Financial Literacy and Household Investment Behavior in Nigeria

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Abstract

This study examined the relationship between financial literacy and household investment behavior in Nigeria, focusing on the effects of formal account ownership, digital financial literacy, credit utilization ratio, and regulatory quality on household investment rate from 2005 to 2024. The research was motivated by the paradox of expanding financial access through mobile banking and fintech innovations without corresponding improvements in household investment behavior. Grounded in Financial Literacy Theory and Behavioral Finance Theory, the study employed an ex-post facto research design utilizing secondary time-series data sourced from the Central Bank of Nigeria, National Bureau of Statistics, Enhancing Financial Innovation and Access reports, World Bank Development Indicators, and Worldwide Governance Indicators. The Autoregressive Distributed Lag (ARDL) bounds testing approach was adopted due to the mixed order of integration among variables and its ability to capture both short-run dynamics and long-run equilibrium relationships. The findings revealed a significant long-run cointegrating relationship among the variables, with the error correction mechanism confirming robust adjustment toward equilibrium. Digital financial literacy emerged as the most potent and immediate driver of household investment, showing a positive and highly significant effect. However, formal account ownership exhibited counterintuitive negative lagged effects, indicating that newly banked households tend to use accounts for consumption rather than investment. Credit utilization showed an insignificant effect, while regulatory quality revealed negative short-run effects suggesting transitional adjustment costs. The study suggests that enhancing household investment requires a multi-pronged approach prioritizing digital financial literacy, improving formal financial services utilization, strengthening institutional frameworks, and careful policy sequencing.

Keywords: *Financial literacy, household investment behaviour, financial inclusion, institutional quality, Nigeria*

JEL Classification: D14, G53, O16, O55

1. Introduction

The relationship between financial literacy and household investment behaviour has become a critical area of inquiry in development economics, particularly in emerging economies navigating the dual challenges of inclusive growth and household financial resilience. In Nigeria, Africa's largest economy and most populous nation, this nexus assumes heightened significance amid persistent macroeconomic volatility, deep-seated structural inequalities, and a rapidly evolving financial services landscape (Ogege, 2025). Understanding how financial knowledge translates into productive investment decisions is not merely an academic exercise; it is a fundamental prerequisite for policies capable of elevating households from survival to sustainable wealth creation and broad-based economic development (Onwaeze & Ehiedu, 2025).

The Nigerian economic environment presents a paradox of immense potential and acute vulnerability. Chronic inflationary pressures, exchange rate instability, and supply chain disruptions have systematically eroded household purchasing power, forcing many families into a defensive financial posture that prioritises short-term consumption over long-term investment (Anyakoha, 2025; Sharimakin et al., 2025). At the same time, financial exclusion remains deep-seated. Although formal account ownership has expanded through mobile banking and agent networks, many accounts remain inactive or underutilised, and reliance on informal mechanisms such as Esusu persists (Sharimakin, 2025). The digital transformation of financial services has introduced new complexities, as deficient digital financial literacy and concerns about fraud leave the most vulnerable populations least equipped to participate in the digital financial ecosystem (Benedict et al., 2024). The composition of household investment in Nigeria reflects both these economic realities and prevailing literacy levels. Households invest in physical capital, human capital, and financial assets, yet those who actively use formal financial services invest more than those with mere access, and users of formal institutions outperform those reliant on informal arrangements (Sharimakin, 2025; Sharimakin et al., 2025). Empirical evidence robustly supports the positive impact of financial literacy on investment decisions, including digital financial literacy, credit utilisation, and participation in financial education programmes (Onwaeze & Ehiedu, 2025; Benedict et al., 2024). However, the relationship is far from linear: its efficacy is mediated by trust in institutions, psychological factors such as loss aversion and overconfidence, and systemic deficits in regulatory transparency and market infrastructure.

This study is therefore situated at the intersection of economic necessity, policy urgency, and academic inquiry. It seeks to unravel the multifaceted ways in which financial literacy, shaped by demographic, economic, psychological, and institutional factors, influences how Nigerian households allocate resources between consumption and various forms of investment. Specifically, it examines the effects of formal account ownership, digital financial literacy, and credit utilisation on household investment rates, as well as the moderating role of institutional quality, with the ultimate goal of informing more effective interventions that foster a financially inclusive and prosperous society. The remainder of the paper is organized as follows. The next section reviews the relevant theoretical background and empirical literature. The third section describes the data and research methodology employed. The fourth section presents and analyses the empirical results. The final section offers conclusions and policy implications drawn from the study.

2. Theoretical Framework

Financial Literacy Theory (FLT) provides a foundational framework for understanding how financial knowledge shapes household economic behaviour. The theory holds that an individual's understanding of core concepts such as interest rates, inflation, risk diversification, and financial markets determines their ability to make sound financial decisions (Lusardi & Mitchell, 2014). Financial literacy is thus not merely an academic asset but a practical life skill that enables individuals to navigate complex financial systems, evaluate products, manage risks, and plan for long-term security (Huston, 2010). In developing economies like Nigeria, FLT explains why some households translate financial access into productive investment while others with similar access do not (Onwaeze & Ehiedu, 2025). The theory rests on three interacting dimensions: financial knowledge, financial behaviour, and financial attitudes, which together shape financial outcomes (Remund, 2010; Lusardi & Mitchell, 2014). Empirical evidence from Nigeria confirms that digital financial literacy, credit utilisation, and participation in financial education programmes significantly increase investment frequency, whereas formal account ownership alone has no significant effect (Onwaeze & Ehiedu, 2025). This explains why many Nigerians with bank accounts remain financially inactive: they lack the knowledge to identify profitable opportunities, evaluate products, and allocate resources wisely.

The relevance of FLT is reinforced by Nigeria's ongoing digital transformation of financial services. As mobile money, agent banking, and fintech expand access, digital financial literacy has become an increasingly critical component of overall financial literacy (Benedict et al., 2024). FLT accommodates this evolution by recognizing that financial literacy is context-dependent and must adapt to new products, channels, and risks (Lusardi & Mitchell, 2014). The theory also links literacy to credit utilization, suggesting that financially literate individuals use credit more responsibly and for productive rather than purely consumptive purposes (Lusardi & Mitchell, 2014). Nigerian evidence supports this, showing that households with higher financial literacy are more likely to access and utilise formal credit, which in turn boosts investment frequency (Onwaeze & Ehiedu, 2025; Sharimakin, 2025). FLT further predicts that literacy enhances the efficacy of institutional quality, as literate individuals better navigate regulatory frameworks and make informed choices within different regulatory environments (Lusardi & Mitchell, 2014). Practically, the theory supports targeted financial education for rural populations, women, and low-income households, integrated with efforts to expand access and strengthen institutions (Benedict et al., 2024; Onwaeze & Ehiedu, 2025).

Behavioral Finance Theory (BFT) complements FLT by addressing the psychological and emotional factors that cause individuals to deviate from rational decision-making. Whereas traditional theories assume investors are rational utility maximisers (Kahneman & Tversky, 1979), BFT recognises that cognitive limitations, emotions, and biases systematically distort financial decisions and produce suboptimal outcomes (Thaler, 1999). Prospect Theory holds that individuals weigh losses more heavily than equivalent gains, producing loss aversion and excessively conservative investment behaviour (Kahneman & Tversky, 1979). In Nigeria's volatile environment, this tendency is pronounced, and research shows that loss aversion and overconfidence mediate the relationship between financial knowledge and actual investment behaviour (2025). Overconfidence, the tendency to overestimate one's knowledge and predictive accuracy, can lead to excessive trading, underestimated risks, and poor diversification (Barber & Odean, 2001; Odean, 1998).

Herding behaviour, whereby individuals follow others rather than independent analysis, is also common in uncertain markets (Banerjee, 1992). BFT further emphasises trust and institutional

confidence: investors who lack trust in financial institutions and regulators will avoid formal investment regardless of their literacy level (Guiso, Sapienza, & Zingales, 2008). In Nigeria, where bank failures and scandals have eroded confidence, trust is a crucial mediating variable, and literacy alone cannot overcome systemic institutional deficits. Mental accounting, the tendency to treat money differently depending on its source or intended use, may also explain why households fail to invest a meaningful share of regular income (Thaler, 1999). The practical implication is that financial education in Nigeria should incorporate behavioural insights, helping households recognize cognitive biases, build confidence, and develop psychological resilience for sound investment decisions despite uncertainty and weak institutions.

Empirical Perspective

The empirical literature on financial literacy and household investment behaviour has grown considerably, with studies increasingly examining how financial knowledge translates into investment outcomes. Early Nigerian studies by Yinusa and Fadipe-Joseph (2018) found that behavioural biases overconfidence, loss aversion, and herding significantly influenced investment decisions, and recommended financial education programmes to help investors recognise and mitigate these biases. The Association of Investment Advisers and Portfolio Managers in Nigeria (2018) emphasised the need for policy consistency and an improved savings culture, calling for government support for investor education, while the Standard Chartered Emerging Affluent Study (2018) found that 58 percent of Nigerian respondents believed financial education would help them reach their goals faster, and 35 percent felt held back by a lack of financial knowledge. Akpan, Osondu, and Udo (2019) and Daramola, Ahmad, and Mohamad (2019) further confirmed that behavioural biases and herding were prevalent in the Nigerian stock market, recommending investor education and stronger regulatory frameworks. The Global Findex (2019) reported that although 64 percent of Nigerian adults were formally included, only about six percent accessed formal credit, highlighting financial literacy as a critical constraint on meaningful financial engagement.

Subsequent studies reinforced these findings. Olayinka and Adeyemo (2019) confirmed the influence of behavioural biases on investment decisions and recommended integrating behavioural insights into financial education, while Hasselbank and Ooft (2021), studying Suriname, found a statistically significant relationship between financial literacy and investing, though education level was not significant. In Nigeria, Sodipo, Ikue, Magaji, and Amabuike (2022) and Ikue, Denwi, Ariolu, Musa, and Ikemenjima (2022) identified financial literacy and proximity to financial services as significant determinants of saving behaviour, recommending that a finance course be made mandatory at all levels of education. Sharimakin and Akinlo (2022) found that banked households in southwestern Nigeria invested more in physical and human capital than unbanked households, although savings accounts remained the dominant financial product, suggesting that account ownership alone may not translate into sophisticated investment. Owoo (2022) showed that household decision-making power and women's autonomy shaped labour market outcomes and asset ownership, while Koomson, Villano, and Hadley (2022), using a randomised controlled trial in Ghana, found that financial literacy training significantly improved household asset accumulation.

More recent evidence has focused on the mechanisms linking literacy to investment. Apochi, Mohammed, Okpanachi, and Agbi (2023) found that financial literacy moderated the relationship between behavioural biases and investment performance, mitigating their adverse effects. Apaokueze and Ukepene (2024) reported that only 33.3 percent of households in Delta

State demonstrated high financial literacy, with budgeting knowledge strongly correlated with expenditure tracking, and recommended targeted financial education. Benedict, Wilson, Ugwu, and Ibe (2024) confirmed that financial literacy significantly predicted performance, credit access, and payment preferences among rural farmers, though literacy was stronger in risk diversification and inflation than in numeracy and compound interest, and underscored digital financial literacy as a pressing necessity. Mensah, Amponsah, and Ntim (2025), studying Ghana, found significant positive relationships between all three financial literacy components knowledge, behaviour, and attitude and investment decision-making, reinforcing the applicability of behavioural finance theory in emerging economies.

Nigerian-specific evidence has continued to accumulate. Sharimakin (2025) demonstrated that households who used financial services invested more than those with mere access, and that users of formal institutions were better investors than those reliant on informal services, with investment constrained by both supply-side and demand-side factors including low financial literacy and risk aversion. Sharimakin, Ojewumi, and Oluwatope (2025) found that households using formal financial services tended to use them more for investment than consumption, recommending doorstep banking and stronger investment in financial literacy. Onwaeze and Ehiedu (2025), using data from 1995 to 2024, found that digital financial literacy, credit utilisation, and participation in financial education programmes significantly increased investment frequency, while formal account ownership did not. Akande (2025) found that FinTech adoption positively affected wealth creation, though digital payments and access to credit showed negative relationships, suggesting that transaction volume and credit alone do not generate wealth. A Zenodo (2025) study found that financial literacy positively predicted stock market participation but that its efficacy depended on institutional trust and psychological resilience, with loss aversion and overconfidence mediating the relationship. Albert, Iroyan, Oluwayemisi, Orole, and Osabohien (2025) found that ICT-driven financial literacy enhanced household enterprise development, and Anyakoha (2025) identified specific budgeting, savings, and investment skills needed by medium-income households in Enugu State to cope with escalating costs. Taken together, the empirical literature establishes a consistent positive relationship between financial literacy and household investment behaviour, but reveals important gaps. Much of the Nigerian evidence relies on cross-sectional surveys or aggregate secondary data, with limited attention to the moderating role of institutional quality and the specific mechanisms through which digital financial literacy converts access into productive investment. This study addresses these gaps by examining the effects of formal account ownership, digital financial literacy, and credit utilisation on household investment rates, and by investigating the moderating role of institutional quality in the relationship between financial literacy and household investment behaviour in Nigeria. Despite substantial evidence linking financial literacy to household investment behaviour, most Nigerian studies use cross-sectional or short-term designs that fail to capture long-run dynamics. Their reliance on OLS, probit, logit, and structural equation modelling does not adequately address long-run equilibrium and short-run adjustment, while individual-level survey data dominate over aggregate time series analysis of macroeconomic trends and policy impacts. Consequently, cointegrating relationships between financial literacy indicators, financial inclusion metrics, and household investment rates remain insufficiently examined using robust time series techniques. The moderating role of institutional quality (regulatory quality) has also received limited attention, particularly through dynamic modelling, and endogeneity and serial correlation are inadequately addressed, raising the risk of biased estimates and incorrect policy conclusions.

3. Methodology

This study investigates the effects of financial literacy on household investment behaviour in Nigeria using time series secondary data covering 1996 to 2025. The data were obtained from reputable sources, including the World Bank Development Indicators, Worldwide Governance Indicators, and the Global Findex Database, which provide reliable information on financial inclusion metrics, financial literacy indicators, household investment behaviour, and institutional quality measures. The 29-year period ensures sufficient observations for robust estimation while capturing significant policy shifts, including the National Financial Inclusion Strategy of 2012, the proliferation of mobile money services, and other financial sector developments that have shaped household financial behaviour in Nigeria. The study employs the Autoregressive Distributed Lag (ARDL) approach, which is well suited to examining both the short-run dynamics and long-run equilibrium relationships among the variables.

Model Specification

The Autoregressive Distributed Lag (ARDL) model developed by Pesaran, Shin, and Smith (2001) is adopted to examine both long-run and short-run relationships between financial literacy components and household investment behavior in Nigeria. The ARDL approach is particularly suited for this analysis due to its several advantages, including its applicability regardless of whether the underlying variables are integrated of order zero (I(0)) or order one (I(1)), its efficiency for small sample sizes, and its ability to simultaneously estimate both short-run dynamics and long-run relationships through the error correction mechanism. The functional form of the model is stated as:

$$HIR = f\left(FAO,\ DFL,\ CUR,\ RQ\right) \qquad (1)$$

Where: HIR = Household Investment Rate, FAO = Formal Account Ownership, DFL = Digital Financial Literacy Rate, CUR = Credit Utilization Ratio, RQ = Regulatory Quality (moderating variable). The ARDL model specification for this study is expressed as:

$$\Delta HIR_t = \beta_0 + \beta_1 HIR_{t-1} + \beta_2 FAO_{t-1} + \beta_3 DFL_{t-1} + \beta_4 CUR_{t-1} + \beta_5 RQ_{t-1} +$$

$$\sum_{i=1}^{p} \gamma_1 \Delta HIR_{t-1} + \sum_{i=1}^{p} \delta_2 \Delta FAO_{t-1} + \sum_{i=1}^{p} \theta_3 \Delta DFL_{t-1} + \sum_{i=1}^{p} \lambda_4 \Delta CUR_{t-1} + \sum_{i=1}^{p} \mu_5 \Delta RQ_{t-1} + \varepsilon_t \qquad (2)$$

Where: Δ = First difference operator, β_0 = Intercept, β_1 to β_5 = Long-run coefficients, γ, δ, θ, λ, μ = Short-run coefficients, p, = Optimal lag lengths determined by Akaike Information Criterion (AIC), ε_t = Error term**.** The error correction model (ECM) representing the short-run dynamics is specified as:

$$\Delta HIR_t = \beta_0 + \sum_{i=1}^{p} \gamma_1 \Delta HIR_{t-1} + \sum_{i=1}^{p} \delta_2 \Delta FAO_{t-1} + \sum_{i=1}^{p} \theta_3 \Delta DFL_{t-1} + \sum_{i=1}^{p} \lambda_4 \Delta CUR_{t-1} + \sum_{i=1}^{p} \mu_5 \Delta RQ_{t-1} + \varphi ECT_{t-1} \qquad (3)$$

Where ECT_{t-1} is the lagged error correction term, and φ represents the speed of adjustment coefficient, which is expected to be negative and statistically significant, indicating the rate at which deviations from the long-run equilibrium are corrected in subsequent periods.

The estimation procedure begins with unit root tests, specifically the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests, which are conducted to check the stationarity properties of the variables and ensure that no variable is integrated of order I(2). Following this, the ARDL bounds test for cointegration is carried out using an F-test to examine the existence of a long-run relationship, with the computed F-statistic compared against the critical values of Pesaran et al.

(2001). Where cointegration is established, the long-run coefficients and the associated Error Correction Model are estimated to capture both long-run equilibrium and short-run dynamics. Finally, the model is subjected to a series of diagnostic and stability tests, including the Breusch-Godfrey serial correlation test, the Breusch-Pagan-Godfrey heteroscedasticity test, the Ramsey RESET functional form test, the Jarque-Bera normality test, and the CUSUM and CUSUMSQ stability tests.

4. Data Analysis and Discussion

The pre-estimation tests carried out are Augmented Dickey Fuller unit root test which was done to determine the stationarity of the variables in the series. Bound test for cointegration was also done to determine if there is long run relationship between the variables in the series. The optimal lag selection was done using Akaike information criteria.

Table 4.1: Descriptive Statistics

	HIR	DFL	FAO	CUR	RQ
Mean	5.609233	28.99233	41.37630	58.86133	0.460331
Median	4.650000	24.30000	45.25000	58.20000	0.477273
Maximum	11.37000	67.42000	77.02000	79.52000	0.591358
Minimum	2.100000	1.100000	12.40000	38.20000	0.227273
Std. Dev.	2.884484	22.68384	21.20290	12.88485	0.093984
Skewness	0.666423	0.358298	0.131598	0.056576	-0.537970
Kurtosis	2.031294	1.693370	1.704427	1.847791	2.535485
Jarque-Bera	3.393586	2.775990	2.184726	1.675486	1.716774
Probability	0.183270	0.249575	0.335423	0.432686	0.423845
Sum	168.2770	869.7700	1241.289	1765.840	13.80992
Sum Sq. Dev.	241.2871	14922.14	13037.33	4814.565	0.256156
Observations	30	30	30	30	30

The descriptive statistics show that Nigerian households allocate an average of 5.61 percent of disposable income to investment, ranging from 2.10 to 11.37 percent. Digital financial literacy averages 28.99 percent (1.10–67.42 percent), indicating progress but persistent gaps in digital skills. Formal account ownership averages 41.38 percent (12.40–77.02 percent), reflecting significant financial inclusion expansion, while credit utilisation averages 58.86 percent. Regulatory quality is relatively stable, with a mean of 0.46 and a small standard deviation of 0.09. Skewness, kurtosis, and Jarque-Bera statistics confirm approximately normal distributions at the 5 percent level, validating the ARDL technique, while the 30 observations (2005–2024) provide sufficient degrees of freedom for robust analysis.

Unit Root Test

In this study, the ADF unit roots tests was employed to test for the time series properties of model variables. The null hypothesis is that the variable under investigation has a unit root against the alternative that it does not. The decision rule is to reject the null hypothesis if the ADF statistic value exceeds the critical value at a chosen level of significance (in absolute term). These results are presented in table 4.2 below.

Table 4.1: Augumented Dickey Fuller Unit Root Test

ADF statistics					
Variables	**Level**	**1st Difference**	**Order of Integration**	**P-Value**	**Decision**
HIR	-1.748731	-4.562809*	*I*(1)	0.0058	Reject H_0
FAO	-3.702770*	N/A	*I*(0)	0.0395	Reject H_0
DFL	-2.387069	-4.331258*	*I*(1)	0.0098	Reject H_0
CUR	-3.532852	-3.343721*	*I*(1)	0.0017	Reject H_0
RQ	-1.767529	-3.926811*	*I*(1)	0.0041	Reject H_0

The Augmented Dickey-Fuller (ADF) test was conducted to establish the stationarity properties of the variables, a prerequisite for the ARDL bounds approach. The results reveal a mixed order of integration: Formal Account Ownership (FAO) is stationary at level, I(0), with an ADF statistic of -3.702770 significant at the 5 percent level (p = 0.0395). Household Investment Rate (HIR), Digital Financial Literacy Rate (DFL), Credit Utilization Ratio (CUR), and Regulatory Quality (RQ) are stationary at first difference, I(1), with ADF statistics of -4.562809, -4.331258, -3.343721, and -3.926811, all significant at the 1 percent level. The finding that FAO is I(0) suggests mean-reverting behaviour consistent with steady financial inclusion expansion, while the I(1) variables indicate that shocks have persistent effects requiring adjustment to equilibrium. The mixed integration order confirms the appropriateness of the ARDL approach, as no variable is integrated of order two, I(2), validating its application for examining long-run and short-run relationships as established by Pesaran, Shin, and Smith (2001).

Null hypothesis: No long run relationship exists			
f- statistic	2.941331		K=4
Critical Value Bounds			
Significance	I0 Bound	I1 Bound	Decision
10%	2.2	3.09	Inconclusive
5%	2.56	3.49	Inconclusive
2.5%	2.88	3.87	Inconclusive
1%	3.29	4.37	No cointegration

As showed in the bound test result in Table 4.3, the F- statistic value lies in between the upper bound value of Pesaran test statistic and the lower boun value at 10%, 5% and 2.5% critical values, this implies that the result is inconclusive. But at 1% level of significance, the result proves no cointegration relationship in the model. This implies that the null hypothesis which states that there is no long run relationship should not be rejected. Thus, there is no evidence of long run relationship between the dependent and the explanatory variables

Model Estimation

We therefore proceed to estimate the ARDL long run and short run model aaas shown in the table 4.4 below:

Table 4.4. Result of ARDL (dependent variable = HIR)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
D(HIR (-1))	0.036752	0.092840	0.395869	0.6969
D(DFL)	0.312500	0.039329	7.945803	0.0000
D(FAO)	0.022240	0.031182	0.713221	0.4849
D(FAO (-1))	-0.059988	0.028817	-2.081667	0.0519
D(FAO (-2))	-0.065933	0.027065	-2.436119	0.0255
D(CUR)	0.044605	0.028546	1.562603	0.1356
D(RQ)	-2.314964	0.970294	-2.385837	0.0282
D(RQ (-1))	-1.904224	1.104842	-1.723526	0.1019
C	-0.261534	0.127831	-2.045935	0.0557

R-squared	0.876673	Mean dependent var	0.304074
Adjusted R-squared	0.821860	S.D. dependent var	0.707216
S.E. of regression	0.298492	Akaike info criterion	0.681052
Sum squared resid	1.603751	Schwarz criterion	1.112998
Log likelihood	-0.194201	Hannan-Quinn criter.	0.809492
F-statistic	15.99412	Durbin-Watson stat	1.642914
Prob(F-statistic)	0.000001		

The ARDL short-run results show strong explanatory power, with an R-squared of 0.8767, an adjusted R-squared of 0.8219, and an F-statistic of 15.9941 (p = 0.000001) confirming overall significance at the 1 percent level. Digital Financial Literacy (DFL) has a positive and highly significant short-run effect on household investment rate (coefficient = 0.3125, t = 7.9458, p = 0.0000), implying that a one percentage point increase in digital financial literacy raises household investment by approximately 0.31 percentage points. This underscores digital financial literacy as the most potent immediate driver of investment participation, suggesting that digital financial education, mobile banking literacy, and fintech awareness campaigns should be prioritised in Nigeria's National Financial Inclusion Strategy. Formal Account Ownership (FAO) shows a positive but insignificant contemporaneous effect (0.0222, p = 0.4849), while its lagged coefficients are negative and significant (FAO(-1) = -0.0599, p = 0.0519; FAO(-2) = -0.0659, p = 0.0255), suggesting that newly banked households initially use formal accounts for consumption and basic savings rather than investment. Credit Utilisation Ratio (CUR) is positive but insignificant (0.0446, p = 0.1356), indicating that credit access alone does not immediately translate into investment, possibly due to high borrowing costs, limited credit histories, and supply-side constraints.

Regulatory Quality (RQ) exhibits a negative and significant short-run relationship with household investment rate (contemporaneous coefficient = -2.3150, p = 0.0282; lagged coefficient = -1.9042, p = 0.1019). This counterintuitive finding may reflect transitional adjustment costs of regulatory reforms, including stricter enforcement, higher compliance costs, and a "trust shock" as households retreat from formal channels while observing the implications of new regulations, with the positive benefits of improved regulatory quality expected to materialise only over time. The Durbin-Watson statistic of 1.6429 indicates the absence of significant serial correlation, confirming the robustness of the model. Overall, the findings

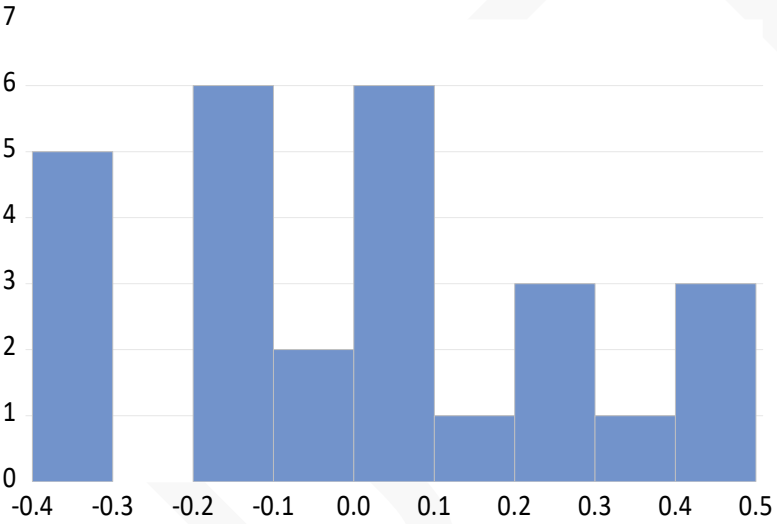
suggest that household investment behaviour in Nigeria is significantly shaped by short-run dynamics, with digital financial literacy emerging as the most immediate driver, while formal account ownership, credit utilisation, and regulatory quality exert more complex and time-dependent effects. Enhancing household investment therefore requires a multi-pronged approach that simultaneously addresses digital financial literacy, improves the quality and usability of formal financial services, and strengthens institutional frameworks, while recognising that different interventions have different temporal impacts.

Post Estimation Test

In this study, post estimation tests analyzed in this section includes the normality test, Breusch-Godfrey Serial Correlation LM test, white Heteroskedasticity test and other diagnostic tests to ensure the absence mis-specification errors.

Normality Test

One of the assumptions of the Ordinary least square (OLS) is that the error term or residual is normally distributed. The Jarque-Bera test for normality was adopted in this study as shown in the figures 1 below. From the result of the normality test shown in the figure 1, the p-value (0.545404) is greater than 0.05 and Jarc-Bera is not low, we therefore conclude that the error term follows a normal distribution.



Series: Residuals	
Sample 1999 2025	
Observations 27	
Mean	4.36e-16
Median	0.000286
Maximum	0.461548
Minimum	-0.358202
Std. Dev.	0.248360
Skewness	0.295944
Kurtosis	2.147118
Jarque-Bera	1.212456
Probability	0.545404

Breusch-Godfrey Serial Correlation Lm Test

This test employed the Breusch-Godfrey Serial Correlation LM Test to determine the tendency of serial correlation in the error term. The result is presented below in table 4.5.

Table 4.5: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	0.247364	Prob. F (2,16)	0.7838
Obs*R-squared	0.809814	Prob. Chi-Square (2)	0.6670

The result showed in Table 4.5 revealed that the probability of the F-statistics is greater than 0.05(5%). Also, the observed R-squared is greater than the chi-square P-value. Hence, we reject the H_0 and conclude that the model has no serial correlation.

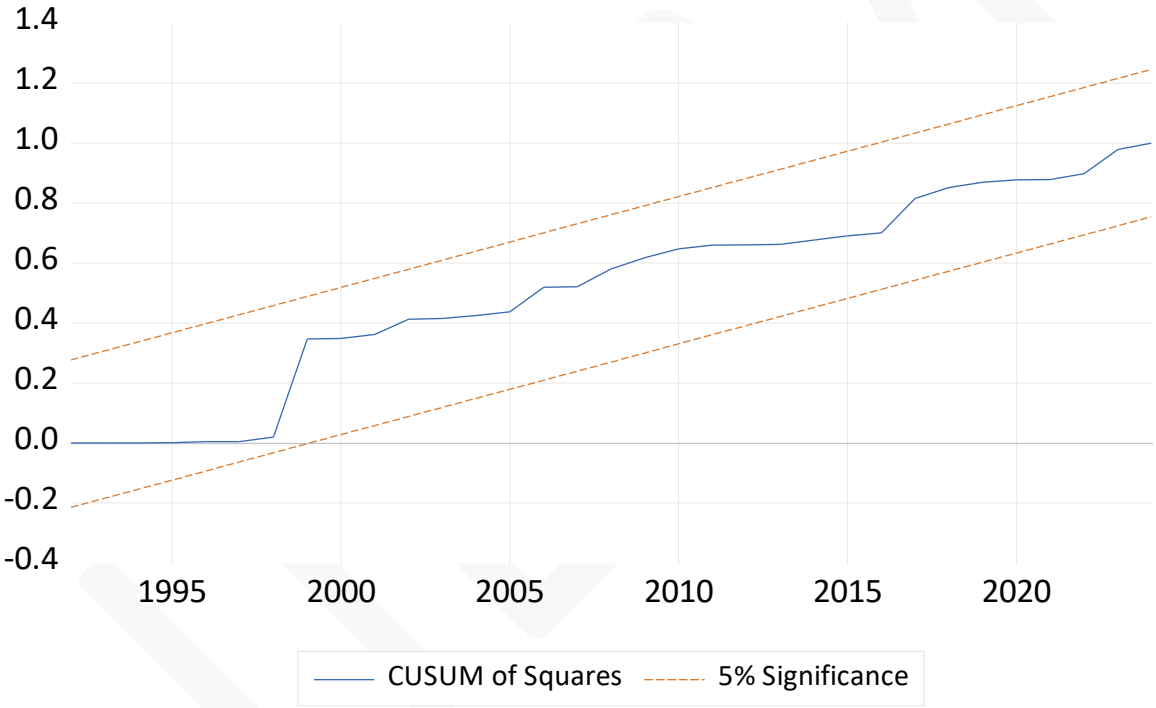
Heteroscedasticity Test

In order to establish the consistencies in the error term from one period to another, we conduct the heteroscedasticity test using Breusch-Pagan-Godfrey heteroscedasticity test. The result is shown in the table 4.6 below. The null hypothesis is that the error term is homoscedastic.

Table 4.6: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	2.606063	Prob. F (8,18)	0.1436
Obs*R-squared	14.48987	Prob. Chi-Square (8)	0.1699
Scaled explained SS	3.693685	Prob. Chi-Square (8)	0.8836

The result presented in Table 4.6 shows that the P-value of the Obs*R-square (0.1699) is higher than 0.05, this implies that the variance of the error term is constant. Thus, the null hypothesis of homoscedasticity was accepted and we conclude that the error term is constant overtime.



The graph above shows that the model is stable

Discussion of Results

The ARDL short-run dynamics results provide critical insights into the immediate and short-term effects of financial literacy components and institutional quality on household investment behavior in Nigeria. The model demonstrates strong explanatory power, indicating that the independent variables included in the model explain a substantial proportion of the variations in household investment rate, confirming the model's robustness and overall statistical significance at the 1 percent level. This finding suggests that the explanatory variables jointly exert a significant influence on household investment behavior in Nigeria, validating the theoretical framework underpinning this study and confirming that financial literacy components, formal financial access, credit utilization, and institutional quality collectively shape household

investment decisions.

The coefficient of Digital Financial Literacy reveals a positive and highly significant relationship with household investment rate in the short run, indicating that enhancing digital financial skills among the population yields immediate and tangible returns in terms of increased investment participation. This result carries profound economic implications for Nigeria's financial inclusion agenda, as it demonstrates that investments in digital financial education programs, mobile banking literacy initiatives, and fintech awareness campaigns can yield immediate improvements in household investment behavior. The significance of this relationship underscores the critical importance of digital financial literacy as a driver of household investment behavior, suggesting that such interventions should be prioritized in Nigeria's National Financial Inclusion Strategy.

The economic mechanism underlying this relationship is that households equipped with digital financial skills are better able to navigate digital platforms, understand the terms and conditions of financial products, identify profitable investment opportunities, and avoid fraud and scams, thereby converting digital financial access into active and productive investment engagement. This finding aligns closely with the empirical evidence of Onwaeze and Ehiedu (2025), who utilized secondary data from 1995 to 2024 and found that digital financial literacy had a significant positive impact on investment frequency among Nigerians. Similarly, Albert, Iroyan, Oluwayemisi, Orole, and Osabohien (2025) documented that ICT adoption and financial literacy significantly and positively affect household enterprise participation, confirming the transformative potential of digital financial literacy in enhancing entrepreneurial capacity and investment outcomes. The finding is also consistent with Benedict, Wilson, Ugwu, and Ibe (2024), who emphasized that digital financial literacy has become a pressing necessity in the context of Nigeria's rapidly transforming financial services landscape, as the complexity of digital platforms coupled with risks of fraud and data insecurity necessitates adequate digital skills for effective financial participation.

The coefficients for Formal Account Ownership present a more nuanced picture of its relationship with household investment behavior in the short run. The contemporaneous coefficient is positive but statistically insignificant, suggesting that immediate increases in formal account ownership do not automatically translate into immediate improvements in household investment rates. However, the lagged coefficients reveal important dynamic effects, with both first and second lags showing negative and statistically significant coefficients, indicating that increases in formal account ownership may initially lead to reductions in investment rates. This counterintuitive finding carries important economic implications and may reflect the phenomenon that newly banked households initially use their formal accounts primarily for consumption and basic savings rather than for investment purposes.

The lagged negative effects could also indicate that as more households gain access to formal financial services, some may initially engage in dissaving or increased consumption as they adapt to formal banking systems, or they may shift funds from informal investment mechanisms to formal accounts without immediately reinvesting them. This finding is consistent with Sharimakin (2025), who demonstrated that households who actually use financial services invested significantly more than those who merely had access to such financial institutions, introducing a critical distinction between "access" and "usage" that has profound implications for policy design. The study further revealed that a substantial proportion of formal accounts in Nigeria remain inactive or underutilized, illustrating that access alone does not guarantee effective engagement with financial services. Similarly, Sharimakin and Akinlo (2022) found that while banked households invested more in physical and human capital assets than their

unbanked counterparts, savings accounts remained the dominant financial product owned by the highest number of banked households, suggesting that account ownership may not automatically translate into more sophisticated forms of investment. From a policy perspective, these findings suggest that while formal account ownership is a necessary foundation for financial inclusion, it is not sufficient to drive investment behavior in the short run, and that complementary interventions, particularly financial education and digital literacy programs, are essential to ensure that newly banked households utilize their accounts for productive investment purposes rather than merely for transactional or consumptive activities.

The coefficient for Credit Utilization Ratio is positive but statistically insignificant, indicating that credit utilization does not exert an immediate significant effect on household investment rates in the short run. This finding suggests that while credit access is important for investment, the relationship between credit utilization and investment behavior may require time to materialize, or that the quality and purpose of credit utilization matters more than the quantity of credit accessed. The insignificance of this coefficient may reflect structural constraints in the Nigerian credit market, where limited credit histories, high borrowing costs, and supply-side barriers restrict households' ability to effectively utilize credit for productive investment purposes. This finding aligns with the Nigeria Credit Landscape Report (2025), which documented that credit to Nigeria's private sector stands at just 13.1 percent of gross domestic product, significantly below levels recorded in comparable African economies, and identified several barriers that continue to restrict access to lending, including limited credit histories, high borrowing costs, and structural challenges within the financial system. The finding is also consistent with Sharimakin (2025), who revealed that investment decisions are majorly constrained by supply-side barriers, including limited access to formal credit and high borrowing costs, as well as demand-side factors, including low financial literacy and risk aversion. The economic implication of this finding is that expanding credit access alone, without addressing the quality of credit utilization and the underlying constraints, may not yield immediate improvements in household investment rates, suggesting that policymakers should focus on improving credit market efficiency, reducing borrowing costs, and strengthening financial literacy to enable households to leverage credit effectively for investment.

The coefficient for Regulatory Quality reveals a negative and statistically significant relationship with household investment rate in the short run, with both contemporaneous and lagged coefficients showing negative effects. These findings carry important economic implications for understanding how institutional quality shapes household investment behavior in Nigeria. The negative relationship suggests that improvements in regulatory quality, as measured by perceptions of regulatory effectiveness and trust in financial institutions, may initially be associated with reduced household investment rates. This counterintuitive finding may reflect several underlying economic mechanisms. First, improvements in regulatory quality may involve more stringent enforcement of regulations, which could temporarily increase compliance costs for financial institutions and reduce the availability of certain financial products or services, thereby reducing investment opportunities in the short run. Second, as regulatory quality improves and consumer protection becomes more robust, households may initially become more cautious in their investment decisions as they adjust to new regulatory standards and become more discerning in their investment choices. Third, the negative relationship could reflect a "trust shock" where households, particularly those who were operating outside formal regulatory frameworks, may initially retreat from formal investment channels as regulatory oversight intensifies, waiting to observe the implications of new regulations before committing their funds.

This finding is consistent with the study published in Zenodo (2025), which revealed that while financial literacy was a significant positive predictor of stock market participation, its efficacy was heavily contingent upon institutional trust and psychological resilience, and that institutional factors such as regulatory transparency and market infrastructure emerged as critical binding constraints, as high literacy alone could not overcome systemic institutional deficits. Similarly, the research found that psychological factors, particularly loss aversion and overconfidence, mediated the relationship between literacy and action, suggesting that even financially literate individuals may be deterred from investing by behavioral biases and lack of institutional trust. From a policy perspective, these findings suggest that regulatory reforms, while ultimately beneficial for financial sector development and household investment, may involve short-term adjustment costs that temporarily dampen investment behavior, highlighting the importance of careful policy sequencing and communication strategies to manage household expectations and minimize transitional disruptions.

5 Conclusion and Recommendations

This study examined the relationship between financial literacy and household investment behavior in Nigeria, focusing on the effects of formal account ownership, digital financial literacy, credit utilization ratio, and regulatory quality on household investment rate from 2005 to 2024. Grounded in Financial Literacy Theory and Behavioral Finance Theory, the study employed the ARDL bounds testing approach to capture both short-run dynamics and long-run equilibrium relationships. The findings reveal that digital financial literacy is the most potent driver of household investment, confirming that investments in digital financial education can yield immediate improvements in investment participation and should be prioritized in Nigeria's National Financial Inclusion Strategy. Formal account ownership, while necessary for financial inclusion, is insufficient on its own to drive investment behavior, as negative lagged effects indicate that newly banked households tend to use their accounts for consumption rather than productive investment, emphasizing the need for complementary financial education interventions. Credit utilization does not exert an immediate significant effect on household investment, suggesting that structural constraints in Nigeria's credit market restrict effective credit utilization for productive purposes, implying that policymakers should improve credit market efficiency and strengthen financial literacy. Regulatory quality improvements involve short-term adjustment costs that may temporarily dampen household investment behavior, highlighting the importance of careful policy sequencing and communication strategies during regulatory reforms. Overall, enhancing household investment behavior in Nigeria requires a multi-pronged approach that simultaneously addresses digital financial literacy, improves formal financial services, strengthens institutional frameworks, and recognizes the different temporal impacts of policy interventions.

Recommendations

Based on the findings of this study, the following recommendations are made to enhance household investment behavior in Nigeria:

i. The Central Bank of Nigeria and financial regulators should prioritize digital financial literacy programs as a core component of the National Financial Inclusion Strategy, focusing on equipping households with skills to navigate digital platforms, understand financial products, identify investment opportunities, and avoid fraud.

ii. Policymakers should address the distinction between financial access and usage by

implementing interventions that encourage active account utilization for investment purposes.

iii. The government should improve credit market efficiency and address structural constraints limiting effective credit utilization by strengthening credit infrastructure, reducing borrowing costs through interest rate reforms, and expanding access to formal credit through innovative lending models.

iv. Regulatory reforms should be carefully sequenced with effective communication strategies to minimize transitional disruptions that may temporarily dampen household investment behavior. Regulatory authorities should engage in continuous stakeholder consultation, provide clear communication about regulatory changes, and implement transitional measures such as grandfathering provisions and compliance support.

References

Akande, J. O. (2025). Role of financial technology in enhancing savings culture and wealth creation in Nigeria. *Malete Journal of Accounting and Finance, 6*(1), 106–119.

Akpan, E. O., Osondu, C. K., & Udo, M. E. (2019). Behavioral biases and investment decisions in the Nigerian stock market. *Investment Management and Financial Innovations, 16*(2), 78–87.

Albert, O. P., Iroyan, S., Oluwayemisi, A. K., Orole, F., & Osabohien, R. (2025). The role of ICT-driven financial literacy in enhancing household enterprise development. *SSRN*.

Anyakoha, C. N. (2025). Financial literacy skills needed by medium income households for coping with escalating costs of goods and services in Enugu State. *Journal of Home Economics Research Association of Nigeria*.

Apaokueze, N., & Ukepene, O. (2024). Comparative analysis of financial literacy and household budgeting behaviour in Delta State, Nigeria. *Zamfara International Journal of Education, 4*(4).

Apochi, J. G., Mohammed, A. N., Okpanachi, J., & Agbi, S. E. (2023). Effect of prospect factor and herding effect on individual investment performance in Nigeria: Moderating role of financial literacy. *European Journal of Accounting, Auditing and Finance Research*.

Association of Investment Advisers and Portfolio Managers. (2018). *Forum report*.

Banerjee, A. V. (1992). A simple model of herd behavior. *The Quarterly Journal of Economics, 107*(3), 797–817.

Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics, 116*(1), 261–292.

Benedict, I. O., Wilson, E., Ugwu, C. N., & Ibe, C. B. (2024). Investing in rural agriculture in the face of innovative financial services: Does financial literacy matter in Nigeria? *Sage Open, 14*(2).

Central Bank of Nigeria. (2024). *Statistical Bulletin*. Central Bank of Nigeria.

Daramola, O. A., Ahmad, A. C., & Mohamad, N. A. B. (2019). Herding behavior in Nigerian stock market: An empirical analysis. *Journal of Behavioural Economics, Finance, Entrepreneurship, Accounting and Transport, 7*(2), 26–34.

Guiso, L., Sapienza, P., & Zingales, L. (2008). Trusting the stock market. *The Journal of Finance, 63*(6), 2557–2600.

Hasselbank, N., & Ooft, G. (2021). What drives investment decisions of households? Evidence from Suriname. *Journal of Developing Areas, 55*(1), 251–264.

Huston, S. J. (2010). Measuring financial literacy. *Journal of Consumer Affairs, 44*(2), 296–316.

Ikue, N. J., Denwi, J. O., Ariolu, C. C., Musa, A. U., & Ikemenjima, I. O. (2022). Factors influencing saving behaviour of Nigerians. *International Journal of Finance and Accounting, 7*(3), 33–53.

Kahneman, D., & Tversky, A. (1979). Prospect theory: An analysis of decision under risk. *Econometrica, 47*(2), 263–291.

Koomson, I., Villano, R. A., & Hadley, D. (2022). The role of financial literacy in households' asset accumulation process: Evidence from Ghana. *Review of Economics of the Household, 21*, 591–614.

Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *Journal of Economic Literature, 52*(1), 5–44.

Mensah, M. A., Amponsah, E. B., & Ntim, L. A. (2025). Influence of financial literacy on retail investment decision-making in Ghana. *Research Square*.

Nigeria Credit Landscape Report. (2025). *Credit Direct*.

Odean, T. (1998). Volume, volatility, price, and profit when all traders are above average. *The Journal of Finance, 53*(6), 1887–1934.

Ogege, S. (2025). Financial literacy and economic development in Nigeria. *EKSU Journal of the Management Scientists, 3*(1).

Olayinka, T. K., & Adeyemo, K. A. (2019). Behavioral biases and investment decisions in the Nigerian stock market. *Journal of Investment and Management, 8*(3), 37–47.

Onwaeze, O., & Ehiedu, V. C. (2025). Financial literacy and investment decisions in Nigeria. *West African Journal of Financial Research, 9*(7), 47–66.

Owoo, N. S. (2022). Couple's decision-making power, women's labour market outcomes, and asset ownership. *Population Research and Policy Review, 41*, 2365–2391.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16*(3), 289–326.

Remund, D. L. (2010). Financial literacy explicated: The case for a clearer definition in an increasingly complex economy. *Journal of Consumer Affairs, 44*(2), 276–295.

Sharimakin, A. (2025). Access to and use of financial services for household investment: A micro-analytical evidence from Nigeria. *International Journal of Business and Emerging Markets, 17*(3), 300–325.

Sharimakin, A., & Akinlo, A. (2022). Households' investment structure in southwestern Nigeria. *Ilorin Journal of Economic Policy, 9*(2), 28–46.

Sharimakin, A., Ojewumi, J. S., & Oluwatope, S. A. (2025). Analysis of the extent to which financial services are used for household consumption and investment in southwestern Nigeria. *Umaru Musa Yar'adua University Journal of Economic Development, 2*(2).

Sodipo, J., Ikue, N. J., Magaji, L., Amabuike, I., Ofuru, B., Enegesi, L., Musa, A. U., Adamu, K. U., & Nura, M. (2022). Investigating the influence of financial literacy, socioeconomic and demographic factors on saving behaviours of Nigerians. *International Journal of Finance & Banking Studies, 11*(2), 1–15.

Standard Chartered Bank. (2018). *Emerging affluent study 2018: Climbing the prosperity ladder*.

Thaler, R. H. (1999). Mental accounting matters. *Journal of Behavioral Decision Making, 12*(3), 183–206.

Yinusa, O. G., & Fadipe-Joseph, O. A. (2018). Investment guidelines and rules: Managing behavioral biases in the Nigerian capital market. *International Journal of Economics, Commerce and Management, 6*(5), 32–47.

Yinusa, O. G., & Fadipe-Joseph, T. A. (2018). Behavioral biases and investment decisions of individual investors in Nigeria's stock market. *Journal of Economics and Behavioral Studies, 10*(1), 104–118.

Zenodo. (2024). A test of behavioural finance factors in the Nigerian capital market. *International Journal of Innovative Development and Policy Studies*.

Zenodo. (2025). Assessing the impact of financial literacy on household budgeting and savings behaviours of homemakers in South-West, Nigeria. *Global Academic and Scientific Journal of Multidisciplinary Studies*.

Zenodo. (2025). Navigating the equity maze: The nexus of financial literacy and stock market participation in Nigeria. *Zenodo*.