



## IMPACT OF CASHLESS POLICY ON COMMERCIAL BANKS PERFORMANCE IN NIGERIA

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### ABSTRACT

*The study examines the impact of cashless policy on commercial banks performance in Nigeria. From 2012-2020. The estimation technique applied is Ordinary Least Square Method (OLS). The estimation results revealed that automated teller machine (ATM) had positive and significant effect on performance of Commercial banks (CBP), point of sale (POS) had negative and insignificant effect on performance of Commercial banks (CBP), mobile banking (MB) had positive and significant effect on performance of commercial banks (CBP), Internet banking (INT) had positive and insignificant effect on performance of commercial banks (CBP). The coefficient of determination ( $R^2$ ) = 0.871 showed that about 87% of changes in the performance of commercial banks in Nigeria is accounted by the level of cashless policy in Nigeria. The study thus concludes that cashless policy for business purpose has positive effect on the performance of Commercial banks in Nigeria. The study recommends that there is significant need for public education and awareness on the benefits of automated teller machine, mobile banking and internet banking to enhance the adoption of cashless policy for improvement of commercial banks performance in Nigeria.*

**Keywords:** Cashless Policy, Commercial Banks, OLS, Nigeria

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### 1.0 Introduction

Banks are the mainstay of every economy and occupy central positions in the country's financial system as essential agents of economic development by intermediating between the surplus and deficit savings units within an economy, banks mobilise and facilitate efficient allocation of funds thereby increasing the quantum of investments and economic activities (Akara & Asekome, 2018). In developing economies like Nigeria, financial sector developments have been accompanied by structural and institutional changes because of its crucial role in the economic development of the nation. In pursuance of its core mandate, the Central Bank of Nigeria (CBN) have engaged in series of reforms aimed at making the financial system formidable and enhancing the overall economic growth of Nigeria.

The cashless policy introduced by the CBN in the year 2012 is aimed at achieving a cashless economy and was conceptualized by the apex bank to increase the proficiency of Nigeria's payment systems which will in turn improves the quality of service being offered to the banking public. One of the prerequisites for the development of national economy according to Ajayi and Ojo (2006) is to encourage a payment system that is secure, convenient and affordable. In this regard, developed countries of the world, to a large extent have substantially moved from paper to electronic payment systems (Alao & Sorinola, 2015). According to Ajayi (2014) The Nigerian cashless system of payment has been evolving in line with the global payments evolution. Cashless system of payments and instruments are significant contributors to the broader effectiveness and stability of the financial system.

Innovations in technology and business models have implications for the efficiency and safety of cashless system of payments hence the nation's quest of migrating from cash to cashless economy has been on the front burner.

Due to a high level of financial illiteracy, an unreliable power supply, and, to some extent, a lack of trust in electronic payment systems, Nigeria has seen a slow pace of technological change in banking transactions. As a result, banking customers are subjected to high transaction costs, spending hours in banks to complete simple transactions as opposed to cashless transactions, which, according to Kumari and Khanna (2017) require less processing time, provide a variety of payment options, and provide instant notification of all transactions made on the customers' accounts. The long hours spent in banks and inefficiency through cumbersome documentations reduces customer satisfaction as well as increasing transactions cost and other overheads for banks (Ogun, 2011). The absence of cashless policy in Nigeria has over the years contributed to high cost of cash movement and cash management by banks thereby impacting negatively on banks profitability. It also contributes to lack of transparency in business dealing in Nigeria (Jaiyeola, 2011).

According to Akara and Asekome (2018) most Nigerians are still unbanked as the slow adoption of cashless policy has as well slowed down the inculcation of savings habit necessary to encourage investment and a boost in economic activities and development of the national economy. In line with the CBN policy synopsis for introducing the cashless policy, Akara (2016) noted that the absence of the cashless policy gives loopholes to rampant inefficiency and corruption, money laundering and other cash-related fraudulent activities. The challenges of the relatively low embrace of the use of electronic payments have seriously affected the implementation of the policy by bank customers, the general public as well as the commercial banks and other financial intermediaries. Most recent studies in Nigeria, for example Akara and Asekome (2018) did not directly examine the impact of cashless policy on bank profitability therefore creating a gap on how the policy affects the bottom-line profit of the banks. Thus, the objective of this study is to examine how the cashless policy affects commercial banks performance in Nigeria. The paper is organized as follows: The paper consist of five sections upon which the section first section is the general background of the study the next section provides the empirical literature review and theoretical framework, followed by a discussion of the methodology in Section three. Section four focused on data presentation and discussion of results while section five dwelled on conclusion and policy recommendations.

## **2.0 Literature Review**

### **2.1 Conceptual Literature**

#### **2.1.1 Concept of Cashless Policy**

It does not mean an outright elimination of cash transactions in the economic setting but one in which the amount of cash-based transactions is kept to the barest minimum. According to Woodford (2003) cashless economy is defined as one in which there are assumed to be no transactions frictions that can be reduced through the use of money balances, and that accordingly provide a reason for holding such balances even when they earn rate of return. The following among others enhance the functioning of cashless economy; e-finance, e-banking, e-money, e-brokering, e-exchanges etc. In a modern economy, the use of non-cash payment methods such as cards (credit and debit) dominates the use of cash in payments (Acha, 2008). The cashless policy initiative of the Central Bank of Nigeria is a move to improve the financial terrain of the economy. The policy aims at reducing (not eliminating) the amount of physical cash (coins and notes) circulating in the economy, and to encourage more electronic-based transactions (payments for goods, services, transfers).

### 2.1.2 Overview of Commercial Bank

Grimsley (2003) defined a commercial bank as a financial institution that is authorised by law to receive money from businesses and individuals and lend money to them. Commercial banks are open to the public and serve individuals, institutions, and businesses. A commercial bank is certainly the type of bank that most people regularly use. Banks are regulated by federal and state laws depending on how they are organised and the services they provide. Commercial banks are also monitored through the Federal Reserve System. Financial Times Lexicon (2011) defined a commercial bank as a bank whose main business is deposit-taking and making loans. World Bank dictionary in 2003, defined commercial bank as “anything having to do with a business, made to be sold for a profit”. Investor words in 2016 defined a commercial bank as an institution that accepts deposits, makes business loans, and offers related services. Commercial banks also allow for a variety of deposit accounts, such as checking, savings, and time deposit. These institutions are run to make a profit and owned by a group of individuals, yet some may be members of the Federal Reserve System. While commercial banks offer services to individuals, they are primarily concerned with receiving deposits and lending to businesses.

### 2.1.3 Channels of a Cashless Economy

A cashless economy is consummated through a number of instruments or channels. These include ATMs, internet banking, mobile banking, POS, and electronic payment systems.

## 2.2 Theoretical Literature

### 2.2.1 Transactions cost innovative theory

The Theory was explained by guidance of transaction cost innovative theory which was introduced by Hicks and Niehans (1983) who championed and stated that foremost aspect of financial innovation is to be able to reduce cost of transaction which responds to the advancement in technology and which resulted in the reduction of transaction cost. The ability to lower the cost of transaction brings about innovation in financial service and upgrading of financial service and the same believes that money related innovations decrease the cost involved in making transactions. The importance of Transaction costs innovation theory in the set-up of internet-related information technology (IT) considerably lessens a company's internal database and other significant sources of information. The outcome further reduces the cost of operation by the introduction of mobile and agency banking which influences the profitability growth of the bank. This theory is then believed to be a guideline as regards the study on factors that influence financial performance of commercial.

### 2.2.2 Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM), introduced by Davis (1986), is one of the most widely used models to explain user acceptance behaviour. This model is grounded in social psychology theory in general and the theory of Reasoned Action (TRA) in particular (Fishbein, & Azjin, 1975). TRA asserts that beliefs influence attitudes, which lead to intention and therefore generate behaviour. Correspondingly, Davis (1986, 1989) introduced the constructs in the original TAM (see figure 1) as fellow: perceived usefulness (PU), perceived ease of use (PEOU), attitude, and behavioural intention to use. Among the constructs, PU and PEOU form an end-user's beliefs on a technology and therefore predict his or her attitude toward the technology, which in turn predicts its acceptance.

### 2.2.3 Bank Focused Theory

This theory was propounded by Kapoor (2010) and anchors on the ground that banks use non-traditional but conventional low-cost delivery channels to provide services to its numerous customers. Such channels include the ATMs, Internet banking, POS among others. By making use of these channels, the bank offers a wide range of services to its customers not minding the location and branch where the customer is. The only thing required is to input the needed information into the system and the transaction is concluded. This theory supports this study since the emphasis here is on electronic platforms as a means of delivering services.

Despite the drawbacks, the endogenous growth model is still relevant to this study as it points out the importance of technology and innovations as drivers of economic growth. These technologies and innovations in an economy which serve as drivers of economic growth can be used to explain how technological innovations employed in the cashless policy initiative in the country can help the economy to grow.

#### 2.2.4 Endogenous Growth Theory

Focus on advantages of a dynamic export sector. Endogenous growth theories emphasize the role of total factor productivity in the process of growth. The effects include mainly the expansion of advanced techniques, employment of highly skilled workforce and improvement of managerial skills due to the intense competition that exporters face in global markets (Romer 1990 and Barro, 1991). In his model, Romer (1990) considers diversification, along the line of Adam Smith, as a factor for increasing labour productivity and human capital. Romer developed a model including four production factors (capital, human capital, labour and a technological index) and three sectors: the sector of Research & Development which uses human capital and the existing stock of knowledge to produce more knowledge (i.e. new designs); the sector of intermediate goods which exploits these new designs to produce a large range of intermediate goods; and lastly the sector of final goods which utilizes these products to provide consumer goods. Romer stresses that the more available differentiated intermediate goods are, the higher marginal capital productivity will be. Diversity of intermediate inputs enhances productivity of the final goods sector. In particular Romer (1990) incorporated a Research and Development sector (R&D) in the process of growth. In the Romer (1990) model;

$$Y_{(t)} = \left[ (1 - \alpha k) K_{(t)} \right] \alpha \left[ A_{(t)} (1 - \alpha L) L_{(t)} \right]^{1 - \alpha}, \quad 0 < \alpha < 1$$

The production of new ideas depends on the quantities of capital and labour engaged in research and on the level of technology:

$$A_{(t)} = G \left( \alpha k, K_{(t)}, \alpha L L_{(t)}, A_{(t)} \right)$$

#### 2.3 Empirical Literature

Olorunsegun (2010) used cluster sampling technique to study the impact of electronic banking in Nigeria. He found that most banks in Nigeria have effective electronic banking systems that have improved customer's relationship and satisfaction. Though these and some other authors have carried out various studies in electronic banking in Nigeria, this study will add value by specifically examining how cashless policy has impacted on the profitability of banks using ROA and ROE as proxies for the performance of the selected banks covered by the study.

Akhalumeh and Ohioka (2011) observed some challenges with the introduction of cashless policy. Their findings show that 34.0% of the respondents cited problem of internet fraud, 15.5% cited problem of limited POS/ATM, 19.6% cited problem of illiteracy and 30.9% stayed neutral – the respondent not been sure of problem been expected or experienced. While in some quarters there was fear of unemployment, some believe it will create more jobs especially when companies manufacturing POS machine are cited in Nigeria.

Newstead (2012) examined the influence of cashless payment on economic growth and found a positive relationship between cashless payment and economic growth. Specifically, it was found that cashless transactions were growing twice as fast in developing economies as compared across the world. This assertion by Newstead was not supported with appropriate statistical figures, showing the pace of cashless growth in the developing economies as compared to figures of cashless growth in the developed economies. Odior and Banuso (2013) examined the challenges, benefits and prospects of cashless policy and their study found that some of the challenges that have the capacity to hamper the success of cashless policy are power supply and poor infrastructures to mention but a few. On the other hand, their study revealed that cashless policy will promote economic growth and provide banks with more liquidity for lending to needy sectors and contribute to eliminating corruption if the right infrastructure and trust is instituted.

Oyewole et al., (2013) examined electronic payment systems and its impact on economic growth in Nigeria, and their study found that e-payment system has a positive impact on economic growth in terms of real GDP and that the introduction of ATMs in doing financial transaction impacts directly on economic growth, while other forms of e-payment channels showed a negative impact on economic development. Adewoye (2013) empirically studied the impact of mobile banking on service delivery in the Nigerian Commercial Banks through the use of questionnaire. He found out that the introduction of e-banking services has improved banking efficiency in rendering services to customer. His findings shows that mobile banking improve banks service delivery in a form of transactional convenience, savings of time, quick transaction alert which has recuperate customer's relationship and satisfaction.

Umanhonlen, and Omoruyi (2015) appraised the impact of e-banking and cashless society in the Nigerian economy. The study explores various aspects of e-banking and cashless economy using the banking sector of the Nigerian economy as a focal point. Specifically, the paper articulates empirical opinions that highlight the possible ways these policy measures have direct links to beneficiaries and the weighted outcomes when divergence is noticed and how to bring back the soundness, sustainable and rebranding policy that ensures economic growth. The paper holds that for a sustainable cashless society to emerge all hands must be on deck; banks should de-emphasize all odds and ensure that efficiencies of e-banking mechanisms are of utmost priority.

Ewa and Inah (2016), investigated 'Evaluating Nigeria Cashless Policy Implementation using Simple percentages and Relative Important Index (R.I.I), found using a four-point Likert scale questionnaire administered to six hundred respondents. The results of the study show that the twin policy objectives investigated were partially achieved. Also, the study reveals that social infrastructures in power and telecommunications need improvement and expansion and the need to create more awareness to encourage the unbanked to embrace banking culture.

Ibe and Odi (2018), examined cashless policy models of economic growth: The Nigerian experience. The objective of the study was to find out the effect of cashless policy on Nigeria economy. The ex-post facto research design was adopted and source of data was Central Bank

of Nigeria statistical bulletin and the study covered the period 2009 – 2016. The variables used for the study were Gross Domestic Product GDP as the dependent variable while Automated Teller Machine (ATM), Mobile Banking (MOBK) and Point of Sale (POS) were independent variables. The findings of this study show the existence of a long-run significant relationship between the variables of cashless policy and economic growth in Nigeria. Also, the ATM seems to be the best and most common means of effecting cashless policy based on the magnitude of its relationship with GDP.

Mamudu & Gayuvwi (2019) explained that cashless policy transmissions impact on Nigerian economy cannot be overemphasized. This was asserted from the findings in the study where time series data was used. It revealed that there is long run relationship between the variables used and the Nigerian economy. It showed that the insignificant nature of the results may be attributed to poor infrastructure of the facilities needed to enhance the performance of the banks on cashless policy. It is recommended that collaborated effort is required from both government and deposit money banks to improve the provision of infrastructure that would enhance greater access to transactions.

Fabris (2019) observed that the prospects of cashless society may not last long due to the evolution of digital currencies as seen in some countries. The study that is conducted using content analysis of empirical studies revealed global financial crisis and private crypto currencies have threatened the existence of cashless society. It concluded that economic policy makers must rise to the challenges to sustain the emergence of a cashless society. Even with this emergence, the cashless system still accommodates crypto currency since it is also a form of cashless structure.

From the reviewed literature, all the literature reviewed did not exceed 2021 in terms of their scope. Similarly, the subject matter and methodology adopted by the study was not captured by Nigerian researchers as shown by the literature reviewed.

### **3.0 Research Methodology**

#### **3.1 Theoretical framework**

The theoretical framework is to give a theoretical base for the study. This study has adopted the transaction cost theory as a base to hinge on. The transactional cost theory state that the goal of any Organisation is to minimize costs associated with transactions. Therefore, the Organisation will either choose to manage these resources externally or internally, depending on transaction costs. The decrease of transaction costs can stimulate financial innovation and improvement of financial service. It states that financial innovation reduces transaction costs. Mobile, Internet-connected IT might additionally decrease transaction costs because it offers off-site access to the firm's internal database and other significant sources of information. Consequently, reduction of operation costs through agency banking, internet banking, and mobile banking may influence growth in profitability for the bank.

#### **3.2 Model Specification**

The purpose of economic modelling is to represent the phenomenon under consideration in such a way to enable the researcher to attribute numerical values to the variables used in the study. The model of the study is based on Okafor (2020) by using Automated Teller Machine (ATM), Point of Sale (POS), Mobile Banking (MB), and Internet Banking as independent variables and all share index (proxy for Commercial banks performance). Following the theoretical model above, the econometric model can be specified as;

$$CBP_t = \beta_0 + \beta_1 ATM_t + \beta_2 POS_t + \beta_3 MB_t + \beta_4 INT_t + \mu_t s$$

$$CBP = F(ATM, POS, MB, INT) \quad (1)$$

Where;

CBP = Commercial Banks Performance (proxy by all share index)

ATM = Automated Teller Machine

POS = Point of Sale

MB = Mobile Banking

INT = Internet Banking

$\beta_0$  = constant term

$\beta_s$  = parameters to be estimated

$\mu_t$  = error term

### 3.3 Estimation techniques

The estimation technique adopted for this study is the Ordinary Least Squares (OLS) regression approach. This approach was considered because it is the Best Linear Unbiased Estimator (BLUE), and has been widely used in the literature by experts in econometric studies and in studies utilizing time-series (panel) data due to its high efficiency in minimizing errors. Furthermore, the OLS is characterized by such core but salient features as, efficiency, un-biasedness, BLUE, minimum variance, least means square error and sufficiency vis-à-vis other econometric approaches.

### 3.4 Data Sources and Measurement

The data used in this study is secondary. The data were sourced from Central bank statistical bulletin 2021 Edition. All shares index (proxy for Commercial Banks performance) as dependent variable and selected cashless policy activities as ATM, mobile banking, point of sale stations (POSs), and electronic fund transfer were all sourced from Central bank statistical bulletin.

## 4.0 Data analysis, presentation and interpretation

### 4.1 Descriptive Statistics

Descriptive statistics summarizes or describes the characteristics of a data set. Descriptive statistics are very important because if raw data is presented it would be hard to visualize what the data was showing. Descriptive analysis shows the mean, median, standard deviation, minimum and maximum of the variables, skewness, kurtosis and Jargue-Bera statistics which shows the existence of normal distribution at 5% significance level.

**Table 1: Summary of the Descriptive Statistics**

Variables	CBP	ATM	POS	MB	INT
OBSERVATION	12	12	12	12	12

MINIMUM	23091.6	399.71	11.03	1.27	25.05
MAXIMUM	39409.8	12004.07	3204.753	5080.965	2356.18
MEAN	29474.54	4283.022	965.6129	986.8267	353.3758
Std. Dev.	5730.455	3286.915	1188.114	1474.256	661.8522
SKEWNESS	0.467365	0.925337	0.91306	1.947962	2.577991
KURTOSIS	1.86875	3.511586	2.21449	6.026983	8.351427
PROBABILITY	0.583704	0.397851	0.372345	0.002276	0.000001

Source: Authors Computation 2022

The table shows the mean value, maximum, minimum, skewness, kurtosis and Jargue-Bera of the series under study for the period of 12 years. Internet banking has the lowest mean value of 353.3758 while commercial banks performance has the highest mean value of 29474.54. The result also revealed that the mean values of all the variables lie within the maximum and minimum value.

The analysis was also fortified by coefficients of skewness and kurtosis of all the variables in the model. The skewness is a measure of asymmetry of distribution of series around its mean. The skewness of normal distribution is zero. Positive skewness implies a long-right tail and negative skewness implies a long-left tail. Table 1 show that performance of Commercial banks (CBP), automated teller machine (ATM), mobile banking (MB), internet banking (INT) and point of sales (POS) have a long-right tail.

Kurtosis measures the degree of peakness or flatness of the distribution of the series. If the kurtosis is three, the distribution is called mesokurtic, above three is leptokurtic and below three is platykurtic. The table shows that performance of Commercial banks (CBP) and point of sales (POS) are platykurtic while automated teller machine (ATM), mobile banking (MB) and internet banking (INT) are leptokurtic.

The important property of the series is the normality distribution provided by the values of the Jargue-Bera. The value across the series revealed that most of the variables are normally distributed. This means that most of them have the tendencies to return to normal distribution.

## 4.2 Correlation Matrix

A correlation matrix displays the correlation coefficients for different variables. The matrix depicts the correlation between all the possible pairs of values in a table. The table 4.2 below shows that the independent variables have a negative and positive correlation with the dependent variable and they are significant in explaining the outcome of the dependent variable (CBP) at 5% significance level. The result from table 2 shows that there is positive relationship between Commercial banks performance and the respective independent variables but not statistically significant at 5% significance level.

**Table 2: Correlation Matrix**

Variables	CBP	ATM	POS	MB	INT
CBP	1				
ATM	0.293157	1			
POS	0.230889	0.856042	1		
MB	0.158644	0.615837	0.905735	1	
INT	0.6224	0.033	0	0	1

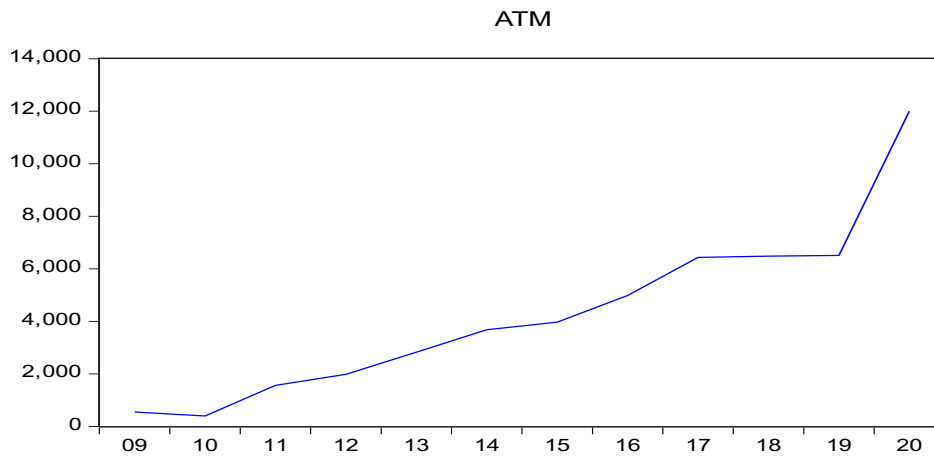


INT	0.010059	0.854406	0.704941	0.421486	1
	0.9752	0.0004	0.0105	0.1724	

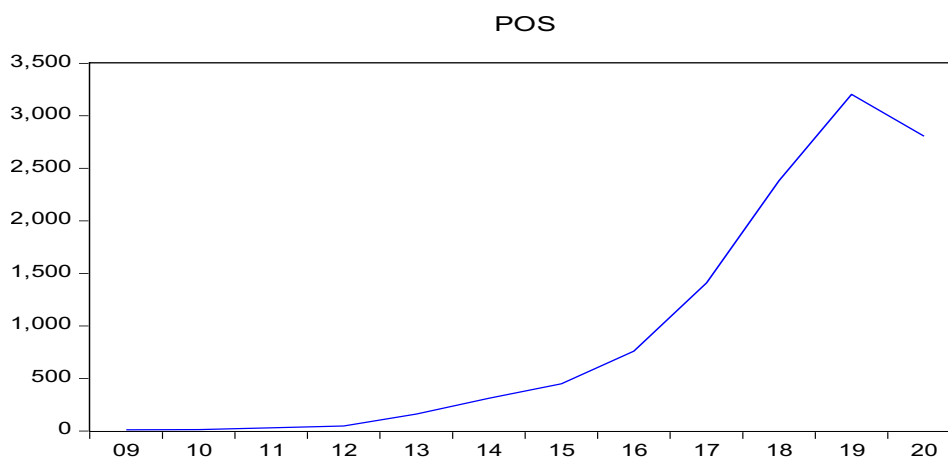
Source: Authors computation 2022

### 4.3 Trend Analysis

**Figure 1: Trend of Automatic teller machine in Nigeria**



**Figure 2: Trend of point of sales machine in Nigeria**



**Figure 3: Trend of mobile banking in Nigeria**

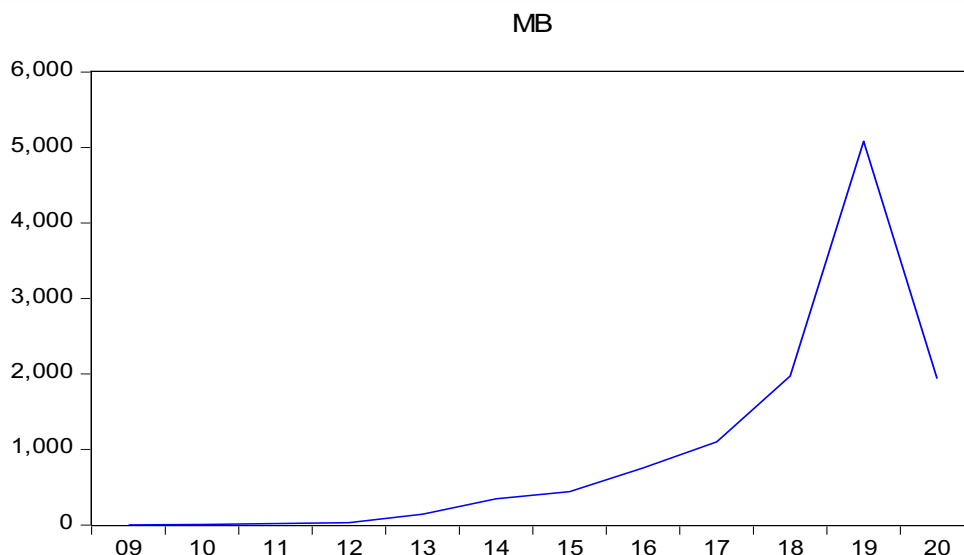
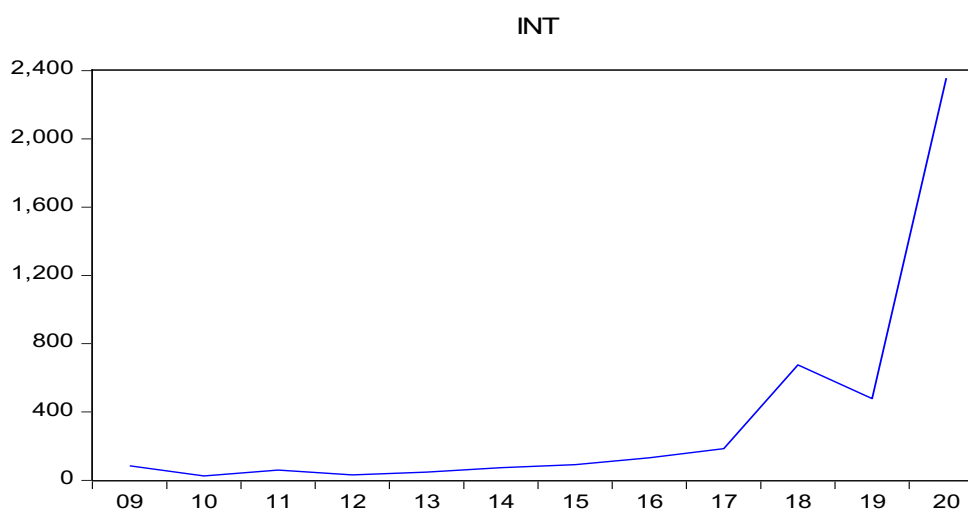


Figure 4: Trend of internet banking in Nigeria



4.4 Unit Root Test

Table 3: Augmented Dickey Fuller Unit root Test

Variables	Level			First Difference			Order of integration
	Statistical Value	P-Value	5% Critical Value	Statistical Value	P-value	5% Critical Value	
CBP	-4.703184	0.0069	-3.259808	-5.002976	0.0061	-3.320969	I (0)
POS	-0.259999	0.8959	-3.259808	-9.373408	0.0000	-3.259808	I (0)
INT	-8.370983	0.0001	-3.212696	-4.286923	0.0144	-3.320969	I (0)
MB	-4.500037	0.0075	-3.212696	-5.260182	0.0046	-3.320969	I (0)

Source: Authors computation 2022

Unit root test was conducted to test for the stationarity or non-stationarity of the variables used in the model. The purpose of conducting the unit-root test was to avoid spurious

regression which comes from regressing one non-stationary variable upon another stationary variable. For this purpose, Augmented Dickey Fuller (ADF) test was applied.

To test the order of integration of the series, the study conducted unit root tests using the Augmented Dickey Fuller (ADF) and the result is presented in Table 3. The Table reports the ADF unit root tests results for the series in their level and different forms under both intercept and intercept and trend options. The result shows that all the variables are stationary at level. Therefore, ordinary least square regression analysis would be performed to test the short run effect.

#### 4.4 Analyses of the effect of Cashless Policy on Commercial banks Performance in Nigeria

**Table 4:** Ordinary Least Square Result (Dependent Variable: LNSMP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CBP	7.917114	2.556453	3.096914	0.0212
LNATM	0.037228	0.143677	0.259106	0.0042
LNPOS	-0.301688	0.169007	1.785066	0.5245
LNMB	0.010441	0.130699	-0.079887	0.0389
LNINT	0.243901	0.147503	-1.653531	0.2493
Durbin-Watson Stat	2.678922	<b>F-statistics</b>	10.15790	0.007698
R-squared	0.871332	<b>Adjusted R-squared</b>		0.785553

Source: Author's computation (2022)

The coefficient of determination ( $R^2$ ) = 0.871 showed that about 87% of changes in the performance of Commercial banks in Nigeria is accounted for by the level of cashless policy in Nigeria. This implies that cashless policy is one major contributor on the performance of Commercial banks in Nigeria.

The results from coefficient (0.037228) and the probability value ( $p = 0.0042 < 0.05$ ) showed that logarithm of automated teller machine (LNATM) had positive and significant effect on performance of Commercial banks (LNCBP). This shows that a unit increase in automated teller machine would lead to 0.037228 increase in Commercial banks performance.

The results from coefficient (-0.301688) and the probability value ( $p = 0.5245 > 0.05$ ) showed that logarithm of point of sale (LNPOS) had negative and insignificant effect on performance of stock market (LCBP). This shows that a unit increase in point of sale would lead to 0.301688 decrease in Commercial banks performance.

The results from coefficient (0.010441) and the probability value ( $P = 0.0389 < 0.05$ ) showed that mobile banking (LNMB) had positive and significant effect on performance of Commercial banks (LNCBP). This shows that a unit increase in mobile banking would lead to 0.010441 increase in Commercial banks performance.

The results from coefficient (0.243901) and the probability value ( $P = 0.2493 > 0.05$ ) showed that Internet banking (LNINT) had positive and insignificant effect on performance of Commercial banks (LNCBP). This shows that a unit increase in mobile banking would lead to 0.243901 increase in Commercial banks performance.

The F-statistics (10.17590;  $p < 0.05$ ) indicated that all the variables of the model (cashless policy variables) have significant effect on the performance of Commercial banks in Nigeria

The Durbin Watson statistics (2.678922) showed that there was no autocorrelation in the model employed.

### Diagnostic Test

The model is checked properly to ensure that it is not over fitting and capturing random noise. An ideal model should have errors that resemble white noise. Besides, the residuals of the model are inspected to confirm that there is no additional structure. Finally, a suitable model is selected.

### Heteroskedasticity Test

The result shows that all the criterion (F-statistics, Obs\*R-squared and Scaled explained SS) agrees that the ARDL in this study is free from the problem of heteroskedasticity because the P-values (0.7469, 0.6704, 0.9900) are greater than 0.05 significant level. Therefore, result from the estimated model is void of heteroskedasticity.

### Autocorrelation test

The auto correlation test carried out shows that the p-value of F-stat and Chi-square are not statistically significant at all levels which imply that the degree of correlation between the values of the same variables across different observations in the data are not serially correlated.

**Table 5: Diagnostic Tests**

Test Statistics	Results
Serial Correlation: Breuch-Pegan LM CHSQ(2)	0.010792 [0.9893]
Functional Form: Ramsey Reset F-stat (1, 54)	0.409097 [0.7969]
Chi-square	0.297361[0.9900]
Breusch-Pegan Heteroscedasticity: CHSQ(20)	2.357169 [0.6704]

Source: Author's computation (2022)

## 5.0 Summary, conclusion and recommendations

### 5.1 Summary

The study examined the impact of cashless policy on commercial banks performance in Nigeria from 2012-2017. The regression estimates were generated using an ordinary least square regression technique. The estimation results revealed that automated teller machine (ATM) had positive and significant effect on performance of commercial banks (CBP), point of sale (POS) had negative and insignificant effect on performance of Commercial banks (CBP), mobile banking (MB) had positive and significant effect on performance of commercial banks (CBP), Internet banking (INT) had positive and insignificant effect on performance of commercial banks (CBP). The coefficient of determination ( $R^2$ ) = 0.871 showed that about 87% of changes in the performance of commercial banks in Nigeria is accounted for by the level of cashless policy in Nigeria. This implies that cashless policy is one major contributor on the performance of commercial banks in Nigeria. The F-statistics indicated that all the variables of the model (cashless policy variables) have significant effect on the performance of commercial banks in Nigeria and the Durbin Watson statistics (2.678922) showed that there was no autocorrelation in the model employed.

## 5.2 Conclusion

The result of the study shows that commercial banks performance is significantly affected by cashless policy variables such as automated teller machine, mobile banking, and internet banking. The estimation results revealed that automated teller machine (ATM) had positive and significant effect on performance of commercial banks (CBP), point of sale (POS) had negative and insignificant effect on performance of commercial banks (CBP), mobile banking (MB) had positive and significant effect on performance of commercial banks (CBP), Internet banking (INT) had positive and insignificant effect on performance of commercial banks (CBP). The study thus concludes that cashless policy for business purpose has positive effect on the performance of Commercial banks in Nigeria. This shows that using cashless transaction would increase ability to trace the event of transactions made annually or on a daily basis.

## 5.3 Recommendations

The following recommendations are made based on the empirical findings.

1. The Central Bank of Nigeria (CBN) should redouble the awareness campaign with regards to use of mobile banking for transactions. The awareness will increase the chances of these platforms to be more effective and thereby increase the performance of the commercial banks.
2. Investors should be enlightened the use of POS for stock market bills payment possibility. The knowledge of paying bills in the commercial banks via POS will rapidly increase the successes of the commercial banks operations.

## REFERENCES

- Adewoye, J. O. (2013). Impact of mobile banking on service delivery in the Nigerian commercial banks. *International Review of Management and Business Research*, 2(2), 333
- Adu, C. A. (2016). Cashless policy and its effects on the Nigerian economy. *European Journal of Business, Economics and Accountancy*, 4(2), 81-88.
- Afaha, J. S. (2019). Electronic payment systems (E-payments) and Nigeria economic growth. *European Business and Management*, 5(6), 77-87.
- Agu, A. O., & Agu, S. V. (2020). Cashless policy and the Nigerian economy: A disaggregated Approach. *International Journal of Humanities Social Sciences and Education*, 7(4), 21-30.
- Ajayi, L. B. (2014). Effect of cashless monetary policy on Nigerian banking industry: Issues, Prospects and challenges. *International Journal of business and finance management research*, 2(2), 29-41
- Akara, C. K., & Asekome, M. O. (2018). Cashless Policy and Commercial Banks Profitability in Nigeria. *Advances in Social Sciences Research Journal*, 5(3), 395-406.
- Alao, A. A., & Sorinola, O. O. (2015). Cashless policy and customers' satisfaction: A study of Commercial banks in Ogun State, Nigeria. *Research Journal of Finance and Accounting*, 6(2), 37-47.

- Ardizzi, G., Nobili, A., & Rocco, G. (2020). A game changer in payment habits: evidence from daily data during a pandemic. *Bank of Italy Occasional Paper*, (591).
- Bayero, M. A. (2015). Effects of Cashless Economy Policy on financial inclusion in Nigeria: An exploratory study. *Procedia-Social and Behavioral Sciences*, 172, 49-56.
- Chondough, S. M. (2021). The Implication of the Cbn Cashless Economy Policy Channels on the Performance of Nigerian Banks. *SEA: Practical Application of Science*, 9(25).
- Elechi, A. C., & Rufus, A. (2016). Cashless policy in Nigeria and its socio-economic impacts. *Public Policy and Administration Research*, (6), 10, 16-22
- Felix, U. O., Kenneth, O. I., & Rebecca, U. I. (2015). Appraisal of the Impact of e-Banking and Cashless Society in the Nigerian Economy. *Manag Econ Res J*, 1(2015), 358.
- Hasan, A., Atif Aman, M., & Ali, M. A. (2020). *Cashless Economy in India: Challenges Ahead*. *Journal of Commerce*, 8(1), 21-30.
- Jegede, C. A. (2014). Effects of automated teller machine on the performance of Nigerian banks. *American Journal of Applied Mathematics and Statistics*, 2(1), 40-46.
- Kumari, N., & Khanna, J. (2017). Cashless payment: A behavioural change to economic growth. *Qualitative and Quantitative Research Review*, 2(2).
- Mili, M., & Duwarah, S. (2021). A Study on Cashless Economy in India: Its Benefits and Challenges. *Indian Journal of Economics and Business*, 20(3).
- Siyanbola, T. T. (2013). The effect of cashless banking on Nigerian economy. *ECanadian Journal of Accounting and Finance*, 1(2), 9-19
- Tarus, J. K., Gichoya, D., & Muumbo, A. (2015). Challenges of implementing e-learning in Kenya: A case of Kenyan public universities. *The International Review of Research in Open and Distributed Learning*, 16(1).
- Brynjolfsson, E. (2010). Beyond Computation: Information Technology, Organizational Transformation and Business Performance. *Journal of Economic Perspective*, 14(4): 23-48.
- Gomber, P., Kauffman, J. R., Parker, C., and Weber, W. B. (2018). On the Fintech Revolution: Interpreting the Forces of Innovation, Disruption, and Transformation in Financial Services. *Journal of Management Information System*, 35(1): 220-265.
- Ita, J., Cornelius, M. O., and Emmanuel, S. (2010). Determinants Of Stock Market Development In Nigeria Using Error Correction Model Approach, *Global Journal Of Social Sciences* 9(1), 2010:29-37
- Isaac M. A. & Michael N. M. (2015). Effectiveness of mobile banking services in selected commercial banks in Rwanda: *Journal of Applied Economics and Business* 5(4), 7-29
- Meliciani, V. (2012). The impact of technology specialisation on national performance in a balance-of-payments constrained growth model. *Structural Change and Economic Dynamics*, 13(1): 101-118.

- Okafor, C. A. (2020). Cashless Policy for Business Purpose and the Performance of Deposit Money Banks in Nigeria. *International Journal of Innovative Finance and Economics Research* 8(3):1-13, July-Sept., 2020
- Ogutu, M. & Fatoki, O. I. (2019). Effect of e-banking on financial performance of listed commercial banks In Kenya: *Global Scientific Journal* 2(5)7-34
- Okoye, P. C., and Ezejiolor, R. (2018). An appraisal of cashless economy policy in development of Nigerian economy. *Research Journal of Finance and Accounting*. 4(7), 237-252.
- Suoye, I., Itotenaan, H. O., Tarila, B. (2021). The Link between Electronic Transactions and Stock Market Performance in the Nigerian Financial Ecosystem. *International Journal of Advanced Engineering Research and Science* 8(1); Jan-Feb, 2021
- Taiwo, J.N & Agwu, M. E (2017). The role of e-banking on operational efficiency of banks in Nigeria: *Basic Research Journal of Business Management and Accounts*. 6(1).

