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FINANCIAL INCLUSION STRATEGY AND ECONOMIC GROWTH IN NIGERIA: A SHORT-RUN EMPIRICAL ANALYSIS.

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ABSTRACT

It has been observed that most adult citizens, globally, are not enjoying financial services. They are financially excluded, especially rural dwellers. Monetary authorities initiated financial inclusion, with the aim of including all adult population who are excluded from financial services into the financial system at an affordable cost to meet their basic needs. Studies have shown that it encourages household savings and affects growth positively. Central Bank of Nigeria initiated financial inclusion in 2012 and commenced implementation in 2014. Given the short period of its implementation, this study ascertained the effect on economic growth in Nigeria. The study used time series data ranging from 2004 to 2021. The study covered the pre-inclusion period, through its implementation period. Ordinary Least Square technique was adopted for data estimation. Preliminary and post-estimation tests were also conducted. Despite the short period of the implementation of financial inclusion strategy, the OLS result affirmed that it positively affects economic growth. It was concluded that financial inclusion is a growth driver. It was recommended that Central Bank of Nigeria, in collaboration with commercial banks and microfinance banks, continue to enforce inclusion exercise in all rural communities, ensuring that women, youths, farmers, traders in the informal sector, are captured by the financial system. Also, Central Bank Nigeria should set up financial inclusion compliance committee at the Local Government levels, with a State Monitoring unit to ensure compliance.

Keywords: Adult Population, Economic Growth, Financial Exclusion, Financial Inclusion, Financial Institutions, Financial Inclusion Strategy

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INTRODUCTION

Financial inclusion strategy (FIS), a strategy adopted by monetary authorities globally, is aimed at ensuring the inclusion of all adult citizens in the financial system. Financial inclusion (FI) is said to be achieved when adult citizens can access financial products and services at affordable cost, with the aim of meeting their needs (CBN, 2018). FIS focuses on the rural dwellers especially the poor and vulnerable (Obi, 2021), urban poor and urban unbanked individuals, ensuring their access to financial services, and being captured by the financial system. Jim Yong Kim, former President of World Bank group stated in 2018 that, FI encourages savings for family needs, create opportunities for business owners to borrow to support their businesses or for emergencies. This will help drive global economic growth and that of individual countries.

World Bank (2018) observed that FI is gradually increasing globally. This increase was attributed to the use of mobile phones and internet. Globally, 69% of adults (3.8 billion) are financially included as at 2018, a step in poverty reduction. From 2014 – 2017, a total of 515 million adults have obtained bank account globally (World bank, 2018). Some countries account ownership surged while some progressed slowly, often caused by large disparities between the male and female folks and between the high, middle and low income earners. In East Asia and the Pacific, digital financial transactions (DFT) have risen, especially in China. The share of account holders who use internet to pay bills have doubled to about 57%. The same is said for Europe and Central Asia, where account ownership rose from 58% of adults in 2014 to 65% in 2017 (World bank, 2018). Government payments of salaries and wages, social services (pensions and other social benefits) through digital technology accounted for the increase. Digitizing all public payments could help in the reduction of unbanked adults by 20 million. Also, in Latin America and the Caribbean, 55% of adults own at least one mobile phone and can access the internet. Since 2014, the number of adults accessing digital payments has risen by about 8%. About 20 percent adults who are account holders use mobile phone or internet to make payment (World bank, 2018). By digitizing cash wage payments, businesses could expand account ownership to about 30 million unbanked adults (almost 90 percent) of whom have a mobile phone (World Bank, 2018). In SSA, FI is driven by mobile money. Before the adoption of FIS, about 95 million unbanked adults receive cash payments through semiformal means, and about 65 million save through it. Since 2014, mobile money accounts have spread across the region and its dominance as a means of payment and receipt has increased (World Bank, 2018). This goes to show that FIS is gaining more ground globally and more persons are becoming financially included. This has implication on growth.

Enhancing Financial Initiative and Access (EFlnA) ((2013) carried out a survey in Nigeria and observed that out of 84.7 million adults, 39.2 million (46.3%) were financially excluded as at 2012 (see table 1). 21.3 million (54.4%) of excluded population were women, 28.8 million (73.5%) were aged below 45 years and 13.3 million (34%) had no formal education, while 31.5million (80.4 %) reside in rural areas. It is on this statistics that FIS was adopted by Central Bank of Nigeria (CBN). CBN introduced the strategy in Nigeria in 2012, with the aim of ensuring that a good number of Nigerian adult citizens are financially included, especially those in the rural regions who have no access to financial products and services rendered by the banking industry. The strategy includes agent banking as well as client empowerment and e-banking (CBN, 2012; Obi, 2021). CBN (2012) identified the following areas as a focal point:

i. T-KYC (*Tierred Know-Your-Customer)* requirements which makes account opening easy for the unbanked;

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ii. financial literacy and consumer protection,
iii. POS (Point on sale) and USSD (Unstructured Supplementary Services Delivery)
iv. Number of ATM (Automated Teller Machines).

Table 1: Number of adults excluded/ included from financial services

Year	Total adult population (million)	Total adult population excluded (million)	% of adults excluded	Total adult population included (million)	% of adults included
2012	84.7	39.2	46.3	45.5	53.7
2014	93.4	36.9	39.5	56.5	63.1
2016	96.4	40.1	41.6	56.3	58.4
2018	107	36.8	39.6	70.2	63.2
2020	NA	NA	NA	NA	NA

Source: CBN annual report, 2019; Authors computation from CBN annual report. NA (Not Available)

The implementation of FIS in Nigeria commenced in 2014, with a target of 80% FI in 2020. At the end of 2014, CBN recorded an increase in the number of adults financially included. It stood at 63.1% as against 46.3% in 2012, but with a difference in adult population of 8.7 million. Only 39.5% were financially excluded. 2016 recorded a fall in the number included financially but the figure rose in 2018 to 63.2%, leaving 16.8% gap in projected achievement (CBN, 2019). The achievement of the projected target of 80% inclusion of adults in 2020 was truncated with the outbreak of COVID-19 pandemic. The pandemic had a devastating effect on businesses and other viable sectors of the economy, which resulted in economic recession (Obi and Ndakara, 2020), causing the poor, vulnerable citizens, mostly youths, women and rural dwellers as well as MSMEs (Micro, Small, Medium Enterprises) to suffer (CBN, 2020, Ndakara, Obi, and Okinono, et.al, 2020;). Most sectors of the economy, businesses and individuals are still struggling to recover from the pandemic (Okinono, Ndakara and Obi et.al, 2021), and in the face of continuous rising debt profile for Nigeria (Obi, 2014; Obi, 2015a; Obi, 2015b; Obi, Ifelunini and Edeme, 2016), dwindling revenue (Obi, and Ifelunini, 2019; Obi, 2018). Given the achievement made in the FIS, it is pertinent to empirically test for its significant as a growth driver in Nigeria. This study therefore, tries to analytically ascertain the short run effect of FIS on the Nigeria economy.

LITERATURE REVIEW

Conceptual Issues

FI has to do with the inclusiveness of adult citizens in the financial system to enable them enjoy financial services at a very low cost. Financial institutions are to provide diverse and affordable financial product and services that enable the poor, vulnerable and rural dwellers to be part of financial system. World Bank (2012) sees FI as availability of financial services, its range and quality to individuals who are underserved and financially excluded. Enhancing Financial Innovation and Access (EFInA) (2013) conceptualized FI as provision of a broad range of financial products (credit, insurance savings, payments, pensions, etc) relevant and affordable for the adult population, mostly the low income earners. Centre for Financial Inclusion (CFI) (2013) define FI as a situation in which persons who can use financial services have access to it at affordable prices, in a manner convenient for them. Fadum (2014) consented to this definition and affirmed that FI can only be achieved when adult population has easy access to formal financial services at affordable cost. United Nations (UN) (2015)

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sees FI as a timely delivery of financial services to disadvantaged sectors of an economy. United Nation Development Programme (UNDP) (2021) defined FI as inclusive financial system that services adult clients, reaching out to the poor, low-income persons, providing them with low cost financial services, in line with their needs.

Empirical Studies

Studies have been carried out on FI by different researchers across the globe. Some of the studies are reviewed. Onaolapo (2015) studied the effects of FI on economic growth of Nigeria using data sourced from CBN, National Bureau of Statistics (NBS) and WDI (World Bank Development Indicators). The scope of the study was 1982-2012. Variables used include GDP, money supply as a ratio of GDP (M2/GDP), credit to private sector as a ratio of GDP (CPS/GDP). Ordinary Least Square (OLS) technique was applied. The result indicates, among others, a significant effect of explanatory variables on the dependent variable (GDP). Thus, FI effects growth positively

Babajide, Adegboye and Omankhanlem (2015), investigated the determinants of FI and its impact on growth. OLS technique was applied. The result shows that FI is determined by capital per worker, which invariably determines the final level of output in the economy.

Okoye, Adetiloye, Erin and Modebe (2017) investigated the effect of financial inclusion as a strategy for economic growth and development enhancement in Nigeria. Data were collected from CBN online database, NBS and Nigerian Deposit Insurance Corporation (NDIC). Variables used were M2/GDP, CPS/GDP, loan to deposit ratio (L/D) and liquidity ratio (LR). OLS estimation technique was adopted. Findings revealed that explanatory variables are statistically significant in explaining F/GDP (financial institutions as a ratio of GDP) which is the dependent variable. It was concluded that FI is a growth driver.

Harley, Adegoke and Adegbola (2017), carried out an empirical study on FI, economic growth and poverty reduction in a developing economy. Three African countries were selected. Panel data (2006-2015) was used. Variables adopted include; number of active automated teller machine (ATM), bank branches and government spending. Their result ascertained that the explanatory variables are robust predictors of FI, which helps in poverty reduction. They further observed that most ATMs in developing countries are outdated.

Gretta (2017), in his work, FI and Growth in the Middle East and North Africa (MENA) and the BRICS region, applied Vector Autoregressive (VAR) Model. The findings showed that FI is relevant as a growth driver in MENA and BRICS region.

Nwafor and Yomi (2018) examined the nexus between FI and growth in Nigeria. Data spanning from 2001 to 2016 was used. Two Staged Least Square (2SLS) technique was applied and the estimated result revealed that MS/GDP, bank credit to GDP, commercial banks deposit (CBD) from rural areas, and commercial banks loans (CBLs), proxy for FI, are statistically significant in explaining economic growth.

Having empirically reviewed the studies carried out by other researches, it was observed that most studies done on Nigeria were outside the scope of the adoption of FIS. WDI on FI for Nigeria showed that the data for number of ATM started from 2004. This is the closest to 2012 when Nigeria adopted fully the strategy and commenced the implementation in 2014. Also, variables like MS/GDP as a proxy for FI, will not give the true picture of FI on growth in Nigeria. This makes the result spurious. Some studies spanned from 1982 up to 2015 (Okoye,

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et.al 2017; Onaolapo, 2015;) among others. The scope of these studies do not capture extensively the period of financial inclusion implementation. This study differs as it captures the pre-Financial Inclusion (2004) and period of full implementation of the strategy till 2021. Also, the study intends to use real gross domestic product (RGDP) as a proxy for economic growth (dependent variable), number of ATM/100,000 adults and commercial bank deposit/1000 adults as independent variables for this study. The explanatory variables mentioned are among the acceptable variables used as measures for FI globally.

RESEARCH METHOD

FI theory adopted for this study is the public good theory of FI which argues that individuals cannot be excluded from using formal financial services and individuals cannot be excluded from gaining access to financial services. Access to financial services to one individual does not reduce its availability to others. Every citizen of a country should be allowed to benefit from the services rendered by financial institutions. The study sourced time series data from CBN online Statistical Bulletin (2020) and WDI. Data sourced ranged from 2004-2021.

Model Specification

The model for this study is thus specified;

RGDP= *f* (ATM, DCB,)

Where;
RGDP = Real Gross Domestic Product
ATM = Automated Teller Machine /100,000 adults
DCB = Depositors with Commercial Banks
The model can be mathematically expressed as;
$LRGDP=b_0+Lb_1ATM+Lnb_2\,DCB+U_i$
Ln= Natural logarithm of the variables
b_0 is the constant while b_1-b_2 are the coefficient of the relationship between the independent variable and dependent variable .

U_t is the stochastic error term for the time period covered by the study.

$b_1>0$, $b_2>0$,

Estimation Techniques

The main estimation technique adopted for this study is Ordinary lest square (OLS). Although, the random walk (stationarity) status of the variables were first established before proceeding with OLS. The choice of this techniques also stems from the small number of observation (n) which is 18, with three variables, k (RGDP, ATM and DCB), giving a degree of freedom of 15 (n-k). In econometrics, Ordinary Least Squares (OLS) method is widely used to estimate the parameter of a linear regression model. OLS estimators minimize the sum of the squared errors (a difference between observed values and predicted values). Other diagnostic tests were also conducted to ascertain the robustness of the OLS result.

RESULTS AND DISCUSSION

The result of the regression analysis is presented in this section. As mentioned earlier, the unit root test was conducted, and then ordinary least square (OLS) and diagnostics test (serial correlation).

Unit Root Test

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Variables	Test Statistics (levels)	5% critical value	Decision
LRGDP	-4.045	-3.000	1(0)
LATM	-13.925	-3.000	1(0)
LDCB	3.021	-1.950	1(0)

Source: Author's regression analysis (STATA 13)

The unit root test above indicates that LRGDP which is the dependent variable is stationary at levels with a test statistic of -4.045 at 5 percent critical value of -3.000. The same goes for LATM with a test statistic of -13.925. This implies that LATM is stationary at levels given the 5 percent critical value of -3.000. LDCB is also stationary at levels with a test statistic of 3.021 and a 5 percent critical value of -1.950. In a nutshell, all the three variables (LRGDP, LATM and LDCB) are all stationary at levels meaning that there is no unit root in the time series data. Having established the absence of unit root in the time series data, the ordinary least square estimator can be use to estimate the econometric model expressed above.

Ordinary Least Square (OLS) Result
Dependent Variable: LRDGP

Variables	Coefficient	Std Error	t-value	p-value
LATM	0.2212915	0.1511136	2.13	0.05
LDCB	0.1754805	0.820784	2.14	0.05

R^2 = 0.9039, R^{-2} = 0.8879, F-Statistics = 56.48 (p.value = 0.0000)
Source: **Author's regression analysis (STATA 13)**

The ordinary least square (OLS) result showed that LATM is statistically significant in explaining the dependent variable LRGDP given its t-value of 2.13 with a probability value of 0.05. The coefficient of LATM (0.2212915) has a positive value, implying that LATM is positively or directly related to LRGDP. As LATM rises by1%, LRGDP will rise 0.2%. This implies that LATM is not only statistically significant in explaining LRGDP, but also boost economic growth.

On the other hand, LDCB is statistically significant in explaining LRGDP, given its t-value of 2.14 with a probability value of 0.05. The coefficient of LDCB (0.1754805) is positive. We therefore establish a positive relationship between LDCB and LRGDP. A rise in LDCB will lead to a 0.18% rise in economic growth.

R^2 of 0.90 and R^{-2} of 0.88 shows goodness of fit in the result. It implies that 88 percent or 90 percent of the total variation in LRGDP is explained by LATM and LDCB with respect to financial inclusion strategy. F-statistics has a probability value of 0.000 which implies that the explanatory variables are statistically significant in explaining the dependent variable (LRGDP).

Diagnostic Test
Durbin's Alternative Test for autocorrelation (Serial Correlation)

Lags	Chi (2)	Df	P. value
1	4.152	1	0.0415

Source: **Author's regression analysis (STATA 13)**

The Durbin's alternative test for serial correlation shows that the chi (2) value of 4.152 with a p.value of 0.0415 is statistically significant. Thus, we accept the null hypothesis of no serial correlation in the model.

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Discussion of Findings

The study extensively reviewed the short run effect of FIS on Nigerian economy within the period specified (2004-2021). The ordinary least square result shows that financial inclusion (number of automated machines per 100,000 adults and number of depositors with commercial bank per 1000 adults) has contributed positively to the Nigerian economy within the short period of its implementation. This is significant given that the strategy was just introduced in 2012. Although the timeframe of implementation of financial inclusion strategy is short, its impact on the economy is positive. It goes to show that most citizens are aware of the need to be banked and enjoy the benefits of financial services. By implication, if the drive for more banked citizens is sustained, the Nigerian economy will improve significantly.

CONCLUSION

The study empirically ascertained the short run effect of FI on the economy of Nigeria, given that financial inclusion is relatively a new strategy adopted by CBN to ensure that the adult population who are excluded from accessing financial products and services are included at an affordable cost in order to meet their basicneeds. The study established that a healthy relationship exist between financial inclusion strategy and economic growth given the positive influence ATM per 100,000 adults and deposit with commercial banks per 1,000 per adults have on real GDP.

Having empirically estimated the model, and results affirming a positive relationship between the variables tested, it is therefore concluded that, like other studies on Nigeria, FI enhances economic growth. The short period of its adoption and implementation is already signifying that it is a growth driver. This implies that in the long run, FI, which is likely to encourage household savings, will greatly influence Nigeria economy positively. Based on the above conclusion, it is recommended that the Central Bank of Nigeria, in collaboration with commercial banks and microfinance banks, enforce inclusion exercise in all rural communities, ensuring that women, youths, farmers, traders in the informal sector, are captured by the financial system. Also, CBN should set up FI compliance committee at each Local Government Area Council and State Monitoring units across the country to ensure compliance.

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