Quest Journals
Journal of Research in Humanities and Social Science
Volume 9 ~ Issue 4 (2021)pp: 18-28
ISSN(Online):2321-9467
www.questjournals.org

Research Paper

Financial Sector Development and Gross National Savings In Nigeria

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ABSTRACT: *We examined the influence of financial development on gross national savings in Nigeria. The study covers the period 1981 to 2019 and data were obtained from both the Central Bank of Nigeria statistical bulletin and the World Bank database on world development indicators. The study employed the augmented Dickey-Fuller unit root test to examine the order of integration of the time series variable. From the result, it was observed that the variables were stationary at mixed order of level and first difference. We proceed to examine the existence of a long run relationship using the autoregressive distributed lag (ARDL) bounds test for cointegration. From the result, it was observed that there is a long run equilibrium relationship between financial deepening and gross savings. It was further discovered that interest rate does not have any significant effect on gross savings, while financial deepening had a positive and significant effect. The error correction term indicated that 58.77% of the short run distortions in gross savings are corrected annually. The study concluded that an efficient financial system operating under a deepening finance is the key to boosting savings mobilization in Nigeria. Efforts towards making the financial system functional at full capacity should be put in place, while the rate of interest on deposits should be increased to encourage the surplus sector to deposit their idle funds within the financial system.*

KEYWORDS: *Savings, Financial Deepening, Financial System, Error Correction, Nigeria.*

Received 20 Mar, 2021; Revised: 02Apr, 2021; Accepted 04Apr, 2021 © The author(s) 2021.
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I. INTRODUCTION

A functional financial system is the one characterized by the ability to mobilize sufficient amount of savings for the fructification of investment ideas. Efficient financial system will lead to appropriate channelling of financial resources provided that the financial system is efficient and well-functioning. This means that firms could grow their enterprises through the opportunity of borrowing at lower interest rates. More so, financial intermediaries enable investors to direct their funds to more rewarding projects [1]. Savings implies a forgone consumption hence; it is a decision not to consume at present and it can be driven by factors such as "retirement, precautionary, and bequest" [2].

Economists are of the view that savings (whether derived from prior savings, credit creation, or through forced savings) is crucial for the fructification of investment in any country, and a tool for achieving macroeconomic stability. As predicted by earlier studies (see Romer [3]; Solow [4]; and Lucas [5]), a country with low domestic saving rates always achieves low levels of economic growth. Likewise, dearth of domestic finance leads the country to depend on foreign finance, which might cause external shocks [6]. No wonder most African countries finance their huge investment project with external borrowing. The result has always been a high degree of debt burden.

Financial sector development implies advances in the functioning of the financial sector. Indices of such improvements include "increased access to financial intermediation, greater diversification opportunities, improved information quality, and better incentives for prudent lending and monitoring" [7][8][9]. Studies focusing on the relationship between financial development and savings rate have been conducted so far. Such include the study of King and Levin [10] who discovered that higher levels of financial development are connected with faster capital accumulation. In the same vein, it was discovered that there is a negative correlation between financial development and the savings rate [11][12]. Meanwhile, Park and Shin [13] recorded an insignificant impact of financial development on the savings rate.

The relationship between the financial sector development (measured as a ratio of broad money supply to aggregate output – an index of financial deepening) and gross savings (measured as a ratio of total domestic savings to aggregate output) is reflected in Figure 1.

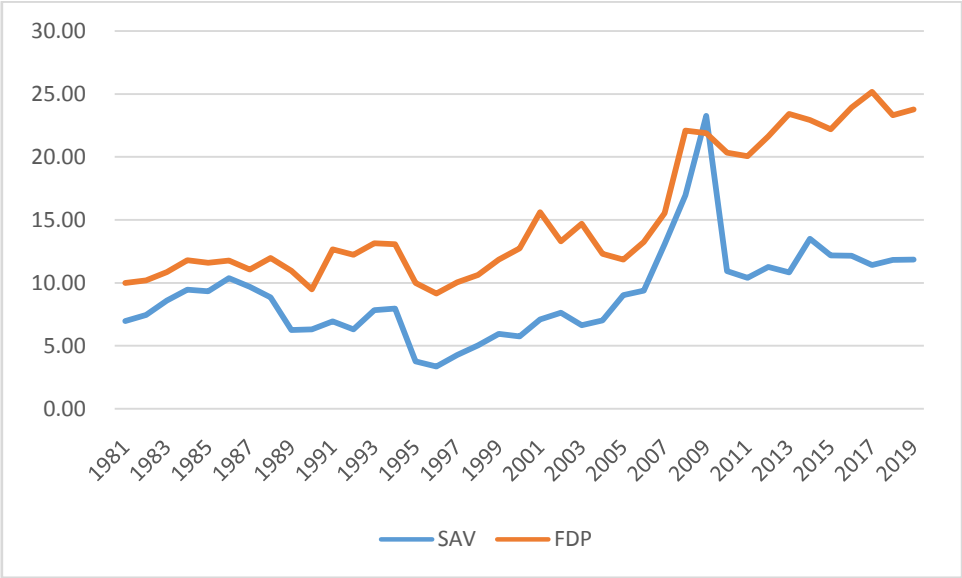

Figure 1: Trend of Savings and Financial Deepening Indicator

Going by Figure 1, we observe shocks in the index of financial development as the index rose in one period and decline with some other period. This can be associate with the type of monetary policy stance that is employed in a given period, and the institutional rigidities that may impede the free flow of financial resources. With the swings in the financial deepening (FDP), gross national savings (SAV) also exhibit similar behaviour by rising in one period and falling in another. This volatility expressed in the financial system can have a detrimental effect on the mobilization of funds for productive investments. This therefore calls for studies examining the influence of financial system on savings accumulation.

While there is an extensive literature on the relationship between financial development and growth, there is a dearth of literature on the influence of financial development on domestic resource mobilization. Considering the critical role that domestic resource mobilization plays in facilitating pro-poor growth, this issue has engrossed the attention of researchers and policy makers in recent times [14]. Savings is critical in the development process, and the financial system must be robust to generate the needed savings to finance investment activities that will accelerate the rate of growth and development. The saving rate is a crucial determinant of a country's long-run per capita income. The neoclassical exogenous growth model by Solow [5] suggests that the higher the rate of saving, the richer the country in per capita income. Similarly, the endogenous theory pioneered by Romer [3] and Lucas [4] predict that the saving rate determines long-run growth as a higher saving rate leads to a higher economic growth rate. The growth model developed by Harrod and Domer also clearly states that an increase in saving rate with a concomitant decrease in capital consumption is a prerequisite for economic growth. the fact that the financial system is responsible for such saving mobilization points out that the financial system is crucial for growth and development.

This paper seeks to answer the following questions:

i. Does financial deepening have any significant influence on the aggregate saving in Nigeria?
ii. Is there any significant effect of interest rate on the level of aggregate savings in Nigeria?
iii. Is there any long run relationship between financial deepening and aggregate savings in Nigeria?

This study broadly seeks to examine the influence of the financial sector in facilitating domestic savings in Nigeria for the period 1981 to 2019. The specific objectives include:

i. To examine the influence of financial deepening on gross savings in Nigeria.
ii. To analyse the effect of interest rate on gross savings in Nigeria.
iii. To examine the existence of a long run relationship between financial deepening and gross savings in Nigeria.

Structuring the paper into five sections, we focus on the literature review in section II after this introductory section. Section III concentrates on the methodology of the research while section IV deals with the empirical findings and discussion. Section V, being the last section, focuses on the conclusion of the study.

II. LITERATURE REVIEW

The theoretical basis of this study is centred on the prior savings theory. According to this theory, savings is regarded as a determinant of investment. It holds that all savings in the economy can find investment outlets. It stresses the need for appropriate monetary and fiscal policy that will promote and mobilize savings voluntarily for economic development. It is believed that since investment is alternative to consumption, any investment which is not financed by prior savings will generate inflation [15]. This theory does not subscribe to the view that inflation is needed for growth. it advocates control of inflation and suggest that a policy of a high positive interest rate will encourage savings by the people.

The financial system has both scale and structural effects on savings and investment. It increases the rate of growth of savings and investment by connecting ultimate savers with ultimate borrowers thereby helping to mobilise savings for the fructification of investment ideas [15]. It is further argued that the financial system by transferring a certain amount of wealth into a more productive form such as shares and bonds helps to increase output by shifting the economy's production possibility frontier outwards. It also helps to increase the volume and rate of savings by supplying diversified investment portfolio and by offering inducement and choices which are in keeping with the arrays of saver's preference. The growth of "banking habit" helps to activise savings and undertake fresh savings. The saving is said to be "institution-elastic" I.e., easy access, nearness, better return, and other favourable features offered by a well-developed financial system lead to increased savings [15].

An empirical study conducted by Bolaji [16] examined the basic determining factor of savings and implications of monetary policy instruments on its variability in Nigeria for the period 1980 to 2008. The study utilized the dynamic long-run econometric model. Findings from the Engle Granger Cointegration test display a negative long run impact of GDP growth per capital income, board money supply, and debt service ratio; and positive effect of real interest rate, interest rate spread and domestic inflation rate on savings. The paper consequently submits that "effort should be geared towards improving per capita income by reducing the unemployment rate in the country in a bid to accelerate growth through savings".

Uchenna, Odey, and Effiong [1] explored the connection between financial liberalization and domestic savings in Nigeria over the period 1970 to 201. The study utilized the econometric approach comprising unit root test, co-integration test and error correction model. Findings from the study discovered that "per capita income and financial deepening were the two factors that affected domestic savings in Nigeria significantly as against interest rate which was widely viewed as the major factor affecting savings mobilization in Less Developed Countries". The study suggested increase in the existing level of per capita income which could be achieved by upward review of wages and salaries of workers every three years.

Similarly, Ewetan, Ike and Urhie [17] in their study examined the long-run association between financial sector development and domestic saving in Nigeria using annual time series variables for the period 1980 to 2012. The study employed the bounds tests cointegration which provided an evidence of long run relationship between financial sector development and domestic saving in Nigeria. The constructed composite index of financial development has a positive and significant impact on domestic savings. They recommended that "government should consolidate on past financial sector reforms to improve domestic saving mobilization to reduce the dependence of Nigeria on foreign savings to finance domestic investment".

Anthony [18] studied the determinants of bank savings in Nigeria along with examining the impact of bank savings and bank credits on Nigeria's economic growth from 1970-2006. The study utilized two impact models; Distributed Lag-Error Correction Model and distributed Model. The empirical findings showed a positive influence of values of GDP per capita, financial deepening, interest rate spread and negative influence of Real interest rate and inflation rate on the size of private domestic savings. Likewise, a positive relationship was found between the lagged values of total private savings, private sector credit, public sector credit, interest rate spread, exchange rates and economic growth.

Recently, Otiwu, Okere&Uzowuru [2] empirically examined the determinants of private domestic savings in Nigeria within 1981 to 2015. The study used the vector error correction model (VECM) framework of analysis. It was observed that there is a long-run equilibrium relationship between the variables and the result also confirms about 29 percent short-run adjustment speed from long-run disequilibrium. The coefficient of determination indicates that about 78 percent of the variations in private domestic savings are explained by changes in its determinants in Nigeria. The results show that per capita income and financial inclusion are major determinants of private domestic savings in Nigeria. The study therefore recommends that concerted efforts should be made to make available and affordable credits to productive investments.

III. METHODOLOGY

3.1 Model Specification

The model for the study is specified by modifying the model of Bolaji [16] who studied the determinants of financial savings in Nigeria. the model for this study is specified as follows.

SAV = *f*(FDP, INF, INT, PCI) - - - - - - - (1)
Where SAV = total domestic savings/GDP at current market prices ratio (i.e. Gross national savings)
FDP = Broad money as ratio to GDP (an indicator of financial deepening)
INF = Inflation Rate (Measured as Consumer Price Index)
INT = Interest Rate
PCI = Growth Rate of Per Capita Income (a measure of the standard of living)
Transforming Equation (1) to be amenable to econometric analysis, we then have;
$SAV_t = \beta_0 + \beta_1 FDP_t + \beta_2 INF_t + \beta_3 INT_t + \beta_4 PCI_t + \mu_t$ - - - - - (2)
Where t is time, β_0 is the constant of regression, $\beta_1 - \beta_4$ are the parameters to be estimated, and μ is the error term.

3.2 Sources of Data

Data for the study were obtained from Central Bank of Nigeria [19] statistical bulletin and the World Bank [20] database on world development indicators. in specific terms, SAV, FDP, and INT were all obtained from the Central Bank of Nigeria statistical bulletin while INF and PCI were obtained from the World Bank database on world development indicators.

3.3 Estimation Technique

The data analysis is done using Eviews 10 software package. The estimation procedures ranges from the unit root test to the error correction mechanism. The unit root is employed to ascertain the order of integration of the time series variables. It follows the Augmented Dickey-Fuller unit root test with the constant assumption. The equation of the unit root test in its general form is specified thus,

$$\Delta X_t = \beta_0 + \beta_1 X_{t-1} + \sum_{i=1}^{n} \gamma_i \Delta X_{t-i} + \varepsilon_t - - - - - - - - - - - - - - - - - - - (3)$$

Where Xt represents the variable to be tested for unit root; β_0 is the constant; β_1 is the parameter of interest to be tested for unit root; i represents the number of lags; and Δ denotes the difference operator. The null hypothesis is that $\beta_1 = 1$.
We further proceed to ascertaining the existence of long run relationship using the autoregressive distributed lag (ARDL) bounds test for level relationship. Then, we estimate the error correction model to ascertain how the short run disequilibrium is corrected annually.

3.4 A Priori Expectation

The a priori expectation of the various parameters are as follows:
i. Financial Deepening (FDP): Financial deepening refers to the proliferation in volume of all monies in circulation in the economy. Efficient financial system will have a valuable effect on the economy as well as a positive effect on the mobilization of domestic savings. It follows that β_1 is expected to be positive.
ii. Inflation Rate (INF): This can be viewed as a macroeconomic instability and as such, it is likely to affect savings negatively. Thus, β_2 is expected to be negative.
iii. Interest Rate (INT): High interest rate act as an incentive for people to save while low interest rate discourages savings. Therefore, there is a positive effect of interest rate on savings. Therefore, β_3 is expected to be positive.
iv. Per Capita Income (PCI): An upturn in per capita income will impact positively on the savings ability of people in the economy. Therefore, β_4 is expected to be positive.

IV. EMPIRICAL FINDINGS

4.1 Stylized Facts on Savings in Nigeria

The aggregate domestic savings in Nigeria was quite low in the 1980s up to early 2000s until the country started recording a significant increase in domestic savings. This is depicted in Figure 2.

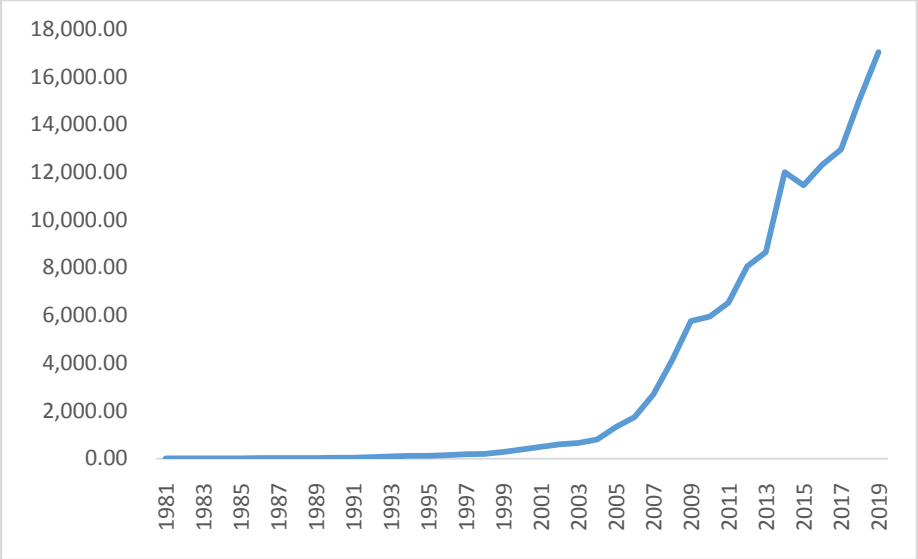

Figure 2: Aggregate Domestic Savings in Nigeria (1981 – 2019)

The low level of savings in the economy can be traced to the few numbers of commercial banks in the country who acts as mobilizers of savings. For instance, the total number of banks in the country was 20: with 622 branches in the urban area and only 240 branches in the rural areas; the number increased to 29 as at 1986 where the country had 879 branches in the urban areas and 481 in the rural areas. Meanwhile, the number of commercial banks steadily increased from 58 as at 1990 to 90 as at 2001. The total number of commercial bank's branches also increased from 1,934 to 1,288 between 1990 and 2001. As the number of commercial banks increased significantly, the country also witnessed significant increase in savings as well. For instance, the total number of commercial banks' branches increased from 5,233 in 2006 to 5,809 in 2010. Further, the number increased from 5,470 in 2015 to as high as 5,417 in 2017; but declined to 5,301 in 2018 with a slight increase to 5,437 in 2019.

Given the significant increase in commercial banks' branches in the country, aggregate domestic savings increased from ₦6.56 billion in 1981 to ₦29.65 billion in 1990. Further, the country recorded ₦385.19 billion aggregate domestic savings in 2000. The record maintained an upward trend within 2003 to 2019. As at 2003, the country recorded aggregate domestic savings of ₦655.74 billion while as at 2010, a significant amount of ₦5,954.26 billion was recorded. As at 2015 and 2019, total domestic savings stood at ₦11,458.13 billion and ₦17,040.72 billion respectively.

4.2 Descriptive Statistics

The descriptive statistics are expressed in Table 1. The descriptive statistics include the mean (average), maximum, minimum, and the standard deviation.

Table 1: Descriptive Statistics of the Variables

	SAV	FDP	INF	INT	PCI
Mean	9.1291	15.1853	18.8888	7.2628	0.5637
Maximum	23.2454	25.1553	72.8355	18.800	12.4575
Minimum	3.3356	9.1517	5.3822	1.4105	-15.4504
Standard Deviation	3.7338	5.2274	17.1239	5.0134	5.3240

Source: Author Computation

The total savings as a percentage of GDP averaged 9.1291% and has a standard deviation of 3.7338%; and a minimum and maximum values of 3.3356% and 23.2454% respectively. Financial deepening (measured as a ratio of broad money supply to GDP) averaged 15.1853% and has a standard deviation of 5.2274%, while its maximum and minimum values were 25.1553% and 9.1517% respectively. In the same vein, inflation (measured as consumer price index) averaged 18.8888% and has a standard deviation of 17.1239%, while its minimum and maximum values were 5.3822% and 72.8355% respectively. Also, interest rate averaged 7.2628% with a standard deviation of 5.0134% while its minimum and maximum values were 1.4105% and 18.80% respectively. And finally, per capita income growth rate (measuring the standard of living) averaged 0.5637% with a standard deviation of 5.3240%, and had a minimum and maximum values of -15.4504% and 12.4575% respectively.

4.3 Correlation Analysis

The correlation matrix of the variables, capturing the nature of their association, is captured in Table 2. Each variable correlates perfectly with itself hence, the correlation coefficient of 1.0.

Table 2: Correlation Matrix

	SAV	FDP	INF	INT	PCI
SAV	1.0				
FDP	0.7263	1.0			
INF	-0.4466	-0.3872	1.0		
INT	-0.4585	-0.6078	0.5590	1.0	
PCI	0.1596	0.2304	-0.1589	-0.2520	1.0

Source: Author Computation

It is observed that savings correlates quite high with financial deepening and in a positive direction, as indicated with the correlation coefficient of 0.7263. It therefore follows that both savings and financial deepening moves in the same direction. A high degree of financial deepening is associated with a high level of savings in the economy and vice versa. Meanwhile, both inflation and interest rate are observed to have a negative and fairly high correlation with savings as captured by the correlation coefficient of -0.4466 and -0.4585 respectively. Also, the growth rate of per capita income has a low but positive correlation with savings.

4.4 Unit Root Test

The estimation of the unit root test follows the constant assumption. The order of integration is determined based on the 5% critical values. The result is presented in Table 3.

Table 3: Augmented Dickey-Fuller Unit Root Test Result

Variables	ADF Statistic @ Level	5% Critical Value @ Level	ADF Statistic @ First Difference	5% Critical Value @ First Difference	Order of Integration
SAV	-2.3002	-2.9411	-6.6587	-2.9434**	I(1)
FDP	-0.6036	-2.9411	-5.8978	-2.9434**	I(1)
INF	-2.8756	-2.9411	-5.5967	-2.9434**	I(1)
INT	-1.0241	-2.9411	-6.2829	-2.9434**	I(1)
PCI	-3.4317	-2.9458**	-11.4771	-2.9434**	I(0)

Source: Author Computation

At the 5% critical value, it is observed that the variables are stationary in mixed order of level (I(0)) and first difference (I(1)). Savings, financial deepening, inflation rate, and interest rate are all stationary at first difference; while per capita income is stationary at level. Being that the variables are stationary in mixed order of level and first difference, the need for a test for long run relationship ensues. The ARDL Bounds test for cointegration is therefore employed in this regards.

4.5 Bounds Test for Cointegration

The Bounds test for level relationship is used to detect whether the variables have any long run equilibrium relationship. The test follows the F-test and the result is presented in Table 4.

Table 4: Bounds Test for Levels Relationship

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Significance	Lower Bound I(0)	Upper Bound I(1)
F-statistic	3.7199	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Author Computation

Given the fact that the F-statistic (3.7199) is significant at the 5% level, being that it is greater than the 5% critical value at both the upper bound and the lower bound, we can say that there is a long run equilibrium relationship between savings and financial deepening. We will therefore present the cointegration graph and proceed to estimate the short run and long run ARDL estimates.

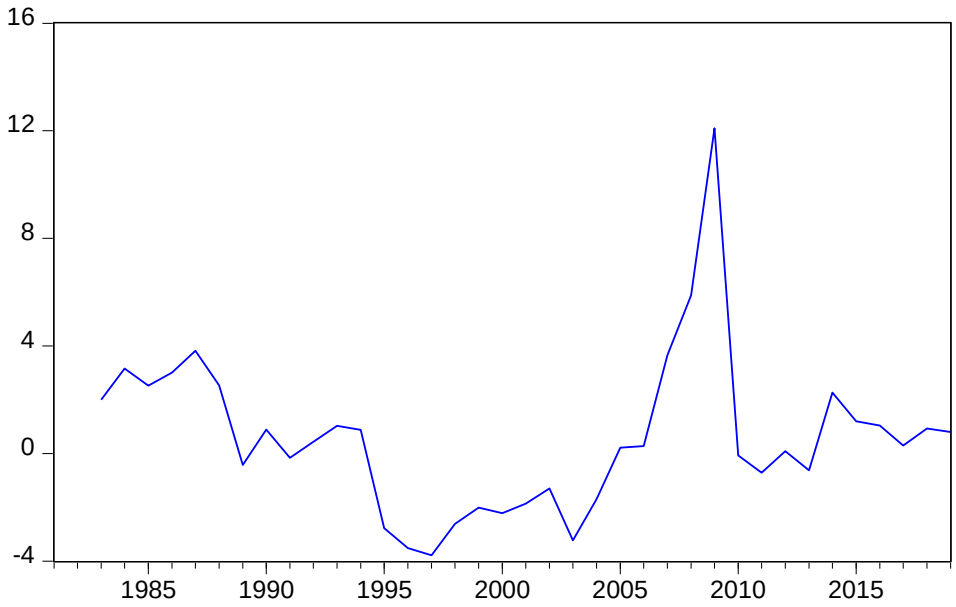

Figure 3: The Cointegration Graph

4.5.1 Model Selection Criteria

The model selection in this study follows the Akaike Information Criteria (AIC). With 512 models estimated, the AIC presents the top twenty models with the minimum AIC. This is presented in Figure 4.

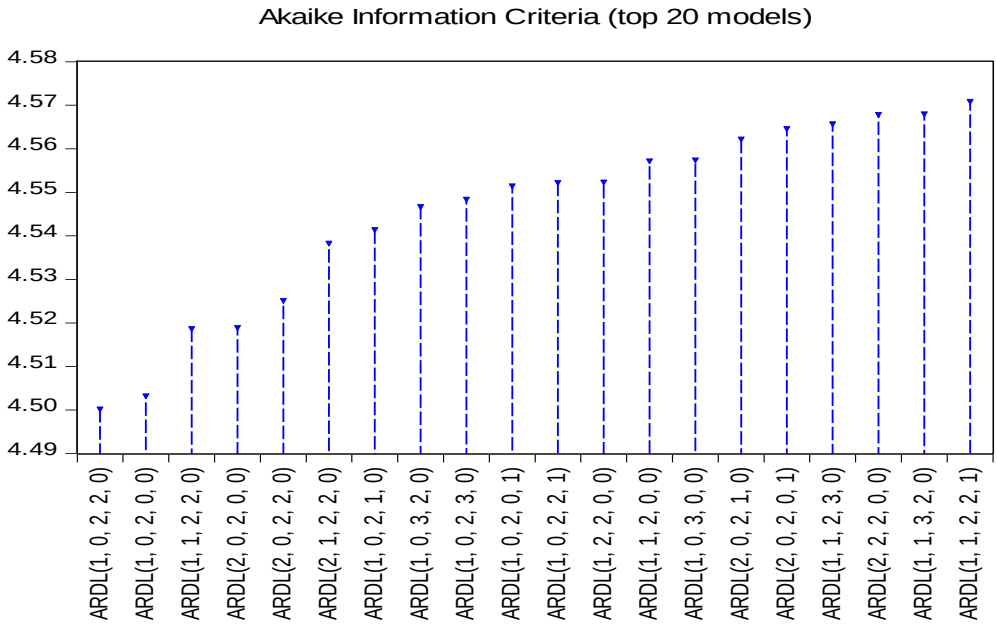

Figure 4: Model Selection Criteria Using AIC

The model is selected if it has a minimum AIC. A look at Figure 4 reveals that the model with the minimum AIC is an ARDL(1,0,2,2,0). This study therefore utilizes this model in the subsequent analyses.

4.6.1 ARDL Result

Following ARDL(1,0,2,2,0), the result of the estimation is presented in Table 5. We observe that the one-period lag of savings is statistically significant at the 5% level, implying that savings is strongly endogenous in predicting itself. It follows that last year's value of aggregate savings increases the current value of domestic savings by 41.23%.

Table 5: ARDLResult

Method: ARDL	Selected Model: ARDL(1, 0, 2, 2, 0)

Variable	Coefficient	Standard Error	t-Statistic	Probability*
SAV(-1)	0.4123	0.1363	3.0236	0.0054**
INF	0.0089	0.0280	0.3172	0.7535
FDP	0.5786	0.2202	2.6270	0.0140**
FDP(-1)	0.3288	0.3050	1.0780	0.2906
FDP(-2)	-0.7676	0.2122	-3.6173	0.0012**
INT	0.1052	0.1997	0.5269	0.6026
INT(-1)	0.1419	0.2693	0.5272	0.6024
INT(-2)	-0.3586	0.2040	-1.7576	0.0902
PCI	0.0451	0.0777	0.5810	0.5660
C	3.5162	1.9761	1.7794	0.0864
R-squared		0.7902	F-statistic	11.297
Adjusted R-squared		0.7202	Prob(F-statistic)	0.0000**
S.E. of regression		2.0137	Durbin-Watson stat	2.1101

Source: Author Computation

The result further revealed that financial deepening has a positive and significant effect on domestic savings in Nigeria. This is because the coefficient of FDP (0.5786) is statistically significant at the 5% level. Thus, a unit percentage increase in financial deepening will increase savings by 57.86%. Other variables like inflation, interest rate, and per capita income growth do not exert any significant effect on aggregate domestic savings. However, interest rate and per capita income growth rate exerts a positive effect on savings, though their effect is not statistically significant. The R-squared being 0.7902 is an indication that 79.02% of the deviations in aggregate savings is explained by the variations in the variables in the model. The F- statistic (11.297) is statistically significant and thus upholds that the overall model is statistically significant in predicting savings. The Durbin-Watson statistic (2.1101) is approximately 2 and thus proves that there is no autocorrelation in the model.

4.6.2 Short Run Error Correction

The result of the error correction model is presented in Table 6. It is expected that for the short run error to be corrected in the long run, the coefficient of the error correction term must be negative and statistically significant.

Table 6: Error Correction Estimates

ECM Regression: Restricted Constant and No Trend			Selected Model: ARDL(1, 0, 2, 2, 0)	
Variable	Coefficient	Standard Error	t-Statistic	Probability*
D(FDP)	0.5786	0.1746	3.3139	0.0026**
D(FDP(-1))	0.7676	0.1833	4.1871	0.0003**
D(INT)	0.1052	0.1737	0.6058	0.5497
D(INT(-1))	0.3586	0.1776	2.0186	0.0536
CointEq(-1)*	-0.5877	0.1143	-5.1433	0.0000**
R-squared		0.5985	S.E. of regression	1.8497
Adjusted R-squared		0.5484	Durbin-Watson statistic	2.1101

Source: Author Computation

From Table 6, the error correction term (CoinEq(-1)*) being -0.5877 is observed to be negative and statistically significant at the 5% level of significance. We can therefore state that 58.77% of the short run disequilibrium is corrected annually so that equilibrium is attained in the long run. it will take approximately two years for such long run equilibrium to be attained. The result further indicate that interest rate do not have any significant impact on the level of aggregate savings in the economy.

4.7 Post Diagnostic Test

The post diagnostic tests include heteroscedasticitytest, serial correlation test, normality test for residuals, Ramsey RESET test, and stability test.

4.7.1 ARCH Heteroscedasticity Test

The result of the ARCH Heteroscedasticity test is presented in Table 7. The OLS requires that the variance must be constant.

Table 7: Heteroscedasticity Test Result

F-statistic	2.540055	Prob. F(1,34)	0.1202
Obs*R-squared	2.502514	Prob. Chi-Square(1)	0.1137

Source: Author Computation

Since the F-statistic (2.540) is not statistically significant, the null hypothesis of no heteroscedasticity is accepted and we conclude that the model is homoscedastic.

4.7.2 Breusch-Godfrey Serial Correlation Lagrange Multiplier (LM) Test

The Breusch-Godfrey serial correlation test is carried out to ascertain whether there is serial correlation in the error term. The result is presented in Table 8.

Table 8: Serial Correlation Test Result

F-statistic	0.328161	Prob. F(2,25)	0.7233
Obs*R-squared	0.946507	Prob. Chi-Square(2)	0.6230

Source: Author Computation

It follows from the result that the F-statistic (0.3282) is not statistically significant at the 5% level. Therefore, the null hypothesis of no serial correlation is accepted hence, there is no serial correlation implying that the past period value of the error term does not correlate with its present value.

4.7.3 Normally Test for Residuals

The normality test for residuals is carried out to ascertain whether the error terms follows a normal distribution. The test uses the Jarque-Bera statistic to ascertain this. The result is presented in Figure 5.

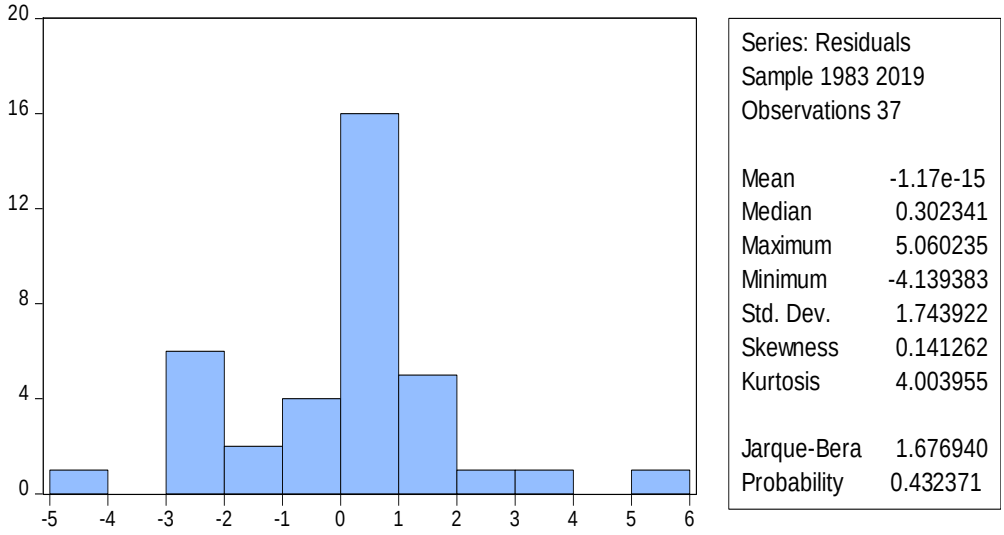

Figure 5: Normality Test Result

It is observed that the Jarque-Bera statistic (1.6769) is not statistically significant at the 5% level. It follows that the null hypothesis of normality of the error term is accepted. Thus, the error terms are normally distributed.

4.7.4 Ramsey RESET Test

The Ramsey RESET test is conducted to determine whether the data used in the study fits into the model. Thus, it captures whether the model is rightly specified or not. the result is presented in Table 9.

Table 9: Ramsey RESET Test Result

	Value	df	Probability
t-statistic	2.259149	26	0.0325
F-statistic	5.103755	(1, 26)	0.0325
F-test summary:			
	Sum of Sq.	df	Mean Squares
Test SSR	17.96526	1	17.96526
Restricted SSR	109.4855	27	4.055017
Unrestricted SSR	91.52021	26	3.520008

Source: Author Computation

From the result, it is observed that both the t-statistic and the F-statistic are statistically significant at the 5% level. The null hypothesis of model misspecification is therefore rejected. Hence, our data fits into the model.

4.7.5 Stability Test

The stability test is conducted to determine whether the coefficients are stable enough for them to be used for inferences. It is done following the Cumulative Sum (CUSUM) test. The result is presented in Figure 6.

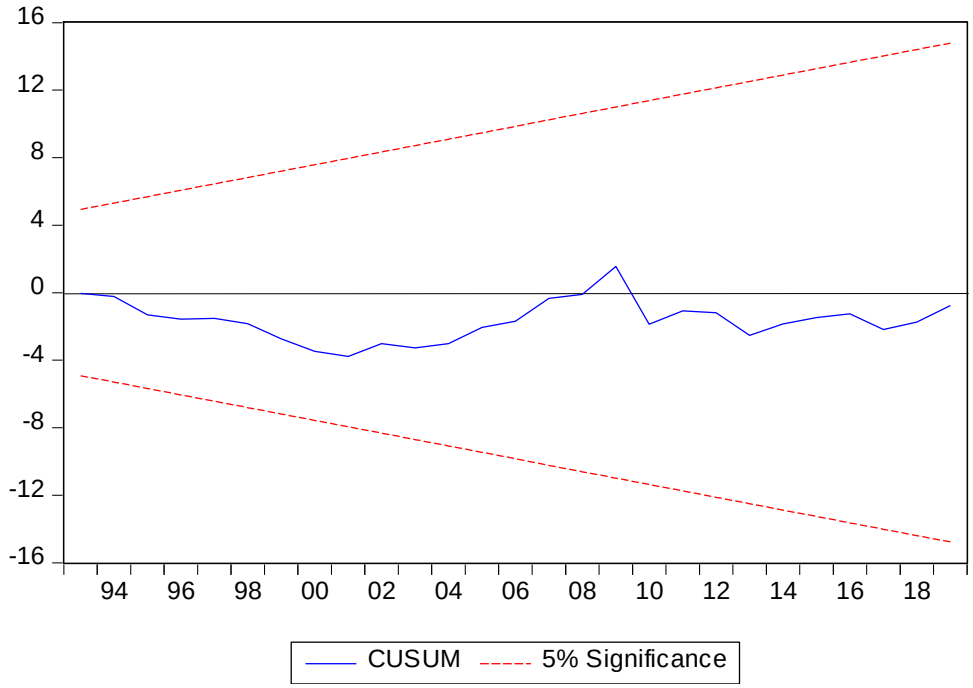

Figure 6: CUSUM test for Stability

From Figure 6, it is observed the CUSUM lies in between the 5% level of significance. This is an indication that the coefficients in the estimation are stable and can be used for inferences.

4.8 Answering the Research Questions

Recall the research questions:

i. Does financial deepening have any significant influence on the aggregate saving in Nigeria?
ii. Is there any significant effect of interest rate on the level of aggregate savings in Nigeria?
iii. Is there any long run relationship between financial deepening and aggregate savings in Nigeria?

Findings of the study have revealed that financial deepening has a positive and significant effect on the level of aggregate savings in the economy. Therefore, deepening finance is likely to facilitate financial inclusion and aid in the mobilization of savings in the economy. Also, findings of the study have shown that interest rate do not have any significant effect on gross savings. We can therefore deduce that people save for bequest motive of for precautionary motive rather than to take advantage of the interest on their savings. The ARDL bounds test for cointegration have revealed that there is a long run relationship between financial deepening and aggregate savings in Nigeria.

V. CONCLUSION AND RECOMMENDATIONS

This study examines the influence of financial deepening on savings accumulation in Nigeria for the period 1981 to 2019. The study utilizes the ARDL approach. Before the estimation, the data were subjected to unit root test under the Augmented Dickey-Fuller framework. we observed that the variables were stationary at mixed order of integration. For instance, financial deepening, inflation, and interest rate were stationary at first difference while the growth rate of per capita income was stationary at level.

The mixed order of integration led to the examination of the existence of a level relationship using the ARDL bounds test for cointegration. The result indicated that there exists a long run relationship between financial deepening and gross savings in Nigeria. The result of the ARDL estimate indicated that financial deepening have a positive and significant effect on gross savings. The coefficient indicated that a unit percentage increase in financial deepening will lead to a 57.86% increase in gross savings. This is an indication

that a healthy financial system will always strive to ensure that adequate savings are mobilized for the fructification of profitable investment ideas. It was further revealed that interest rate had no significant effect on gross savings. As such, savings is not interest rate elastic. It further show case the fact that people are not moved by the rate of interest while making their savings decision rather, they are moved by bequest motive and for precautionary purposes. The short run error correction mechanism revealed that 58.77% of the short run distortions in gross savings are corrected annually so that equilibrium level of savings is restored in the long run.

The study also carried series of post diagnostic tests. For instance, the ARCH heteroscedasticity test revealed that there is homoscedasticity implying that the error terms have a constant variance. Also, the Breusch-Godfrey Serial Correlation Lagrange Multiplier (LM) test revealed that there is no serial correlation in the model; while normality test for residuals validated the fact that the error terms are normally distributed. The Ramsey RESET test ruled out the issue of specification errors as the test result indicated that the data fit into the model specified for the study. Similarly, the CUSUM test showcases that the estimates of the regression are stable and as such, can be used for inferences.

In conclusion, an efficient financial system operating under a deepening finance is the key to boosting savings mobilization in Nigeria. Efforts towards making the financial system functional at full capacity should be put in place, while the rate of interest on deposits should be increased to encourage the surplus sector to deposit their idle funds within the financial system. In addition, concerted efforts should be geared towards reducing financial dualism and fostering financial in the economy. This can be achieved by integrating both the organized and unorganized financial markets through the establishment of community banks; strengthening cooperative societies; and employing the German Bank Model. In this way, more savings will be mobilized within the economy.

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