IMPACT OF BANK VERIFICATION NUMBER (BVN) POLICY ON THE NIGERIAN ECONOMY

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Abstract
This paper assesses the impact of the Bank verification number (BVN) policy on the Nigerian economy for the period 2009 to 2022 using a regression model. The model adopted for this study was specified using gross domestic product (GDP) as dependent variable with the BVN policy as the explanatory variable included in dummy form. Payments on Point of Sales (POS) terminals and Automated Teller Machines (ATM), money supply and credit to private sector were included as control variables The result revealed that the BVN policy had a negative but insignificant impact on the Nigerian economy within the period under study. It was recommended that to improve on the contribution of the BVN policy in enhancing identity management in the Nigerian banking sector, both operators and regulators must put additional measures in place to improve on safety during banking transactions and the security issues associated with increase in the use of electronic banking and increased sophistication of cybercrimes. Loopholes in the operation of the system should be identified and steps taken to beef up security by improving on protocols required in carrying out bank transactions particularly in the area of internet banking. To enhance identity management in the banking industry, it was also suggested that all bank account numbers be linked to the National Identity Number (NIN) in line with proposals made by the Federal Government.

Keywords: *Banking Reforms, Identity Management, Bank Verification Number, Banking Industry, Nigeria.*

Introduction

The growth and development of any economy depends on the proper functioning of its financial system. The financial sector must be strong, efficient and effective to ensure sustainable growth and development in the economy. The banking sector which constitutes the major part of the financial system in most developing and developed economies, through its financial intermediary role, mobilizes funds from surplus units (savers) and channels these funds to deficit units (users). Banks as financial intermediaries are expected to serve as avenue for people to save that part of income that has not been expended on consumption. From the accumulated savings they are expected to extend credit to entrepreneurs and other businesses, thus stimulating investment in the real sector, which invariably leads to employment and production and eventually to economic growth and development. In this way, banks support and promote efficient allocation of resources in an economy. It follows, therefore that financial stability and sustainable economic growth can be achieved only in the presence of a robust and healthy banking sector. This intermediation role of the banking sector has become more critical with the emergence and increase in the use of technology the world over.

The emergence of e-banking also came with the use of electronic gadgets like Automated Teller Machines (ATM), Point of Sales (POS) terminals, and mobile phones which enable the need to settle transactions electronically and also keep pace with global banking trends (Elumaro & Obamuyi, 2018). Although the use of these channels has enabled smooth operations in the financial sector, it has also brought more sophisticated methods of banking fraud. For instance, e-banking has been linked to varieties of fraud such as cybercrime, money laundering, scam mails, money transfer frauds, inter-bank clearing frauds, among others (Owolabi, 2010). Griffin (2018) reported that in a survey carried out by an auditing firm, cybercrime was predicted to be the most disruptive fraud facing business organizations in coming years. The biggest factor in this type of crime, he further noted, is technology and the opportunities that it presents fraudsters to steal cash and other assets, and that governments and regulatory agencies will also need to stay one step ahead of these fraudsters.

In response to the growing sophistication in bank frauds and the need to continue to promote and facilitate the development of efficient and effective payment systems for the settlement of transactions,

including development of e-payment systems, the CBN and other major stakeholders have introduced a number of financial reforms. One of the more recent reforms which was in direct response to the need for greater security in the banking industry arising from the increasing incidence of compromise on conventional security systems in the banking sector, such as Personal Identification Number (PIN) and the use of passwords, which were used to check financial fraud, was the introduction of the bank verification number (BVN) policy. The policy came out of the need for an identity management reform to curb the incidence of fraud, particularly those involving identity thefts in the financial sector.

The Central Bank of Nigeria (CBN) in collaboration with the Bankers' Committee launched the BVN Project on February 14, 2014, as a unique identifier for all bank customers. The purpose of the project is to use biometric information as a means of first identifying and verifying all individuals that have account(s) in any Nigerian bank and consequently, as a means of authenticating customers' identity at point of transactions. With this policy, each person has a single identity within the financial system irrespective of the number of accounts within multiple banks.

The implementation of the BVN policy commenced in 2015 and as at 31st December, 2015 a total of 23,030,269 bank customers had been registered in the BVN central database. During this period, 28,303,332 accounts had been linked to the BVN out of 55,316,040 customer accounts (CBN, 2015). By year end December 2021, a total of 51.7 million customers had been registered under the scheme. The Nigeria Inter-Bank Settlement System Plc. (NIBSS) data showed that active bank accounts in Nigeria stood at 133.5 million as of December 2021. While there may be multiple accounts linked to a single BVN, there is still a gap between bank accounts and BVN registration which needs to be filled.

The BVN policy as an identity management reform is a relatively recent initiative and so studies in this area are quite scanty. Thus, there is a need to carry out more studies to assess if the policy has any significant impact on the Nigerian economy. To this end, this study sets out to examine whether the reform has any effect on the Nigerian economy. The specific objective is to determine the impact of the BVN policy on the Nigerian economy. The findings would be beneficial for the Nigerian banking sector development by proffering recommendations to aid policy making.

Review Of Related Literature

Theoretical Literature

Banking reforms can be described as strategies, innovations or new ways put in place to improve or replace the old ways of doing things, which are mostly introduced in response to operational challenges, evolving developments or as proactive measures to strengthen the banking system and to prevent crisis in the system (Igweoji & Ekwunife, 2019). Banking reform according to Gidigbi (2017) is a regular or irregular interception in rules and regulations guiding the operation of financial institutions towards the attainment of international best standards and adequate support of the growth and development of the economy. According to Oluyemi cited in Idoko, Yusufu and Daniel (2015), banking reforms should lead to increase in banks' productivity thereby resulting to national development.

The Central Bank of Nigeria (CBN) in collaboration with major stakeholders in the banking sector, notably the Bankers' Committee, Deposit Money Banks and Nigeria Interbank Settlement System (NIBSS), embarked on the identity management project, whereby a centralized biometric identification system would serve the industry as a whole, but data would first be collected by individual banks. This biometric solution referred to as the Bank Verification Number (BVN) is to serve as a unique identifier for all banks' customers. The key objective of the BVN initiative is to authenticate a customer of financial institutions using a unique identifier across the industry. The BVN uses biometric technology to register customers in the financial system. The scheme is to protect bank customers, reduce fraud and strengthen the Nigerian banking system thereby positively impacting on the economy as a whole (Nelson, 2015; CBN, 2017).

With the BVN project, a bank customer is identified based on physiological or behavioural attributes like facial features, fingerprints, signature, among others, which would be accepted as a means of identification across the country. This initiative became imperative with the increasing incidents of comprise on conventional security system- password and Personal Identification Number (PIN). It will be able to check fraud since no two individuals have the same biometrics and banks can check the features of a person carrying out a transaction against the record which it has captured, thereby correctly identifying the owner of an account.

The BVN was anchored on the need to reduce to the barest minimum incidences of identity theft, fraud, enhance credit risk management and financial inclusion. Each bank will have a database of their customers which is shared across their branch network, while the Nigerian Inter-Bank Settlement System (NIBSS) houses the database of all bank customers in the country. The implication of this is that before any new account can be opened in any bank, there has to be clearance from NIBSS database as check to identity theft, fraud and multiple identities. Furthermore, transactions on accounts not registered under the BVN scheme would trigger alerts and any bank involved would be treated as an accomplice in fraudulent activities in the banking industry.

The BVN policy is expected to reduce exposure to fraud, check identity theft, enhance the effectiveness of Know Your Customer (KYC), and promote a safe and sound financial system, among others, in Nigeria (CBN, 2017). The BVN will, in addition, help the banking system identify customers who have been black-listed by one bank, who also move to other banks perpetrating such fraudulent activity. Also, since it captures physical features, it is very helpful for people who cannot read and write, thereby making sure that everyone is included in the financial system (Nelson, 2015).

The BVN given to a customer by one bank will apply to that same customer for any bank in Nigeria. This means that a customer can only enroll once and his/her BVN will be linked to all his/her bank accounts across Nigerian banks. The customer is required to submit an acceptable means of identification at the point of enrolment and subsequently update their information at the bank branch physically (Nelson, 2015).

Empirical Literature

The introduction of the BVN is a relatively recent policy and so not many empirical studies have been carried out on its impact on the economy. A number of empirical studies have been conducted in the area of banking reforms and so we review those studies that have relevance to the study at hand.

Idoko et al. (2015) carried out a survey on the effects of e-banking reform on national development in Nigeria. They reported that e-banking improves productivity by reducing rowdiness in banking halls and shortens time spent in banks by customers. In addition, e-banking enhanced quick money transfers and the rigorous paperwork associated with banking operations thereby lowering the cost of transactions. They reported that all these resulted in enhanced banks' productivity which invariably led to national development.

Anyim (2018) examined fraud control measures in the Nigerian banking sector. Adopting the survey research design, he obtained primary data from respondents in selected commercial banks in South-East of Nigeria. He found that various fraud control measures were used to reduce fraud in Nigerian commercial banks. He also reported that the introduction of BVN has helped to control fraud to an extent in Nigerian banks, but that many fraudulent bank workers were deliberately frustrating the successful implementation of the BVN policy. He concluded that banks would have performed better if bank workers had allowed the BVN and other initiatives to be freely used and without unnecessary interferences.

Ajugwe (2019) carried out a review on the impact of introducing biometric verification number in the banking sector of Nigeria. He identified the advantages and demerits of the system on the banking sector and concluded that the BVN initiative has been effective in fostering a sound banking sector

Akinadewo and Akinkoye (2019) examined and analyzed the management of fraud from the stakeholders' perspectives. They analyzed the trend of frauds in the Nigerian Deposit Money Banks (DMBs) from 2005 to 2018 and the perceptions of stakeholders on the various mechanisms devised to manage the effects of frauds in DMBs. They employed primary data obtained from a structured questionnaire administered on respondents made up of 50 senior bank staff from 10 banks and secondary data obtained from Nigerian Deposit Insurance Corporation (NDIC) annual reports. They found that fraud cases and the value of frauds in the Nigerian banking industry have been on the increase with the emergence of e-banking even as the respondents agreed to the effectiveness of the devices and strategies employed to reduce and minimize fraud occurrence. They however called for more enlightenment of bank customers on safe handling of security details, timely and effective prosecution of apprehended fraudsters, compliance with and the enforcement of relevant Fraud Prevention Acts and the strengthening of the internal control units of banks among other things.

Akyuz, Wuyep and Opusunju (2019) examined the impact of Bank Verification Number on corrupt practices in the United Bank for Africa branches in

Abuja, Nigeria. Adopting a survey research design, they obtained primary data collected with the aid of a questionnaire administered to bank staff. They found that implementation of BVN has helped in not only monitoring banking transfers and transactions, but also in preventing money laundering.

Ikeobi and Ayeni (2021a) assessed the effect of identity management reform, namely, the BVN policy on fraud prevention in the Nigerian banking industry. Using secondary data obtained from NDIC from 2011 to 2018, they analyzed trend in fraud variables before and after the introduction of the policy and also carried out independent t- test to test the hypotheses in their study. Their analysis revealed that there was an initial decrease in number of staff involved and total amount involved in fraud cases in the two years following BVN introduction, but which showed increases thereafter. They observed a similar trend in various fraud types with internet banking fraud showing significant increases in frequency of cases. The results from the t-test showed that the BVN policy had no significant impact on fraud prevention within the period under study.

Ikeobi and Ayeni (2021b) examined the impact of e-banking reform on economic growth of Nigeria for the period 2012 to 2017. They employed value of transactions on Point of Sales (POS), value of transactions on Automated Teller Machines (ATM) and BVN policy as proxies for e-banking reforms. Findings revealed that ATM and BVN policy had positive and significant impact on economic growth, while POS had negative and significant impact on economic growth. They concluded that e-banking has made positive contributions to the Nigerian economy.

From the literature surveyed, very little empirical research has been done on the impact of BVN policy. The present study was therefore designed to contribute to literature in this area by examining the impact of the BVN on the Nigerian economy using updated data.

Methodology

Data

The study aims at providing empirical evidence on the impact of identity management in the banking sector on the Nigerian economy. Secondary data used for the analysis were obtained from Central Bank of Nigeria Statistical Bulletin. The secondary data included gross domestic product (GDP) which was proxy for economic growth. Bank verification number (BVN) policy was explanatory variable. Payments made on electronic banking channels namely value of transactions of Automated Teller Machine (ATM) and value of transactions of Point of Sales (POS) were also included as independent variables for the period 2009 - 2022. Banking services data namely money supply (MS) and credit to private sector (CPS) were included as control variables. A multiple regression model and the ordinary least squares technique were used to analyze the data.

Model Specification

The model adopted for this study was specified using gross domestic product (GDP) as dependent variable while BVN policy was the explanatory variable. Payments on POS and ATM, money supply (MS) and credit to private sector (CPS) were included as control variables. BVN was included in dummy form. The dummy variable (D) takes the value 1 in the years (2015-2022) when the BVN policy is in place; otherwise, it takes the value 0. Thus, economic growth is expressed as a function of BVN policy. In principle, we expect a positive relationship between economic growth and BVN policy.

The general form of the model is as follows:

Economic growth = F (Bank verification number policy) … (1)

When the above model is adopted, and other independent variables included, equation (2) can be written as:

$GDP = F(BVN, ATM, POS, MS, CPS)$ … (2)

Specifically, when the above model is adopted, equation (3) can be written as

$$GDPt = \beta 0 + \beta 1Dt + \beta 2ATMt + \beta 3POSt + \beta 4MSt + \beta 5CPSt + \varepsilon t \ldots (3)$$

Where:

GDP = Gross domestic product

D = Dummy for Bank verification number (BVN) policy

ATM = Payments made through ATM

POS = Payments on POS

MS = Money supply

CPS = Credit to private sector

$\mathcal{E}$ = Composite error term

β_o = Constant term (intercept)

β_1, β_2 , β_3, β_4, and β_5 are the coefficients to be estimated.

Each model parameter estimate is expected to have a positive sign. Thus, a priori expectations from the model were as follows: $\beta_1, \beta_2, \beta_3, \beta_4,$ and $\beta_5 > 0$.

The model specified was estimated using the statistical software SPSS 27. The specified model was used to test the hypothesis at the 5% level of significance;

Hypothesis: BVN policy has no significant impact on the Nigerian economy.

Results and Discussions

The result from the multiple regression analysis is presented in Appendix and summarized in Table 1.

Table 1: Summary of Regression Result

	Coefficient	Standard Error	T- Statistic	P-value
D (BVN)	-429.711	5790.481	-.074	.943
ATM	.186	1.401	.133	.898
POS	.018	.667	.027	.979
MS	4.015	.974	4.124	.003**
CPS	-.160	1.746	-.091	.929
Constant	10481.209	9162.148	3.684	.268
R-square	.994			
Adjusted R-Square	.991			
F Statistic	278.937			.001**

Dependent Variable: GDP. Note: ** show significance at 5%
Source: SPSS 27 OUTPUT

From Table 1 the adjusted R^2 is .991. This means that 99.10% change (variance) in the dependent variable can be explained by the independent variables in the model. From the empirical results, the coefficient for the explanatory variable (BVN) is negative but insignificant (p-value more than 0.05). For the other variables; ATM and POS have positive but insignificant impact on the economy. For the control variables, while money supply (MS) has positive and significant impact, credit to private sector (CPS)) has negative and insignificant impact on the economy.

For the hypothesis test, the relationship between Bank Verification Number policy (BVN) and economic growth is negative but insignificant (p-value = .943). The hypothesis that BVN policy has no significant impact on the Nigerian economy is not rejected. The finding from the hypothesis has shown that the BVN policy has not made significant positive impact on the Nigerian economy within the period under study. This finding contrasts with that of Ikeobi and Ayeni (2021b) who reported significant positive impact of the policy on the economy. This disparity may be due to the different time periods covered in the respective studies. It could also be due to the sophistication in the types of bank fraud being witnessed in recent times and which may have negatively impacted on the banking industry and by extension on the Nigerian economy. Anyim (2018) and Ajugwe (2019) reported the reduction of fraud cases in the Nigerian banking sector which was in contrast with the finding by Ikeobi and Ayeni (2021a) who reported that the policy had not reduced incidences of bank fraud. This study has shown that the BVN policy has not impacted the Nigerian economy positively.

Conclusion /Recommendations

In this study, an attempt was made to examine the impact of BVN policy as an identity management reform in the banking sector on the Nigerian economy. The finding from the study has provided empirical evidence that bank verification number policy has not significantly impacted the Nigerian economy. It is therefore concluded that the BVN policy has the potential to positively impact the economy but it did not impact the Nigerian economy significantly during the period under study.

Based on the finding of the study, the following recommendations were made:

1. In order to improve the contribution of the BVN policy in enhancing identity management thereby improving the effectiveness of the Nigerian banking sector in sustaining the growth and development of the economy both operators and regulators must put additional measures in place to improve on identity management in order to enhance safety in banking transactions and the security issues associated with increase in the use of e-banking and increased sophistication of cybercrimes. They can do this by identifying all loopholes in the operation of the system and take steps to ensure improvement in the security architecture and protocols involved in its use.
2. To reduce internet fraud, the CBN in collaboration with other stakeholders can come up with initiatives that will further strengthen the

existing protocols. For instance, the linking of all bank account numbers to the National Identity Number (NIN) proposed by the Federal Government should be expedited to further enhance identity management in the banking industry.

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Appendix

Regression Result

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	D, POS, MS, ATM, CPS[b]	.	Enter

a. Dependent Variable: GDP

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.997[a]	.994	.991	4543.24591

a. Predictors: (Constant), D, POS, MS, ATM, CPS

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	28787775135.529	5	5757555027.106	278.937	.000[b]
	Residual	165128667.341	8	20641083.418		
	Total	28952903802.870	13			

a. Dependent Variable: GDP
b. Predictors: (Constant), D, POS, MS, ATM, CPS

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	10481.209	9162.148		1.144	.286
	ATM	.186	1.401	.036	.133	.898
	POS	.018	.667	.005	.027	.979
	MS	4.015	.974	.995	4.124	.003
	CPS	-.160	1.746	-.030	-.091	.929
	D	-429.711	5790.481	-.005	-.074	.943

a. Dependent Variable: GDP
SOURCE: SPSS 27 OUTPUT