

The Cashless Policy and the Nigerian Economy

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Abstract

The increasing shift towards a cashless economy has become a significant development in Nigeria's financial sector in recent years. This study investigates the effect of Nigeria's cashless policy introduced in 2012 on economic growth, focusing on four major digital payment channels: ATM transactions, POS usage, mobile banking, and web payments (to represent internet banking). Using quarterly data from 2012 to 2023 and applying the Auto-Regressive Distributed Lag (ARDL) model, the research analyzes both short-run and long-run dynamics of these payment tools on real GDP. The results from the analysis indicate that Mobile banking shows a short-run negative impact initially but turns significantly positive at a one-quarter lag, while web payments have a short-run negative effect, becoming significant at lag 1. In the long run, none of the payment channels have statistically significant effects on economic growth, although ATM, POS and web payment showed positive directional impacts, while mobile banking exhibited a negative directional impact. However, the error correction term is negative and statistically significant, confirming the existence of a long-run equilibrium relationship, with 19.7% of disequilibrium corrected each quarter. These findings suggest that while cashless policy tools offer short-run potential, structural enhancements are necessary to achieve sustained economic benefits from this policy in Nigeria. The study therefore, recommends that targeted approaches that improve trust and security, financial literacy as well as strengthening of digital infrastructure nationwide be implemented by the respective stakeholders to improve the impact of the cashless policy in Nigeria.

Keywords: Cashless Policy, Nigerian Economy, Auto-Regressive Distributed Lag (ARDL)

1. Introduction

One major prerequisite for boosting economic growth and development is to facilitate a secured, convenient and affordable payment system. The Central Bank of Nigeria (CBN) ACT 2007, stipulates in section 47(2) that "...the Bank shall continue to promote and facilitate the development of efficient and effective systems for the settlement of transactions (including the development of electronic payments systems)". Consequently, payments systems being the

channel through which financial resources flow from one segment of the economy to the other plays a crucial role in any economy (CBN Briefs, 2013).

Technological advancements have significantly transformed financial transactions and the way economies operate. Over the years, various payment systems have evolved to address the limitations of earlier methods. One of the earliest forms of exchange; *barter* which is the exchange of products or services for other products or services, faced several challenges, such as the problem of double coincidence of want, durability, and awkwardness (CBN, 2016), others are; difficulty in storing wealth, indivisibility of goods, and the absence of a common measure of value. These limitations led to the development of structured monetary systems such as commodity money, fiat money, and fiduciary money (Gambo, Ussaini, & Ozah, 2018).

The pursuit of an efficient payment system in Nigeria dates back to 1894 when the British Bank for West Africa (BBWA) successfully introduced British silver coins to facilitate trade and settle debts in the British West African colonies (Gambo et al., 2018). Since then, Nigeria's financial system has undergone numerous reforms aimed at enhancing convenience, affordability, and security. The emergence of multiple payment systems has led experts to predict the transition towards a cashless society. While digital payment methods such as credit and debit cards are widely used in developed and emerging economies, cash and cheques have been prevalent in Nigeria.

Cash, particularly in the form of paper money, has long served as a popular medium of exchange. However, it also presents challenges, including inflation, counterfeiting, and money laundering. In response, researchers have predicted a gradual transition toward a cashless society where digital transactions dominate (Achor & Robert, 2013; Khairun & Yasmin, 2010; Odior & Banuso, 2012). The excessive reliance on cash has several negative consequences. Keeping large sums of money at home exposes individuals to risks such as theft, fire, and flooding. Additionally, a high volume of cash transactions results in significant money circulating outside the formal economy, limiting the effectiveness of monetary policies in controlling inflation and fostering economic growth. Furthermore, cash transactions facilitate corruption, money laundering, counterfeiting, and the depreciation of money's value when not invested.

A cashless economy refers to a system in which financial transactions are conducted primarily through digital channels, reducing dependence on physical currency. The objective is not to eliminate cash entirely but to minimize its usage to foster a more efficient and secure financial environment (Gbanador, 2023). In countries such as the United Kingdom, USA, France, Switzerland, Philippines and Italy, a near cash-less economy in which currency accounts for less than 16.7 percent of total money in circulation is achieved. Countries like Kenya, Uganda, and Zambia have also been acknowledged for their adoption of financial inclusive mobile money banking as part of their transition to cash-less economy.

In Nigeria, the economy is still heavily cash-dependent, as many citizens prefer to physically hold money due to factors such as illiteracy, lack of financial awareness, and inclusion. Recent

estimates show that about 65 percent of the cash in circulation in Nigeria is outside the banking system (CBN Briefs, 2013). This can severely limit the efficient conduct of monetary policy, among several other negative effects enumerated above. Consequently, to promote a cash-less economy the CBN in collaboration with the Banker's Committee introduced the cash-less policy to engender financial intermediation and encourage the use of electronic medium for settlement in the economy.

The cash-less policy commenced in Lagos in April 2012, as a pilot scheme and stipulated a daily cumulative limit of ₦150,000 and ₦1,000,000 on free cash withdrawals and lodgments by individuals and corporate customers, respectively (CBN Briefs, 2013). Transactions beyond these limits attracted service charges borne by the account holder. The policy was reviewed as the CBN raised the daily cash deposit/withdrawal limit for individuals from ₦150,000 to ₦500,000 and for corporate organizations, from ₦1million to ₦3million to allow for smooth transition and adoption. The processing fee for withdrawals above the limit was reviewed downwards from 10 percent to 3 percent for individual customers and from 20 percent to 5 percent for corporate accounts. The processing fee for lodgments above the limit for individual customers was reviewed downwards from 10 percent to 2 percent, while the limit for corporate bodies was lowered to 3 percent from 20 percent.

Following the relative success of the pilot scheme, the coverage was extended to Abuja, Abia, Anambra, Kano, Ogun and Rivers States on July 1, 2013. By July 1, 2014, the implementation of the policy commenced in all the states of the country including the Federal Capital Territory (FCT). Lodgments for accounts operated by Ministries, Departments and Agencies (MDAs) of the Federal and State Governments for the purpose of revenue collection, as well as direct lodgments and withdrawals of Primary Mortgage Banks (PMBs) and Microfinance Banks (MFBs) were exempted, in recognition of the nature of their operations. In addition, over-the-counter encashment of third party cheques above ₦150,000 was prohibited from March 30, 2012.

The adoption of a cashless policy has the potential to positively impact Nigeria's economic development. However, as an emerging economy, Nigeria still grapples with issues such as electronic fraud, multiple deductions, poor electricity supply, high internet costs, widespread illiteracy, network failures, and weak digital infrastructure. As a result, scholars and financial experts hold differing opinions on the policy's overall effect on economic performance (Achor & Robert, 2013; Odior & Banuso, 2012).

This study, therefore, aims to examine the effect of the cashless policy on the Nigerian economy. Gaining a deeper understanding of its impact is critical for evaluating its effectiveness in promoting growth, enhancing transparency, and increasing financial inclusion. The specific objectives are:

1. To investigate the impact of Automated Teller Machines (ATMs) on economic growth in Nigeria.
2. To assess the contribution of Point of Sale (POS) machines to economic growth in Nigeria.

3. To evaluate the impact of web-based payment systems on economic growth in Nigeria.
4. To ascertain the effect of mobile banking transactions on economic growth in Nigeria.

The study employed secondary data, including reports from the Central Bank of Nigeria from the inception of the cashless policy in 2012 to 2023, being the most current period for which data was available. This time frame allows for a clear assessment of both short-term and long-term impacts as quarterly data were employed. This study is relevant to Nigerian policymakers, the Central Bank of Nigeria (CBN), financial institutions, and academics interested in financial policy and economic development. The study is limited by the availability of data on digital financial transactions and the full implementation of cashless policy measures.

The rest of the paper is structured as follows: Section two is devoted to literature review; which covers conceptual, theoretical and empirical reviews. The methodology is covered in Section three while Section four deals with the empirical analysis and interpretation of the results. Section five provides the summary of findings, conclusion, and policy recommendations

2. Literature Review

2.1 Conceptual Framework

Gross Domestic Product is considered as the broadest indicator of economic output and growth. GDP measures economic growth in monetary terms. It can be expressed in nominal terms which include inflation or in real terms which are adjusted for inflation (Soye & Agboola, 2019).

Although, no true cash-less economy exists world-wide, a cash-less economy is an environment in which money is spent without being physically carried from one person or organization to the other (CBN Briefs, 2013). Cashless policy is a government policy aimed at restricting individuals and corporate organizations from moving excessive cash for transactions (Chukwuma, Onodugo & Ezeamama, 2020). The broad objective of the cashless policy in Nigeria is to achieve an environment where a higher and increasing proportion of transactions are settled through cheques, standing order and electronic payments (e-payments) – that is through automated teller machines (ATMs), internet banking, point of sale (PoS) system, mobile payments and direct debits in line with global trend (CBN Briefs, 2013). Specifically, the policy aimed at:

- Ensuring that a larger proportion of currency in circulation is captured within the banking system, so that monetary policy can be more effective
- Reducing the transaction cost to banks (including cost of credit) and drive financial inclusion by providing more efficient transaction options and greater reach; and
- Check the high risk of using cash, which may lead to financial loss in case of fire, robberies/thefts, flooding incidents as well as other cash related issues.

Available data indicate that transactions employing Automated Teller Machines (ATMs), Point of Sales (POS) Terminals, Mobile Pay and Web Pay have increased significantly since the introduction of the cashless policy in Nigeria in 2012 (CBN, 2020). Volume of transactions with

ATMs increased from 375.5 million in 2012 to 875.5 million in 2018, while the value increased from ₦1,984.66 billion to ₦6,480.09 billion in the respective periods, representing 133.16 percent increase in volume and 226.51 percent increase in value.

Similarly, Volume and value of transactions with POS terminals increased from 2.5 million and ₦48.01 billion in 2012 to 295.9million and ₦2,383.11 billion in 2018, indicating increases of 11,736 % and 4,863.8% in volume and value between the respective periods. Web payments increased in volume from 2.3 million in 2012 to 50.8 million in 2018, an increase of 2,108.7 %, while its value increased by 2,041.02% from ₦31.57 billion in 2012 to ₦675.92 billion in 2018. Finally, mobile pay increased in volume from 2.3 million in 2012 to 94.7 million in 2018, indicating a substantial increase of 4,017.39 %, while its value increased by 6,165.47 % from ₦31.51billion in 2012 to ₦1,974.25 billion in 2018.

Further analysis showed that ATM transactions constituted 94.7 % of total value of these four digital payments system in 2012, while POS, web pay and mobile pay constituted 2.29 %, 1.51 % and 1.5 % respectively. By 2018, ATM share in value had dropped to 56.28 %, while POS, web pay and mobile pay had increased to 20.7 %, 5.87 %, and 17.15 % respectively in total value of transactions with these four digital channels in Nigeria. This increase in use of digital payment channels in Nigeria is confirmed by available statistics that indicated that the volume and value of cheques used in Nigeria dropped from 12.0 million and ₦7,461.63 billion in 2012 to 9.0 million and ₦5.03Billion in 2018 respectively, (a decline of 25% in volume and 32.5% in value between 2012 and 2018).

2.2 Theoretical Review

In this section, theories that are seen to be relevant in explaining the workings and relationship between the variables used in this study are reviewed and they also serve as the basis of the theoretical framework that anchor the modelling process in this study.

2.2.1 Technology Acceptance Theory

The technology acceptance theory postulates the adoption of Technology Acceptance Model (TAM) in businesses to increase economic growth (Ajayi, 2014). This theory is the backbone of this study and it is one of the theories that have been developed to provide a better understanding of the usage and adoption of information technology. It is presently a prominent theory used in modeling technology acceptance and adoption in information systems research. Ajayi (2014) reported that Fred Davis in 1989 proposed the TAM in his doctoral thesis at the MIT Sloan School of Management. TAM is an information systems theory that models how users come to accept and use a technology that will encourage economic growth. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. The factors are Perceived Usefulness (PU) and Perceived Ease-of-Use (PEOU). According to TAM, one's actual use of a technology system is influenced directly or indirectly by the user's behavioral intentions, attitude, perceived usefulness of the system, and perceived ease of the system.

2.2.2 The Bank Focused Theory

Kapoor (2010) propounded the Bank focused theory. The theory is built on the foundation that banks utilized non-traditional though conventional but minimal cost delivery channels to offer financial services to its clients. These channels are online banking, point of sales, mobile pay, etc. This theory is pertinent to this study because it hinges on the electronic payment channels which is the hallmark of the CBN cashless policy. It suggests that financial institutions drive cashless transactions by providing innovative banking products, ensuring security, and fostering customer confidence in electronic payments. This means that customers can conduct banking transactions without physically visiting a bank branch. This theory is particularly relevant to Nigeria's cashless policy because it focuses on electronic payment channels, which are at the core of the Central Bank of Nigeria's (CBN) strategy to modernize the economy. By leveraging digital banking infrastructure, banks help reduce reliance on cash, improve transaction speed, and foster economic growth.

2.2.3 The Diffusion of Innovation Theory

The Diffusion of Innovations (DOI) theory is also known as Innovation Diffusion Theory. Diffusion of innovations theory seeks to explain how, why and at what rate new ideas and technology spread through cultures (Ajayi, 2014). Innovation diffusion theory was developed by Gabriel and Rogers (a professor of rural sociology), popularizing the theory in their 1962 book Diffusion of Innovations (DOI). Diffusion of innovation theory can be utilized to break down the impact of cashless payment on the economy. The DOI theory was hypothesized on the supposition that reception of another thought or innovation is brought about by cooperation between people through relational systems. Right now, it is the spread of cashless payment where buyers look for improved and advantageous exchange while organizations look for new profit openings. Since the outcomes of diffusion (financial development) in cashless payment relies upon how rapidly the network or society is happy to receive cashless payment through various phases of innovation forms, in this manner, the results of embracing cashless policy contrast in various societies.

2.3 Empirical Review

In this section, this study reviews some existing empirical literature as follows: Gbanador (2023) investigated the effect of cashless policy on economic growth in Nigeria using quarterly time series data spanning through the period 2012 to 2021 while the research design adopted for the study was the ex-post facto research design. The Auto-Regressive Distributed Lag (ARDL) was used for the data analysis. The findings revealed a significant relationship between Cheque (CQ) and Internet banking (IB) with the Gross Domestic Product while the relationship between the Automated Teller Machine and the Gross Domestic Product is negative and insignificant. The study concludes that cashless policy influences economic growth in Nigeria.

Ozili (2022): analyzed the level of financial inclusion in Nigeria using data from the global finindex indicators. The findings reveal that Nigeria witnessed growth in several financial

inclusion indicators in the early years of financial inclusion in 2014 but the benefits were not sustained in the later years especially in 2017. In the population groups, the female, poorest, male, older and uneducated population were worse-off in all indicators of financial inclusion in 2017. The implication of the observed decline in the level of financial inclusion in 2017 suggest that there are barriers to financial inclusion in the post-2014 years.

Ikpefan et al. (2018) examined the impact of electronic banking tools on cashless policy in Nigeria using the OLS method with Gross Domestic Product (GDP) as the dependent variable. The results for Model 2 found that Automated Teller Machines (ATMs), Point of Sale (POS) terminals, and web/online banking all had a positive and significant effect on GDP, suggesting that increased usage of these cashless channels contributes to economic growth. In contrast, mobile banking showed a negative relationship with GDP, indicating that despite its potential, it may not yet be effectively contributing to economic performance. The authors concluded that cashless policy is very important to the Nigerian economy and therefore, the platforms for achieving this policy must be promoted.

Gambo, Ussaini, & Ozah, J. P. (2018) focused on the impact of cashless policy on economic growth in Nigeria. Correlation and regression analysis were used to evaluate the data collected from the Central Bank of Nigeria annual statistical bulletin. The results of the correlation matrix between ATM, POS, WEB and GDP suggest a strong negative association. Also, the co-efficient result revealed that an increase in ATM transactions would positively impact economic growth in Nigeria, even though the impact may not be significant. On the other hand, the coefficient for POS and WEB revealed a negative outcome. This means that an increase in the rate of Point of Sale terminal and internet transactions would not result in a significant increase in the Gross Domestic Product. The authors therefore, concluded that economic growth in Nigeria is not dependent on the cashless policy.

Yusuf (2016) examined cash-less policy and economic growth in Nigeria over the period 2008 to 2015. Making use of the Ordinary Least Square (OLS) technique, the result showed that POS, web and mobile payments have a positive and significant impact on economic growth in Nigeria. The study concluded that the adoption of non-cash payment by customers will contribute to reduced inflation rate, increase in foreign direct investment, increase in government revenue and a fall in unemployment levels, all of which contribute to economic growth in Nigeria. The study found that cheque, point of sale (POS), web and mobile payments as an alternative to cash payments contribute significantly to economic growth. However, their contribution is more evidenced before the introduction of CBN cashless policy than after the introduction. This may be as a result of the slow rate of growth in the economy stemming from the depreciation of the Naira and falling oil prices.

Okereke (2016) examined the impact of Automated Teller Machine (ATM) transaction value, Point of sales terminal, internet banking and mobile banking transaction value on the Nigerian economy. The quantitative design was used and Ordinary Least Square (OLS) method of multiple regression analysis was employed to test the research hypotheses. The result of findings

show that only the Point Of Sales terminal was significant to economic growth while Automated Teller Machine, mobile banking and internet banking were insignificant to economic growth within the period under study.

Taiwo, Ayo, Afieroho and Agwu (2016) carried out research to appraise the implementation of the cashless policy since its introduction into the Nigerian financial system in 2012 using primary data collected with the aid of the questionnaire, which was randomly administered to 120 respondents in First Bank, Zenith Bank and United Bank for Africa and analyzed with the aid of the Statistical Package for Social Sciences (SPSS) using descriptive statistics and sample test. The calculated t-value was 24.741 and the critical value was 1.9835 at 5% level of significance and the degree of freedom of 102. The null hypothesis (H_0) was therefore rejected since the calculated t-value was higher than the critical value. Hence, it was concluded that the cashless policy does affect the confidence of customers on the safety of their accounts.

Latifat and Alhassan (2015) embarked on a research to examine the pre-and post implementation period of cashless policy tools in Nigeria. They focused on the relationships between the cashless policy tools and currency outside deposit money banks (DMBs) in the Nigerian economy between 2009-2012. The data was regressed upon using the ordinary least square method to test the effects of this tool on the level of currency in circulation. Their findings show that not a single cashless policy tool had a significant relationship with currency in circulation outside banks mainly due to high collinearity between the tools of cashless policy.

3. Methodology

This chapter deals with the methodological procedures which include data issues, research design, model specifications and the analytical techniques.

3.1 Data Source and Description

The time series data of the variables, ATM transactions, POS transactions, Mobile banking transactions, Web payment transactions and Real GDP were obtained from CBN statistical bulletin (CBN, 2024).

3.2 Research Design

The study adopted the ex-post facto research design. This research design was adopted to establish a cause and effect relationship amongst the variables.

The current model explores electronic Payments variables to empirically capture the impact of cashless policy on the Nigerian economy through the Automated Teller Machine Payment Value, Point of Sale Value, Mobile Payment Value in Nigeria, Web payment Value and Gross Domestic Product selected mainly because they are the main instruments used by most banks in Nigeria to limit physical cash carriage.

3.3 Model Specification

This study adopts the same model used in the study of Agu and Agu (2020) which expressed Real GDP as a function of ATM and POS transactions. This study however expresses Real GDP as a function of the cashless policy variables (ATM transactions, POS transactions, Mobile banking transactions and Web payment transactions).

The functional specification of the model is given as:

RGDPt = f(ATMVt, POSVt,MOBPt,WEBPt)(equation 1)

Where:

RGDPt, represents Real Gross Domestic product to capture economic growth

ATMVt, is Value of transactions on Automated Teller Machines in Nigeria

POSVt, is Value of transactions on Point of sale operations in Nigeria

MOBPt, is Value of mobile banking transactions in Nigeria

WEBPt, is Value of web-based payment transactions in Nigeria

The functional model containing the constant term, the regression coefficients and the error term can therefore be expressed in econometric terms as follows:

RGDP=β0+ β1ATMV + β2POSV + β3MOBPt + β4WEBPt + μt (equation 2)

Where: β0 is regression intercept or constant

β1 – β4 are the regression coefficients of the independent variables which will be estimated in achieving the goal of this work and;

μ is the stochastic error term or disturbance term

A priori Specification: β1 > 0, β2> 0, β3> 0, β4>0

3.4 Estimation Technique

The Auto Regressive Distributed Lag (ARDL) model is the method used in analyzing the effect of cashless policy in Nigeria employing Quarterly time series data from 2012(Q1-Q4) to 2023(Q1-Q4) on Automated Teller Machine Payment Value (ATMV), Point of Sale Value (POSV), Mobile Payment Value in Nigeria (MOBP) and Value of Web-based Payment transactions in Nigeria as proxy for the adoption of cashless policy and Real Gross Domestic Product (RGDP) as proxy for its impact on the Nigeria economy. The ARDL econometric method was employed for analysis for this study based on the results from the unit root test that showed that the series exhibited mixed order of integration. That is, some variables are stationary at order one: I [I] and others at order zero: I [0]. This warrants testing for cointegration using bounds test. After the test for cointegration had been conducted, it was seen that there is evidence of cointegration at the 10% significance level, but not strong enough at 5% or 1%.

4. Empirical Analysis

4.1 Pre-estimation Analysis

4.1.1 Augmented Dickey-fuller (Adf) Unit Root (Stationarity) Test

Table 4.1: Augmented Dickey-fuller Test

Variable	At levels	At 1st difference	Remark
atm_value	-0.828040	-8.423268***	I(1)
pos_value	-4.559534***	-2.956292**	I(0)
gdp growth rate	-2.348698	-6.210085***	I(1)
webp_value	-0.681410	-5.595168***	I(1)
mobp_value	-6.416296***	-1.751658	I(0)

Source: Authors Computation Using Eviews (2025)

Employing ADF to conduct the unit root test as depicted in the table 4.1 above, the result shows that the variables POS and Mobile payment are stationary at levels while ATM, gdp growth rate and Web payment are stationary at first difference. This means that the variables are integrated of mixed orders. This result creates the need to employ the Auto-Regressive Distributed Lag for the analysis.

4.1.2: ARDL bounds test for cointegration

Table 4.2: Bounds Test

F-Bounds Test		Null Hypothesis: No levels relationship		
Test statistic	Value	Significance	I(0)	I(1)
F-statistic	5.243898	10%	2.2	3.09
		5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Authors computation using Eviews (2025)

The ARDL bound cointegration test is utilized to check a possible long run equilibrium relationship between the dependent and independent variables using the F-statistic as a measure

of comparison between the lower and upper bound of the cointegration result. From Table 4.2, the F-statistic of 5.243898 is higher than the lower bound of 2.56 and higher bound of 3.49 at 5% level of significance. Thus, indicating that there exists a long run equilibrium relationship between the variables under study.

4.2 Estimation Results

4.2.1 ARDL short run error correction model

This tests for the short run dynamics of the model.

TABLE 4.3: Estimated Coefficient of Short Run and Error Correction Model

Variable	Coefficient	Std. error	T-statistic	Prob
D(GDP GROWTH RATE (-1))	0.326480	0.092540	3.527987	0.0013
D (WEBP_VALUE)	-0.001701	0.001927	-0.882809	0.3841
D(WEBP_VALUE) (-1)	-0.016016	0.002295	-6.979692	0.0000
D(MOBP_VALUE)	-0.033498	0.016334	-2.050813	0.0488
D(MOBP_VALUE) (-1)	0.060657	0.021308	2.846703	0.0078
CointEq(-1)	-0.197354	0.032649	-6.044677	0.0000

Source: Author’s computation from Eviews (2025)

R-squared	0.731906	Mean dependent var	-1.066667
Adjusted R-squared	0.694671	S.D. dependent var	318.9816
S.E. of regression	176.2584	Akaike info criterion	13.31334
Sum squared resid	1118413	Schwarz criterion	13.56158
Log likelihood	-273.5802	Hannan-Quinn criter.	13.40433
Durbin-Watson stat	2.098160		

Table 4.3 presents the Error correction model result. Error Correction Term (Long-Run Adjustment): -0.1974 (p = 0.000)

This error correction term is negative and statistically significant at the 1 percent level of significance, confirming the presence of long-run cointegration among the variables (a stable long-run relationship between the variables)

It indicates that approximately 19.7% of the deviation from the long-run equilibrium is corrected each quarter, meaning the system gradually returns to equilibrium over time.

The model estimation results suggests that in the short run, POS and ATM variables do not have statistically significant or dynamic effects on the dependent variable.

At lag 0, web payment transactions and Mobile banking transactions have a negative short-run effect on growth. A 1% increase in current web payment value and mobile banking transactions leads to a 0.0017% and 0.0335% decline in growth respectively. However, the effect of web payment transactions is not statistically significant while that of mobile banking is statistically significant at 10 percent significance level in the short run.

At lag 1, the effect of web payment remains negative and becomes highly significant at 1 percent level. A 1% increase in web payments in the previous quarter leads to a 0.01602% decrease in current economic growth.

At lag 1, mobile payments show a significant positive effect at the 5 percent significance level. A 1% increase in mobile payments in the previous quarter results in a 0.0607% increase in current economic growth.

This suggests that mobile payments may have a delayed positive impact on growth.

- R-squared = 73.1%: This shows that the model explains a high proportion of the variation in economic growth.
- Durbin-Watson statistic = 2.098: It indicates no autocorrelation in the residuals, suggesting the model is well-specified.

4.2.2 ARDL long run results

- The result showed that the intercept is 144.3575, which implies that the mean value of the gross domestic product would be put at 144.3575 when all the variables determining it are held constant.
- ATM payments positively affect growth, with a coefficient of 0.1473 which indicates that a 1% increase in the value of ATM transactions will lead to a 0.1473% increase in economic growth. This result is in line with the a-priori expectation of the study which expects that ATM transactions will have a positive relationship with economic growth in Nigeria i.e. $\beta_1 > 0$. This finding is in line with Gambo., Ussaini, & Ozah,. (2018).
- POS payments also show a positive effect, with a coefficient of 0.1799 which indicates that a 1% increase in the value of POS transactions will lead to a 0.1799% increase in economic growth. This result is in line with the apriori expectation of the study which expects that POS transactions will have a positive relationship with economic growth in Nigeria i.e. $\beta_2 > 0$.

Table 4.4: Long Run Regression Result

Variable	Coefficient	Std. error	T-statistic	Prob
ATM_VALUE	0.147363	0.221617	0.664944	0.5110
POS_VALUE	0.179901	0.179861	1.000221	0.3249
WEBP_VALUE	0.019195	0.013816	1.389316	0.1746
MOBP_VALUE	-0.233334	0.156876	-0.404930	0.1470
C	144.3575	356.4997	0.404930	0.6883

Source: Author’s computation from Eviews 10

- Web-based payments also, have a positive effect, with a coefficient of 0.0192 which indicates that a 1% increase in the value of web-based payment transactions will lead to a 0.019195% increase in economic growth. This result is also in line with the apriori expectation of the study which expects that Web-based transactions will have a positive relationship with economic growth in Nigeria i.e. $\beta_3 > 0$. This result is consistent with that obtained by Yusuf (2016)
- Mobile payments, on the other hand, show a negative relationship with growth, with a coefficient of -0.2333 which indicates that a 1% increase in the value of Mobile payments transactions will lead to a 0.23334% decrease in economic growth. This result is contrary to the apriori expectation which expects that Mobile payments will have a positive relationship with economic growth in Nigeria. However, this is consistent with the work of Ikpefan et al. (2018) who also found that Mobile banking has a negative effect on GDP.

Despite these positive directional impacts, the lack of statistical significance means we cannot confidently rely on or generalize these effects in the long term.

In the long run, none of the payment methods: ATM, POS, web-based payments, or mobile payments have a statistically significant effect on economic growth, as all their p-values exceed the 10% significance threshold.

4.3 Post-estimation Analysis

4.3.1 Heteroskedasticity test (ARCH)

Table 4.5: Heteroskedasticity Test

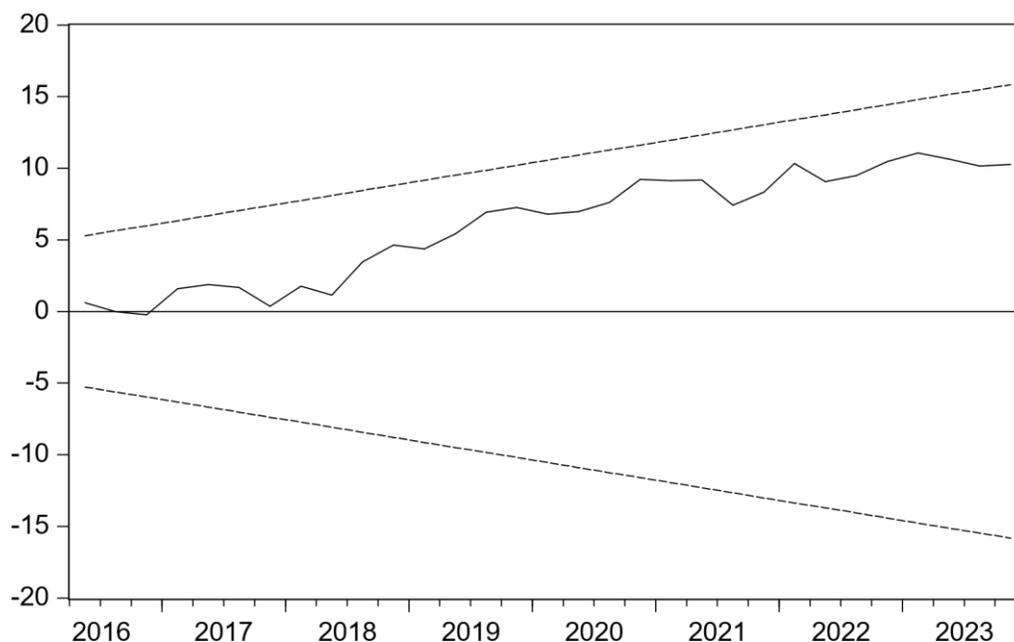
F-statistic	1.022635
Obs*R-squared	1.047608
Prob. F(1,39)	0.3181
Prob. Chi-Square(1)	0.3061

Source: Author’s computation from Eviews (2025)

The result of this test based on the F-statistic and the Observed R-Squared shows that this model is Homoskedastic as their values are both greater than the P-value of 0.05. The implication of this result is that there is no problem of heteroskedasticity in the ARDL result.

4.3.2 CUSUM test

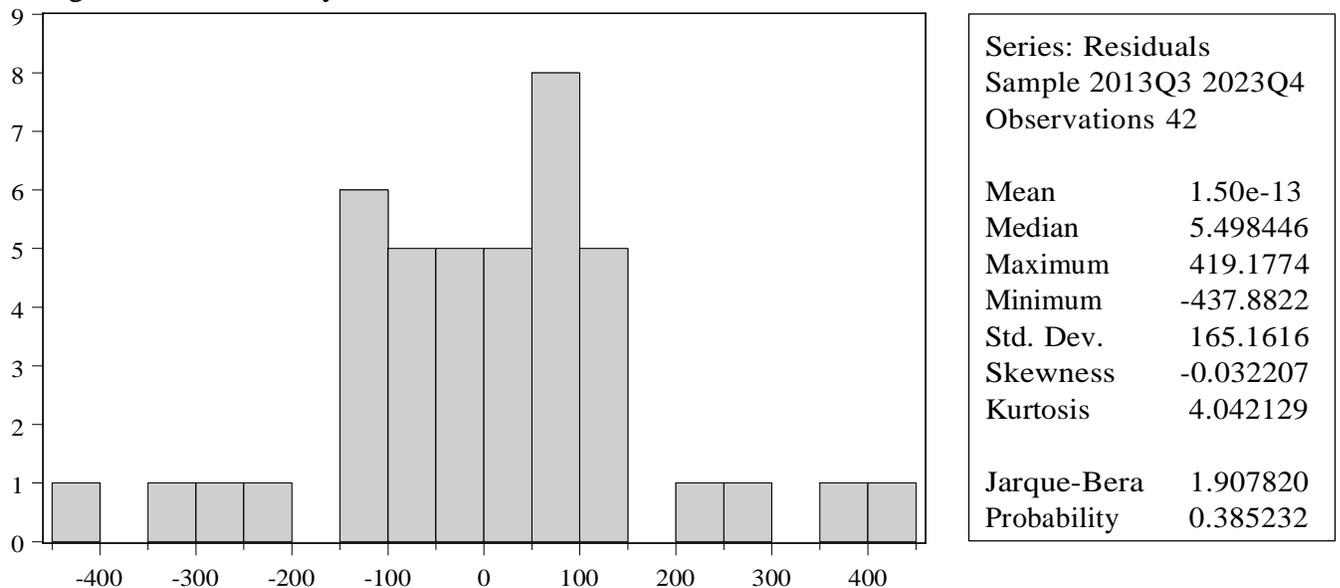
Figure 4.3.2: Cusum test



The CUSUM test was conducted to check the stability of the model and the result revealed that the model is well specified.

4.3.3 Normality test

Figure 4.3.3: normality test



The Jarque-Bera test statistic is 1.91 with a p-value of 0.385, which is above the 5% significance level. Therefore, we fail to reject the null hypothesis of normality. The residuals appear to be approximately normally distributed. Additionally, the skewness is close to zero (-0.032), indicating symmetry, and the kurtosis (4.04) is slightly above 3, suggesting mild leptokurtosis, but still within acceptable range.

4.4 Validation of hypothesis

The absence of statistical significance of the independent variables implies that the result fails to reject the null hypothesis (Ho) 1,2,3 and 4 that there is no significant effect of ATM, POS, web payment and mobile payment transactions on economic growth in Nigeria.

This further indicates that digital payment methods have not been fully embraced by bank customers in Nigeria. This runs contrary to the target of making the Nigerian economy a cashless economy, financially inclusive and prosperous.

5. Summary, Conclusion and Policy Recommendations

5.1 Summary of the findings

This paper investigates the impact of cashless policy on economic growth in Nigeria for a period of twelve years (2012 -2023), using quarterly data. The study adopts data on ATM transactions, POS transactions, Web-based payment transactions, Mobile payment transactions and RGDP sourced from CBN statistical bulletin. For the purpose of the research, Auto Regressive Distributed Lag Estimation Technique was used. This technique was adopted after a stationarity

test was conducted using the ADF unit root tests. A co-integration test was conducted and there exists a long run relationship among the variables.

Findings from the study indicate that there is a positive long run relationship between ATM, POS, WEB payment and economic growth in Nigeria but the relationship is insignificant. Mobile payment has a negative insignificant relationship with economic growth in the long run as well. However, in the short run, the first lag of mobile payment showed a positive and significant relationship with economic growth in Nigeria at the 5% significance level, while the first lag of web-based payment showed a negative and significant relationship with economic growth in Nigeria at the 1% level of significance.

5.2 Conclusion

In reviewing the cashless policy in Nigeria from 2012 (Q1–Q4) to 2023 (Q1–Q4), the findings of this study suggest that the insignificant impact of ATM transactions (ATMV), POS transactions (POSV), web-based payments (WEBP), and mobile payments (MOBP) on Nigeria's Gross Domestic Product (GDP) may be attributed to the low acceptance and adoption of cashless transactions in the Nigerian economy.

Furthermore, a lot of Nigerians are still not financially inclusive as indicated by the financial inclusion survey report (CBN Briefs, 2015) for so many reasons, especially illiteracy. According to the survey carried out by EfiNA in 2012, about 39.7 percent of the adult population was financially excluded, implying that 28.6 million adults (32.5 percent of adult population) were banked. The high level of financial exclusion is a drag on the economy as business opportunities are not fully harnessed. Without widespread access to financial services, especially in rural areas, the cashless policy may not translate into meaningful macroeconomic changes. Therefore, improving financial inclusion through broader access to banking infrastructure, digital literacy, and mobile banking could be essential for future policies aimed at fostering economic growth through digital financial systems.

Exclusion figures showed that 19.3 million adults (52.3 percent) of the total number of financially excluded adults were from the North-West and North-East geo-political zones of the country. Also, while the North had the highest percentage of the unbanked population, it also had the lowest number of bank branches in the country, with a low estimate of 1 branch per 100,000 customers, compared with 5 or more branches per 100,000 in some parts of the South. To this end, the government and monetary authority, over the years, introduced varying policy initiatives aimed at deepening financial inclusion within the economy. The policies ranged from institutional involvements such as the establishment of community and microfinance banks to specific policies and programmes designed to facilitate access of the financially excluded to formal financial services. These policies are yet to bear the required fruits as indicated with the result of the effect of the cashless policy on the Nigerian economy by this study.

This weak impact can also be linked to challenges such as poor power and internet infrastructure, inadequate supply of Point-of-Sale (POS) devices, and unfriendly or inefficient mobile banking applications offered by some Deposit Money Banks (DMBs) in the country.

In conclusion, although Nigeria's transition toward a cashless economy appears promising on the surface, the empirical evidence from this study reveals that the impact of digital payment channels on economic growth has remained statistically insignificant in the long run. This suggests that, despite the policy's good intentions, it has not yet translated into measurable macroeconomic benefits within the period under review.

5.3 Recommendations

Based on the conclusions drawn, achieving the full objectives of a cashless economy in Nigeria requires coordinated efforts from citizens, policymakers, and financial institutions. The following recommendations are proposed:

1. Nigerians should be encouraged to embrace the cashless policy by being properly informed about its benefits. A well-implemented cashless system can contribute to economic stability and ultimately enhance the nation's Gross Domestic Product (GDP). Therefore, sustained public sensitization campaigns are essential.
2. Given the high cost of maintaining electronic payment infrastructure, the government should provide financial and policy support to banks. This includes facilitating access to capital and offering incentives to banks investing in technological upgrades
3. Government and the CBN should create awareness on the benefits derivable from cashless policy for the improvement of businesses and economic development. This can be achieved through a periodic review of the policy to examine its strengths and weaknesses in order to seek for continuous improvement as well as better ways of communicating the benefits to the existing and potential users. These reviews should also focus on enhancing how the benefits of the policy are communicated to the public, especially among small businesses and rural communities.
4. Adequate physical and cyber security infrastructure must be in place to protect users and boost public confidence in cashless transactions. This includes tackling ATM robberies, addressing fraud concerns, and ensuring customer protection through efficient complaint and dispute resolution mechanisms.
5. Deposit Money Banks (DMBs) must prioritize customer experience by ensuring their mobile applications and e-payment systems are user-friendly, reliable, and secure. They should also eliminate issues like undue charges, frequent machine breakdowns, and limited access to functioning ATMs or POS devices.
6. It is crucial for Deposit Money Banks (DMBs) to effectively market their banking services to increase public awareness and encourage more people to embrace banking. As noted by Cherinet (2015), customers are the central focus of all marketing efforts globally, and no organization can achieve sustained profitability without them. Therefore, DMBs should design their marketing strategies to attract new customers and retain existing ones, ultimately helping to grow their deposit base and achieve profitability. In the context of the cashless policy, effective marketing can also help educate customers on the benefits of cashless

transactions, thereby promoting wider adoption and contributing positively to the Nigerian economy.

5.4 Limitation of the Study

No study is all embracing, therefore, one of the limitations of this study is that it does not include all of the payment methods that are used in place of cash-based transactions. This study only focused on the effects of ATM, POS, Web-based payments and Mobile payments on economic growth in Nigeria.

5.5 Suggestions for Further Studies

- Qualitative research: To complement quantitative research with qualitative insights to understand the reasons why citizens have some resistance towards the cashless payment systems.
- Comparative Studies: Conduct a comparative study between Nigeria and developed countries that have adopted cashless policies to identify what works, what does not, and why.

References

- Achor, P. N., & Robert, A. (2013). Shifting policy paradigm from cash-based economy to cashless economy: The Nigerian experience. *Afro Asian Journal of Social Sciences*, 4(4), 1–16.
- Adeola, O., & Evans, O. (2017). Financial inclusion, financial development, and economic diversification in Nigeria. *The Journal of Developing Areas*, 51(3), 1–15.
- Adu, C. A. (2016). Cashless policy and its effects on the Nigerian economy. *European Journal of Business, Economics and Accountancy*, 4(2), 81–88.
- Agu, A. O., & Agu, S. V. (2020). Cashless policy and the Nigerian economy: A disaggregated approach. *International Journal of Humanities Social Sciences and Education (IJHSSE)*, 7(4), 21–30. <https://doi.org/10.20431/2349-0381.0704003>
- Ajayi, L. B. (2014). Effect of cashless monetary policy on Nigerian banking industry: Issues, prospects and challenges. *International Business and Finance Management Research*, 2(1), 29–41.
- Ayodele, T. D. (2015). Nigerian payment systems through electronic banking (E-Banking): A review. *International Journal of Transformations in Business Management*, 5(2), 27–33. http://www.ijtbm.com/images/short_pdf/1434773582_Ayodele_Thomas_3.pdf
- Central Bank of Nigeria (2013): Cash-Less Policy: Objectives, Implications and Prospects. *CBN BRIEFS 2012-2013 Edition*, pp 47-50. Research Department. ISBN: 2384 - 5082
- Central Bank of Nigeria (2014): *Central Bank of Nigeria 2014 Annual Report, 31st December, 2014*. ISSN: 1597 – 2976.
- Central Bank of Nigeria (2015): Financial Inclusion in Nigeria. *CBN BRIEFS, SERIES NO. 2015/15*. Research Department. ISBN: 2384 – 5082. Pp 99-107.
- Central Bank of Nigeria (2016). *Understanding Monetary Policy and Financial Concepts*. Monetary Policy Department. ISBN: 978-978-52861-5-1.

- Central Bank of Nigeria (2020): *Central Bank of Nigeria Statistical Bulletin, Volume 31, December, 2020.*
- Central Bank of Nigeria (2024): *Central Bank of Nigeria Statistical Bulletin, Volume 35, December, 2024.*
- Cherinet, B. C. (2015). The effect of relationship marketing on customers' loyalty: Evidence from Zemen Bank. *Emerging Markets Journal, 5*(2), 58–70.
- Chukwuma, I. C., Onodugo, I. C., & Eeamama, M. (2020). Impact of cashless policy on the economic growth of Nigeria. *International Journal of Multidisciplinary Research Development, 7*(7), 11–17.
- Davis, F. D. (1989). Technology Acceptance Model: TAM. In M. N. Al-Suqri & A. S. Al-Aufi (Eds.), *Information seeking behavior and technology adoption* (pp. 205–219). IGI Global.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science, 35*(8), 982–1003.
- Dugeri, M. (2013). Cashless economy in Nigeria: Issues, challenges and prospects. *Journal of Business Development, 3*(2), 1–17.
- EFinA. (2024, March 21). Nigeria's formal financial inclusion grows to 64% in 2023. *Access to Finance (A2F)*. <https://a2f.ng/efina-report-nigerias-formal-financial-inclusion-grows-to-64-in-2023/>
- Fatogun, O. I., & Ajao, C. C. (2020). A cashless policy and economic development in Nigeria. *Randwick International of Social Science (RISS) Journal, 1*(2), 204–210. <https://doi.org/10.47175/rissj.v1i2.45>
- Fletcher, L. (2016). *Cost of cash*. Tufts University. <https://sites.tufts.edu/inclusioninc/programs/research/cost-of-cash/>
- Gambo, N., Ussaini, D. T., & Ozah, J. P. (2018). Effect of cashless policy on Nigeria's economic growth. *Malete Journal of Accounting and Finance, 1*(1), 22–33. <https://majaf.com.ng/index.php/majaf/article/download/14/14/26>
- Gbanador, M. A. (2023). The effect of cashless policy on economic growth in Nigeria: An autoregressive distributed lag approach. *Asian Journal of Economics, Business and Accounting, 23*(6), 22–31. <https://doi.org/10.9734/AJEBA/2023/v23i6938>
- Ikpefan, O. A., Akpan, E., Osuma, G. O., Evbuomwan, G., & Ndigwe, C. (2018). Electronic banking and cashless policy in Nigeria. *International Journal of Civil Engineering and Technology, 9*(10), 718–731.
- Ikpefan, O. I., Olaolu, R., Omankhanlen, E. A., Osuma, G. O., & Evbuomwan, G. (2018). Impact of marketing of deposit money bank services on customers' patronage and loyalty: Empirical study of five deposit money banks in Nigeria. *Journal of Applied Economic Sciences, 13*(8), 2446–2458.
- Kapoor, S. (2010). Succeeding in UK with bank focused model of mobile banking. *Finacle Whiteboard*. Accessed September 9, 2014.
- Khairun, N. K., & Yasmin, M. H. (2010). E-commerce adoption in Malaysia: Trends, issues and opportunities. In *ICT Strategic Review* (pp. 89–134). Malaysia: PIKOM Publishers.
- Latifat, M., & Alhassan, H. (2015). The impact of cashless policy tools on money circulating outside Nigerian banks. *International Journal of Business, Economics and Law, 8*(3), 47–52. <http://ijbel.com/wp-content/uploads/2016/01/Econ-102.pdf>

- Nanda, K., & Kaur, M. (2016). Financial inclusion and human development: Cross-country evidence. *Management and Labour Studies*, 41(2), 127–153. <https://doi.org/10.1177/0258042x16658734>
- Odior, E. S., & Banuso, F. B. (2012). Cashless banking in Nigeria: Challenges, benefits & policy implications. *European Scientific Journal*, 8, 12–16.
- Okereke, J. U. (2016). Cashless banking transactions and economic growth of Nigeria. *Middle-East Journal of Scientific Research*, 24(11), 3576–3581.
- Omokugbo, J., & Imasuen, O. (2020). Cashless policy in Nigeria: Effects, challenges and prospects. *Journal of Finance and Accounting*, 8(1), 18–23.
- Omotayo, F. (2015). Factors affecting adoption of point of sale terminals by business organisations in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 5(10), 115–136.
- Oyetade, L., & Ofoelue, O. (2012). *Research methods in social sciences*. Edward Arnold Publishers Ltd.
- Ozili, P. K. (2022). Financial inclusion in Nigeria: An overview. *International Journal of Banking and Finance*.
- Rogers, E. M. (1962). *Diffusion of innovations*. Free Press of Glencoe.
- Soye, A., & Agoola, O. (2019). The effect of life insurance business's income on the economic growth of Nigeria. *Saudi Journal of Business and Management Studies*, 4(12), 898–906.
- Taiwo, J. N., Ayo, K. O., Afieroho, E. O., & Agwu, M. E. (2016). Appraisal of cashless policy on the Nigerian financial system. *West African Journal of Industrial and Academic Research*, 16(1), 99–118.
- Yusuf, I. (2016). Cash-less policy and economic growth: Evidence from Nigeria. *International Journal of Electronic Finance*, 9(1), 63–71.