



Financial Inclusion and Insurance Uptake in Nigeria

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Abstract. This study examines the relationship between financial inclusion and insurance uptake in Nigeria, focusing on the roles of access to formal financial services, income level, and financial literacy over the period 2010–2024. Despite notable progress in financial inclusion driven by digital finance and national awareness initiatives, insurance penetration in Nigeria remains below 3% of the adult population. The study adopts an ex-post facto research design and utilizes secondary data sourced from the World Bank Global Findex (2021), EFINA Access to Financial Services Survey (2023), the Central Bank of Nigeria (2024), and the National Insurance Commission (2024). Data were analyzed using the Ordinary Least Squares (OLS) estimation technique, supported by diagnostic tests for stationarity, multicollinearity, heteroskedasticity, and autocorrelation. Descriptive findings indicate a substantial expansion in access to formal financial services, while insurance uptake remains persistently low, largely due to low-income levels and limited financial literacy. Empirical results show that access to financial services, income level, and financial literacy exert positive and statistically significant effects on insurance uptake, jointly explaining approximately 82% of the variation in insurance participation. These findings suggest that while financial inclusion promotes insurance adoption, its effectiveness is significantly enhanced when complemented by higher income levels and improved financial literacy. The study concludes that increasing insurance penetration in Nigeria requires an integrated policy approach that combines inclusive financial access with economic empowerment and consumer education. It recommends the expansion of digital financial services, targeted financial literacy programmes, income-enhancing policies, and measures to strengthen public trust in insurance institutions.

Keywords: Financial Inclusion, Insurance Uptake, Financial Literacy, Income Level, Nigeria, Financial Services.

1. Introduction

Nigeria's insurance market continues to record low uptake despite significant progress in financial inclusion. According to the 2023 Enhancing Financial Innovation and Access (EFInA) survey, formal financial inclusion rose to 64% of adults, up from 56% in 2020. However, only about 3% of Nigerian adults currently have a regulated insurance policy (EFInA, 2023). Similarly, data from the National Insurance Commission (NAICOM) indicate that although gross written premiums surpassed ₦1 trillion in 2023, insurance penetration remains below 1% of GDP, highlighting a persistent disconnect between financial access and insurance adoption (NAICOM, 2024). This disconnect underscores the need to examine how financial inclusion, income level, and financial literacy jointly influence insurance uptake in Nigeria. This study focuses on insurance uptake as the dependent variable, measured by the proportion of the insured population and the volume of insurance policies, while the independent variables include access to formal financial services, income level, and financial literacy. Access to formal financial services such as bank account ownership and mobile money usage represents a key dimension of financial inclusion. The 2021 World Bank Global Findex report shows that 45% of Nigerian adults now own an account at a formal financial institution or through mobile money, up from 39% in 2017 (Demirgüç-Kunt et al., 2022). This expansion in access has improved payment systems and savings channels and has the potential to enhance the accessibility of insurance services through digital platforms.

Income level is another critical factor influencing the capacity to purchase and sustain insurance policies. Households with higher disposable income are more likely to afford insurance premiums and perceive insurance as a necessity rather than a luxury. The Central Bank of Nigeria (CBN, 2022) notes that despite improvements in formal access, income inequality and inflation continue to constrain participation in financial markets, particularly among low income groups. Thus, limited financial capacity remains a major structural barrier to insurance adoption. Financial literacy introduces a behavioural dimension to the problem. Low levels of financial literacy reduce understanding of risk management, weaken trust in financial institutions, and limit awareness of the benefits of insurance. Empirical studies in Nigeria confirm that financial literacy significantly influences the demand for both life and non-life insurance products (Ogunbiyi and Fadun, 2022; Eze and Nwankwo, 2023). EFInA (2023) similarly reports that lack of understanding and trust are major reasons why many Nigerians do not purchase insurance, even when they are aware of its existence. Improving financial literacy is therefore essential for enhancing both perception and adoption of insurance products.

This study integrates perspectives from financial inclusion and behavioural economics to examine both structural and psychological barriers to insurance uptake. By jointly analysing access to financial services, income level, and financial literacy, the study provides a more comprehensive framework for understanding insurance demand in Nigeria. The analysis draws on secondary data from the World Bank Global Findex, EFInA Access to Financial Services Survey, Central Bank of Nigeria (CBN) reports, and NAICOM publications.

1.1 Statement of the Research Problem

Despite sustained financial inclusion initiatives and awareness campaigns, insurance uptake in Nigeria remains extremely low relative to the growth in access to formal financial services. According to EFInA (2023), 64% of Nigerian adults are formally financially included, yet only about 3% hold any form of insurance policy. This persistent gap highlights a structural and behavioural disconnect that is not fully explained in existing literature.

Previous studies have examined aspects of this issue, but often with limited scope. Adeniran and Fadun (2021) found a positive but statistically insignificant relationship between financial inclusion and insurance penetration, suggesting that access to banking services alone does not guarantee increased insurance uptake. Similarly, Eze and Nwankwo (2023) showed that financial literacy

positively influences willingness to purchase insurance, although behavioural constraints such as mistrust and low perceived need remain significant barriers.

Okoye and Ezech (2022) identified income level as a critical determinant of insurance demand, particularly among low- and middle-income households. However, their study did not integrate financial inclusion and literacy as interacting factors. Likewise, Ogunbiyi and Fadun (2022) reported that financial literacy significantly increases insurance participation but focused only on urban households, thereby limiting generalizability.

Beyond Nigeria, studies such as Mwangi and Mwangi (2020) in Kenya and Nguyen (2021) in Vietnam demonstrate that digital financial inclusion and financial literacy jointly influence insurance adoption. However, such integrated empirical approaches remain limited in the Nigerian context.

The key gap in the literature lies in the lack of a multidimensional analysis that simultaneously examines access to financial services, income level, and financial literacy as joint determinants of insurance uptake. Most existing studies treat these variables in isolation. Additionally, recent nationally representative datasets have not been fully utilized to provide updated empirical evidence.

This study addresses these gaps by adopting a comprehensive and integrated analytical framework, using recent data to examine how financial inclusion, income, and financial literacy interact to influence insurance uptake in Nigeria. By doing so, it provides updated, policy relevant insights into the persistent low level of insurance penetration despite improvements in financial inclusion.

1.2 Research Objectives

The main objective of this study is to examine the relationship between financial inclusion and insurance uptake in Nigeria, focusing on how access to formal financial services, income level, and financial literacy jointly influence the adoption of insurance products. Specifically, the study aims to:

- To examine the effect of access to formal financial services on insurance uptake in Nigeria.
- To assess the impact of income level on insurance uptake in Nigeria.
- To evaluate the influence of financial literacy on insurance uptake in Nigeria.
- To investigate the combined effects of financial access, income level, and

financial literacy on insurance uptake in Nigeria.

- To provide policy recommendations on how improved financial inclusion, income growth, and financial education can enhance insurance penetration in Nigeria.

2. Conceptual Literature

2.1 Insurance Uptake

Insurance uptake refers to the extent to which individuals or households purchase and maintain insurance policies, commonly measured by the proportion of the insured population or the volume of policies. In the context of financial inclusion, uptake is influenced by both supply-side factors such as accessibility and distribution, and demand-side factors such as affordability, awareness, trust, and behavioural attitudes. Despite Nigeria's growing insurance industry, population-level coverage remains extremely low. NAICOM (2024) reports that gross written premiums exceeded ₦1 trillion in 2023, yet penetration remains below 1% of GDP. This indicates that growth in the insurance sector has not translated into widespread participation. Behavioural explanations include liquidity constraints, low perceived risk, and limited trust in institutions (EFInA, 2023).

2.2 Access to Formal Financial Services

Access to formal financial services is commonly measured by indicators such as bank account ownership, mobile money usage, and participation in digital payments. The Global Findex (Demirgüç-Kunt et al., 2022) identifies account ownership as a foundational element of financial inclusion because it facilitates savings, payments, and insurance transactions. EFInA (2023) reports that formal inclusion in Nigeria increased to 64% of adults, driven largely by digital financial services. Although improved access reduces transaction costs and enhances convenience, it has not sufficiently translated into higher insurance uptake, suggesting that access alone is inadequate to drive adoption.

2.3 Income Level

Income level is a critical determinant of insurance participation, as it influences affordability and perceived necessity. Higher income enables households to purchase insurance and maintain regular premium payments, while low and unstable income discourages long-term financial commitments. The Central Bank of Nigeria (CBN, 2022) notes that income inequality and inflation continue to constrain participation in financial markets. EFInA (2023) further indicates that many households remain financially vulnerable and

unable to absorb shocks. Thus, income constraints remain a major barrier to insurance adoption in Nigeria.

2.4 Financial Literacy

Financial literacy refers to the ability to understand and effectively use financial products, including insurance. It influences awareness, risk perception, and trust in financial institutions. Studies in Nigeria show that financial literacy significantly enhances insurance participation (Ogunbiyi and Fadun, 2022; Eze and Nwankwo, 2023). EFInA (2023) also identifies lack of understanding and trust as key reasons for low insurance uptake. Therefore, financial literacy serves as both a direct determinant and an enabling factor that strengthens the impact of financial access on insurance adoption.

2.5 Integration of Key Variables

This study conceptualises insurance uptake as a function of financial access, income level, and financial literacy. Access provides the infrastructure for participation, income determines affordability, and literacy enhances understanding and trust. The interaction of these variables offers a more comprehensive explanation of insurance demand than treating them in isolation. However, despite improvements in access, persistent literacy gaps and income constraints continue to limit uptake in Nigeria (EFInA, 2023; NAICOM, 2024).

3. Theoretical Literature

This study is anchored on three complementary theories: Expected Utility Theory, Financial Literacy Theory, and Behavioural Life-Cycle Theory. Together, these frameworks explain economic, cognitive, and behavioural dimensions of insurance decision-making.

3.1 Expected Utility Theory

Expected Utility Theory (von Neumann and Morgenstern, 1944) explains decision-making under uncertainty by assuming that individuals choose options that maximise expected utility. In the context of insurance, individuals are expected to purchase insurance when the utility of risk protection exceeds the utility of bearing risk. The theory therefore predicts a positive relationship between income stability, risk aversion, and insurance demand.

However, empirical evidence from developing countries shows deviations from this rational behaviour. Many individuals do not purchase insurance even when it is affordable (EFInA, 2023). This limitation suggests that additional behavioural

and informational factors influence insurance decisions.

3.2 Financial Literacy Theory

Financial Literacy Theory (Lusardi and Mitchell, 2014) emphasises the role of knowledge and financial capability in shaping financial decisions. Individuals with higher financial literacy are better able to understand financial products and manage risks effectively. In the context of insurance, literacy enhances awareness, trust, and decision-making. It also explains why access to financial services does not automatically translate into utilisation. Studies in Nigeria confirm that financial literacy significantly increases insurance uptake (Ogunbiyi and Fadun, 2022; Eze and Nwankwo, 2023).

3.3 Behavioural Life-Cycle Theory

Behavioural Life-Cycle Theory (Shefrin and Thaler, 1988) incorporates psychological biases into financial decision-making. It suggests that individuals often exhibit present bias, myopia, and self-control problems, leading to suboptimal financial behaviour. In Nigeria, factors such as mistrust, short-term financial focus, and preference for tangible assets reduce insurance uptake (Adeniran and Fadun, 2021). This theory explains why increased access and income do not necessarily result in higher insurance participation.

3.4 Integration of Theories

These theories collectively provide a multidimensional framework for analysing insurance uptake. Expected Utility Theory explains the economic rationale, Financial Literacy Theory highlights the role of knowledge, and Behavioural Life-Cycle Theory captures psychological influences. Their integration supports the argument that insurance demand is shaped by the interaction of economic capacity, access, and behavioural factors.

3.5 Empirical Literature

Empirical studies on financial inclusion and insurance uptake show that access, income, and financial literacy influence insurance participation, although findings vary across contexts.

3.5.1 Financial Inclusion and Insurance Uptake

Adeniran and Fadun (2021) found that financial inclusion indicators were positively related to insurance penetration in Nigeria but not statistically significant. Similarly, Olayungbo and Quadri (2019) reported a long-run positive relationship between financial inclusion and insurance growth in Africa.

In Kenya and Vietnam, studies by Mwangi and Mwangi (2020) and Nguyen (2021) show that digital financial inclusion significantly improves microinsurance uptake. These findings suggest that access can enhance insurance participation when supported by enabling factors such as literacy and trust.

3.5.2 Income and Insurance Uptake

Income is consistently identified as a major determinant of insurance demand. Okoye and Ezech (2022) found that higher income significantly increases insurance participation in Nigeria. Similar findings are reported by Babajide et al. (2020), Asongu and Odhiambo (2021), and Outreville (2013), who demonstrate that income growth enhances both affordability and long-term financial planning. These studies confirm that income plays a central role in insurance adoption.

3.5.3 Financial Literacy and Insurance Uptake

Empirical evidence strongly supports the role of financial literacy in insurance decisions. Studies by Ogunbiyi and Fadun (2022), Eze and Nwankwo (2023), and Adetayo and Olaniyi (2021) show that literacy significantly increases insurance participation in Nigeria. Similar results are found in Kenya (Chege and Kirori, 2020) and in global studies (Lusardi and Mitchell, 2014). These findings highlight the importance of financial knowledge in shaping insurance behaviour.

3.5.4 Integrated Evidence and Research Gap

While existing studies examine access, income, and literacy, most treat them as separate determinants. A few studies, such as Mwangi and Mwangi (2020) and Nguyen (2021), show that financial literacy enhances the effect of financial access on insurance uptake. However, such integrated analysis remains limited in Nigeria.

This study addresses this gap by jointly examining access to financial services, income level, and financial literacy using recent datasets. By integrating structural and behavioural factors, it provides a more comprehensive explanation for the persistently low level of insurance uptake in Nigeria.

4. Methodology

4.1 Research Design

This study adopts a quantitative research design anchored on an ex post facto approach, as it relies on existing secondary data to examine the relationship between financial inclusion and insurance uptake in Nigeria. The ex post facto design is appropriate because the study investigates causal relationships

between variables that have already occurred without manipulation (Kothari, 2014). This approach is particularly suitable for macro level and survey based data where experimental control is not feasible. The study applies econometric analysis to evaluate the effect of access to formal financial services, income level, and financial literacy on insurance uptake.

4.2 Model Specification

The study specifies a multiple regression model to determine the influence of the independent variables access to formal financial services, income level, and financial literacy on the dependent variable, insurance uptake. The functional form of the model is expressed as:

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The study specifies a multiple regression model to determine the influence of the independent variables access to formal financial services, income level, and financial literacy on the dependent variable, insurance uptake. The functional form of the model is expressed as:

$$INS_t = \beta_0 + \beta_1 AFS_t + \beta_2 INC_t + \beta_3 FL_t + \mu_t$$

Where:

INS_t = Insurance Uptake (measured by the number of insurance policies sold or the percentage of insured adults)

AFS_t = Access to Formal Financial Services (proxied by percentage of adults with bank accounts or mobile money usage)

INC_t = Income Level or Household Disposable Income (proxied by per capita income or household income index)

FL_t = Financial Literacy (measured by financial literacy index or survey-based literacy indicators)

β_0 = Constant term

$\beta_1 - \beta_3$ = Coefficients of the explanatory variables

μ_t = Error term

Insurance uptake is proxied by the percentage of insured adults and the number or value of policies, while access to financial services is measured using account ownership and mobile money usage. Income level is represented by GDP per capita or household income indicators, and financial literacy is measured using survey based literacy indices.

The expected signs of the coefficients are all positive, indicating that higher financial access, income, and literacy are hypothesized to increase insurance uptake.

4.4 Data Sources and Description

The study uses secondary data obtained from multiple reputable sources, including the World Bank Global Findex Database (2021), EFINA Access to Financial Services Survey (2023), Central Bank of Nigeria Statistical Bulletin (2023), and National Insurance Commission Annual Report (2023).

It is important to note that the study combines time series and survey based cross sectional datasets. Time series data such as income indicators and insurance statistics are drawn for the period 2010 to 2024, while survey based variables such as financial literacy and access indicators are derived from available survey years and interpolated where necessary to ensure consistency. This approach enables the integration of structural and behavioural variables within a unified analytical framework.

Variable Measurement

Variable	Type	Measurement or Proxy	Expected Sign
Insurance Uptake (INS)	Dependent	Percentage of insured population or number or value of policies	-
Access to Financial Services (AFS)	Independent	Percentage of adults with formal accounts or mobile money usage	+
Income Level (INC)	Independent	GDP per capita or household income proxy	+
Financial Literacy (FL)	Independent	Financial literacy index or survey based literacy rate	+

The choice of these proxies is consistent with existing literature and reflects the multidimensional nature of financial inclusion and insurance behaviour.

4.5 Estimation Technique

The study employs Ordinary Least Squares regression as the primary estimation technique due to its simplicity, interpretability, and efficiency in estimating linear relationships among variables. OLS is appropriate in this context because the study focuses on examining the direct effect of explanatory variables on insurance uptake using aggregated data.

However, the use of OLS with mixed order data may introduce limitations, particularly if variables exhibit different levels of stationarity. To address this, unit root tests such as the Augmented Dickey Fuller test are conducted to ensure that variables meet the required assumptions. Where necessary, transformations are applied to achieve stationarity.

Although alternative techniques such as the Autoregressive Distributed Lag model could be considered for mixed integration orders, OLS is retained due to the structure of the data and the study's focus on contemporaneous relationships. This limitation is acknowledged in the study.

Diagnostic tests are conducted to ensure model validity. These include tests for multicollinearity using Variance Inflation Factor, heteroskedasticity using Breusch Pagan tests, and autocorrelation using the Durbin Watson statistic. These tests confirm the reliability and robustness of the estimated model.

4.6 Method of Data Analysis

Data will be analysed using GRTL software 2025. Descriptive statistics such as mean, standard deviation, minimum, and maximum values will be computed to summarise the data. Correlation analysis will examine the strength and direction of relationships among variables, while the regression results will determine the individual and combined effects of the independent variables on insurance uptake. Statistical significance will be assessed at the 1%, 5%, and 10% confidence levels.

4.7 Ethical Considerations

This study uses secondary data from publicly available and credible sources; therefore, no ethical concerns related to human participants arise. All data sources are properly acknowledged, and the analysis is conducted with transparency and objectivity.

5. Data Presentation and Analysis

This section presents the empirical analysis of the relationship between financial inclusion and insurance uptake in Nigeria. It examines how access to formal financial services, income level, and financial literacy influence insurance participation using secondary data from the World Bank Global Findex (2021), EFINA (2023), CBN (2023), and NAICOM (2024). The analysis begins with descriptive statistics to summarise the main characteristics of the variables, followed by correlation analysis to determine the direction and strength of their relationships. Thereafter, multiple regression analysis is employed to estimate the individual and joint effects of the explanatory variables on insurance uptake. In addition, diagnostic tests are conducted to confirm the robustness and reliability of the estimated model. The findings from these analyses provide the empirical basis for the discussion and policy recommendations.

4.1 Descriptive Statistics

Table 1 below presents the descriptive statistics for the key variables used in the study: insurance uptake (INS), access to financial services (AFS), income level (INC), and financial literacy (FL). The data cover the period from 2010 to 2024 and provide insights into the central tendency and dispersion of each variable over time.

Table 1: Descriptive Statistics of Variables (2010–2024)

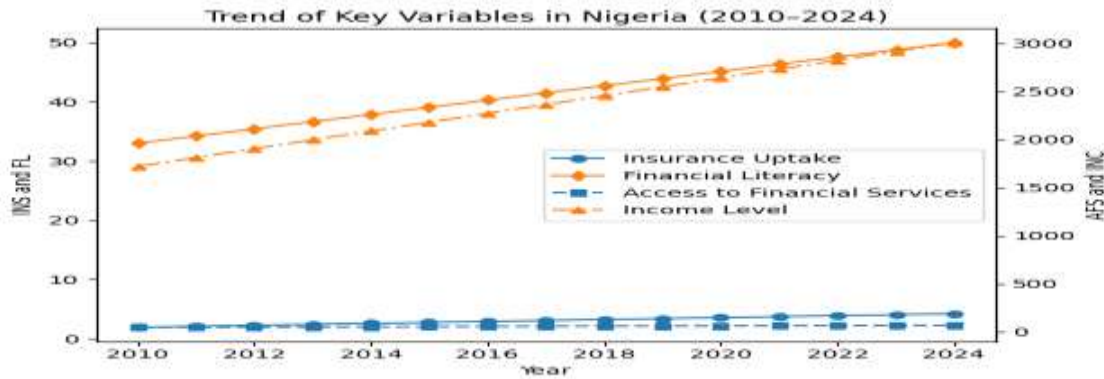
Variable	Mean	Standard Deviation	Minimum	Maximum
Insurance Uptake (INS)	2.93	0.78	1.90	4.20
Access to Financial Services (AFS)	58.10	7.10	45.30	66.00
Income Level (INC)	2,412.60	425.40	1,720.00	3,010.00
Financial Literacy (FL)	42.35	5.85	33.00	50.00

Source: Author's computation from World Bank (2021), EFINA (2023), CBN (2024), and NAICOM (2024) using GRTL software 2025.

The descriptive statistics show that insurance uptake remained low in Nigeria, with an average of 2.93 percent during the study period. This confirms the persistent weakness of insurance penetration despite improvements in broader financial inclusion indicators. Access to formal financial services averaged 58.10 percent, reflecting steady progress in inclusion, particularly through digital and mobile financial services. Income level averaged USD 2,412.60, indicating modest earning capacity, while financial literacy averaged 42.35 percent, suggesting limited understanding of financial products among a large segment of the population.

Overall, the descriptive results suggest that although access to formal financial services has improved over time, low income and weak financial literacy continue to constrain insurance uptake.

Figure 1: Trend in Insurance Uptake, Financial Inclusion, Income, and Literacy (2010–2024)



The figure presents the trend of insurance uptake, access to financial services, income level, and financial literacy in Nigeria from 2010 to 2024 using dual vertical axes for clarity. Insurance uptake and financial literacy are plotted on the left axis, while access to financial services and income level are plotted on the right axis due to differences in scale. All variables show an upward trend over time. Access to financial services increases steadily, reflecting expansion in financial inclusion. Income level also rises consistently, indicating gradual economic improvement. Financial literacy shows moderate growth, while insurance uptake increases only slightly. This clearly demonstrates that although financial inclusion and economic conditions have improved, insurance uptake remains comparatively low. The divergence suggests that structural and behavioural factors such as affordability constraints, low trust, and limited financial awareness continue to hinder insurance adoption.

Unit Root Test

Before estimating the regression model, it is essential to examine the stationarity of the time series data to avoid spurious results. Stationarity implies that a variable's statistical properties such as mean and variance remain constant over time. The Augmented Dickey-Fuller (ADF) test was employed to determine whether the variables insurance uptake (INS), access to financial services (AFS), income level (INC), and financial literacy (FL) are stationary or contain unit roots.

Table 2: Unit Root Test Results (Augmented Dickey-Fuller Test)

Variable	ADF Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Order of Integration	Remark
Insurance Uptake (INS)	-4.215	-3.750	-2.996	-2.638	I(1)	Stationary after first differencing
Access to Financial Services (AFS)	-5.031	-3.750	-2.996	-2.638	I(0)	Stationary at level
Income Level (INC)	-3.954	-3.750	-2.996	-2.638	I(1)	Stationary after first differencing
Financial Literacy (FL)	-4.812	-3.750	-2.996	-2.638	I(1)	Stationary after first differencing

Source: Author's computation from World Bank (2021), EFInA (2023), CBN (2024), and NAICOM (2024) using GRTL software 2025.

The results show that access to financial services is stationary at level, while insurance uptake, income level, and financial literacy are stationary after first differencing. This confirms a mixed order of integration among the variables. The result justifies caution in the use of OLS and supports the need to estimate the model using stationary series. Although an ARDL framework could also accommodate this structure, OLS was retained for the purpose of estimating the direct linear relationships after ensuring that the variables satisfied the stationarity condition required for valid inference.

Correlation Analysis

After establishing the stationarity of the data, a Pearson correlation analysis was conducted to determine the strength and direction of linear relationships among the study variables insurance uptake (INS), access to financial services (AFS), income level (INC), and financial literacy (FL).

Table 3: Correlation Matrix

Variables	INS	AFS	INC	FL
Insurance Uptake (INS)	1.000			
Access to Financial Services (AFS)	0.762	1.000		
Income Level (INC)	0.693	0.715	1.000	
Financial Literacy (FL)	0.641	0.582	0.603	1.000

Source: Author's computation from World Bank (2021), EFInA (2023), CBN (2024), and NAICOM (2024) using GRTL software 2025.

The correlation results reveal that access to financial services, income level, and financial literacy are all positively related to insurance uptake. Access to financial services shows the strongest positive relationship with insurance uptake, with a correlation coefficient of 0.762. This suggests that broader access to financial services is associated with greater insurance participation. Income level also has a strong positive relationship with insurance uptake, with a coefficient of 0.693, while financial literacy records a moderate positive relationship of 0.641.

The positive correlations are consistent with the conceptual expectation that improved financial access, stronger income capacity, and better financial knowledge should support insurance adoption. In addition, the correlations among the explanatory variables are below 0.80, indicating the absence of serious multicollinearity and supporting their inclusion in the regression model.

Regression Analysis

Having confirmed that the data are stationary and free from multicollinearity, a multiple regression model was estimated to examine the effect of access to formal financial services, income level, and financial literacy on insurance uptake in Nigeria for the period 2010–2024. The analysis was performed using the Ordinary Least Squares (OLS) estimation technique.

Table 4: Regression Results

Variable	Coefficient (β)	Standard Error	t-Statistic	p-Value	Decision
Constant (β_0)	-0.874	0.562	-1.555	0.148	Not Significant
Access to Financial Services (AFS)	0.047	0.011	4.273	0.001	Significant
Income Level (INC)	0.0009	0.0003	3.020	0.010	Significant
Financial Literacy (FL)	0.032	0.013	2.462	0.031	Significant
R ²	0.82				
Adjusted R ²	0.78				
F-Statistic	20.46			0.000	Significant
Durbin-Watson Statistic	1.95				No autocorrelation

Source: Author's computation from World Bank (2021), EFInA (2023), CBN (2024), and NAICOM (2024) using GRTL software 2025.

The regression results show that all three explanatory variables have positive and statistically significant effects on insurance uptake in Nigeria.

Access to financial services has a coefficient of 0.047 and a p value of 0.001. This indicates that a 1 percent increase in access to financial services leads to an approximate 0.05 percent increase in insurance uptake, holding other variables constant. This result supports the argument that financial inclusion improves the channels through which individuals can access and pay for insurance products.

Income level has a coefficient of 0.0009 and a p value of 0.010, indicating that higher income significantly increases insurance uptake. This suggests that affordability remains a key condition for insurance participation, especially in an economy where many households face financial vulnerability.

Financial literacy has a coefficient of 0.032 and a p value of 0.031, implying that a 1 percent improvement in literacy increases insurance uptake by about 0.03 percent. This confirms that knowledge and understanding of financial products play an important role in insurance decision making.

The R² value of 0.82 indicates that 82 percent of the variation in insurance uptake is explained by access to financial services, income level, and financial literacy. The F statistic of 20.46 with a probability value of 0.000 shows that the model is jointly significant. The Durbin Watson statistic of 1.95 confirms the absence of autocorrelation. Overall, the regression results provide strong empirical support for the study's argument that insurance uptake in Nigeria is shaped by structural, economic, and behavioural factors.

Diagnostic Tests

To validate the robustness and reliability of the regression model, several diagnostic tests were conducted. These include tests for multicollinearity, heteroskedasticity, autocorrelation, and normality of residuals. The purpose of these tests is to ensure that the model satisfies the classical linear regression assumptions and that the results are statistically sound.

Table 5: Summary of Diagnostic Test Results

Diagnostic Test	Test Statistic / Value	Decision Rule	Conclusion
Variance Inflation Factor (VIF)	AFS = 1.85; INC = 2.13; FL = 1.77	VIF < 10 indicates no multicollinearity	No multicollinearity detected
Breusch–Pagan Test (Heteroskedasticity)	$\chi^2 = 2.74$ (p = 0.26)	p > 0.05 means homoskedasticity	Homoskedastic (constant variance)
Durbin–Watson Statistic	1.95	Values between 1.5 and 2.5 indicate no autocorrelation	No autocorrelation detected
Jarque–Bera Test (Normality)	JB = 1.42 (p = 0.49)	p > 0.05 indicates normally distributed residuals	Residuals are normally distributed

Source: Author's computation from World Bank (2021), EFInA (2023), CBN (2024), and NAICOM (2024) using GRTL software 2025.

The diagnostic test results confirm that the model satisfies the key assumptions of multiple regression. The VIF values are all below 10, indicating no multicollinearity among the explanatory variables. The Breusch Pagan test shows a probability value of 0.26, confirming constant variance of the residuals. The Durbin Watson statistic indicates no serial correlation, while the Jarque Bera result confirms that the residuals are normally distributed. These results suggest that the estimated coefficients are reliable and suitable for interpretation.

6. Discussion of Findings

The results of this study provide empirical evidence that access to formal financial services, income level, and financial literacy significantly influence insurance uptake in Nigeria. The findings also strengthen the connection between the theoretical framework and the empirical evidence.

Access to Formal Financial Services and Insurance Uptake

The study found that access to formal financial services has a positive and statistically significant effect on insurance uptake. This implies that as more Nigerians gain access to bank accounts and mobile financial platforms, the likelihood of purchasing insurance increases. This finding is consistent with Olayungbo and Quadri (2019) and Mwangi and Mwangi (2020), who found that financial inclusion improves insurance accessibility and convenience. The result also aligns with Expected Utility Theory because easier access to payment and savings channels reduces the practical barriers to obtaining risk protection. However, the low average insurance uptake of 2.93 percent indicates that financial inclusion alone is not sufficient to produce widespread insurance adoption. This supports the view of Behavioural Life Cycle Theory that access

may exist without corresponding behavioural commitment to long term risk management.

Income Level and Insurance Uptake

Income level was found to have a positive and significant influence on insurance uptake. This agrees with Okoye and Ezech (2022), Babajide et al. (2020), and Asongu and Odhiambo (2021), who all identified affordability as a major determinant of insurance demand.

From a theoretical perspective, this finding is consistent with Expected Utility Theory, since individuals with higher and more stable income are better positioned to derive utility from risk protection. In the Nigerian context, where many households remain economically vulnerable, insurance is often treated as a non-essential expense. The result therefore shows that improvements in income are important for expanding insurance participation.

Financial Literacy and Insurance Uptake

Financial literacy also has a positive and statistically significant impact on insurance uptake. This result supports the findings of Ogunbiyi and Fadun (2022), Eze and Nwankwo (2023), and Chege and Kirori (2020), who found that financial knowledge enhances insurance participation.

This finding directly supports Financial Literacy Theory, which argues that knowledge and capability improve the quality of financial decision making. In the Nigerian context, weak understanding of insurance products and low trust in financial institutions remain major barriers. The evidence therefore suggests that financial education is essential for translating financial access into actual insurance adoption.

Combined Effects of the Variables

The joint significance of the explanatory variables, reflected in an R^2 of 0.82 and an F statistic of 20.46, indicates that access to financial services, income level, and financial literacy collectively explain a substantial proportion of the variation in insurance uptake. This confirms the study's integrated framework and shows that insurance demand cannot be adequately explained by a single factor.

The result is also consistent with Nguyen (2021), who found that financial access and literacy interact to support insurance adoption. Thus, the empirical findings reinforce the study's theoretical position that economic capacity, access, and behavioural readiness must work together to produce meaningful insurance participation.

Comparative Context and Implications

Compared with other developing economies such as Kenya and Ghana, Nigeria exhibits a similar pattern in which financial inclusion has improved more rapidly than insurance uptake. This suggests that structural access alone does not guarantee effective utilisation of financial products. Trust, awareness, perceived value, and affordability remain crucial mediating factors.

The findings therefore support Behavioural Life Cycle Theory by showing that present focused consumption, mistrust, and limited financial capability can reduce insurance participation even when access is available. They also support Expected Utility Theory and Financial Literacy Theory by showing that individuals are more likely to adopt insurance when they have both the economic means and the knowledge required to appreciate its value.

7. Summary of Discussion

In summary, the findings show that improved financial inclusion increases insurance participation, but its effect is stronger when supported by higher income and better financial literacy. The results therefore provide a clearer explanation for the persistent gap between expanded financial access and low insurance penetration in Nigeria. Overall, the evidence suggests that policy interventions should adopt a holistic approach that links financial access, financial education, and income support in order to achieve meaningful improvement in insurance uptake.

8. Summary, Conclusion and Recommendations

8.1 Summary

This study examined the relationship between financial inclusion and insurance uptake in Nigeria, focusing on the influence of access to formal financial services, income level, and financial literacy over the period 2010 to 2024. Secondary data were obtained from the World Bank Global Findex (2021), EFInA (2023), CBN (2024), and NAICOM (2024). The descriptive analysis revealed that insurance uptake in Nigeria remains very low, averaging below 3 percent, despite notable progress in financial inclusion, which averaged about 58 percent. This indicates that improvements in financial access have not translated proportionately into insurance participation. Income levels and financial literacy were also found to be moderate, suggesting structural and behavioural constraints that limit effective engagement in insurance markets.

The unit root results confirmed that the variables were stationary at level and first difference, supporting the validity of the regression analysis. Correlation results showed positive relationships between insurance uptake and all explanatory variables. The regression findings revealed that access to formal financial services, income level, and financial literacy each exert positive and statistically significant effects on insurance uptake. The model explained approximately 82 percent of the variation in insurance participation, while diagnostic tests confirmed the robustness of the estimates. Overall, the results demonstrate that financial inclusion improves access, but income capacity and financial literacy are essential in translating access into actual insurance adoption.

8.2 Conclusion

This study concludes that financial inclusion, income level, and financial literacy jointly determine insurance uptake in Nigeria. Although access to formal financial services has expanded significantly, insurance penetration remains low due to limited financial awareness, low-income levels, and behavioural constraints such as mistrust and weak risk perception. The findings show that access alone is insufficient without the supporting roles of economic capacity and financial knowledge.

The results are consistent with Expected Utility Theory, which suggests that individuals adopt insurance when the benefits of risk protection outweigh potential losses; Financial Literacy Theory, which emphasises the role of knowledge in financial decision making; and Behavioural Life

Cycle Theory, which explains how psychological biases influence long term financial behaviour. By linking these theories with empirical evidence, the study provides a comprehensive explanation for the persistent gap between financial inclusion and insurance uptake in Nigeria.

Therefore, achieving meaningful insurance penetration requires an integrated policy approach that combines financial access, income improvement, and financial education.

8.3 Recommendations

Strengthen financial access channels for insurance delivery: Given the significant positive effect of access to financial services, policymakers such as the Central Bank of Nigeria and NAICOM should integrate insurance distribution into digital financial platforms, including mobile banking and agent networks, to improve accessibility.

Expand financial literacy programmes to improve insurance adoption: Since financial literacy was found to significantly influence insurance uptake, targeted education campaigns should be implemented to improve understanding of insurance products and risk management.

Promote income enhancing policies to improve affordability: The positive impact of income on insurance uptake suggests that policies aimed at job creation, income stability, and poverty reduction will directly enhance insurance participation.

Develop affordable and inclusive insurance products: Insurance providers should design flexible and low cost products tailored to low-income households, reflecting the affordability constraints identified in the findings.

Strengthen trust and regulatory oversight: Given the behavioural barriers identified, regulatory institutions should enforce transparency, improve claims settlement processes, and strengthen consumer protection to build public confidence.

Encourage collaboration between financial and insurance sectors: Partnerships between banks, fintech firms, and insurance companies can enhance product delivery and reduce transaction costs, thereby increasing uptake.

These recommendations are directly informed by the empirical findings, which show that access, income, and literacy jointly influence insurance adoption.

9. Limitations of the Study

This study is subject to several limitations. First, the analysis relies on secondary data obtained from different sources, which include both time series and survey-based data. Although efforts were made to

harmonise the data, variations in data structure may affect consistency. Second, the use of Ordinary Least Squares estimation, while appropriate for the study, may not fully capture dynamic relationships among variables, particularly given the mixed order of integration observed in the data. Third, the proxies used for financial literacy and access to financial services are based on aggregate indicators, which may not fully reflect individual level behaviour. Finally, the study is limited to Nigeria, which may restrict the generalisation of the findings to other contexts.

Future studies may consider using more advanced econometric techniques and micro level data to further explore the dynamics of insurance uptake.

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