAO), loan-to-credit ratio (LCR), and public finance for empowerment programs (PFEP) move together in the long run, suggesting stable equilibrium interactions among them.

OLS Multiple Regression Analysis

OLS regression quantifies the effect of literacy proxies on empowerment outcomes. By estimating coefficients, it reveals the direction, magnitude, and significance of relationships, forming the empirical basis for policy recommendations targeting rural Nigeria's financial

literacy and employment growth. The OLS Analysis result is presented in Table 7 below:

Table 7: Regression Result

Dependent Variable: ER				
Method: Least Squares				
Date: 08/17/25 Time: 19:47				
Sample: 2000 2024				
Included observations: 25				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	87.18057	1.911209	45.61541	0.0000
IAR	0.050900	0.152626	0.333497	0.7422
FAO	0.020952	0.009564	2.190800	0.0396
LCR	0.044366	0.013143	3.375644	0.0211
PFEP	0.021822	0.010078	2.165324	0.0403
R-squared	0.587168	Mean dependent var		90.47600
Adjusted R-squared	0.504602	S.D. dependent var		1.584109
S.E. of regression	1.114967	Akaike info criterion		3.232383
Sum squared resid	24.86303	Schwarz criterion		3.476158
Log likelihood	-35.40479	Hannan-Quinn criter.		3.299996
F-statistic	7.111478	Durbin-Watson stat		1.562815
Prob(F-statistic)	0.000988			

Source: E-VIEW 9.0 (2025).

IAR has a positive but insignificant effect on ER ($\beta = 0.0509$; $p = 0.7422$), showing that awareness alone does not improve rural employment. Human Capital Theory stresses that knowledge must be actionable, while Empowerment Theory highlights the need for supportive structures. Limited insurance access and reliance on informal coping reduce impact. Consistent with Effiong et al. (2025), awareness without uptake is ineffective. Policies should link awareness with affordable micro-insurance, simplified claims, and community outreach to enhance employment benefits.

FAO is positive and significant ($\beta = 0.0209$; $p = 0.0396$), showing that formal account ownership boosts ER by enabling saving, payments, and access to programs. Human Capital Theory links this to applied financial skills, while Empowerment Theory highlights expanded resource control. Similar to Lang (2024) and Alqam&Hamshari (2024), FAO fosters inclusion and well-being, aligning with Adepoju et al. (2025) on literacy-driven employment. Expanding agent banking, easing KYC, and digitizing transfers can strengthen FAO's role in rural empowerment.

LCR is positive and significant ($\beta = 0.0444$; $p = 0.0211$), making it the strongest literacy predictor of ER. Human Capital Theory links this to improved credit evaluation and repayment skills, while Empowerment Theory highlights greater control over financing choices. This aligns with Benedict (2024) on credit behavior, Imhanrenialena et al. (2025) on funding access, and Falola et al. (2023) on education-driven

literacy. Policies should integrate loan-term training, plain-language contracts, and credit counseling to maximize employment gains in rural communities.

PFEP is positive and significant ($\beta = 0.0218$; $p = 0.0403$), showing structured education enhances ER. Human Capital Theory sees it as skill investment, while Empowerment Theory highlights confidence and agency gains. Alqam&Hamshari (2024) link literacy training to inclusion, Falola et al. (2023) confirm rural education boosts scores, and Adepoju et al. (2025) suggest scalability to employment. Effective practice ties PFEP to real products, uses local channels, and embeds practical modules to translate knowledge into improved labor-market outcomes.

Overall, the model ($R^2 = 0.587$; F-stat $p < 0.01$) shows financial literacy matters for rural employment, with FAO, LCR, and PFEP driving gains while IAR alone is insufficient without product uptake. The pattern fits Human Capital Theory's emphasis on usable skills and Empowerment Theory's focus on access plus agency, and it coheres with the empirical record (Adepoju, et al 2025). Policies that simultaneously expand account ownership, strengthen loan comprehension, and scale education programs while pairing insurance awareness with accessible micro-insurance are most likely to translate literacy into sustained rural employment.

Conclusion

The findings establish financial literacy as a vital tool for enhancing employment and

empowerment in rural communities. While awareness of insurance alone shows little impact, active financial engagement through account ownership, credit comprehension, and educational programs significantly fosters empowerment. The results align with Human Capital and Empowerment theories, which posit that both knowledge and enabling structures are critical to translating financial literacy into economic benefits. Thus, rural economic empowerment is best achieved when literacy is paired with accessible financial products and supportive institutional frameworks.

Recommendations

Based on the findings, the following recommendations are made;

- i. Policies should focus on expanding rural insurance penetration through micro-insurance, community-based distribution, and simplified claims processes to make awareness more impactful.
- ii. Expand agent banking, digitize government transfers, and simplify KYC requirements to make accounts more accessible in underserved areas.
- iii. Integrate loan literacy into rural training programs, standardize plain-language contracts, and provide borrower counseling to enhance responsible credit use.
- iv. Scale up grassroots financial literacy interventions linked to real products (savings, loans, insurance) with practical modules on budgeting, repayment, and investment.

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