

Assessing the Impact of Cashless Banking on Economic Growth in Nigeria

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ABSTRACT: Notwithstanding the availability of cashless banking instrument in Nigeria, its definite impact on economic growth has not been well established. The goal of this study is to determine how Nigeria's economic growth is impacted specifically by cashless banking. Multiple regression analysis employing the ordinary least-square (OLS) approach was used in a quantitative design. However, the federal office of statistics and the CBN annual report provided the secondary data for this study. The relevance of the data is examined using the Ordinary Least Squares (OLS) approach. Augmented Dickey Fuller (ADF) unit root tests were also used in several tests to determine the viability of the model assumptions. The data indicate that point-of-sale terminals were relevant for economic growth throughout the study period. The results shows that cashless banking have significant effect on GDP in the long run. Users' education, availability in the hinterlands and security of the gadgets for the operators could enhance wide usage and acceptability. The government and bankers should work harder on building infrastructure and launching aggressive public awareness efforts in the meanwhile.

KEYWORDS: Cashless policy, Cashless banking, Central Bank of Nigeria, Economic growth, Nigeria

INTRODUCTION

Major financial management problems have plagued the Nigerian economy, particularly in the area of costs. The cost of cash management to the Nigerian financial system is significant, increasing from around fifty billion naira in 2012, claims CBN (2012). The Central Bank of Nigeria must have been compelled by the additional factors to implement the cashless policy on April 1, 2012. With a minimum GDP of \$900 billion and a minimum per-capita income of \$4000 per year, the CBN's cashless approach is plainly meant to place Nigeria among the top 20 economies in the world. In the light of this, the CBN began the pilot program with Lagos State since it accounted for 80% of point of sale (POS) transactions and 66% of check transactions in Nigeria. Once fully implemented in Nigeria, according to CBN, the scheme will, according to a cash-based economy, reduce maintenance costs by 90%.

However, as a result of the globalization of the financial systems and new information technologies, new ways of handling money have arisen among banks and their customers (Adegbaju & Olokoyo, 2008). Transactions were simple and convenient when using an e-card and internet banking. Customers of e-banking have continuous access to online or electronic banking, enabling them to view previous transactions, transfer funds between accounts, save money, and perform other tasks from any location. The demand for bank workers is also decreasing as more independent bank

clients become adept at handling ATMs, banks, and internet banking on their own (CBN, 2011).

After Nigeria acquired independence in 1960, there have been a number of governments, constitutional amendments, changes to economic strategy, and financial reforms—all of which were largely designed to advance social welfare and achieve developmental goals. However, Nigeria's human development metrics have not significantly improved. This raises additional concerns about the impact of the Central Bank of Nigeria's (CBN) cashless policy on the Nigerian economy. In addition to the physical challenges, economic statistics and indicators are not always reliable. There are very few monetary and macroeconomic factors that can be used to analyze the precise effects of the cashless policy on Nigeria's economy, making this task extremely challenging. Therefore, E-banking, or the cashless system, has been the focus of numerous academic investigations. So, in order to evaluate the impact of cashless banking on the country's economic growth, this study will employ some of the variables of cashless banking to assess how it affected the economic.

REVIEW OF RELATED LITERATURE

Conceptual Review

The term "cashless policy" has been interpreted in a variety of ways by various scholars. Instead of the complete absence of currency, a "cashless economy" is one in which goods or

services are purchased and paid for using electronic methods. In a cashless economy, according to Woodford (2003), it is assumed that there are no transaction frictions that may be reduced by the use of money balances, which subsequently gives a basis for keeping such balances even when they produce a return on investment. The cash balance in your wallet is practically useless in a cashless society.

Cashless policy and Economic Growth

A process that results in economic growth must be supported by a number of economic sectors, the financial sector being one of them. The financial industry benefits the economy in four different ways: it can reduce risk, mobilize savings, reduce transaction and information costs, and possibly even encourage specialization (Levine, 2005). Additionally, the financial sector, according to Fabya (2011), is able to provide borrowers with a variety of high-quality, low-risk financial instruments, leading to faster economic growth.

Empirical evidence of a connection between cashless policies and economic growth was found by Sarma and Pais in 2011. Falahaty and Hook (2013) assert that financial development is a key driver of economic progress. The study highlights how crucial infrastructure development in the banking industry is to fostering economic growth.

Point of sales (POS): According to Williams, Olaekan, and Timothy (2018), a point of sale system is a payment tool that permits credit/debit cardholders to pay at sales/purchase outlets. It comprises immediately transferring money from the store's bank account via a computer terminal in a retail setting. The device confirms that there are enough funds in the customer's account to complete the transaction (Chude & Chude, 2014). POS, which enables immediate purchases and payments at the point of sale as well as discounts for online transactions, enhances customer service. The usage of electronic payment methods will be advantageous to both parties (Akerejola, Okpara, & Patrick, 2018).

The benefits of POS terminals are as follows:

- * It gives some people and businesses a way to survive
- * It eases clogged banks
- * It reduces the operational costs for banks.
- * It is an extension of banking services that leads to financial inclusion.

Difficulties

- * It frequently takes a while to undo a failed POS transaction.
- * If POS software is compromised, customer data may be at risk.
- * The cost People are discouraged from purchasing POS equipment because they are an obvious barrier to entry.

Internet Banking: Internet banking is defined as "the delivery of conventional banking services through the Internet" (Agabonifo et al, 2012). It is a service that banks have incorporated as a module into the new banking software "BANKS" to satisfy the needs of its consumers for online banking. Internet banking enables users to begin transactions

online without actually carrying cash to complete a transaction, which reduces the quantity of money in circulation as a means of implementing a cashless system.

Implants: The United States has adopted the use of this chip in 2013, but Nigeria has not yet implemented this. According to the manufacturers, individuals on the planet may have a microchip implanted in their hand, thanks to this technology, which would allow them to conduct transactions without the use of cash, paper, or credit cards. Many biochip programs have already been tested on animals. The effort is referred to as Infopet in Los Angeles. Animals are identified in the scheme by having identification chips implanted in them.

Electronic Cards: Physical cards that uniquely identify the holder are necessary for online, ATM, and POS transactions. This category includes debit and credit cards; whereas credit cards can be used to assess both domestic and international networks, debit cards are linked to local bank accounts and offer immediate payment confirmation. Credit cards are widely accepted, thus in addition to local lines, international trust schemes (like visa and master cards) typically provide underlying infrastructures and operational principles. Credit cards are utilized in the majority of countries. Debit cards, often known as ATM cards, are the most widely utilized cards in Nigeria due to the fact that there are now only a small number of POS terminals in use.

Nigerian Interbank Settlement Scheme (NIBSS): The Nigerian Interbank Settlement Scheme (NIBSS) enables instantaneous money transfers between banks for one or more beneficiaries with a total value of N10 million or less. It is an online marketplace where banks can exchange products and services.

Positive Outcomes of Cashless Policy.

.Quick Transactional Settlement: E-banking speeds up local and international transaction settlement, whether the bank is acting as the paying bank to clients for transaction settlement or as the collecting bank for payment on transactions..

. Decrease in the number of bank visit: Unlike in the past, clients can now conduct their banking transaction at local branches and withdraw cash from any ATM, including those outside of the bank where they have an account. They can even conduct banking transactions at home while using a phone.

. Enhancing a cashless policy: E-banking supports the idea of a cashless society because the growth of electronic devices has reduced the need for physical cash and made the country more cashless

. Reducing theft rate: Because robbers are drawn to the amount of money traveling through bullion vans, the development of alternative electronic payment systems will surely lower the prevalence of robbery in society. One of the reasons CBN keeps stressing that individuals should accept the policy as soon as feasible is because of this.

. Merchandise Clearance: The payment system in the customs service helps to ensure easy facilitation of goods clearance by the importer in addition to ensuring that money due to the government is paid electronically to the correct account, reducing the incidence of fraudulent practices of diverting government funds to individual pockets with a cashless policy. The CBN would reduce cash handling costs by up to N192 billion. Cash processing is responsible for at least one-third of the infrastructure and labor costs in this industry, according to CBN. Therefore, a cashless policy will have a negative effect on job chances for individuals who handle cash in banks. The cost of processing cash, income leaks from handling cash, and inadequate treasury management brought on by cash processing will all be reduced by policy.

The future of Nigeria's cashless policy

Since the dawn of time, money has been a vital component of commerce, allowing common people to trade their labor and products for the goods and services they require without the need for time-consuming haggling or exchange agreements. However, the use of money alternatives has gradually but surely increased. The introduction and expanding usage of electronic transfer technologies has led to predictions of a cashless society.

The gradual decline of currency and the emergence of a cashless society have various positive effects for society.

The customers had more options for services, greater convenience, a decreased risk of crimes involving cash, more inexpensive access to (out-of-branch) bank services, and simpler credit availability.

For businesses, this implies quicker access to capital, less income leakage, and lower processing fees for cash. For the government, this translates to better tax receipts, financial inclusion, and economic expansion. A safe cashless system can protect authorized users' privacy while also providing data on money that has been laundered or issued illegally.

An increase in bank deposits due to a cashless policy might increase the amount of money available for lending and other economic activities. The policy can help track double spending, which prevents the unauthorized redistribution of goods and intellectual property.

Cashless policies can increase financial system participation, openness, and confidence by bringing unreported transactions into the banking system and eliminating shadow economies.

Automated electronic payments, a key part of the cashless policy, are a strong entry point into the banking sector and a driver of expansion. They can promote financial inclusion by making it easier and more affordable for the unbanked and under-banked to access financial services. Also there is reduction on the reliance on money as a vehicle of commerce; promotion of greater financial literacy; and promotion of saving. It can further reduce the risk associated with settlements and payments.

The prevailing situation in Nigeria

According to the CBN, an extensive analysis of over-the-counter intrabank cash transactions was conducted over a 12-month period (November 2021–October 2022) to determine how the cashless policy would affect the majority of residents.

The results demonstrated that a sizeable portion of cash transactions fell below the maximum thresholds suggested by the current cashless policy and were, as a result, exempt from the cash processing fees. Additionally, it revealed that 82.36% and 39.38% of the volume and value of cash transactions by corporations were below the threshold, compared to 94.04% and 62.63% of the volume and value of cash transactions by individuals (Anaeto, 2022). The massive hoarding of banknotes by the general public, which statistics indicate accounts for more than 80% of the currency in circulation, is one of the issues, according to Emezie. He said that as of the end of September 2022, the CBN's data indicated that out of the N3.23 trillion in money in circulation, N2.73 trillion was outside the vaults of commercial banks throughout the nation, Anaeto, (2022).

Governor Emezie of the CBN stated, "We have 1.4 million super agents that are all over different parts of the country, all local governments, and all villages in this country." And having 1.4 million of them is equivalent to having 1.4 million banking points where consumers may conduct services, he added, because super agents are different from banks, microfinance banks, and other financial institutions. "We cannot keep allowing the situation where more than 85% of the money in circulation comes from sources other than banks." Countries that are adopting digitization are going cashless in increasing numbers," he added (Adegboye, 2022).

Ekop (2022) asserts that we should keep in mind the fact that more people work in our informal economy than in the formal one. A major portion of our informal sector is also small and medium sized. The majority of the infrastructure required for a cashless economy is lacking in our informal economy, which is also predominantly based in rural areas. People in these locations keep their money under their pillows because of this. Since there are no nearby banks, they are not taken there. Rural residents are now as powerless as they were before to the banks' brief sojourn in their towns because the People's Bank and mini banks that were functioning there have now failed.

THEORETICAL REVIEW

Theory of Financial Intermediation

The primary goal of intermediation theory is to explain why financial intermediaries exist. The traditional Arrow Debrue Model of resource allocation makes the assumption that markets, rather than financial intermediaries, are the primary means through which individuals and enterprises interact. This theory contends that when markets are perfect and fully

efficient, resource allocation is Pareto optimal and intermediaries cannot raise welfare. With the advent of financial innovation (which most cashless policy instruments fall under), this theory has been reintroduced as modern intermediation theory. Contemporary theory is inspired by the role of financial innovation in interpreting transaction costs and information asymmetry in the financial system (Scholtens & Wensveen, 2013).

The argument goes that the existence of financial intermediaries is a result of market imperfections that prevent investors and savers from conducting the best feasible direct trade. The biggest market faults are the informational gaps between savers and investors. Financial intermediaries, mainly banks, acting as agents and delegated monitors, close this information gap between final savers and investors. This is because they outperform savers and investors in terms of comparative informational advantage. They look into and manage investors on behalf of savers. They can charge parties the transaction fees they do because this is their main objective.

They also close the maturity gap between savers and investors and facilitate payments between economic parties by providing payment, settlement, and clearing services. They therefore take measures involving the transformation of qualitative assets. Modern financial intermediation theory is based on the notion that intermediaries reduce transaction costs and informational asymmetries. According to the financial intermediation theory, intermediation is no longer required because, among other things, advances in information technology, regulatory reform, and the depth of the financial market have reduced informational asymmetries and transaction costs.

When markets are ideal, intermediaries are not required since savers and investors have access to all the information they need to connect without any delays or costs, transact at the best rates, and connect promptly.

Empirical Review

Taiwo, Ayo, Afierdoho, and Agwu (2016) analysed the implementation of the cashless policy and its role in the Nigerian system using a descriptive research approach. Data were gathered from 120 workers of First Bank, Zenith Bank, and United Bank of Africa who at random answered a questionnaire. The data were presented and analyzed using the Statistical Package for Social Sciences (SPSS) utilizing descriptive statistics and a one-sample t-test. According to data analysis, the cashless policy has made banking transactions simpler, its implementation has had a positive influence on banking activity, and it has increased banks' operational performance. The researchers' conclusions that cashless policies have various benefits since they can help the fight against corruption and decrease the prevalence of carrying cash were made possible by the findings. But great efforts are made to ensure that a cashless system is successfully implemented; the regulation will only produce

the intended results. It was suggested that the public be adequately informed about the policy and that rigorous security should be maintained in order to reduce online fraud. The effect of cashless banking on the Nigerian economy was investigated by Siyanbola (2013) using a descriptive research design. Chi-square was used to examine the data after it had been collected via a questionnaire. The analysis's conclusions show that cashless banking and the Nigerian economy have a strong economic relationship, that it has a favorable effect on the economy and employment in that nation, respectively, and that there are best practices for adopting cashless banking. The paper also stated that government support, availability to power and communication networks, and the provision of appropriate security will all contribute to the improvement and expansion of cashless banking in Nigeria. Ejiro (2012) expressed optimism about the potential effectiveness of this policy and said that "in the long run sustainability of the policy will be a function of the endorsement of, and compliance by end-users." The scheme is expected to reduce the costs of running a cash-based economy by 90% after it has been fully implemented.

By analysing electronic payment systems and their impact on economic growth in Nigeria, Oyewole et al. (2013) added to the study. According to their research, e-payment systems positively affect economic growth in terms of real GDP per capita as well as trade per capita. More specifically, it was found that, in contrast to other types of e-payment systems, the introduction of ATMs into financial transactions had a direct impact on economic growth.

According to research done by Newstead (2012) on the effect of cashless transactions on economic growth, there is a positive association between the number of cashless transactions and economic growth. In particular, it was shown that poor countries had twice the growth in cashless transactions as developed countries. The essential statistical data, which would have shown the rate of cashless growth in developing countries relative to rich economies, were not used to support this assertion by Newstead.

Benefits and Challenges of Nigeria's Cashless Policy by Osazevbaru, Henry Osahon & Yomere, Gabriel O. (2015) summarised that banks' income is higher in a cashless setting than in a cash-based arrangement. Therefore, it is advised that necessary infrastructures and legal support be provided to facilitate the policy's religious execution because the cashless policy gives the banking industry enormous benefits.

In another study of the empirical assessment of the effects of cashless policy on financial inclusion in the Nigerian emerging economy, Ogbeide (2019) asserted that Volume of Point of Sales (POSVL) shows more significant and positive influence on financial inclusion in urban area than the rural area.

**METHOD
OLOGY**

The quantitative design with the multiple regression analysis utilizing the ordinary least-square (OLS) approach was used. The approach is used because of its characteristics and relative importance, also the number of observations is short and employing more dynamic approach will not yield robust results due to insufficient lags. The regression in the study will be done using the e-View statistical tool, and the percentage growth was calculated using an excel worksheet. The Central Bank of Nigeria's (CBN) Annual Report were the main sources for the time series data.

Time series variables that can be categorized as dependent and independent variables make up the study's quantitative research variables. Economic growth (GDP), which serves as the study's primary dependent variable, is compared to the independent variables automated teller machines (ATM), points of sale (POS), and mobile banking (MOB).

Multiple regression analysis was used in this study and the structural expression of the functional link was as follows:

$$GDP = f(ATM+POS+MOBP) \dots\dots\dots (1)$$

$$GDP = (\beta_0+\beta_1ATM+\beta_2POS+\beta_3MOBP+\mu) \dots\dots\dots (2)$$

Data derived from secondary sources was evaluated using the Augmented Dickey Fuller test in a unit root test. To identify the traits of the research variables, a descriptive test was conducted.

RESULTS

The unit root test, which uses the augmented dickey fuller (ADF) test to check the stationarity of the variables, is the first point of examination in this session. The table below shows the augmented dickey fuller findings, which include the test static and the critical values as they were initially generated.

Table 1. Unit Root Result

Variables	ADF	1%	5%	10%	Order of integration	Prob	Break date
GDP	-42.41	-5.35	-4.86	-4.61	I(0)	<0.01	2014
ATM	-8.90	-5.35	-4.86	-4.61	I(0)	<0.01	2017
POS	-20.21	-5.35	-4.86	-4.61	I(0)	<0.01	2015
MOBP	-10.49	-5.35	-4.86	-4.61	I(1)	<0.01	2017

Source: Author's computation with E-views 10

Table 2. Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNATM	-0.197746	0.899356	0.219875	0.6546
LNPOS	-0.131105	0.749291	4.174973	0.0001
LNMOBP	0.215764	0.594918	3.362674	0.0003
C	9.499284	5.299537	1.7292474	0.1162
EC = LNGDP - (-1.9741*LNATM -0.0199*LNPOS +0.1336*LNMOBP + 4.9595) R-Square = 47%, Adjusted = 37%, Durbin Watson = 2.1				

Source: Author's Estimation using E-views 10.

Regression Result:

In this study, mathematical relationship between variables were estimated and the available data for Gross Domestic Product (GDP), Automated Teller Machine (ATM). Point of Sales (POS) and Mobile Banking (MOBP) were collected and analyzed. Multiple regression models were

used to capture the assumed relationships among the variable.

The intercept, which can be calculated from the results above, is 9.499284, indicating that, all other things being equal, GDP will be 9.499284. The coefficient of ATM is -0.197746 and P = 0.6546, which shows that ATM and GDP have a negative relationship and that a rise in ATM

would result in a N1977 decrease in GDP. The coefficient of POS is -0.131105, and P = 0.0001 indicates a substantial influence and a negative association with GDP. As shown by the MOBP coefficient of 0.215764 and P value of 0.0003, there is a positive association between MOBP and GDP, with a rise in MOBP increasing GDP by N2157.

The better the R2 of the regression plane is to the sample observation, the more variation in the dependent variable there is. Conversely, if the R2 is closer to zero, the goodness of fit is worse. The closer a value is to 0 or 1, the worse it is since R2's value is between 0 and 1. According to our findings, fluctuations in GDP caused by ATM, POS, and MOBP may be accounted by 47% of the coefficient of determination (R2), while the remaining 53% of variations must be explained by external variables. The adjusted (R2)

value of 37% further supports how well GDP serves as a proxy for the dependent variable on the regression plane. At a 5% level, the explanatory variable's combined contribution is substantial. At the 5% level of significance, Durbin Watson for Autocorrelation (2.1) indicates the presence of positive autocorrelation in particular.

Following a thorough review of the data utilized in this study, we conclude that, as shown in Table.2, Mobile banking (MOBP) and Point of Sale (POS) have considerable impact on Nigeria's GDP because the probability value is less than 5%. The result follows that of other studies on related topic; Newstead (2012), Gabriel O. (2015) and Ogbeide (2019) all found the impact of cashless banking on the economy positive.

Table 3. ARDL Bounds Test for Co- integration analysis

Test Statistic	Value	Significant.	I(0)	I(1)
			Asymptotic:n=1000	
F-statistic	6.527458	10%	2.37	3.2
K	3	5%	2.79	3.67
		2.5%	3.15	4.08
		1%	3.65	4.66

Source: Author's computation with E-views 10

The present study investigated the long – run relationship among GDP and other independent variables under study using the ADRL Bounds test. Table 3 presents the results therein, where the computed F- statistic is 6.527458 and the upper and lower critical bounds at 10%, 5%, 2.5% and 1% are (2.37, 3.2), (2.79, 3.67), (3.15, 4.08) and (3.65, 4.66) respectively. Since the calculated F-statistic is greater than the critical value for the upper bound I (1), the null hypothesis is rejected and we conclude that there is co-integration. That is, there is a long-run relationship between GDP and cashless banking products.

CONCLUSION

Various findings emanating from the link between cashless banking and economic growth, are diverse, while some economies report positive and significant relationship, others report otherwise. Following the debate, we sought to provide further empirical evidence on the impact of cashless banking on the economy of Nigeria from 2008 to 2019. Using the Ordinary Least Square regression methods, this study has helped to show the specific impact of cashless banking on the economy of Nigeria within the years under review. The major indicators of cashless banking were employed as independent variables while the GDP was employed as a proxy for economic growth. The study applied ordinary least square regression, ARDL co-

integration approach and ARDL Bounds test to evaluate and analyse the impact of cashless banking systems on economic growth in Nigeria. The results shows that MOBP and POS have significant effect on GDP in the long run. Therefore, it suggests that cashless banking products do not contribute directly to economic growth in the short run.

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