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# IMPACT OF FINANCIAL INCLUSION ON ACCESS TO HEALTH SERVICES IN NIGERIA

**Musa Abdullahi Sakanko:** Department of Economics, Faculty of social sciences, University of Jos, Plateau State Nigeria

**Abstract**

The study investigates the impact of financial inclusion on access to health services in Nigeria using the Autoregressive Distributive Lag (ARDL) model on the quarterly time-series data spanning from 2000Q1-2019Q4. The results of the bounds test to cointegration indicate that a long-run relationship exists between Financial inclusion and access to health services. The estimation result shows that financial inclusion proxies (access to credit) have a positive and statistically significant effect on access to health services proxy (private health expenditure) both in the short-run and long run. However, the number of commercial banks and deposit/savings ratio has a negative statistically significant effect on access to health services both in the short-run and long run. Therefore, the study recommends that the regulatory authority should address the rigid process of obtaining loans in Nigeria financial institutions to increase access to credit.

**Keywords:** Access to health services, ARDL model and Financial inclusion

**JEL Classification:** 11, C32, G2

## INTRODUCTION

Financial inclusion entails access to ease, effective and affordable financial products to tackle health, poverty, improve welfare, and the general standard of living, which consequently promotes economic growth. The financial products include access to the bank, credit, ownership of the account in a formal financial institution, payment system, and among others. However, development expert criticized this that while access to the bank is a means to an end but the provision of affordable financial access to a low-income group of the population, access to financial products on its own does not contribute to economic development but how those financial instruments are used is most paramount (Morgan & Churchill, 2018).

The opportunity to obtain health services without financial risk refers to financial affordability or financial access to health services. According to Evans, Hsu & Boerma (2013), access to health services have three dimensions: physical accessibility – involves the availability of good health services within the people's reach and who need them; financial affordability – individual ability to pay for services without financial difficulty; acceptability – people willingness to accept the services. This study focuses only on the financial affordability aspect of access to health services which includes transportation, consultant fee, hospital bill, drugs bill, etc to obtain health services. Improving access is related to aiding people to command proper health services to maintain or enhance healthcare. Access is a tricky concept because it evolves availability and sufficient supply of services which if available, then the opportunity to achieve healthcare exists and people may have access to health services. Then, the degree to which people earn access also depends on finances (Martin, Jose, Myfamwy, David, Barry, Roger, & Meryl, 2002). According to Healthy People (2020), inadequate or no insurance coverage, high cost of healthcare, lack of availability of services, lack of competent healthcare personnel are the barriers to accessing health services which if not tackle might lead to unmet health needs, financial burdens, delays in receiving appropriate healthcare, inability to get preventive services and preventable hospitalizations.

The correlation between financial inclusion and access to health services can be argued through the proper utilization of financial services. This is supported by the (International Labour Organization, 2018) that health insurance been one of the banners of financial inclusion has improved access to health care, reduces out – of – pocket spending, helps families averting dependent life of coping strategies and gives peace of mind. Furthermore, Agrigoroaei, Lee-Attardo, & Lachman, (2017); Aguila, Angrisani, & Blanco, (2016) opined that ability to maintain reasonable financial competence such as having access to a bank and account ownership, involvement in microfinance credit union, having a mobile money account and access to credit through loans from financial institutions and non-financial systems are significant determinant of healthcare. It was also evidence that individuals in lower income settings who are involved in informal financial instruments, such 'A*susu'* (that is, operating savings account which is traditional bank account), have higher odds of reporting better health outcomes (Bank of Ghana, 2018; Goldberg, 2014).

Nevertheless, there is no direct link between financial inclusion and health services but with affordable access to financial services by low-income segments, it assumed that an individual can provide his/her health shock expenses and make effective use of money. Due to this linkage, financial inclusion has been globally perceived as a critical developmental policy option in many countries both in the developed and emerging economies. However, this study argued that financial inclusion can unlock greater opportunity for low-income households through provisions of affordable credit and special health savings in response to healthcare. Moreso, Financial inclusion reflects people's ability to maintain reasonable financial alertness; and having some finances to manage is better to deal with health risks than not having much (Allmark, Baxter, Goyder, Guillaume, & Crofton-Martin, 2013). It provides opportunities for older people to take greater control of their finances, external environments, and be able to manage economic resources better and to adopt desired lifestyles and health outcomes (Allmark & Machaczek, 2015; Manor, Matthews, & Power, 2000).

In recent time, statistics have shown that low-income households are bedeviling not only with physical accessibility and acceptability of health services but the affordability of health services. According to the world health organization {WHO}, (2017), 150 million people globally suffer financial catastrophe from out – of – pocket expenditure on health services every year, while 100 million are below the poverty line. Similarly, Scofield (2018), note that not less than 12% of the global population spend at least 10% of their family budget on health. Correspondingly, in Nigeria, the poverty line due to out-of-pocket healthcare expenditure rose from 5.61% in 2003 to 6.66% and 7.52% in 2010 and 2012 respectively. While the number of maternal death resulting from the inability to respond or afford health services per 1000 adults continue to rise from 64,000 in 2010 to 67,000 in 2016 (World Bank, 2019). Whereas, private health expenditure maintains increase. These can lead to the destruction of savings, loan default, indebtedness, depleting of the workforce, and lives on the unprotected environment, resulting in the poor educational upbringing of their children.

However, access to health services by low – income households remain challenging in Nigeria due to massive poverty, unemployment, inflation, and other macroeconomic problems. This has prompt many questions as to whether the drawing of the unbanked segment of the population to financial inclusion could liberal access to health services in Nigeria. Though, studies like (Gyasi,

Adam, & Phillips, 2019; Morgan & Churchill, 2018; Agrigoroaei eta l, 2017; Aguila, Angrisani, & Blanco, 2016) linked financial inclusion to have an appreciating effect on access to health services. These pieces of literature shared the same subject matter, however variation in the county of research, making the studies policy options irrelevant in Nigeria, thus gaps identified. The accessible empirical studies in Nigeria (Sakanko, Abu & David, 2019; Hussaini & Chibuzo, 2018; Gunarsih, Sayekti & Dewanti, 2018; Sakanko, Audu, Lawal, and Onimisi, 2018; and Ogunsakin & Fawehinmi, 2017) focus on the relationship between financial inclusion, poverty and economic growth. To the best of researcher's knowledge, attempts to examine the effect of financial inclusion on access to health services in Nigeria is rare, therefore, this study fills the identified gap in Nigeria.

**2.0 Review of Literature**

Financial inclusion is the pursuit of making financial services accessible and at affordable costs to all individuals and businesses (Grant & Kagan, 2019). It also implies the availability and equality of opportunities to access financial services that meet the specific needs of users without discrimination (Nanda & Kaur, 2016). Ease access to affordable financial products or drawn of unbank population to have an account with formal institutions refers to financial inclusion.

On other hand, Access to health services is the timely use of personal health services to attain the best health results. This requires gaining access to the healthcare system, accessing a healthcare provider, free flow of communication between patients and personnel and accessing a location where needed health services are available and provided (Institute of Medicine, 1993; National Healthcare Quality Report, 2013). Similarly, Healthy people (2020) defined access to health services using three-components; coverage, services and timeliness. Coverage - enables patients to gain entrance into the healthcare system. Lack of sufficient coverage makes it hard for people to get the health care needed and when they do get care, large medical bills burdens them. Services - ensuring that people have a provider or facility that regularly receives healthcare. Timeliness - is the healthcare system's ability to provide healthcare quickly after a need is recognized which includes the availability of appointments and care for illness or injury, time spent waiting in doctors' offices and emergency departments, and costs of care. Likewise, the World Health Organisation (2012), defined access to health services *as "access to key promotive, preventive,*

*curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access"*

Furthermore, financial affordability involves access to healthcare that depends on costs, prices of services, and willingness to pay. This comprise; indirect costs such as the true costs of time of both the patient and those accompanying them (Peters, Garg, Bloom, Walker, Brieger, & Rahman, 2008). It is connected to the available fund to settle healthcare expenses covering transportation of the patient, consultant fee, drug and hospital card.

This study's theoretical framework was built from the supply-side effect of financial growth theory and (Peters et al, 2008) demand-side financial accessibility. The supply-side effect states that; an ineffective financial system influences economic growth and argued further that economic growth depends on some pertinent variables such as financial development and the users of the finance will take the advantage of the financial development. Also, the theory assumed that financial development goes a long way to provide the necessary mechanism or tool for economic growth because growth does not take place in a vacuum but through processes of the energized financial services cut across credit availability and affordable- low-interest rates and sound financial system that values stored are save and readily available without suffering before accessing it.

The demand-side financial accessibility traces that to improve healthcare access either simple or multiple, whichever depends on financial accessibility. For example, geographical accessibility can be improved by better transportation, which would then depend on financial accessibility, i.e., interventions to boost healthcare access can target the demand side effect (Jacobs, Bigdeli, Annear, & Van-Damme, 2012).

The first theory assumed that the absence of access to finance is a critical factor responsible for persistent income inequality and sluggish growth, which ultimately results in poverty while the last theory pinned that financial accessibility determines health services. Hence, access to a safe, easy and affordable source of finance is acknowledged as a pre-condition for quickening growth, which therefore provides financial access to response to healthcare problem, reduces income disparities and poverty, due to the creation of equal opportunities, which enables economically and socially excluded people to integrate better into the economy and actively contribute to the

development and shield themselves against economic or health shocks.Then, the theoretical postulation that this study adapts established as:

$$G(j) = \alpha + \beta F(i) + \delta X \quad (1)$$

Where; $G$ denotes Economic growth; $j$ is growth indicators; $\alpha$ is constant; β and δ are coefficients; $F$ denotes financial system; $i$ is financial system indicators, and $X$ denotes included exogenous variable.

Equation 1 depicts that a functional financial system is a prevailing condition for economic growth in which healthcare is incorporated. According to Rodrik (2007), economic growth can generate virtuous circles of prosperity and opportunity to improve incentives for parents to invest in their children's education and family health. Several empirical studies also supported this, amongst are (Bakari, Donga, Idi, Hedima, Wilson, Babayo & Ibrahim, 2019; Sakanko, Audu, Lawal and Onimisi, 2018; Demirgüç-Kunt, Klapper, Singer, Ansar, & Hess, 2018; Ogunsakin & Fawehinmi, 2017), that financial inclusion has a significant effect on economic growth and poverty reduction. Although, some studies (Banerjee & Newman, 1993; Galor & Zeira, 1993; and Aghion & Bolton, 1997) give contrary views concerning the relationship between financial development, income distribution and poverty alleviation. They argued that financial development will have a disproportionately or unevenness beneficial effect on the poor, that informational asymmetries produce credit impediments to the poor because the underprivileged do not have the resources to fund their projects, nor the collateral and the political connections to access bank credit. These credit constraints, therefore, restrict the poor from exploiting investment opportunities which slows aggregate growth by keeping capital from flowing to its highest value of use. Therefore, poorly functioning financial systems will also produce higher income inequality by disproportionately keeping capital from flowing to poor entrepreneurs. In essence, allowing the free flow of information and transaction costs tend to provide more entrepreneurs with the needed external finance, which ultimately allows financial development to improve the allocation of capital, and putting out the significant impact on the poor. On this note, equation 1 can be rewritten as:

$$POV = \alpha + \beta F(i) + \delta \quad (2)$$

Where; $POV$ denotes poverty since economic growth incorporates poverty. Equation 2, therefore, shows the functional relationship between financial inclusion and poverty reduction. Besides,

Morgan & Churchill (2018) argued that poverty is responsible for poor access to health services of a low-income household. Then, (Agrigoroaei et al., 2017; Aguila et al., 2016; Allmark & Machac- zek, 2015) established that improving bank account ownership participation by disadvantaged people have positive implications for well-being and also help to reduce mental health challenges. Similarly, Gyasi, Phillips, & Buor, (2018); Finkelstein, Taubman, Wright, Bernstein, Gruber & Newhouse (2012) ascertained that ownership of a bank account and access to health insurance is critical to providing individuals and communities with financial protection. This may reduce cognitive stress and improve healthcare and the general well-being. Hence, equation 2 can be modified by substituting poverty for access to health services thus:

$$AS2HS = \alpha + \beta F(i) + \delta X \quad (3)$$

Where: AS2HS is access to health services measured as private health expenditure.

**METHODOLOGY**

This study used quarterly data spanning from 2000Q1-2019Q4. The data were obtained from the World Bank (2019) and the Central bank of Nigeria statistical bulletin (2019). The data sourced are deposit/savings, access to credit and access to banks to measure financial inclusion, private health expenditure proxy for access to health services, unemployment rate, per capita income, and domestic credit to the private sector. ARDL model was employed to estimate the data. The choice of the techniques was based on the following: it gives the short-run and long-run effect of the explanatory variable(s) on the dependent variable, it provides the speed of adjustment to attain equilibrium in the long-run if a shock occurs in the short-run and the unit root tests conducted shows mixed level of integration.

**Model Specification**

The empirical model estimated in this study given in the theoretical framework expanded further to achieve the objective, Morgan & Churchill (2018) analytical model was adapted, given as:

$$PHE \quad f(ASC, NCB, DSS, DCP, UNEM, PCI) \quad (5)$$

Where PHE is private health expenditure, FIN measured as access to credit, deposit/savings, the number of commercial banks, PCI is Per capita income, DCP denote domestic credit to the private sector, and EMP represents employment. Equation 5 shows the functional relationship between

the dependent variable (PHE) and explanatory variables (*ASC, NCB, DSS, DCP, UNEM,* and *PCI*). The econometrics linear long-run model specified in equation 6;

$$LPHEt \quad 1ASCt \quad 2NCBt \quad 3LDSSt \quad 4DCPt \quad 5UNEMt \quad 6LPCIt \quad t \qquad (6)$$

Equation 6 described the long-run model showing the relationship between the dependent variable and independent variables where L is the logarithm of variables, the coefficient $1$ - $4$ and $6$ are expected to have a positive effect on private health expenditure and $5$ is expected to have negative. The short-run model demonstrated in equation 7;

$$\text{LPHE}t \quad 1\text{ASC}t \quad 2\text{NCB}t \quad 3\text{LDSS}t \quad 4\text{DCP}t \quad 5UNEMt \quad 6\text{LPCI}t \quad ecm(\ 1) \qquad (7)$$

Equation 7 described the short-run relationship between financial inclusion and private health expenditure. This was constructed for the comparative purpose to determine which of the period (short-run and long-run) has more effect on the explained variable.

## 3.0 **Results and Discussion**

In an empirical analysis, description of statistics is very important because it illustrates variable properties presented in table 1:

**Table 1: Descriptive Statistics**

| | LPHE | ASC | NCB | LDSS | DCP | LPCI | UNEM |
|---|---|---|---|---|---|---|---|
| Mean | 2.166 | 16.986 | 5.246 | 3.550 | 12.781 | 3.651 | 4.339 |
| Median | 2.203 | 14.425 | 5.400 | 3.765 | 12.585 | 3.685 | 3.970 |
| Std. Dev. | 0.135 | 6.631 | 0.883 | 0.533 | 3.846 | 0.124 | 0.931 |
| Skewness | -1.355 | 1.993 | -0.413 | -0.545 | 0.707 | -0.631 | 1.109 |
| Kurtosis | 4.009 | 5.792 | 2.711 | 1.780 | 2.882 | 2.110 | 2.574 |
| Jarque-Bera | 26.843 | 75.967 | 2.458 | 8.590 | 6.468 | 7.651 | 16.372 |
| Probability | 0.000 | 0.000 | 0.293 | 0.014 | 0.039 | 0.022 | 0.000 |
| Observations | 77 | 77 | 77 | 77 | 77 | 77 | 77 |

**Source:** Eviews Results output (2020)

The summary statistics reveal that the mean values for LPHE, ASC, NCB, LDSS, DCP, LPCI, and UNEM for the study are 2.17, 16.97, 5.25, 3.55, 12.78, 3.65 and 4.34respectively. The deviations from the mean scores were 0.14for LPHE, 6.63 for ASC, 0.88 for NCB, 0.53 for LDSS, 3.85 for DCP, 0.12 for LPCI, and 0.93 for UNEM. ASC recorded the highest deviation. Also, the negative

skewness implies that the data points lay on the left-hand side while the positive indicates the right-hand side of the normal curve. The probability values of the Jarque-Bera test for normality show that variables are normally distributed at a 5% level of significance except NCB.

***Empirical Results***

The procedure for estimating the empirical model of this study involves testing first, the time-series properties of the individual data towards ascertaining the appropriate method to be utilized in the estimation. Consequently, the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests for unit root were conducted and the results demonstrated thus:

**Table 2: Results of the Test for Unit Root**

| | Level | | First Difference | |
|---|---|---|---|---|
| **Series** | **ADF** | **PP** | **ADF** | **PP** |
| LPHE | -2.717* | -2.528* | -2.387 | 3.906*** |
| ASC | -3.155** | -2.047 | -3.035** | 3.298** |
| NCB | -2.138 | -2.920** | -3.378** | -3.378** |
| LDSS | -2.077 | -2.911** | -1.318 | -2.552* |
| DCP | -2.842* | -1.920 | -2.619* | -2.841* |
| LPCI | -3.384** | -5.199*** | -1.920 | -2.118 |
| UNEM | -1.071 | -0.139 | -2.635* | -2.846* |

**** significant at 1% level, ** significant 5% level and * significant 10% level*
**Source:** Eviews Results output (2020)

Table 2 affirms that while LPHE, ASC, NCB, LDSS, and LPCI are stationary at level, DCP and UNEM attained stationary only after first difference in both the ADF and PP tests. The results of the unit root tests suggest the possibility of a long-run relationship among the variables. Therefore, the Autoregressive Distributive Lag (ARDL) Bounds test was employed to verify whether a long-run relationship exists among the variables. The result of the ARDL Bounds test is as shown in table 3.

**Table 3: Result of the Bounds Test**

| **Test Statistics** | **Value** | **Significance** | **I(0)** | **I(1)** |
|---|---|---|---|---|
| **F-statistics** | 6.115 | 10% | 1.99 | 2.94 |
| | 6 | 5% | 2.27 | 3.28 |
| | | 1% | 2.88 | 3.99 |

*Note: The automatic lag selection was used to determine the maximum lag length.*
**Source:** Eviews Results output (2020)

Given that the F-statistics value (6.115) is greater than the upper boundary at 10%, 5% and 1% level of significance, the variables are said to have a long-run relationship, implying that the response variables have a long-run relationship with the dependent variable. Hence, the use of the ARDL model was considered appropriate.

The ARDL model was estimated to capture both the short-run and long-run effects of independent variables on dependent in Nigeria. The short-run estimates are presented in Table 4.

**Table 4: Short-run Estimates of the ARDL Model**

| | **Dependent Variable: NEX** | |
|---|---|---|
| **Independent Variable** | **Coefficient** | **t-statistics** |
| ***ASC*** | 0.016*** | 12.113 |
| ***NCB*** | -0.068*** | -4.956 |
| ***LDSS*** | -0.876*** | -6.678 |
| ***LPCI*** | -2.875*** | -4.748 |
| ***UNEM*** | -0.115*** | -4.623 |
| ***Ecm(-1)*** | -0.422 | -7.487 |
| $R^2 = 0.923$ | DW-statistics = 2.295 | |

**Source:** Eviews Results output (2020)

Table 4 indicates that access to credit (ASC) has a significant and positive effect on private health expenditure in Nigeria within the study sample period. This collaborates the study a prior expectation. Unemployment (UNEM) has an inversely and statistically significant effect on private health expenditure. This finding is also in conformity with prior expectations. However, access to commercial banks measure as the number of banks (NCB), deposit/savings ratio (LDSS), per capita income (LPCI) have a depreciate and statistically significant effect on private health expenditure (LPHE) at a 1% level of significance. These findings are contrary to the study a prior expectation.

The error correction mechanism *Ecm(-1)* has the required sign of negative and statistically significant at 1% level of significance, Durbin Watson statistics prevailed absence of autocorrelation.

The coefficient of determination ($R^2$) obtained shows that the explanatory variables explained about 92% total variation in the dependent variable (LPHE) good-fit

For the long-run dynamics effects of financial inclusion on private health expenditure, the results are presented in Table 5.

**Table 5: Results of the Long-run Estimation**

| | **Dependent Variable: NEX** | |
|---|---|---|
| **Independent Variable** | **Coefficient** | **t-statistics** |
| ***ASC*** | 0.025*** | 13.458 |
| ***NCB*** | -0.092*** | -8.262 |
| ***LDSS*** | -1.199*** | -15.818 |
| ***DCP*** | -0.008* | -1.746 |
| ***LPCI*** | 5.951*** | 19.102 |
| ***UNEM*** | -0.041*** | -6.214 |

**Source:** Eviews Results output (2020)

Table 5 shows that in the long-run, both access to credit and per capita income (LPCI) have a positive and statistically significant relationship with private health expenditure (LPHE) at 1% level of significance respectively while unemployment has a negative and statistical significance effect on private health expenditure and these agree with the a priori expectation. However, the number of banks (NCB), deposit/savings ratio (LDSS), and domestic credit to the private sector (DCP) have a diminishing effect on private health expenditure at 1% and 10% level of significance.

**Table 6: Results for Diagnostics and Stability tests**

| **Diagnostic Tests** | | |
|---|---|---|
| **Test** | ***F*-statistic** | **Probability** |
| **Normality Test** | 4.447 | 0.108 |
| **Breusch-Godfrey Serial Correlation LM Test** | 1.311 | 0.279 |
| **Breusch-Pagan-GodfreyHeteroskedasticity Test** | 1.365 | 0.177 |
| **CUSUM and CUSUMQ** | (0.05) | |

**Source:** Eviews Results output (2020)

Before considering the ARDL estimates, the model was appraised for normality, serial correlation, heteroscedasticity and stability. The result of the Jarque-Bera test for the normality of residuals presented indicates that the residuals are normally distributed. It can be seen that the probability values for the Breusch-Godfrey Serial Correlation LM test and Breusch-Pagan-Godfrey Heteroscedasticity test are all greater than 0.05. Thus, the null hypotheses of no serial correlation and homoscedasticity were not rejected. Furthermore, the result of the Cumulative Sum of Recursive Residuals and Cumulative Sum of Recursive Residual squares presented respectively agree that the model is stable.

### 3.1 Major Findings

The short-run and long-run results in table 4 and 5 indicated that access to credit is a determinant of improving financial access to health services measures private health expenditure, a unit increase in the access to credit (ASC) would lead to an average of 0.02 and 0.03 percent increase in private health expenditure in Nigeria within the sample period studied. This finding implies that affordable and accessible bank credit will record more finance for households to access health services in Nigeria. This also in line with the findings of (Gyasi et al, 2019; Agrigoroaei et al, 2017; Aguila et al, 2016)

The per capita income shows a decreasing effect on private health expenditure in the short-run i.e. a percentage increase in the per capita income (LPCI) would bring about a 2.88% reduction in the LPHE while in the long-run an appreciating effect discovered. This implies that a percentage increase in LPCI would cause LPHE to increase by 5.95%. This conclusion has mixed implications. In the short-run, irrespective of an increase in individual income has no increasing

effect on his financing health services. This could be a result of low remuneration which only covered foodstuff while in the long-run the remuneration has grown bigger, more money to spend on accessing health services.

Unemployment, both in the short-run and long-run estimations obtained shows that unemployment has a depreciating effect on private health expenditure, a unit increase in unemployment (UNEM) would result in 0.12 and 0.04 percent decrease in private health expenditure in Nigeria. Undoubtedly, one of the factors listed to have been causing poor access to health services is unemployment because to a large extent, zero income means relatively poor which can deny you totally from accessing healthcare.

Furthermore, a 1 percent increase in the LDSS would reduce LPHE by 0.88% in the short-run and 1.20% in the long-run. Similarly, a unit increase in NCB would decrease LPHE by 0.07% and 0.09% in the short-run and long-run respectively. This suggested that cash deposit/savings and an increasing number of commercial banks can only show financial strength and deepened or depth of commercial banks but reflect not individual access to finances to improve healthcare.

The domestic credit to the private sector (DCP) was statistically insignificant in the short-run. For that reason, the error correction estimation does not capture it. The long-run estimation (DCP) has a negative and statistically significant effect on the LPHE. Signifying that, a unit increase in DCP would lead to an average of 0.008% decrease in the LPHE.

Lastly, the error correction mechanism demonstrated that a short-run shock on LPHE resulting from ASC, NCB, LDSS, LPCI, and UNEM would be adjusted to equilibrium at a speed of 42% quarterly.

## 4.0 **Conclusion and Recommendations**

The study investigated the impact of financial inclusion on access to health services in Nigeria using the ARDL model on the quarterly time-series data. Co-integration long-run relationship discovered between financial inclusion determinants, control and financial access to health services proxy private health expenditure. The empirical result shows that access to credit has a positive and significant effect on private health expenditure both in the short-run and long-run. However, the number of commercial banks and deposit/savings ratio has a negative statistically significant effect on private health expenditure both in the short-run and long-run.

It was also discovered that per capita income and unemployment are determinants of private health expenditure in essence access to health services in Nigeria.

On the background of these findings, the study recommended thus:

The regulatory authority should address the rigid process of obtaining loans in Nigeria financial institutions. This is because access to credit was found to have an appreciating effect on access to healthcare.

The government at all levels should launch a rapid infrastructural development policy that will generate employment opportunities for the growing population. This is because unemployment is found to have a declining effect on access to health services.

The central bank of Nigeria should make sure that the commercial banks create more credit from the deposit/savings because from the outcome deposit/savings ratio influences access to health services inversely which are uncommon to financial theories, it is expected that deposit/savings should create more funds to stimulate more loan and enhance financial access to households.

The commercial bank should concentrate more on strengthening financial penetration than branch expansion. This is because an increasing number of commercial banks are discovered to have a depreciating effect on access to health services while in a conventional theoretical expectation otherwise anticipated since more banks networks suggest more access to a financial product.

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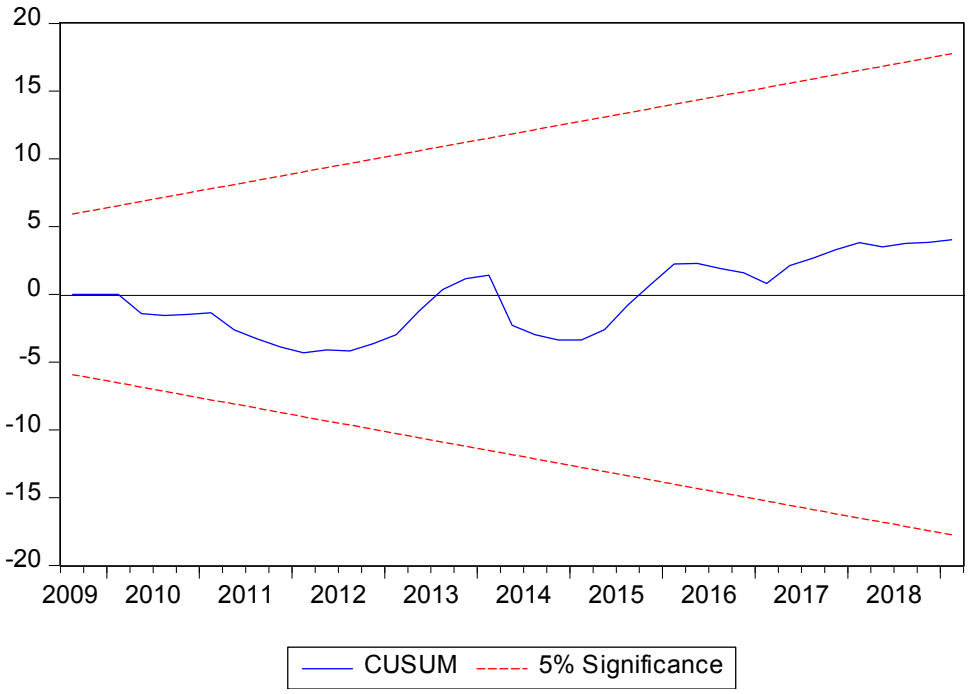

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