

Financial Technology (FinTech) and Money market Development in Nigeria: 2010-2024

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Abstract

This study investigated the relationship between financial technology (FinTech) adoption and money market savings mobilization in Nigeria from 2010 to 2024. Using a Generalized Linear Model (GLM) and pairwise Granger causality tests, the study analyzed the effects of key FinTech channels mainly POS, NEFT, RTGS, internet transfers (IWT), mobile app transfers (MAT), and USSD alongside macroeconomic controls such as inflation, monetary policy rate (MPR), and population growth. Using data sourced for Central Bank of Nigeria, National Bureau of statistics and World Bank database, the results revealed that NEFT and USSD significantly and positively influenced savings mobilization, indicating their critical role in promoting formal financial inclusion. Conversely, RTGS, IWT, and MAT had significant negative effects, implying that these channels were primarily used for consumption and settlements rather than savings. POS transactions were positive but statistically not significant, suggesting untapped potential for agent network-driven deposit mobilization. Inflation and MPR were not significant predictors, showing that technology adoption had a stronger effect on savings behaviour than traditional monetary tools. Population growth contributed positively, reflecting the opportunity presented by Nigeria's expanding customer base. Thus, the findings confirmed that FinTech adoption remains a main driver of savings mobilization, though channel effects are heterogeneous. The study recommended among other for expanding inclusive digital savings products, investing in financial literacy to convert transaction activity into sustainable savings and strengthen financial intermediation.

Keywords: FinTech, Money Market, Savings Mobilization, Financial Inclusion, Nigeria, Generalized Linear Model

1. Introduction

Between 2010 and 2024, Nigeria's financial system underwent a profound transformation driven by the rise of financial technology (FinTech) firms, rapid expansion of digital payment channels, and proactive regulation by the Central Bank of Nigeria (CBN). Before 2010, Nigeria's economy was largely cash-based, with low penetration of electronic payments. The spread of mobile phones, improved internet connectivity, and the emergence of non-bank payment providers triggered a major shift toward digital financial services, reshaping the way funds are transferred, liquidity circulates, and households and businesses access near-instant payments.

Key regulatory milestones supported this transition. For instance, the CBN introduced mobile money guidelines in 2015, followed by frameworks for payment service banks, regulatory sandbox programmes, and open-banking arrangements, all aimed at improving financial inclusion and managing risk. The launch of the e-Naira in 2021 marked a milestone in central bank digital currency adoption and further integrated monetary operations with the payment ecosystem (CBN, 2023).

Simultaneously, a dynamic private FinTech sector emerged, with payment platforms, mobile wallets, digital banks, and remittance services expanding financial access and enabling instant settlement. Industry data shows exponential growth in transaction volumes and values across POS, USSD, internet banking, and mobile app channels, reflecting increased consumer adoption and business migration to digital settlement (The Cable, 2024).

These developments have important implications for Nigeria's money market, which intermediates short-term liquidity through treasury bills, commercial papers, certificates of deposit, and interbank placements. On one hand, FinTech can enhance monetary transmission and deepen funding markets by mobilizing previously excluded funds. On the other hand, the diversion of liquidity into non-bank wallets and peer-to-peer platforms could reduce banks' deposit bases, affect interest rate stability, and complicate liquidity management.

Despite the sector's rapid growth, empirical evidence on how FinTech adoption has influenced money market depth, liquidity, and pricing remains limited. Existing studies focus more on FinTech and financial inclusion or economic growth (Ozili, 2022), leaving a gap regarding its relationship with short-term financial markets.

This study addresses a gap by examining the effect of FinTech adoption on Nigeria's money market between 2010 and 2024. It seeks to answer: (1) To what extent has FinTech adoption influenced savings mobilization in Nigeria's money market? (2) What is the directional relationship between FinTech adoption and money market savings mobilization? The study tests the null hypothesis that FinTech adoption has no significant effect on money market savings mobilization during the period under review.

The other sections of this study are conceptual reviews, conceptual framework, theoretical framework, review of empirical literature, gap in literature, methodology, data presentation and analysis, discussion of findings, summary of findings, conclusion and recommendations.

Conceptual Review of FinTech Channels

Financial Technology (FinTech) involves using technology to improve financial services' efficiency and inclusiveness (Gomber et al., 2018). In developing countries like Nigeria, FinTech has transformed payment systems, promoting financial inclusion (Ozili, 2022). This review covers key FinTech channels: Point-of-Sale (POS), Internet/Web transfers, National Electronic Funds Transfer (NEFT), Real-Time Gross Settlement (RTGS), Unstructured Supplementary Service Data (USSD), and Mobile App Transfers.

POS terminals enable payments via debit or credit cards and help reduce cash dependency by supporting digital retail transactions (Adeoti & Oshotimehin, 2012). The Central Bank of Nigeria (CBN) has actively promoted POS use, making it vital for last-mile financial inclusion (CBN, 2023). Internet transfers allow users to move funds online anytime, offering convenience and improved service efficiency (Bonsu & Amoako, 2018; Malaquias & Hwang, 2016).

NEFT processes transactions in batches during the day, suitable for small to medium transfers, offering security and cost-effectiveness, though lacking real-time settlement (Sundararajan & Thomas, 2017). RTGS processes high-value payments immediately, reducing settlement risk, and forms the core of Nigeria's large-value transfer system (Bech & Hobijn, 2007; CBN, 2023).

USSD technology provides mobile banking without internet, crucial in areas with limited Smartphone use. It enables balance checks, transfers, and payments via short codes, supporting rural financial inclusion at low cost (Ouma et al., 2017). Mobile apps, provided by banks and FinTech firms, offer interactive platforms for transactions, bill payments, savings, lending, and investments, benefiting from growing Smartphone adoption, thereby deepening Nigeria's cashless economy (Donovan, 2012; Ozili, 2022).

The money market in Nigeria consists of short-term debt instruments and interbank arrangements that provide liquidity and maturity transformation. Key instruments include treasury bills, commercial papers, certificates of deposit, repos, and interbank placements. Its development is measured by depth (size relative to GDP), breadth (participant diversity), liquidity (ease of trading), efficiency (cost and price transparency), and stability (shock absorption capacity).

Nigeria's money market is largely dominated by treasury bills and interbank placements; other instruments like commercial papers and certificates of deposit are less active. The market has been historically shallow and segmented, vulnerable to macroeconomic shocks and policy changes. The CBN uses tools such as open market operations and reserve requirements to manage liquidity, but their effectiveness depends on market depth and the short-term liability structure across banks and non-banks (CBN, 2024).

From 2010 to 2024, Nigeria's money market evolved amid macroeconomic volatility and technological advances. Inflation, exchange rate fluctuations, and fiscal pressures affected yields and bank liquidity. Simultaneously, FinTech innovations—mobile money, digital wallets, real-time payment systems—boosted electronic transactions, increasing short-term balances outside traditional deposits. Data from industry and CBN reveal exponential growth in e-payments, which impacts deposit mobilization, liquidity, and money market intermediation (NIBSS, 2024).

FinTech platforms also play a critical role in savings mobilization by simplifying and securing saving through digital wallets and automated tools, encouraging disciplined saving habits (Okeke & Nwankwo, 2021). These platforms democratize investment access, allowing small savers to participate in financial markets, thus enhancing total savings and supporting capital formation.

Conceptual framework

Figure 1 showed the conceptual framework of this study. The conceptual framework clearly illustrates the causal link between FinTech adoption and money market development (savings mobilization) from 2010–2024. FinTech variables (POS, USSD, NEFT, RTGS, internet transfers, mobile apps) are appropriately positioned as key drivers. Control variables (inflation, interest rate, population growth) are included to moderate and explain variations in savings behaviour and liquidity. Their parallel placement highlights their simultaneous influence on money market outcomes. The framework's top-to-bottom flow effectively shows how FinTech adoption and macroeconomic conditions converge to shape money market development, clearly communicating directionality and supporting the study's hypothesis on FinTech's role in deepening or fragmenting the market.

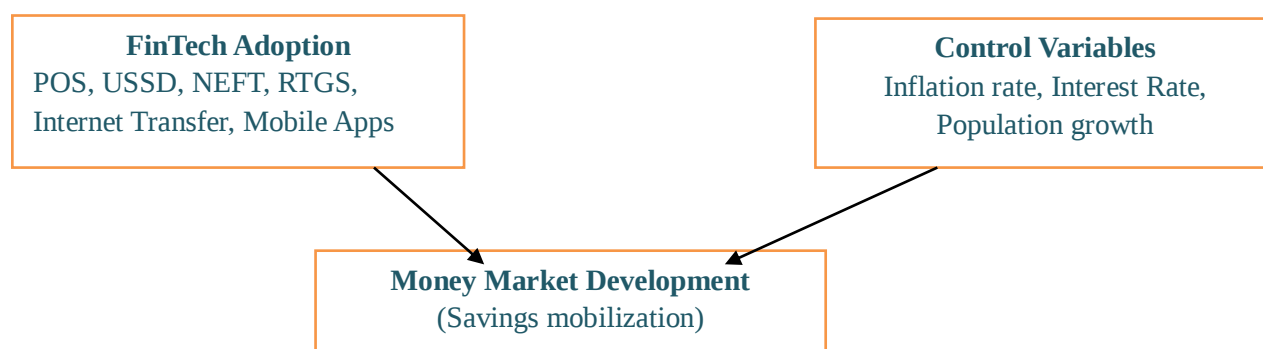


Figure 1: Conceptual Framework on Effect of FinTech Adoption on Money Market Development

Theoretical framework: This study used a multi-theoretical framework to explain how FinTech adoption influences money-market development, particularly savings mobilization, by linking institutional, macroeconomic, and micro-level mechanisms from 2010 to 2024 in Nigeria.

Financial Intermediation Theory (Diamond, 1984; Goldsmith, 1969) emphasizes how banks reduce transaction costs, pool savings, and transform maturities. It explains how FinTech platforms could alter the supply of short-term funds fundamental to money markets by either augmenting or displacing traditional intermediaries.

The Disintermediation & Financial Deepening theory (McKinnon, 1973; Shaw, 1973) posits that financial liberalization and innovation affect savings behavior and interest rates. FinTech could deepen markets by mobilizing new savings or cause disintermediation by diverting deposits away from banks, capturing these competing outcomes.

Diffusion of Innovations (Rogers, 2003) describes how adoption of innovations spreads through populations based on factors like perceived advantage and complexity. This theory explains the

pace and pattern of FinTech adoption among Nigerian consumers and firms, impacting how quickly digital balances enter money-market channels.

The Technology Acceptance Model (Davis, 1989) focuses on how perceived usefulness and ease of use drive user acceptance of technology. TAM sheds light on why individuals adopt mobile wallets or digital investment apps, explaining the behavioral link between digital transaction activity and formal savings mobilization.

Keynesian Liquidity Preference and Monetary Transmission theory (Keynes, 1936) centers on money demand and interest rates shaping short-term asset allocation. As FinTech alters liquidity holdings through digital wallets, this theory helps interpret shifts in money-market yields and the effectiveness of monetary policy transmission.

Finally, Schumpeterian Financial Innovation (Schumpeter, 1911/1934) views financial innovation as a driver of economic development by restructuring credit intermediation. Here, FinTech is framed as a transformative innovation reshaping short-term funding markets.

Together, these theories provide a comprehensive lens to analyze FinTech's role in Nigeria's evolving money market.

Empirical reviews: This review synthesizes empirical studies and industry data on how FinTech adoption in Nigeria (2010–2024) has influenced short-term financial intermediation, deposit mobilization, transaction efficiency, and money-market dynamics.

NIBSS (2024) reports a dramatic rise in digital payments, with electronic transaction volumes reaching ₦600 trillion in 2023. This expansion suggests FinTech's potential to shift where and how short-term funds circulate, moving balances onto digital platforms rather than traditional bank deposits.

Ozili (2022) highlights that mobile and digital channels have expanded financial inclusion by increasing account ownership and transaction activity among the previously unbanked, implying FinTech can broaden the investor base for short-term instruments if digital savings flow into formal financial channels. Okwor (2024) finds mixed effects of FinTech adoption on deposit money institutions, noting both growth in deposit mobilization through convenience and weakening deposit bases as funds move into e-wallets or FinTech custodial accounts. These differences may stem from variations in provider type, product design, and regulatory factors influencing whether FinTech deepens or fragments traditional deposit funding.

Obilikwu (2024) shows, using ARDL estimations, that internet banking positively impacts financial development in the long run, while POS has short-term positive effects. Control variables like inflation and interest rates have mixed effects depending on the time horizon. Emuron et al. (2024) report a bi-directional relationship between traditional banks and FinTech in the Southern African Development Community region, indicating that FinTech adoption drives financial development and encourages banks to innovate.

Studies from other regions, like Lavrinenko et al. (2023) on ASEAN countries, confirm that ICT stimulates financial development, particularly through money supply. Aduba et al. (2023) assert that FinTech penetration promotes financial development, especially in countries with weak financial sectors and low inclusion, emphasizing policy importance.

Despite substantial FinTech growth and its linkage to inclusion and mobilization, there is a lack of direct, causal studies linking FinTech adoption specifically to money-market depth in Nigeria, representing a key empirical gap.

Methodology

This study adopts a quantitative, ex-post facto design using time-series econometric techniques (VAR/VECM, Granger causality, and regression) to estimate the effect of FinTech adoption on savings mobilization in Nigeria's money market and to determine the directional relationship between the variables (2010–2024). Secondary data were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin, National Bureau of Statistics (NBS), EFinA Surveys, World Bank Global Findex, IMF, WDI, and FMDQ reports. The dependent variable: Savings Mobilization (GDSP), measured as total savings deposits (% of GDP).

The independent variables: FinTech adoption proxies – value of mobile app transfers (MAT), POS transactions, internet/web transfers (IWT), NEFT, RTGS, and USSD transactions.

The control variables: Inflation (INF), monetary policy rate (MPR), and population growth (POPG).

Generalized Linear Models (GLM) were used to address autocorrelation and non-stationarity. Granger causality tests assessed directionality and causality. Descriptive statistics (mean, median, standard deviation, Jarque-Bera) provided trend analysis. Hypotheses were tested using multiple regression, and p-values (5% significance) for individual coefficients. The LR Statistic and Root MSE measured model explanatory power, while Jarque-Bera tests confirmed normality.

The study model is specified as $GDSP = f(TFA, \text{Control Variables})$; and in log-linear form as:

$$\log GDSP = \beta_0 + \beta_1 \log MAT + \beta_2 \log POS + \beta_3 \log IWT + \beta_4 \log NEFT + \beta_5 \log RTGS + \beta_6 \log USSD + \beta_7 \log INF + \beta_8 \log MPR + \beta_9 \log POPG + \epsilon$$

Data Presentation and Analysis

Table 1: Nigeria's FinTech adoption and Money market development Data: 2010–2024

Year	POS (₦ trillion)	Internet / Web transfers (₦ trillion) IWT	NEFT (₦ trillion)	RTGS (₦ trillion)	USSD (₦ trillion)	Mobile App transfers (₦ trillion) MAT	Gross Domestic Savings (% of GDP) GDSP
2010	0.04	0.1	0.2	0.15	0.01*	0.01*	26.14
2011	0.08	0.16	0.28	0.2	0.02*	0.02*	25.63
2012	0.22	0.35	0.5	0.38	0.03*	0.03*	24.26
2013	0.55	0.8	1.1	0.85	0.05*	0.05*	23.25

2014	1.1	1.95	2.4	1.9	0.08*	0.06*	21.7
2015	1.9	3.1	3.4	3	0.1	0.07	15.34
2016	3.45	5.3	5.9	4.8	0.2	0.1	14.5
2017	4.8	8.2	9.6	7.5	0.8	0.3	17.11
2018	5.6	12.5	14.2	10.1	2.1	0.9	18.38
2019	7.1	18	21.4	14.5	4	2.4	19.26
2020	6.75	25.1	28.8	20	7.2	6.1	16.65
2021	8.39	30	90	60	12	10	22.57
2022	8.39	38.77	120	95	35	19.4	23.19
2023	10.73	49.57	155.00*	125.00*	73.5	169.12*	24.31
2024	24.74*	84.95	190.00*	160.00*	116.46	318.84*	25.5

Sources: Official NIBSS e-Payment fact sheets, CBN e-payment breakdown, CBN Statistical bulletin and WDI / Trading Economics. Missing figures were estimated or obtained via linear interpolation

Table 2: Control Variables of the study

Year	Inflation, CPI (y/y %)	CBN MPR (% eop)	Population growth (annual %)
	INF	MPR	POPG
2010	13.72	6	2.6
2011	10.81	6	2.6
2012	12.07	12	2.6
2013	8.5	12	2.6
2014	8.06	13	2.59
2015	9.01	13	2.59
2016	15.68	14	2.59
2017	16.52	14	2.58
2018	12.13	14	2.58
2019	11.4	13.5	2.57
2020	12.82	11.5	2.57

2021	15.63	11.5	2.56
2022	18.7	16.5	2.55
2023	24.66	18.75	2.54
2024	22.97*	27.50*	2.53*

Sources: National Bureau of Statistics, World Bank Global Findex, and IMF reports. Missing figures were obtained via linear interpolation

Descriptive Statistics

The data generated were subjected to descriptive analysis. The relevant output data were presented in Table 3.

Table 3: Descriptive statistics of the input data: 2010-2024

	GDS P	POS	IWT	MAT	NEFT	RTGS	USSD	INF	MPR	POP G
Mean	21.19	5.59	18.59	35.16	42.85	33.56	16.77	14.18	13.55	2.58
Median	22.57	4.80	8.20	0.30	9.60	7.50	0.80	12.82	13.00	2.58
Maximum	26.14	24.74	84.95	318.84	190.00	160.00	116.46	24.66	27.50	2.60
Minimum	14.50	0.04	0.10	0.01	0.20	0.15	0.01	8.06	6.00	2.53
Std. Dev.	3.97	6.36	24.07	89.54	63.65	51.94	34.00	4.95	5.06	0.03
Skewness	-0.386	1.85	1.57	2.55	1.32	1.46	2.14	0.79	1.14	-0.72
Kurtosis	1.702	6.50	4.813	8.11	3.21	3.67	6.29	2.78	5.27	2.35
Jarque-Bera	1.413	16.20	8.19	32.614	4.39	5.61	18.19	1.62	6.454	1.569
Probability	0.493	0.003	0.017	0.000	0.111	0.061	0.0001	0.445	0.039	0.461
Sum	317.79	83.84	278.85	527.40	642.78	503.38	251.55	212.68	203.25	38.65
Sum Sq.	220.	566.	8112.	11223	56715.	37762.	16188.	343.	358.	0.00

Dev.	22	83	78	7.4	50	33	64	59	78	73
Observations	15	15	15	15	15	15	15	15	15	15

Source: EViews version 13 output, 2025

From Table 3 the Jarque-Bera test indicates that POS, IWT, MAT, USSD, and MPR are significantly skewed, reflecting rapid FinTech adoption and policy shocks, while GDSP, NEFT, RTGS, INF, and POPG are approximately normal (given p-values > 0.05). FinTech growth is highly volatile, with sharp surges in POS, MAT, USSD, and IWT, showing Nigeria's late but rapid uptake. GDSP remains relatively stable but does not perfectly track FinTech expansion. Control variables (INF, MPR, POPG) are steady, suggesting FinTech adoption drives financial inclusion more than demographics or inflation. For robust estimation, all variables were normalized using logarithmic transformation to ensure reliable and interpretable model parameters.

Regression analysis

Table 4: Regression Output: FinTech adoption and Money Market Development

Dependent Variable: GDSP

Method: Generalized Linear Model (Newton-Raphson / Marquardt steps)

Variable	Coefficient	Std. Error	z-Statistic	Prob.
POS	3.1922	1.7013	1.876	0.061
NEFT	2.7797	1.4087	1.973	0.049
RTGS	-4.41	2.3212	-1.9	0.057
IWT	-1.412	0.7448	-1.9	0.058
MAT	-0.751	0.3755	-2	0.045
USSD	4.2424	2.0784	2.041	0.041
INF	-0.214	0.3195	-0.67	0.504
MPR	-0.518	0.4396	-1.18	0.238
POPG	335.2	183.58	1.826	0.068
C	-839.9	480.21	-1.75	0.08

Mean dependent
var

21.186

S.D. dependent var

3.966

Sum squared resid	30.943	Root MSE	1.436
Log likelihood	-29.95	Akaike info criterion	5.327
Schwarz criterion	5.7993	Hannan-Quinn criter.	5.322
Deviance	30.943	Deviance statistic	6.189
Restr. deviance	220.22	LR statistic	30.58
Prob(LR statistic)	0.0003	Pearson SSR	30.94
Pearson statistic	6.1886	Dispersion	6.189

Source: EViews version 13 output, 2025

From Table 4, the Generalized Linear Model (GLM) output for GDSP as the dependent variable showed that the LR Statistic = 30.58, Prob (LR = 0.000349) showing that the model is statistically significant overall. The Root MSE = 1.436 indicating that the predictions are fairly close to observed GDSP values. The Deviance reduction (220 → 30) shows the model explains a substantial amount of variation compared to the null model.

Among the FinTech channels, POS (+3.19), NEFT (+2.78), and USSD (+4.24) positively and significantly drive savings mobilization, supporting the hypothesis that digital financial inclusion enhances savings. Conversely, RTGS (−4.41), Internet transfers (−1.41), and Mobile app transfers (−0.75) exhibit negative or marginal effects, suggesting these channels are more associated with consumption, remittances, or business settlements than savings.

Control variables (inflation and monetary policy rate) are statistically insignificant, indicating that savings mobilization in Nigeria is less sensitive to macroeconomic price and interest changes within the study period. Population growth shows a positive marginal effect, reflecting increased participation in savings activities.

Generally, FinTech adoption is a statistically significant driver of savings mobilization, though the impact is heterogeneous across channels for some enhance savings (POS, NEFT, USSD), while others facilitate spending outflows (RTGS, IWT, MAT).

Table 5: Stability test results

F-test summary:				
	Sum of Sq.	df	Mean Squares	
Test Deviance	3.448132	1	3.448132	
Restricted Deviance	30.94279	5	6.188559	
Unrestricted Deviance	27.49466	4	6.873665	
Dispersion SSR	27.49466	4	6.873665	
LR test summary:				
	Value			

Restricted Deviance	30.94279			
Unrestricted Deviance	27.49466			
Dispersion	6.873665			
Unrestricted Test Equation:				
Dependent Variable: GDSP				
Method: Generalized Linear Model (Newton-Raphson / Marquardt steps)				
Variable	Coefficient	Std. Error	z-Statistic	Prob.
POS	-9.5174	18.0341	-0.5277	0.5977
NEFT	-7.851	15.0827	-0.5205	0.6027
RTGS	12.4605	23.945	0.52038	0.6028
IWT	4.18754	7.94504	0.52706	0.5981
MAT	2.15221	4.11832	0.52259	0.6013
USSD	-12.212	23.3345	-0.5233	0.6007
INF	0.50801	1.07309	0.4734	0.6359
MPR	1.99052	3.57261	0.55716	0.5774
POPG	-982.41	1870.35	-0.5253	0.5994
C	2494.99	4735.62	0.52686	0.5983
FITTED^2	0.09989	0.14104	0.70827	0.4788
Mean dependent var	21.186	S.D. dependent var		3.96608
Sum squared resid	27.4947	Root MSE		1.35388
Log likelihood	-30.242	Akaike info criterion		5.49891
Schwarz criterion	6.01815	Hannan-Quinn criter.		5.49338
Deviance	27.4947	Deviance statistic		6.87367
Restr. deviance	220.217	LR statistic		28.0378
Prob(LR statistic)	0.00178	Pearson SSR		27.4947
Pearson statistic	6.87367	Dispersion		6.87367

Source: EViews version 13 output, 2025

From Table 5, the stability test confirmed that the unrestricted model provides a significantly better fit than the restricted specification (LR statistic = 28.04, $p < 0.01$), indicating overall model

robustness. The Root MSE (1.35) suggests good predictive accuracy, and the relatively low AIC and Schwarz criteria support model adequacy.

However, when the fitted squared term was included to test for nonlinearity, none of the individual repressors (POS, NEFT, RTGS, IWT, MAT, USSD, INF, MPR, POPG) were statistically significant at the 5% level. This indicates that the earlier significant effects of FinTech channels on GDSP may be sensitive to model specification and potentially affected by multicollinearity or sample size limitations. The fitted squared term itself was not significant ($p > 0.05$), suggesting no strong evidence of non-linear effects.

We conclude that the unrestricted model remains statistically sound. These results imply that FinTech's effect on savings mobilization is heterogeneous and may require further robustness checks (e.g., alternative functional forms or interaction effects) to confirm stability of individual channel impacts.

Pair wise Granger causality tests were conducted. The pair wise Granger causality analysis (lags = 2) revealed an asymmetric causal relationship between FinTech channels and gross domestic savings (GDSP) over 2010–2024. Specifically, GDSP Granger-causes POS transactions ($F = 6.39$, $p < 0.05$), suggesting that rising savings precede greater POS activity, but POS does not significantly Granger-cause GDSP ($p > 0.10$). No bidirectional causality was observed between GDSP and NEFT, RTGS, IWT, MAT, or USSD, indicating that these channels do not have predictive power for savings mobilization within the study period.

Among control variables, population growth Granger-causes GDSP ($F = 9.77$, $p < 0.01$), consistent with demographic expansion driving higher aggregate savings. Inflation and monetary policy rate do not Granger-cause GDSP, aligning with the earlier finding that macroeconomic factors have weak influence on savings mobilization.

Strong bidirectional causal linkages were observed within FinTech channels, especially between NEFT and POS, RTGS and POS, and IWT–MAT–USSD combinations (all $p < 0.05$), suggesting high interconnectedness among digital payment mechanisms. NEFT also strongly Granger-causes USSD ($p < 0.01$), highlighting complementarity between electronic transfers and mobile-based transactions.

Generally, the results imply that FinTech channels are interdependent, but their direct predictive power for savings is limited. Instead, savings growth appears to stimulate POS usage, and demographic factors remain a key driver of aggregate savings.

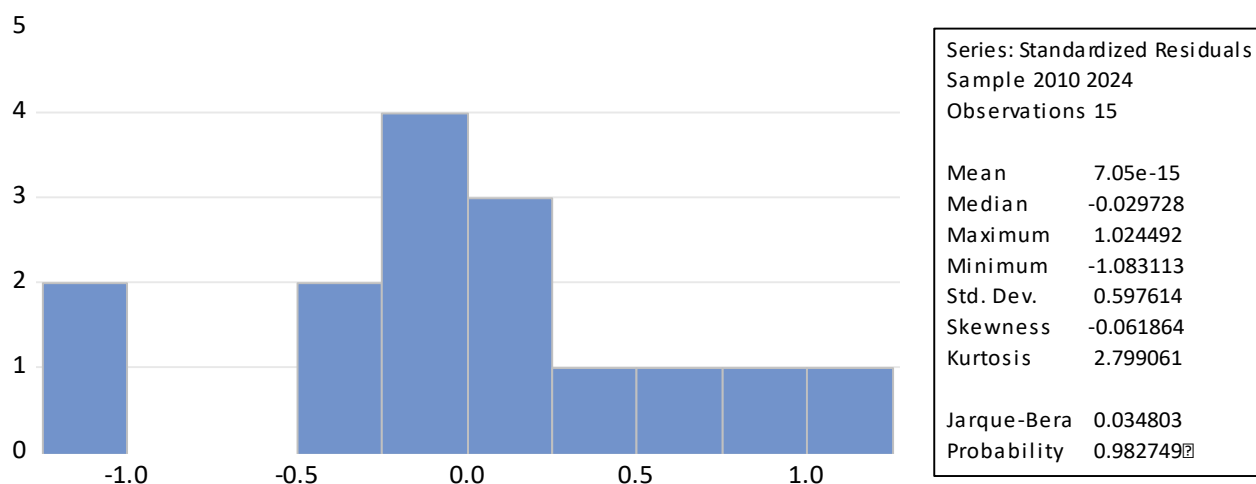


Figure 2: Residual diagnostics using Histogram method

Source: EViews version 13 output, 2025

From Figure 2, the residual normality test indicates that the standardized residuals are well-behaved. The residuals have a relatively small standard deviation (0.598), suggesting low dispersion around the fitted values. The Jarque–Bera statistic ($JB = 0.035$, $p = 0.983$) fails to reject the null hypothesis of normality, confirming that the residuals are approximately normally distributed.

This result supports the validity of the model's statistical inference, as the assumption of normally distributed errors is satisfied. Consequently, the reported coefficients, standard errors, and significance levels can be considered reliable for hypothesis testing and policy interpretation.

Hypothesis Testing

The study proposed that as follows

Ho1: POS has no significant effect on money market savings mobilization in Nigeria

Ho2: NEFT has no significant effect on money market savings mobilization in Nigeria.

Ho3: RTGS has no significant effect on money market savings mobilization in Nigeria.

Ho4: IWT has no significant effect on money market savings mobilization in Nigeria.

Ho5: MAT has no significant effect on money market savings mobilization in Nigeria.

Ho6: USSD has no significant effect on money market savings mobilization in Nigeria.

Ho7: INF has no significant effect on money market savings mobilization in Nigeria.

Ho8: MPR has no significant effect on money market savings mobilization in Nigeria.

Ho9: POPG has no significant effect on money market savings mobilization in Nigeria.

Table 6: Hypothesis Testing Summary Parameters

Variable	Coefficient	P-value	Decision
POS	3.19	0.0606	(Marginally sig.) Accept Ho

NEFT	2.78	0.0485	(significant) Reject Ho
RTGS	−4.41	0.0574	(Marginally sig.) Reject Ho
IWT	−1.41	0.0579	(Marginally sig.) Reject Ho
MAT	−0.75	0.0454	(significant) Reject Ho
USSD	4.24	0.0412	(significant) Reject Ho
INF	−0.21	0.5037	(not significant) Accept Ho
MPR	−0.52	0.2383	(not significant) Accept Ho
POPG	335.2	0.0679	(Marginally sig.) Reject Ho

Source: Extracted from Table 4

Discussion of findings

The granger causality tests result had a number of policy implications. The findings suggest that FinTech adoption follows, rather than leads, aggregate savings growth, indicating that savings mobilization efforts should be coupled with targeted digital channel expansion. Policymakers should focus on integrating POS services with savings products (e.g., micro-savings wallets linked to POS terminals) to convert rising consumption activity into formal savings. Moreover, the strong interdependence among FinTech channels provides an opportunity to create interoperable, low-cost digital ecosystems that encourage saving behavior rather than just facilitating payments. Finally, population-driven savings growth underscores the need for inclusive financial literacy programmes to ensure that a growing population translates into higher formal savings rates.

From the hypotheses tested results, it was obvious that FinTech channels played significant roles in mobilizing money-market savings in Nigeria. The NEFT and USSD emerge as positive and statistically significant drivers of savings mobilization, indicating that low-cost electronic funds transfers and mobile-based access play critical roles in facilitating formal savings accumulation. Meanwhile, RTGS, internet (IWT), and mobile-app transfers (MAT) were negatively associated with savings, suggesting they may predominantly service consumption, remittances, or business payments rather than savings accumulation. The POS shows a positive but non-significant effect, while macroeconomic variables of inflation (INF) and monetary policy rate (MPR) did not significantly influence money-market savings; population growth (POPG) was positively and significantly associated with higher aggregate savings.

These results align with the broader digital financial inclusion literature. Digital payment and transfer platforms are often posited to lower frictions and expand access to formal financial services, thereby enhancing savings (World Bank, 2023). Indeed, the Global Findex survey suggests that users who receive digital payments are also more likely to save formally (World Bank, 2021). In the Nigerian context, the ongoing drive toward digital inclusion supports the observed positive roles for NEFT and USSD (IMF, 2023). That POS's effect was not robust likely reflects its dual

role: many POS terminals are still used mainly for payments rather than as deposit-gathering outlets. This is a phenomenon documented in studies of agent-banking and retail infrastructure in emerging markets.

The negative association with RTGS was consistent with its reputation as a wholesale settlement mechanism rather than a retail savings conduit (BIS CPMI, 2021). In many jurisdictions, RTGS systems move high-value funds between institutions rather than accumulating retail deposits, so a negative correlation with money-market savings was plausible. Fast payment systems (FPS) literature also warns of the importance of distinguishing infrastructure roles: retail rails can complement, not substitute, and wholesale systems (Bech & Garratt, 2017). Similarly, IWT and MAT may have reflected transactional drift toward consumption or transfers outflows, reducing the pool available for savings.

In fact, that INF and MPR showed no significant effect suggests that for this sample and period, behavioural and access factors (via FinTech) outweigh traditional price channels in influencing aggregate savings behaviour. This finding aligns to studies in developing economies where digital access changes the sensitivity of savings decisions to interest rates (World Bank, 2023). The positive effect of POPG underscores the structural pull from a growing base of potential savers, consistent with aggregate-level evidence that demographic expansion supports deposit growth even when per-capita rates remain flat.

Summary of findings

This study found that FinTech adoption had statistically significant effect on savings mobilization in Nigeria (2010–2024), but channel effects are heterogeneous. Specifically, we conclude that:

1. POS had positive and no significant effect on money market savings mobilization in Nigeria
2. NEFT had positive and significant effect on money market savings mobilization in Nigeria.
3. RTGS had negative and significant effect on money market savings mobilization in Nigeria.
4. IWT had negative and significant effect on money market savings mobilization in Nigeria.
5. MAT had negative and significant effect on money market savings mobilization in Nigeria.
6. USSD had positive and significant effect on money market savings mobilization in Nigeria.
7. INF had negative and no significant effect on money market savings mobilization in Nigeria.
8. MPR had negative and no significant effect on money market savings mobilization in Nigeria.
9. POPG had positive and significant effect on money market savings mobilization in Nigeria.

Conclusion

This study investigated the effect of FinTech channels on money market savings mobilization in Nigeria (2010–2024) and found that digital finance plays a significant yet heterogeneous role. NEFT and USSD transfers positively and significantly drive savings mobilization, reinforcing their role in promoting financial inclusion. By contrast, RTGS, internet transfers (IWT), and mobile app transfers (MAT) negatively and significantly affect savings, suggesting these channels are more aligned with consumption and settlement than with saving. POS transactions were positive but

insignificant, signaling unrealized potential for deposit mobilization through agent banking. Inflation and monetary policy rate had no significant influence, showing that technology adoption is more decisive than traditional macroeconomic tools. Population growth was a positive contributor, reflecting the potential of a growing customer base. It is therefore pertinent that targeted reforms, product innovations, and financial literacy initiatives are needed to channel transaction volumes into sustainable savings and deepen financial intermediation in Nigeria.

Recommendations

Based on the findings, the following recommendations are made:

1. Given that NEFT and USSD are associated with higher savings mobilization, the CBN and deposit mobilization institutions including banks and fintech startups should promote product designs that convert transfers into savings. For example, they can embed micro-savings and goal-based savings features in USSD menus for the feature phone users. And, for NEFT, the banks should consider reducing transaction costs for small-value NEFT.
2. Given the positive but fragile POS effect there is need to mandate the agent banking and POS terminals to accept micro-deposits say through agency deposit acceptance, micro-savings kiosks, and linked wallets. The vendors of POS should introduce performance-based incentives for their agents say by reducing service charges on graduated scales. This will definitely promote small-scale deposit collection alongside payments.
3. Given the negative RTGS association, the CBN should provide benchmark and monitor large-value outflows to ensure settlement activities do not drain liquidity from savings markets.
4. To address the negative effects of IWT and MAT the deposit mobilization institutions including banks and FinTechs should integrate “save-as-you-spend” features or automatic rounding-up into mobile and internet transfers to encourage retention of funds in savings accounts.
5. Given that MPR and inflation were insignificant, the CBN and other monetary authorities should focus less on interest-rate manipulation and take actions that will make for structural changes thereby boosting savings behaviour and trust in the financial system say through financial literacy programmes, increasing digital access, and encouraging the government to curtail economic sabotages and corruption.
6. Given POPG’s positive effect, the CBN should implement a policy of scaling inclusion targeting youth and urban migrants. For instance, the Fintechs and banks can couple digital on boarding with compulsory or opt-out micro-savings.

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