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Original Article

Analysis of the Impact of Cashless Policy and Naira Redesign on Economic Growth in Nigeria

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Abstract: *This study investigates the effects of implementing a cashless policy and redesigning the Nigerian currency on the country's economy. The study obtained data from the Central Bank of Nigeria (CBN) Statistical Bulletins and the National Bureau of Statistics (NBS). The study employed quantitative data analysis to establish the correlation between Nigeria's cashless policy and economic growth. The findings indicate the presence of a causal association between the cashless policy and economic growth in Nigeria. Hence, the government should focus on implementing policies and initiatives, such as technological advancements, to promote the adoption of e-payment methods in the country. This will result in more individuals accessing banking services and bringing more people into the formal sector. Additionally, it will enhance efficiency and effectiveness in trade and business, ultimately leading to economic growth.*

Keywords: *Cashless Policy, Currency Redesign, Economic Growth.*

I. INTRODUCTION

Nigeria has introduced and circulated various currency units over time, driven by the prevailing political and economic conditions (Ejikonye, 2022). In November 2022, the Central Bank of Nigeria (CBN) declared a revamp of the Naira, the country's currency notes. The introduction of the new notes was intended to commemorate Nigeria's diamond jubilee and improve the security features of the currency (El-yaqub, Musa, Magaji & Ashemi, 2023). The redesign prompted media attention, with multiple national newspapers disseminating articles and editorial pieces regarding the newly introduced currency notes (Guardian Nigeria, 2022).

Nigeria's currency has undergone several changes since 1973. The central bank is responsible for issuing and withdrawing a nation's currency. In 2022, the Central Bank of Nigeria (CBN) declared that it had finalized preparations to revamp the Naira currency. Olujobi (2022) argued that the Central Bank of Nigeria's (CBN) currency redesigning is a strategy to decrease the surplus of money in circulation and enhance the effectiveness of monetary policies in controlling inflationary pressures (Magaji, El-yaqub & Musa 2024). Additionally, it aims to improve the CBN's exchange rate policy and increase liquidity.

The CBN Governor cited money concealment, inflation, and counterfeiting as the primary factors behind the unconventional decision. As per the Central Bank of Nigeria (CBN), around N2.73 trillion out of the total N3.23 trillion in circulation in Nigeria is not stored in bank vaults. This represents approximately 85% of the overall monetary supply. In addition, the Naira's security is compromised due to the relative ease with which the N200, N500, and N1000 denominations can be counterfeited. Replacing the old currency with the new currency would deter the practice of hoarding by obliging citizens to justify possessing unlawfully acquired funds; otherwise, the hoarder would incur financial penalties (Magaji, Anthony & Adegoriola, 2018). Redesigning a nation's official currency enables it to mitigate counterfeiting effectively and proactively address potential counterfeiting risks (Aroghene&Imene, 2023).

Over time, the utilization of payment systems in Nigeria has grown significantly, but its effect on the economy needs to be adequately conveyed (Magaji, 2012). A significant factor contributing to this issue is the Nigerian population's hesitancy and lack of knowledge regarding online transactions, primarily driven by concerns over fraudulent activities (Magaji & Aliyu, 2007). The technologically advanced nature of certain payment methods also poses a challenge in reaching most people (Magaji, Musa, Ahmed & Eke, 2024). One significant obstacle to the feasibility of payment systems is the banking and finance sector's dominance in attracting most of the public to these platforms (Chinedu, Magaji & Musa, 2022). To achieve efficient financial intermediation in Nigeria, the existing deposit money banks may face limitations in their ability to handle the electronic system. To address this, there is a need for significant expansion of ATMs, Point of Sales systems, mobile banking, and other mediums to cover at least 80% of the entire country (Rueben & Anyanwaokoro, 2019). Customers often report

network outages in addition to ATM malfunctions (Magaji, Sani & Abubaka, 2013). The authors suggest that both the network and the ATMs need significant improvements to facilitate smooth financial transactions (Rueben & Anyanwaokoro, 2019).

II. LITERATURE REVIEW AND THEORETICAL FRAMEWORK

A) Conceptual Review

The cashless policy encourages electronic payment alternatives and decreases cash transactions within an economy (Musa, El-yaqub & Magaji, 2024). The objective is to augment financial inclusivity, amplify transparency, diminish corruption, and promote transactional efficiency. According to Woleola (2017), there are several worldwide methods of conducting banking transactions without using physical cash. The methods encompass mobile banking, online banking, telephone banking, electronic cards, implants, Point of Sale (POS) terminals, and Automated Teller Machines (ATMs) (Abdullahi, Magaji & Musa, 2024). Furthermore, Tan (2002) underscores the ease of ATMs, which enable clients to promptly get their funds as required.

The launch of a new series took place on October 26, 2022. The internationally accepted timeframe for revising a nation's currency is typically between 5 to 8 years, indicating that the Naira is significantly overdue for a redesign. The decision by the Central Bank of Nigeria (CBN) to redesign three naira denominations is not targeted at any particular group or individual. This new policy aims to combat counterfeiting, enhance the economy, lower cash management expenses, encourage financial inclusion, and enhance the CBN's oversight of the money supply (CBN, 2022). Moreover, reintegrating substantial sums of money presently kept outside of banking institutions into the financial system might alleviate inflationary forces, enhance financial accessibility, and promote the adoption of cashless policies (CBN, 2022; El-yaqub, Musa & Magaji, 2024).

B) Internet Banking

Internet banking enables customers to perform banking transactions online through electronic devices, such as computers, without visiting a physical bank branch (Eke, Magaji, Musa & Obi, 2023). It significantly simplifies e-commerce and depends on the electronic card system to process payment instructions and facilitate the exchange of goods and services between merchants and customers over the Internet (Woleola, 2017; El-yaqub, Musa & Sule, 2024).

C) Point of Sale (POS)/Point of Purchase (POP) Terminals

A POS or POP terminal combines hardware and software for conducting transactions, much like an electronic cash register (Woleola, 2017). This software enables salespeople to efficiently oversee the sales process using an intuitive interface and produce transaction records (Musa, Magaji & Salisu, 2023).

D) Economic Growth

Economic growth refers to expanding an economy's ability to generate products and services, as measured over different periods. It can be quantified in nominal or real (adjusted for inflation) terms. The gross domestic product (GDP) is the most accurate metric for assessing economic growth as it considers the total economic activity of a country. According to Amadeo, 2019, economic growth is referred to as the increase in the production of goods and services over some time. Economic growth refers to expanding an economy's capacity to produce goods and services over a given period (El-yaqub, Musa & Magaji, 2024). It is quantifiable both in real terms, which account for inflationary effects, or in nominal terms. According to Ghosh, 2022, the best definition of economic growth is the increase in the ability or capacity of a nation to produce goods and services. Economic growth refers to an increase in the value of products and services produced by an economy.

E) Theoretical Framework

This would be to analyze the role that the cashless policy and redesign of the naira are playing in influencing economic growth, with a view to finding their impacts on the consumer component of GDP. The influence of e-payment systems on GDP is conveyed through private spending. Implementing a cashless policy increases private consumption, resulting in a proportional rise in GDP. This study will utilize the theory of consumption value (TCV) proposed by Sheth et al. in 1991 and the New growth theory developed by Romer in 1986. The objective is to examine how consumer behaviour and adaption to cashless policies influence the impact of e-payment systems on economic growth.

F) Theory of Consumption Values

This idea posits that decisions are predicated on consumption preferences. The context of technology use encompasses five distinct sorts of consumption values:

(i) Functional Value: Functional value arises from the perceived usefulness of a product or service in accomplishing a specific objective or fulfilling a particular job. This is grounded on economic utility theory and posits that consumers are economically rational. It examines the aspects of a product or service, such as performance, pricing, quality, and reliability, that might impact this rationality (Humphrey, 2010). While all payment systems share the everyday function of facilitating payments, they each have distinct traits and features that impact the process of job completion. (ii) Social Value: This pertains

to consumers' perception and how prominent products, services, and things are viewed by others. The selection of a product or service is mainly influenced by its symbolic significance or perceived social status rather than its functional attributes. Technology-related behaviour is influenced by social norms, which play a significant role. (iii) Emotional Value: This factor impacts a consumer's decision-making process based on the product's ability to evoke emotions, whether they are excellent or negative. The transparency of the payment procedure might evoke the "pain of paying" (Prelec 1998: Soman, 2011). (iv) Epistemic Value pertains to acquiring knowledge or understanding when a user engages with a novel service or product, such as purchasing a mobile phone or computer. Epistemic worth is derived from the capacity to stimulate curiosity, encounter novel experiences, or foster a need for knowledge. Epistemic value is a potentially critical factor in e-payment, particularly in emerging mobile and SMS payment technologies. Thus, when consumers perceive a high epistemic value in an e-payment system, they are inclined to adopt it due to their curiosity and desire to acquire new knowledge. (v) Verb Conditional Value refers to a product whose worth depends on specified factors such as location and time. Conditional value provides a response contingent on certain factors and is not definitive. The location and time influence the choice to pay. For example, in various locations such as on the street, in the store, or online, and at different times such as the end of the month, the middle, or the end.

The customers' view of the utilitarian, social, emotional, and conditional value linked to the cashless policy will impact their decision to adopt it. Hence, the foundation of this study rests upon the premise that implementing and using a cashless policy will ascertain its capacity to influence economic growth and gauge the importance of payment systems in fostering economic development.

G) Empirical Literature

Aroghene and Imene (2023) conducted a study on redesigning currency and its impact on compliance in the Nigerian economy. The study examined the relationship between government assistance and individual personal preparation for technology as independent factors and currency redesign conformity as the dependent variable. The null hypothesis, which states that the independent variables do not influence the dependent variable, was rejected based on the estimated results. The report advised the government to prevent any channel, especially those within the government, that could hinder the effective execution of the country's currency issuance/redesign. Likewise, while enacting a fresh policy, the economy's condition should take precedence.

El-Yaqub, M., & Ismail (2024). The study examines the impact of monetary policy on Nigeria's economic growth between 1986 and 2021. The autoregressive distributed lag (ARDL) methodology is employed for this purpose. The study utilized Autoregressive Distributed Lag (ARDL) bound cointegration to assess monetary policy's short-term and long-term impacts on Nigeria's economic growth. The findings demonstrated a long-term relationship between the two variables.

Further estimation results revealed that Nigeria's economic growth was influenced by monetary policy. The VECM results indicate that compared to LBCP and INT, LM2 and LEXC have relatively stronger impacts on GDP growth in the short run. LM2 and LEXC determine significant GDP growth in the long run relative to INT and LBCP. The analysis of the findings established that monetary policy measures adopted by the Central Bank of Nigeria have a significant influence on economic growth in the country. The study, therefore, recommends the abolishment or, rather, withdrawal of the CBN's restriction on credit to the private sector since it is within the former's capacity to strengthen the economy. The utilization of monetary policies shall set up market-based interest rates and currency rate systems to have investments from domestic and international sources.

Olujobi (2022) examines the economic implications and the rationale that guided the currency redesign programme of the monetary authority in Nigeria. For this study, a descriptive-analytical method was adopted, together with percentages, tables, and graphs. From the findings, it is observed that the policy fuelled an increase in inflation and money supply deviation from the desired level of inflation, which resulted in excess money supply. The study also examined the effect of the policy on SMEs and its prospects for bringing income to the Nigerian economy and capital accumulation. Several developing nations have reformed their currencies in ways that best suit their economic conditions. It is the view that the findings have shown that the currency redesigning was a way through which the amount of money in circulation could be reduced by the CBN, hence improving monetary policy in checking the rise of inflation, enhancing exchange rate policy, and boosting liquidity.

Obalum and Onuoha (2019) take up for scrutiny the pact on the Chinese-Nigerian Currency Swap and its probable implications for the growth of SMEs in Nigeria. This means that banks in both countries can now extend liquidity in their respective local currencies to bilateral trade and investment through the purchase, sale, repurchase, and resale of the Chinese Renminbi (RMB) and the Nigerian Naira. The authors predict that the deal for the $2.5 billion currency swap, signed with China, is sure to benefit SMEs and local manufacturers. They anticipate that the Naira will strengthen in the short term as demand for foreign exchange shifts away from the parallel market. Nigeria is an emerging economy that faces numerous

challenges to significant development despite various interventions and policy strategies. However, SMEs, if fully developed, have the potential to alleviate poverty by creating wealth and employment opportunities. This sector can benefit any government that supports its growth, as it has the potential to increase the country's GDP, generate taxes and other revenues, and contribute to the nation's stability. The authors suggest that to reduce Nigeria's reliance on imports from China, there is a need to increase domestic sourcing of inputs, particularly for the industrial sector, to support SME growth.

Oyewole et al. (2015) examined the correlation between the cashless policy and the economic expansion in Nigeria during the period of 2005 to 2012. In this respect, these researchers estimated the Ordinary Least Square method and the technique of the Two-stage Least Squares regression analysis. From the results obtained, it was realized that the e-payment system has a direct positive relationship with economic growth in terms of real GDP per capita.

Afaha 2019 assessed the influence of an electronic payment system on economic growth by evaluating monthly data from 2012 to 2017. In this analysis, the Autoregressive Distributed Lagged Regression methodology was applied. The outcome showed that there was a significant positive relationship between electronic payment systems and economic growth with respect to an increase in real gross domestic product. This is on the basis of reasons recommended that to fight internet crime, the current framework that is in existence for internet security needs an overhaul. There has to be wholesale legislation governing every aspect of e-banking and cashless operation. Public enlightenment programs need to be undertaken to help those outside the banking system open bank accounts. Such steps are expected to increase the growth of real GDP manifold.

In the year 2016, Tee & Ong evaluated the influence of cashless payment on the economic development of five countries from the European Union this includes Austria, Belgium, France, Germany, and Portugal. Data used in the analysis was for the period covering the years 2000 through 2012. Pedroni residual cointegration and Panel VECM were used by the researchers. The findings established an exogenous, permanent effect of the adoption of cashless payment systems on the economy of the five European countries. Conclusively, the study established that the impact of adopting cashless payment techniques on economic growth was only evident after a long period. Thus, a policy aimed at implementing cashless transactions will only yield temporary results in regard to its effect on the economy. Mamudu and Gayovwi 2019 evaluated the effect of the cashless policy on the economy of Nigeria.

The researchers estimated the quarterly time series from 2011(Q1-Q4) to 2017(Q1-Q4). The variables used are Automated Teller Machine Payment Value, Web/Internet transfer payment Value, Mobile Payment Value, National Electronic Funds Transfer Value, Point Of Sale Value, and Cheques Cleared Value. This research method adopted the Ordinary Least Square regression technique, the Johansen Cointegration test, and the Error correction model. The result indicates that the utilization of cashless policy instruments significantly and positively affects Nigeria's Gross Domestic Product. Johansen's cointegration test affirms the presence of a long-run relationship between the variables over a long period. Furthermore, the short-run regression result also confirms the positive and significant impact of these non-cash variables on the Gross Domestic Product of Nigeria.

Yusuf, 2016, undertakes an analysis of the cashless policy and its relationship with economic growth in Nigeria, covering the period from 2008 to 2015. In the course of this study, it has been found that point-of-sale, web, and mobile payments have positive and significant impacts on the economic growth of the country, all using the Ordinary Least Square approach. It concludes that if the customers take non-cash payment adoption, then it will reduce inflation, increase foreign direct investment, increase the government's revenue, and underpin employment. These several aspects all contribute to the overall growth of Nigeria.

In the study by Ravikumar et al., the digital payment influence on the economic expansion of India was assessed for the period 2011-2019. The study utilized the Ordinary Least Square (OLS) regression and Auto-Regressive Distributed Lag (ARDL) cointegration approach. The data indicate that digital payments have a significant and immediate impact on economic growth, but they do not have any lasting effect.

Hasan et al. (2012) examined the relationship between retail payments and economic development by evaluating data from 27 European markets spanning the years 1995 to 2009. The results illustrate that shifting from paper-based to electronic retail payments promotes overall economic growth and enhances the tangible economy. They support the implementation of measures that encourage a swift shift to efficient and standardized electronic payment methods.

Zandi (2016) did a study that examined the impact of electronic payment on economic growth using macroeconomic data from 70 countries between 2011 and 2015. The results suggest that the use of electronic payment systems contributes to economic growth by boosting the average amount spent per person on card payments.

III. METHODOLOGY

A) Research Design

The quantitative data analytical method was adopted in arriving at the relationship between the cashless policy and economic growth in Nigeria. This study will make use of two models in assessing the relationship: one using the value of e-payment transactions and another one using the volume of e-payment transactions. Model 1 uses the real GDP as the dependent variable, which is a proxy for economic growth. The variables in the research include the autonomous variables: point of sale transaction value, automated teller machine transaction value, mobile transaction value, and online transaction value. The dependent variable is real GDP, used as a proxy for measuring growth. The independent variables used in the analysis include POS transactions volume, ATM transactions volume, mobile transactions volume, and internet transactions volume.

B) Model Specification

The model utilized in this study was derived from the research conducted by Oyewole et al. (2013). The model regarded GDP as the response variable, whereas the explanatory variables included POS terminals, ATMs, Web pay, M pay, Cheques, and Interest Rates. The model can be expressed mathematically as an equation:

$$GDP=\beta_0+ \beta_1 POSterminal_t+ \beta_2 ATMs_t+ \beta_3 Webpay_t+ \beta_4 Mpay_t+ \beta_5 Cheques_t+ \beta_6 InterestRate_t+U_t \quad [1]$$

Where:
LRGDP: Logarithm of Real GDP per Capita
POS terminal: Number of POS Terminals in Nigeria
Cash penetration (ATMs): Value of cash withdrawals from ATMs over real GDP
We pay: Value of Online Payment of Real GDP
M pay: Value of mobile payments over real GDP
(Cash penetration) Cheques: Value of cheque payments over real GDP Interest rate: Demand deposit, time or savings deposit
β_0=Intercept term
$\beta_{1to}\beta_6$=Coefficient of the variables U= Error term/ disturbance
For this study, the model will be modified as follows:

MODEL

$$RGDP=\beta_0+\beta_1 VAPOS_t+\beta_2 VAATM_t+\beta_3 VAMBT_t+\beta_4 VAIBT_t+U_t \quad [2]$$

Where:
RGDP: Real Gross domestic product
VAPOS: Value of POS transactions
VAATM: Value of ATM transactions
VAMBT: Value of mobile transactions
VAIBT: Value of Internet transactions
β_0=intercept term
β_1=Coefficient of the value of POS transactions
β_2=Coefficient of the value of ATM transactions
β_3= Coefficient of the value of Mobile transactions
β_4= Coefficient of the value of Internet transactions
U_t= Error term/ disturbance

IV. DATA PRESENTATION ANALYSIS AND INTERPRETATION OF RESULTS

A) Unit Root Test Result

Table 1. Result of the Unit Root Test (Model 1)

Variable	Constant and trend Level	Prob	Constant and trend 1st difference	Prob
LRGDP	0.569937	0.9989	-4.293247	0.0135
LVAPOS	-1.476602	0.8145	-3.837501	0.0278
LVAATM	-3.527389	0.0518	-5.897789	0.0001
LVAMBT	-2.772193	0.2163	-8.220550	0.0000
LVAIBT	-2.928483	0.1667	-4.922420	0.0019

Source: *Author's computation using Eviews, 9.0.2024*

Table 1 displays the ADF unit root test results for Model 2. The outcome indicates that the variables exhibit non-stationarity at their original levels. Consequently, we are unable to dismiss the null hypothesis at a 5% confidence level.

Nevertheless, the results indicate that all the variables LRGDP, LVOPOS, LVOATM, LVOMBT, and LVOIBT exhibit stationarity after being differenced once, with a 5% confidence level.

Table 2: Result of the Regression Analysis (Model 1)

Variables	Coefficients	Std.Error	t-statistics	Prob
LVAPOSLVAATM	-0.052544	0.052007	-1.010329	0.3202
LVAMBTLVAIBT	0.024564	0.029079	0.844731	0.4047
C	0.082060	0.047087	1.742733	0.0913
	0.003088	0.023115	0.133573	0.8946
	9.412798	0.154728	60.83447	0.0000
$R^2$0.753498				F-stat23.68992
AdjustedR^{2}0.721691				D.W-stat1.863827 Prob(F-stat)0.0000

Source: *Author's computation using Eviews,9.0.2024*

Table 2 displays the results of the regression analysis for Model 2. The findings indicate a direct correlation between the rise of real GDP and the volume of ATM, mobile, and internet transactions. However, only the magnitude of mobile transactions exhibits a positive and substantial correlation with economic growth. Conversely, the outcome indicates a non-significant and negative correlation between the amount of point of sale (POS) transactions and Nigeria's actual gross domestic product (GDP).

The Coefficient of determination (R2) is 0.725647, suggesting that over 73% of the fluctuations in real GDP can be ascribed to alterations in the independent variables in the model, specifically the number of ATM, POS, mobile, and internet transactions. The remaining 27% of the deviations are attributable to unaccounted components in the model. The findings show that the Durbin-Watson test has a value of 1.8820, indicating the absence of autocorrelation. This is because the value falls between 1.72 (du) and 2.28 (4-du), the parameters for determining autocorrelation. The F-statistic results indicate that the factors collectively have a considerable impact on explaining RGDP, with a significance level of 5%.

V. CONCLUSION AND RECOMMENDATIONS

The study's findings establish a definitive connection between the cashless policy and economic growth in Nigeria, both in the long and short run. The study also concludes a causal association between implementing a cashless policy and economic growth in Nigeria. Therefore, the government should look towards creating policies and initiatives that will increase e-payment adoption in the country, which will increase the number of banked citizens and capture more of the population into the formal sector as well as contribute towards increased efficiency and efficacy in trade and business which will lead to economic growth in the country.

Based on the conclusion, the following recommendations are made: The findings show that a cashless policy has a positive relationship with economic growth. Therefore, it is recommended that the government prioritize technology and internet infrastructure to facilitate more manageable and affordable access to e-payment channels for the populace.

The findings show that adopting the e-payment system still needs to be deeper, which explains the insignificant contributions of the cashless policy to economic growth in Nigeria. Therefore, Campaigns aimed at enlightening and increasing awareness and incentives to use non-cash methods such as cashless policy will help with the government's policies. Monetary policy will be more efficient when most of the population is banked and adopts a cashless policy as it will enable the government to make forecasts and measure both the amount of money in circulation and the velocity of money in the country, which will enable the government to make better and more efficient monetary policies.

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