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Payment System Innovations, Bank Branch Expansion, and Financial Well-Being in Nigeria

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Abstract:

With the adoption of technological innovations in bank payment systems, banks and other financial service providers are concentrating on having more customers and improving access to finance, neglecting the customers' financial well-being. Therefore, this study examined the nexus between payment system innovations and bank branch expansion and their influence on Nigeria's financial well-being between 2009 and 2024. The study specifically focused on the effect of ATMs, POS, mobile technology and the number of commercial bank branches on financial well-being as measured using the savings income ratio. Using quarterly data and the dynamic ordinary least square (DOLS) technique for the analysis, the study found that the volume of ATM transactions and bank branch expansion have a significant negative effect on financial well-being in Nigeria. It also revealed that POS and mobile phone transaction volumes are associated with improvement in financial well-being in the country. The study concludes that while the gains of technology and bank infrastructural expansion have enhanced financial access, more need to be done to improve the country's financial well-being. Therefore, the study recommends that fintech firms and banks should develop a product that will make low savers easily raise emergency funds with zero charges, rather than concentrating more attention on developing platforms that are increasing customers loans.

Keywords: E-payments, bank branch expansion, financial well-being, DOLS

1. Introduction

Enhancing the financial well-being also known as financial health, of households in Nigeria has become important due to the growing level of poverty in the country. Globally and in Nigeria, many individuals and households are entering into poverty due to either their inability to save to sustain themselves during periods of distress and emergencies or access to credit for future economic empowerment (Brune, Karlan & June, 2020). The focus on individual financial health is to improve the ability of individuals and households to deal with emergences requiring financial costs and the ability to settle financial obligations such as sudden loss of income, loss of job, illness, insecurity issues, and natural disasters, all of which are now more frequent in Nigeria (Kemboi & Kiprono, 2022). Interest in financial well-being was rekindled during COVID-19 pandemic, which

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placed many households under financial distress (Akande, 2025). However, during this period, financial technology (fintech) via the electronic transaction channels was the succor for most households across the globe, including Nigeria, when their financial wellbeing was put to test, necessitating many to acknowledge the usefulness of the technological innovations in the bank transaction systems (World Bank, 2024).

In reality, Nigeria has embraced electronic payments propelled by innovations in financial technology and cashless policy reforms over the past years. Fintech tools, such as automated teller machines (ATMs), point-of-sale (POS), mobile banking, and internet banking, are frequently used for daily financial transactions by many households. Moreover, the country has witnessed a rapid expansion of commercial bank branches, which is critical in shaping bank infrastructure expansion. According to the (Central Bank of Nigeria [CBN], 2024) as of 2024, there are a total of 5144 commercial bank branches in Nigeria. Bank branch expansion and payment system innovations were geared toward financial inclusion, transaction costs reduction and financial wellbeing improvement (Ozili, 2018; CBN, 2019). Notwithstanding the growth and expansion of branch infrastructure and payment system innovations, many individuals in the country are struggling with limited savings platforms with no deductions, high debt burden, and weak financial stability amidst increasing inflation, high unemployment, and economic uncertainties (Ayoade & Areghan, 2025). According to the World Bank (2023), many individuals in the country are still facing inadequate access to affordable and reliable electronic payment system platforms because most of the providers of these payment systems are profit- making enterprises, raising concerns about whether technological innovations in payment systems have led to significant improvements in Nigeria's financial well-being.

In addition, attention has shifted from commercial banks building and expanding branch networks to innovations in financial technology and payment systems. However, there is uneven expansion of bank branches across the country, with those in urban areas benefitting from a strong network of commercial bank branches, ATMs, POS services, strong internet connectivity compared with individuals living in rural and semi-urban areas (Zwingina, Onoh & Chukwu, 2023). Despite strides toward financial technology, with millions of citizens gaining internet access and engaging in various digital transactions (World Bank, 2024), many things remain undone, especially rural and semi-urban areas, which are underserved in terms of bank infrastructure and payment system innovations. They are faced with inadequate commercial banks' physical infrastructure, poor or lack of internet connectivity, poor electricity supply, and limited agent banking networks, which pose challenges to the effective use of electronic payment systems (Elmi & Ngwenyama, 2020; Ibrahim & Aliero, 2022). As a result, the potential benefits of innovations in banking transactions may be unevenly distributed, thereby, worsening financial vulnerability and unhealthy financial wellbeing.

Existing empirical studies in Nigeria (Ozili, 2018; Zwingina, et al., 2023; Ayoade & Areghan, 2025) mainly examined the effects of electronic payment systems or banking branches on bank performance, economic growth, or financial inclusion, with limited focus on aggregate financial health indicators. Thus, the nexus between banking payment innovations, branch expansion and financial well-being has not been widely explored. Studies such as Kempson (2017) and Kemboi and Kiprono (2022) only conducted a conceptual and empirical review of financial wellbeing, thereby, limiting, the empirical understanding of the influence of innovations in payment systems and physical infrastructure expansion in improving financial wellbeing. Additionally, the interaction between electronic payment systems and bank branch expansion has not been

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widely explored. According to Ozili (2018), electronic payments cannot function optimally without supporting infrastructure, including physical access points and reliable networks. Thus, this study aims to examine the effect of payment system innovations and bank branch expansion on financial wellbeing measured using the ratio of savings to income in Nigeria from the first quarter of 2009 to the fourth quarter of 2024. The study also investigates the interaction effect of electronic payment system indicator and bank infrastructure expansion on saving behavior in Nigeria.

2. Literature Review

2.1 Conceptual Classifications

An electronic payment system is a technologically driven banking payment system that can perform financial transactions using digital and technologically improved devices and platforms, such as mobile phones, personal computers, or electronic cards linked to a digital payment system (Ozili, 2018; Zwingina, et al., 2023). On the other hand, bank branch expansion is a growth process where a bank opens new physical infrastructure building to increase its services to new communities, or location for increase in market presence and improve in financial accessibility (Onwuemene, Etim & Unirere, 2025).

Financial well-being is defined as financial strength of individuals or household, which depicts the state of financial health and stability of individuals. It takes many dimensions, such as the amount of savings needed to sustain an individual during a period of distress, access to credit, amount reserved for retirement, and amount of investment in assets (Brune, Karlan, & June, 2020). Thus, the variables used to depict financial health include savings to income ratio, access to credit, asset ownership, financial resilience, and future monetary situations (Kemboi & Kiprono, 2022). This study connects the three concepts in this form; both payment system innovations and bank branch expansion, which combine to reduce transaction costs and improve access to financial services, thereby improving individuals' financial health.

2.2 Theoretical Framework

The theoretical framework for the study is anchored on the technology acceptance model (TAN), financial Access theory (FAT) and the capability approach theory. Davis (1989) propounded the technological acceptance theory which explains how individuals accept and adopt new technology based on perceived usefulness and ease of use. In addition, the financial access theory put forward by Beck, Demirguc-Kunt, and Levine (2007) posits that access to financial intermediation, inclusion, and economic development improve access to financial services through the expansion of bank branch networks.

Thus, this study combines these theories to explain the relationship between payment system innovations, bank branch expansion, and financial wellbeing. While TAN highlights the role of POS, ATM, and mobile phone transactions in reducing transaction costs, and improving the reliability and volume of transactions, FAT describes the proximity and availability of financial services in boosting economic participation, thereby enhancing individual asset ownership and savings behavior.

The theories are relevant for this study because, they validate the inclusion of payment system innovations and bank branch expansion indicators in the empirical model. According to TAN and financial access theoretical assertions, the adoption of payment system innovations enthrones financial efficiency and reduction in costs of

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transactions like costs of going to banks for daily transactions, thereby, leading to positive influence on financial wellbeing. Also, bank infrastructural expansion enables households with access to banking services in engaging with secured savings and access to credit, thereby, equipping them to invest and manage risks, which eventually, drives poverty reduction and financial health (Ejezube, Aronu & Ugwu, 2025). This implies that payment system innovations and bank branch expansion are expected to exert a positive influence on financial wellbeing in Nigeria.

In addition to theories favoring financial technological innovations and bank branch expansion, the capability approach theory propounded by Sen (1985) validates research study on financial wellbeing as part of the determinants of overall wellbeing of people in a society. The capability theory supports the fact that wellbeing depends on the function of individuals or households and their capabilities (Sen, 1985). Financial health is enhanced through savings and ownership of assets which expands capabilities by enabling more savings and investments choices which in all reflects actual functions and capabilities of individuals towards economic freedom.

2.3 Empirical Review

The technological acceptance model and the access to finance theory posit that the perceived usefulness and acceptance of new technologies, such as electronic payment systems, encourages their adoption, which enhances financial inclusion and well-being. Empirical studies in Nigeria have largely aligned with these theoretical postulates. Akande (2025) examined the role of financial technology in influencing key financial wellbeing indicators, savings culture, and wealth creation in Nigeria, using a cross-sectional sample of 3000 Nigerians. The study revealed that financial technology significantly influences indicators of financial wellbeing, savings behavior, and wealth creation. This was also the case with Onah et al., (2025) in their study on the effect of fintech adoption on economic empowerment in rural communities within the Nsukka zone in Enugu State, Nigeria. Using survey data collected from 370 respondents, and analyzed using a descriptive method, the authors supported the theoretical assertion that fintech adoption improves economic empowerment and income management, which are necessary for financial health.

Other studies have validated the technological acceptance model and the financial access theory in Nigeria's e-payment system (Ogbole, 2023; Zwingina, et al, 2023), both of which examined the effect of electronic payment system on household savings and economic growth in Nigeria using time series data between 2009 and 2019. While Ogbole (2023) adopted the Ordinary Least Square (OLS) technique for data analysis, Zwingina et al., (2023) adopted the ARDL model, and the results of both studies revealed a positive relationship between indicators of innovations in payment systems, such as ATM, POS and mobile payments, aggregate savings and economic growth in Nigeria. Similarly, Oyewole and Toriola (2024) examined the effect of digital technology on the savings and spending behavior of post-graduate business education students in South-West Nigeria. A questionnaire survey of 311 postgraduate business education students in South West Nigeria, selected using multi-stage sampling method was used. Employing descriptive and OLS technique for the analysis, they found digital technology to have positive and significant influence on savings and spending behavior.

However, contrary to the expectations of the technological acceptance model, Nyeche, Wokekoro, and Nwankwo (2025) examined the effect of digital financial inclusion on savings in Nigeria from 1990 to 2023.

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Analyzed using the ARDL model, the study found that electronic payment tools have a significant negative effect on saving behavior in Nigeria. Furthermore, contrary to the theoretical expectations of the financial access theory that, bank branch expansion directly boosts financial well-being, (Ejezube, Aronu & Ugwu, 2025) examined the dynamic relationship between commercial banks branch expansion, savings, money supply, private sector credit and economic growth in Nigeria between 1981 and 2021. Their analysis was carried out using the ARDL bound test technique, and the result showed that the expansion of commercial bank branches negatively affects saving behavior in Nigeria. This demonstrates inefficiency in financial intermediation. However, other Nigerian studies such as (Nwidobie, 2025) that investigated the determinants of bank branch networks in Nigeria between 1990 and 2021 aligned with theoretical assertions. The study analyzed using the Vector Error Correction Model (VECM) revealed that savings, an indicator of financial well-being, and self-employment positively influence bank branch networks in Nigeria.

Notwithstanding many empirical findings linking innovations in payment systems, bank branch expansion, and financial wellbeing, many Nigerian studies have revealed inconsistencies in findings. Many of these studies did not align with theoretical postulates, favouring positive relationship between innovations in payment systems and financial well-being, and bank branch expansion and financial well-being. Thus, further empirical investigation is required which is the reason for this study. Again, most studies, such as Ejezube et al., (2025), and Nyeche et al., (2025), have used aggregate savings or spending behavior to measure financial well-being, ignoring savings-income ratio as supported by (Kemboi & Kiprono, 2022; Financial Health Network, 2023). The study uses savings-revenue ratio which reflect present and future monetary habit and freedom to measure financial well-being due to paucity of data on assets ownership index. Furthermore, the finding of (Ejezube, et al, 2025) has shown that bank branch expansion alone is not sufficient to enhance savings behavior. As a result, the study introduces the interaction of electronic payment and bank branch expansion to show the complementarity link in their effect on financial wellbeing. This has not been widely covered in empirical literature. Also, studies such as Zwingina, et al, (2023), Nyeche, et al, (2025), Nwidobie, (2025) and others that have empirically focused on payment system innovations have covered only short data periods using annual data from 2009, however, this study filled this gap by using quarterly data from 2009 to 2024 for more robust analysis.

3. Methodology

3.1 Data Sources and Description of variables

The study used quarterly data covering the period 2009 to 2024 obtained from the Central bank of Nigeria statistical bulletin (CBN, 2024). The study period is chosen due to data availability for the Nigerian economy. Annual data for savings-income ratio and number of bank branches between 2009 and 2024 were converted into quarterly series using linear interpolation. The dependent variable is financial well-being (FWB) measured using ratio of aggregate savings and income. According to Financial Health Network, (2023) an individual's financial health can be measured using individual's savings and income ratio which represent the depth of monetary resources at their disposal for current and future consumption spending. The independent variables are volume of ATM, volume of POS, volume VMP (mobile payments), bank branch expansion (BBE) measured

using number of commercial bank branches and inflation controlling for the effect of price changes on financial well-being.

3.2 Model specification

The study adopted the Dynamic OLS (DOLS) for data analysis. The major advantage of the technique is suitability for short term data and its ability to obtain unbiased estimates of the long run parameters when the variables are non-stationary but cointegrated. This means that DOLS supports the existence of super-consistent estimates of long run parameters, in the presence of first differenced [I(1)] variables, and cointegration (Stock & Watson, 1993). In addition, the Dynamic Ordinary Least Square is also suitable when the data size is small, data for payment system reports only started from 2009 in the CBN report, which makes the sample size for this study small. The function form of model is specified as follows;

FWB = f (VATM, VMBP, VPOS, BBE, INF) 1

where, FWB represents financial well-being; VATM is volume of ATM transactions; VPOS represents volume of POS transactions; VMBP is volume mobile phone transactions; BBE represents bank branch expansion while INFL is rate of inflation. Equation 1 is transformed to reflect the linear long-run equation as follows:

$$\ln(FWB_t) = \beta_0 + \beta_1 \ln(ATM_t) + \beta_2 \ln(VMP_t) + \beta_3 \ln(POS_t) + \beta_4 \ln(BBE_t) + \beta_5 INF + \varepsilon_{it} \ldots 2$$

where; t = Q1, Q2, Q3, Q4⋯ 64 (2009-2024). ε the error term. The coefficients $\beta 1 \cdots \beta 5$ are elasticities because they measure the rate of change, $\beta 0$ is the intercept. From the theoretical postulations, it is expected that, > 0, and all the variables except inflation are in log form and were all tested for stationary to ascertain the order of integration. However, since the DOLS corrects for endogeneity and serial correlation using lags of the first differences of the regressors, equation 2 is transformed to include lags and specified as follows;

$$\ln(FWB_t) = \beta_0 + \beta_1 \ln(ATM_t) + \beta_2 \ln(VMP_t) + \beta_3 \ln(POS_t) + \beta_4 \ln(BBE_t) + \beta_5 INF +$$
$$\beta_6 (ATM * BBE) + \sum_{j=-q}^{P} \gamma_{1j} \Delta \ln ATM_{t-j} + \sum_{j=-q}^{P} \gamma_{2j} \Delta \ln VMP_{t-j} + \sum_{j=-q}^{P} \gamma_{3j} \Delta \ln POS_{t-j} + \sum_{j=-q}^{P} \gamma_{4j} \Delta \ln BBE_{t-j}$$
$$+ \sum_{j=-q}^{P} \gamma_{5j} \Delta INFL_{t-j} + \mu_{it} \ldots\ldots 3$$

Δ is the first difference operator, p is the number of lags, q is the number of leads, while the coefficients γj represents short-run dynamic and endogeneity correction. Lags and leads are applied to first differences and not levels. The leads (q) and lag (p) selection is based on the estimation with minimal information criteria (AIC, SIC, HQ), and produces well-behaved residuals. The level form variables contain an interaction variable ($\beta 6$), which is the multiplication of ATM and BBE. It is expected that the coefficient of the interaction term ($\beta 6$) be significant as it shows how bank branch expansion complements e-payment system to influence financial well-being, if the outcome is positive.

3.3 Techniques for Estimation

The estimation started with the test for unit root conducted using the Augmented Dickey Fuller (ADF) test to ensure that all variables are stationary at first difference suitable for DOLS estimation. This is followed by cointegration test using the Johansen cointegration test to validate the DOLS estimation. The study tested for serial correlation test, heteroscedasticity test, and normality test with the expectation that the tests failed to reject the hypotheses of the different tests. There is also the stability test, with stability established if the CUSUM test did not go outside the critical lines at 5% critical level.

4. Results and Findings

4.1 Presentation of Results

Table 1: Unit Root Test Results

Variables	Augmented Dickey Fuller		
Levels	Test Statistics	5% Critical Values	Status
FWB	1.359511	-1.946072	-
ATM	0.931006	-1.946161	-
VMP	2.062652	-1.946072	-
POS	-3.359671	-3.482763	-
BBE	-0.206067	-1.946072	-
INFL	-2.259191	-2.909206	-
1st Difference			
ΔFWB	-2.238405	-1.946447	I(1)
ΔATM	-8.978832	-1.946161	I(1)
ΔVMP	-7.610350	-2.910019	I(1)
ΔPOS	-8.505996	-2.909206	I(1)
ΔBBE	-6.481538	-1.946447	I(1)
ΔINFL	-4.710858	-1.946253	I(1)

Source: Authors' computations

From table 1, the hypothesis of no unit root is rejected for all the variables at levels. Thus, all the variables have a unit root and were differenced and became integrated at order 1, which is suitable for DOLS provided that the I(1) variables are cointegrated. Thus, the test of cointegration was conducted and the results shown in table 2.

Table 2: Johansen Test for Cointegration

Null Hypothesis	Trace Statistic	0.05 Critical Value	Prob.**	Null Hypothesis	Max-Eigen Statistic	0.05 Critical Value	Prob.**
r=0*	100.1013	95.75366	0.0243	r=0*	40.40241	40.07757	0.0460
r≤1	59.69885	69.81889	0.2447	r≤1*	35.65237	33.87687	0.0304
r≤2	24.04648	47.85613	0.9415	r≤2	13.10096	27.58434	0.8793
r≤3	10.94552	29.79707	0.9625	r≤3	8.163728	21.13162	0.8934
r≤4	2.781791	15.49471	0.9759	r≤4	2.781775	14.26460	0.9602
r≤5	1.63E-05	3.841466	0.9990	r≤5	1.63E-05	3.841466	0.9990

Source: Authors' computations

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level; Max-eigen test indicates 2 cointegrating eqn(s) at the 0.05 level; r is for number of cointegrating vectors. *Denotes rejection of the hypothesis at the 0.05 level.

The study employed the Johansen cointegration test in investigating the long-run relationships among the following variables. Table 2 shows the cointegration result, the Trace statistics revealed that at least one of the coefficients of the variables when normalized show strong relationships at the 0.05 significance level, while the Max-Eigen statistics revealed that at least two of the coefficients of the variables when normalized show strong relationships at the 0.05 significance level. The hypothesis of no cointegration is strongly rejected among the variables as the Trace statistics and Max-Eigen statistics are higher than the 5% critical levels, with one and two four cointegrating equations respectively. This suggests that there exists a long-run relationship among the variables, supporting the DOLS result in Table 3.

Table 3: DOLS Estimation Result: Fixed leads and lags specification (lead = 2, lag = 2)

Dependent variable: FWB				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Probability**
CONSTANT	200.7442	86.05063	2.332862	0.0292
VATM	-11.01187	4.762954	-2.311984	0.0305
VMP	0.248342	0.034895	7.116911	0.0000
VPOS	0.195668	0.035233	5.553561	0.0000
BBE	-23.24593	9.952505	-2.335686	0.0290
INFL	-0.025260	0.003017	-8.372302	0.0000
VATM*BBE	1.283644	0.550045	2.333708	0.0291

R^2	Adjusted R^2	Wald Test Prob.	S.E. of Regression	Long run variance
0.979788	0.946714	7.1513(0.0000)***	0.047901	0.001789

Source: Authors' computations

Table 4: Diagnostic Tests of DOLS

	B-G Serial Correlation Test	**BPG Heteroscedasticity Test**	**RAMSEY Stability Test**	**Normality Test**
F-statistics	1.882551	1.490566	3.300870	4.530110
Probability	0.1645	0.1539	0.0754	0.103824

Source: Authors' computations

4.2 Discussion of DOLS Results

The DOLS result in Table 3 revealed the long-run effect of payment system innovations and bank branch expansion on financial well-being in Nigeria for the period 1st quarter of 2009 to 4th quarter of 2024. The result shows that one percent increase volume of ATM leads to a decrease in financial well-being in Nigeria by 11.01%. This finding did not align with theoretical postulations of the technological acceptance theory that explained how perceived usefulness and easy to use of technology driven payment platforms improves economic

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outcomes. This could be attributed to the inability of ATMs to meet the customers' financial needs in some cases, as people complain of ATMs not dispensing cash in most cases. This could also be attributed to the new CBN guidelines regarding charges on ATM withdrawals; thus, its reliance has come with higher interbank charges and maintenance fees which reduce the amount in customers' savings. Further, this finding does not correspond with previous empirical findings of (Ogbole, 2023; Zwingina, et al, 2023), but it's in agreement with that of (Nyeche, Wokekoro & Nwankwo, 2025) who found negative relationship between digital payment system platforms and savings in Nigeria.

The result also found that a percentage increase in the volumes of mobile payments and POS lead to about 0.25% and 0.2% increase in financial well-being in Nigeria respectively. This is not surprising, as more people has resorted to the use of POS and mobile transactions for their daily payments and savings to enhance their financial well-being, thus, giving them reliable and affordable services when engaging in income generating activities in line with the goals of CBN cashless policy. This outcome is in agreement with the findings of (Onah, et al, 2025; Akande, 2025) with the findings that electronic payment system is associated with increase in savings, wealth creation and economic empowerment in Nigeria.

Surprisingly, the result reported negative significant effect of bank branch expansion on financial well-being. A percentage increase in expansion of bank branches leads to 23% decrease in financial well-being in Nigeria. This outcome did not align with arguments of the financial access theory, which states that access to financial services leads to improvement in economic outcomes. The outcome also failed to agree with previous studies such as that of (Nwidobie, 2025) who found positive relationship between bank branch expansion and savings. However, it is in tandem with that of (Ejezube, et al, 2025) who has previously found a negative relationship between bank branch expansion and economic outcomes in Nigeria including savings. Nevertheless, the negative effect of bank branch expansion on financial well-being could be attributed to the fact that bank branch expansion is often concentrated in densely populated urban areas, with rural or low income areas often underserved. There is also the issue of long queues in banking halls which increases the cost of banking, thereby, discouraging users and diminishing financial well-being.

Notably, the interaction between indicator of electronic payment system and branch expansion is positive and significant. This implies that tools of payment system innovations are complementing commercial bank branches in improving financial well-being in Nigeria. A one percent increase in the interaction variable is associated with 1.28% improvement in financial well-being in Nigeria for the period under study. Moreover, the result revealed that 1% increase in inflation is associated with 0.025% decrease in financial well-being, implying that inflation is one factors adversely affecting financial well-being in Nigeria. From the estimated results in Table 4, the estimation result is not affected with the problem of serial correlation, heteroscedasticity and residuals in the result are normally distributed, as shown by the probability of the various test statistics which are not statistically significant. In addition, Figure 1 shows that the CUSUM plot did not go outside the 5% bound line, thereby, confirming stability of the estimated model over the sample period.

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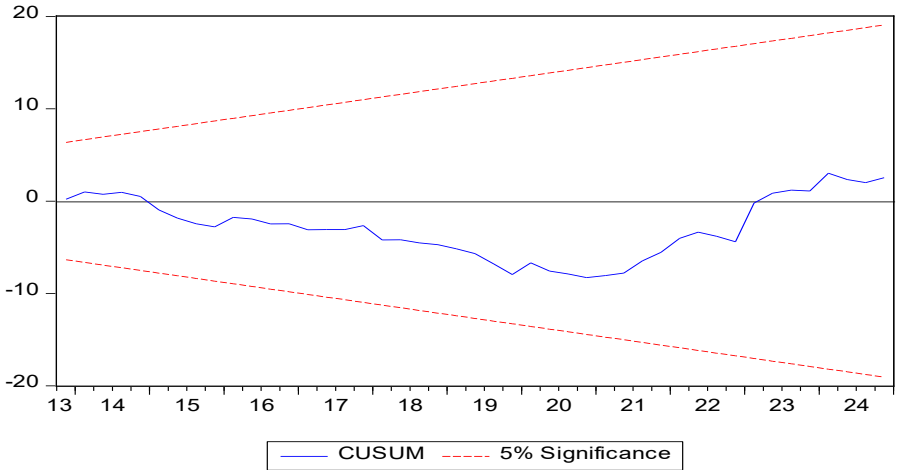

Figure 1: CUSUM Stability Test

Source: Authors' computations from E-views 13 (2026)

5. Conclusion and Recommendations

5.1 Conclusions

The study examined the nexus bank payment innovations and bank branch expansion and their effect on financial well-being in Nigeria. The variables used to represent payment system innovations are volumes of ATM, mobile payments and POS transactions, while number of commercial bank branches was used to measure bank branch expansion. Financial wellbeing was represented using ratio of aggregate savings to aggregate revenue in Nigeria. Using quarterly time series data from the Central Bank of Nigeria covering the period 2009 to 2024, the study employed the Johanson cointegration test and Dynamic Ordinary least Square (DOLS) technique for data analysis.

The study found variations in the effect of the indicators of payment system innovations on financial well-being, while volume of ATMs has a negative effect on financial well-being in Nigeria for the study period, volumes of POS and mobile transactions have positive effect on financial well-being. Also, bank branch expansion has negative effect on financial well-being, while the interaction between volume of ATM and bank branch expansion has positive effect on financial well-being. Based on these findings, the study concludes that while the few gains of bank infrastructural expansion and its payment system platforms have enhanced financial accessibility, the focus of banks and financial technology service providers should be on how to improve all round financial well-being in the country.

However, the study acknowledges limitations in data and measurement indicators of payment system innovations, bank branch expansion and financial wellbeing. More robust indicators such as network coverage, volumes of all digital transactions, use of financial stability or assets–wealth index of individuals in the country to measure financial wellbeing and other control variables affecting financial wellbeing such as regulations of banking institutions would have made the study more robust. Also, using macro-level data to infer micro-level financial wellbeing, and the constraints of the chosen econometric methodology given the data properties are other limitations that faced the study.

5.2 Recommendations

Despite these limitations, the study has made some recommendations; firstly, building a financial system that improves lives, this means that banking and digital platforms should include systems that take care of daily spending and cover future needs without charges or costs. As fintech firms and banks are developing their platforms, they should develop a product that will make low savers to easily raise emergency funds with zero charges, rather than concentrating more attention on increasing customers and loans. Secondly, policy makers and banks should think of a way of designing ATMs on free transaction thresholds for low transactions, this should complement the designing of cash centers or branch agents that deal directly with the rural and semi-urban areas with secured, reliable platforms. These centers should reduce fixed costs when serving these areas, but target towards deposits, credit growth and peculiarity service delivery of the areas such as food, healthcare and farming. Lastly, commercial banks should integrate mobile payments and POS systems with more savings, credit and insurance-oriented services to increase more of their usage. This should be accompanied with solidifying fraud detection, data protection systems and be proactive in assisting customers when there are complaints course of transactions to prevent people losing their money which affects gains in financial well-being.

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.

Ayoade, O. V., Areghan, I. (2025). Nigeria Financial System and Financial Inclusion. African Journal of Accounting and Financial Research 8(2): 55-66. Available at: dOI: 10.52589/AJAFR D0L8HOKS.

Beck, T., Demirgüç-Kunt, A., & Levine, R. (2007). Finance, inequality and the poor. Journal of Economic Growth, 12(1): 27-49.

Brune, L., Karlan, D., & June, R. R. (2020). Measuring financial health around the globe. Center for Innovations on Poverty Action. https://www.poverty-action.org/sites/default/files/publications/IPA%20Financial%20Health%20%20Full%20Report%20Final.pdf.

Central Bank of Nigeria. (2019). Payment system vision 2025. Central Bank of Nigeria.

Central Bank of Nigeria. (2024). Annual statistical bulletin: Payment system statistics 2024. Central Bank of Nigeria, publications.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3): 319-340.

Ejezube, S. C., Aronu, C. O. & Ugwu, N. D. (2025). Exploring the dynamics of commercial banks expansion, monetary indicators, and economic growth in Nigeria (1981–2021). Journal of Business and Economics in Developing Countries, 3(1): 23-30. Available at: http://doi.org/10.26480/bedc.01.2025.23.30.

Elmi, M. A., & Ngwenyama, O. (2020). Examining the use of electronic money and technology by the diaspora in international remittance system: A case of Somali remittances from Canada. The

Electronic Journal of Information Systems in Developing Countries, 86(5):. https://doi.org/10.1002/isd2.12138.

Ibrahim, M. T., & Aliero, H. M. (2022). Banking infrastructure and digital finance adoption in Nigeria. Journal of Financial Innovation, 9(3): 211–230.

Kemboi, J., & Kiprono, S. (2022). Assessing household financial health: Concepts, measures and determinants. Journal of Consumer Finance, 5(1): 102–120.

Kempson, E. (2017). Financial well-being: A conceptual model and empirical evidence. Routledge.

Nyeche, E., Wokekoro, O. E. & Nwankwo, N. U. (2025). Effects of digital financial inclusion on savings in Nigeria. International Journal of Banking and Finance Research, 11(10): 73- 85.

Nwidobie, B. M. (2025). Determinants of bank branch networks in Nigeria: An exploratory analysis. University of Lagos Journal of Business, 11(1): 122-140.

Ogbole, S. A. (2023). Effects of payment systems on domestic household savings in Nigeria. International Journal of Novel Research and Development, 8(5): 50-61.

Onah, K. A., Udefi, G. N., Ojeh, A., & Nkwo, F. N. (2025). Effect of fintech on economic empowerment and financial literacy in rural Nigeria. Global Journal of Artificial Intelligence and Technology Development. 3(2): 26-44.

Onwuemene, J. L., Etim, R. S. & Unirere, P. (2025). Critical analysis of the effect of commercial banks' branches on return on assets of commercial banks in Nigeria. International Journal of Banking and Finance Research, 11(6): 90-103. Doi: 10.56201/ijbfr.vol.11.no6.2025.pg90.103.

Oyewole, A. S. & Toriola, A. K. (2024). Influence of digital technology on savings and spending behaviour of postgraduate business education students in Southwest Nigeria. Nigerian Journal of Business Education, 11(1): 279-293.

Ozili, P. K. (2018). Impact of digital finance on bank performance and financial stability. Borsa Istanbul Review, 18(4): 329–340. https://doi.org/10.1016/j.bir.2018.05.003

Sen, A. (1985). Development as capability expansion. The Community Development Reader, 41- 58.

Stock, J. H., & Watson, M. W. (1993). A Simple estimator of cointegrating vectors in higher order integrated systems. Econometrica, 61(4):783–820. https://doi.org/10.2307/2951763

Financial Health Network, (2023). Financial Health Report. Financial Health Network. https://finhealthnetwork.org/research/eight-ways-to-measure-financial-health/

World Bank. (2023). Financial consumer protection and digital finance. World Bank publications.

World Bank, (2024, January 18). Digital Transformation Drives Development in Africa. Available at; https://www.worldbank.org/en/results/2024/01/18/digital-transformation-drives-development-in-afe-afw-africa.

Zwingina, C. T., Onoh, U. A. & Chukwu, P. D. E. (2023). Impact of Electronic Payment Systems on Economic Growth of Nigeria. Asian Journal of Economics and Business, 4(1):71-88. Available at: https://doi:10.47509/ajeb.2023.v04i01.05.