

Measuring the Impact of Bank Deposit Mobilisation on the Growth of the Nigerian Economy

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Abstract. This study explores the effects of bank deposits on Nigeria's economic growth for the period 1985 to 2020. The specific objectives are to establish the impact of commercial and merchant bank deposits on Nigeria's economic growth. The ex-post facto research design was employed. We carried out preliminary tests (unit root and descriptive) and diagnostic tests (autocorrelation, heteroscedastic, normality, CUSUM, etc.). Estimation was done with the autoregressive distributed lag model technique. It was found that bank deposits had a long-run relationship with economic growth and that the error correction term is significant and negatively signed. Thus, we recommended, amongst others, that a substantial share of bank deposits should be directed to the real sectors of the economy like agriculture and manufacturing, as this will act as an economic growth enabler.

Keywords: commercial banks; merchant banks; deposits; economic growth.

INTRODUCTION

Globally, many factors have been identified as influencers of economic growth. These include savings, investments, infrastructure level, and leadership quality. Savings are critical for capital formation and will lead to economic growth if allocated efficiently. Savings play a vital catalytic function for project financing and thus increase [5, 50, 53]. According to [51], savings are essential for determining countries' per capita income. Various savings platforms exist in the bank and non-bank financial institutions, such as commercial banks, merchant banks, specialised banks, insurance companies, mutual funds, etc. In the banking sector, these savings are simply deposits.

Financial institutions are an essential conduit for the pooling of savings as they facilitate mobilisa-

tion, utilisation and transfer of funds from savers to borrowers. In the course of this intermediation service, they contribute to determining short and long-run economic growth rates. According to [2], gathering and allocating funds foster economic growth through enhanced deposit mobilisation and resulting wealth creation and investment. Financial institutions as avenues for pooling of funds, project appraisal, risk mitigation, oversight of managers and enhancement of financial activities facilitate the invention of technology and subsequent economic growth [26].

It should be remarked that banks are the most conspicuous institution amongst all the intermediaries, especially in developing economies, as they are usually and nearly the only existing organisation in such economies for more significant mobilisation of funds for economic growth [2,

54]. Out of all the financial intermediaries, banks stand out as the leading and most prominent institutions in attracting funds [11]. Some distinguished scholars such as [10, 29] have attested to the capability and effectiveness of banks in promoting economic growth using deposits aggregation. Further, the author [47] contended that banks' mobilisation and allocation of funds are vital in developing any economy. Within the banking sector, the short-term money institutions enjoy and command the patronage of a large customer base because of their large numbers, strategic locations and the simplicity with which they deliver their services. Bank-based savings or deposits are significant components of the total or gross savings. Many of these savings come primarily from commercial banks rather than merchant and microfinance banks. The bank's savings majorly include demand and time deposits.

Mobilisation of savings or deposits, however, is not easy to achieve. Most developing economies find it difficult to achieve a high level of protection due to high inflation rates, low-interest rates and deteriorating disposable income, all discouraging savings. Depositors must be assured of preservation of the actual value of their savings, and there must be a safe financial atmosphere, attractive returns and relatively stable macro-economic variables to attract protection. The crisis of confidence in our banks is a significant setback for attracting savings, particularly long-term deposits. For instance, Nigeria's gross national savings scaled to GDP have varied over the past years. In recent years, it has declined through the period 1999 to 2018. But in 2012, it peaked at about 33 %, after which it declined steadily. The creation of mutual funds and some wealth management products is geared towards stimulating savings.

Similarly, it has been alleged with great worry that Nigeria's banks have deviated from their principal functions. The widespread accusation is that virtually all the banks are not keeping to the rules of engagement and have been involved in sharp financial practices such as unethical forex manipulation, intermediating drug and terrorist funds besides other unconventional practices in a bid to make quick money which has negative consequences on the economy. The primary responsibility of banks all over the world is to aid in economic development through the mobilisation of savings.

Notwithstanding the assertions that bank intermediation fosters economic growth, some researchers have held dissenting views contending that finance is inconsequential in stimulating economic growth. They argue that it is economic growth that engenders financial development. Among the proponents of this line of thought are [20]. They stated that the growth of the core economic sectors spurs the rising demand for financial services with its resultant expansion of the financial industry. The author [30] has cautioned that the importance of finance in economic growth has been exaggerated. Similarly, the author [46] believes that financial development is a consequence of economic growth. Also in this train of thought are authors [5], arguing that the relationship flows from economic growth to financial development.

Over the years, a good number of research works have been carried out on the connection between savings and investments, savings and consumption, savings and economic growth. These include [5, 6]. However, little literature exists on the link between bank deposits/savings and economic growth, particularly in Nigeria. This leaves a gap as it is essential to investigate the degree to which deposit money banks play a catalytic function in the growth and development of the Nigerian economy through deposit mobilisation.

Literature review

Conceptual Framework. There has been increasing recognition of financial organisations' role in stimulating economic growth, primarily deposit money institutions. A good number of scholars would always contend that banks promote professionalism, proficiency and resultant large-scale economic productive capabilities and facilitate an enabling economic environment for executing government policies. Banks' traditional mandate is to attract and allocate funds between savers and borrowers. This critical financial function is one of the duties of the commercial banks, and it majorly constitutes accepting financial resources from savers and giving out same to borrowers and consequently converting savings into advances. Authors [11] have cautioned that the non-existent money deposit institutions to offer financial intermediation will slow down project financing and affect the speed with which profits are reinvested.

Early economists recognised banks' contribution to promoting technological advancement using their intermediation activities. According to them, adequate allotment of funds leads to the achievement of economic growth. The preceding assertions of the positive influence of banks on economic growth have also been echoed by these economists [26, 32, 48], among others. Customer deposits are interchangeably used as bank savings and are the main source of loanable funds [24]. Bank savings are deposits housed in banks. Major banks' savings include savings in the different accounts of deposit money banks, merchant banks and microfinance banks. Bank savings come through savings, demand, and time (fixed) deposits.

Theoretical Framework. Among the significant savings and economic growth, theories are neo-classical economic theory, the Harrod-Domar hypothesis of evolution, and the theory propounded by Solow. Adherents of economic neo-classicism have remarked that people are duty bound to choose between current consumption and savings and that the decisions usually depend on stable, independent propensity and opportunity set. These theorists propounded the permanent income hypothesis and life cycle hypothesis to elucidate their model. Some of the high points of the theories are that future income depends on current savings and investments. And that saving stabilises consumption in the face of fluctuating current income. However, they explain that the ability to save depends mainly on the stage (age) of the individual's life.

The growth theory by Harrod-Domar states that as savings rise in any economy, it will positively induce its economic growth rate, emphasising savings and investments as significant drivers of economic growth. The Solow theory is an improvement on the Harrod-Domar growth version; they added capital, labour inputs, ideas and new technology as crucial in increasing economic growth.

Empirical Review. A reasonable amount of research has been carried out regarding the effects of deposits on the economy's growth. However, it is instructive to note that they produced mixed results as some showed positive relationships while others indicated negative connections. Again, some results are significant and others insignificant.

Authors [33, 45], in their investigation, found that savings will spur economic growth via in-

vestment. They noted that the lack of deposits limits the economic expansion of emerging nations. They recommended that the government focus on factors that influence the growth level of domestic savings. Authors [18] discovered that the banks, insurance, equity markets, and bond markets, through their intermediation, are beneficial for economic advancement. Employing longitudinal data from 125 countries, they found that financial intermediation strongly influences growth, particularly in emerging nations. Also, authors [15] discovered that savings promote economic growth. A related work by [34] examined the relationship between domestic savings and economic progress in 25 countries across different levels of income classifications. The study used the granger causality test and Johansen method and obtained mixed results; the paper, therefore, concluded that income class has a crucial implication in the causal relationship between deposits and economic progress.

In Nigeria, some studies indicated a positive relationship between savings and economic growth. They include [41], which employed Toda and Yamamoto and covered the period 1970 to 2006. Findings indicated a unidirectional causality from savings to economic development. A study by [3] on the role of deposits in Nigeria found that it significantly increased domestic financing to the non-public sector and the total stock of money in the system and concluded that savings positively and profoundly influence the growth of the Nigerian economy. Also, the findings of [35] discovered that aggregate bank deposits and bank loans positively and substantially influenced Nigeria's economic development. Authors [39], using an error correction model, showed that banks' deposits had a long-run linkage with economic growth. Similarly, with ordinary least squares (OLS) and autoregressive distributed lag (ARDL) model,

The author [8] examined the influence of deposits and financial development on economic expansion and established that savings positively affected economic growth.

Further, in a related study, authors [36] noted that financial development contributed positively to economic growth. In their contemporary work, [9] also indicated a positive relationship between GDP per capita and banks' liquidity creation. Liquidity creation positively and significantly influences the growth rate of physical assets at the country level.

Contrarily, some studies have argued against the existence of causation between savings and economic growth. The author [13] studied the relation between the gross domestic savings, investment, and development in Nepal from 1974 to 2010. With the autoregressive distributed lag (ARDL) model, the study tried to find whether there were co-integration and causal linkage among the variables. The findings instead established co-integration among the three variables of interest and showed a short-run bidirectional causal link between investment and gross domestic product. However, it failed to indicate any causality between gross domestic product and gross domestic savings. Some other studies that concluded that banks' deposits do not affect economic growth are the works of [6, 30, 44, 52]. According to them, the issue of whether or not financial development is an influencer of economic growth remains a question for further empirical consideration.

Yet other studies still established that financial development negatively affects economic growth. The studies showed that bank-based savings adversely affect economic growth. Among the works are [1, 4, 13, 14, 56]. From the preceding, it is clear that there are mixed findings on the relation between banks-based savings and economic development; thus, more studies are necessary. Besides, it is also important to note that most of the earlier works largely employed the Engle and Granger residual-based co-integration test. At the same time, few used the Johansen and Juselius approach, and very few used the ARDL's autoregressive distributed lag (ARDL) bounds test approach to co-integration. We believe that the appropriateness of this model for this study has a good feature for a small size sample [38]. Thus, this investigation is apt and timely.

METHODOLOGY

We employed secondary data in our estimation. These are annual data from 1985 to 2020 collected from various official sources such as the National Bureau of Statistics (NBS) and Nigeria's apex bank, the Central Bank of Nigeria (CBN). To determine the nature of the linkage between banks deposits and economic growth, we develop a functional relationship thus.

$$GDP = f(CBD, MBD, ABD) \tag{1}$$

GDP measures the economy's growth while CBD and MBD are proxies for commercial and merchant bank deposits, respectively, with ABD representing aggregate bank deposits. The aggregate bank deposits constitute deposits by commercial and merchant banks, including microfinance banks. Presenting the above functional relationship in a model form, we have (2):

$$GDP_t = \alpha_0 + \alpha_1 CBD_t + \alpha_2 MBD_t + \alpha_3 ABD_t + \varepsilon_t \tag{2}$$

where α_0 is the constant, α_1 , α_2 and α_3 stand for parameters of the independent variables, and ε_t is the residual, α_1 , α_2 and α_3 are expected to be less than zero (0).

The dynamic regression model in the form of the Autoregressive Distributed Lag Model (ARDL) following [43] is employed as the critical estimator for this study because of its numerous advantages over other regression and co-integration models¹. The generalised ARDL model is specified as (3):

$$y_t = \alpha_0 + \sum_{i=1}^p \gamma_j y_{t-i} + \sum_{i=0}^q \delta_j X_{t-i}^{\beta_{j,i}} + \varepsilon_t \tag{3}$$

where p and q respectively represent past period values of the regressand, the regressors are selected automatically following VAR lag selection criteria.

We chose the Akaike information criterion (AIC) as the optimal lag (the lag with the minor information criterion and maximum log-likelihood). The model jointly captures the short-run and the long-run elasticities of economic growth to deposit mobilisation in Nigeria with appropriate substitutions as follows (4):

$$LGDP_t = \alpha + \sum_{i=1}^q \beta_i LGDP_t + \sum_{i=1}^p \delta_i LCBD_t + \sum_{i=1}^k \theta_i LMBD_t + \sum_{i=1}^k \pi_i LABD_t + \delta_i LCBD_t + \theta_i LMBD_t + \pi_i LABD_t + \varepsilon_{i,t} \tag{4}$$

¹ It produces an efficient estimate even in the face of small sampled observations. It accepts a combination I(1), and I(0) variables, even fractional integration, but excludes I(2) variables. Given its dynamic nature, it redresses the common diagnostic problems of other estimation techniques like the Ordinary Least Squares (OLS).

We log-linearised the series to ensure linearity and standard weight for all variables. Preliminary tests, including descriptive statistics and unit root tests, and model validation tests such as residual, parameters and stability tests are used to determination of the reliability of the estimates.

RESULTS AND DISCUSSION

Data Description and Unit Root Test. Table 1 presents the results of the data description.

Table 1 – Summary of Data Description and Unit Root Results

Variables	GDP	CBD	MBD	AGD
Mean	8.9428	6.1957	2.7448	6.3025
Median	9.1696	6.2171	2.7413	6.2870
Std.Dev	2.1182	2.4591	1.3879	2.3612
Skewness	-0.3357	-0.0672	0.2521	-0.0615
Kurtosis	1.7925	1.5924	2.2857	1.6300
JB	2.7042	2.8321	1.0830	2.6803
Prob	0.2586	0.2426	0.5818	0.2617
Coeff of Var	0.24	0.39	0.51	0.37
Unit root test				
ADF Stat	-3.34	-4.44	-8.52	-4.27
Critical value @ 5%	-2.95	-2.95	-2.96	-2.95
Order of Integration	1(1)	1(1)	1(1)	1(1)

Notes: Stationarity at 0.05 significance level

Table 2 – Bounds Test with ARDL

Test Statistic	Value	Significant	I(0)	I(1)
F-Statistic	3.70	5%	2.79	3.67

Lag length Selection Criteria Using VAR

LAG	LOGL	LR	FPE	AIC	SIC	HQ
0	8.3627	-	0.0438	-0.2908	-0.1040	-0.2310
1	32.47376	40.1850*	0.0094	-1.8315	-1.5980*	-1.7568
2	34.0218	2.4769	0.0090*	-1.8681*	-1.5878	-1.7784*
3	34.0857	0.0979	0.0097	-1.8057	-1.4787	-1.7011

Notes: the lag with the highest * Indicates the optimal lag order

Premised on the above, we estimated the speed of error correction mechanisms of the relationship. Akaike Information Criterion (AIC) was used to select the appropriate and optimal lag length indicated with an asterisk (*), which in this case is lag 2 in the Table 3.

Such averages as mean, standard deviation, skewness and kurtosis appraise the investigated variables' distributional features. Also, table 1 contains information about the stationarity properties and persistence of the series.

The coefficient of variation, which is a directionless evaluation of the degree of dispersion around the mean, shows that all the variables have less than one relative standard deviation, respectively. This is symptomatic of distributions that are close-knit and are not highly dispersed. Evidence of normality is found, given that the JB-stat for all the series is reportedly significant. The JB-Stat is a combined measurement of skewness and kurtosis with a threshold of zero skewness and kurtosis of three.

The lower rung of Table 1 shows the stationarity test results in the lower rung. All the series have unit roots at levels; however, at the first difference, they all became integrated. The test statistics are more damaging than the critical values at the conventional significance level of 5%. Therefore we justifiably failed to accept the null hypothesis and concluded that the variables are stationary at order one I(1). This justified the use of ARDL as our primary estimation technique.

Cointegration Test and Lag Selection. From the Table 2, it can be seen there is co-integration because the F-statistic of 3.70 at 5% is greater than the lower bound I(0) of 2.79 and upper bound of I(1) of 3.67.

Table 3 – Summary of Short Run Elasticities and Error Correction Term

Variable	Coefficient	t-statistic	Prob
D(LNGDP(-1))	0.2887	2.0863	0.0487
D(LNAGS)	-0.446270	-1.680873	0.1069
D(LNCBS)	0.4687	1.7268	0.0982
D(LNCBS(-1))	0.2437	2.3148	0.0303
ECT	-0.0853	-3.670765	0.0013

Notes: F-stat=6.4762; Prob(F-stat)=0.000493; DW stat= 2.2788

We focus on the error correction term (etc.) with a coefficient of -0.0853. It can be seen that it is negatively signed and statistically significant. This means that the disequilibrium in the short run can be adjusted in the long run. The correction speed is, however, low as it will take 12 years and five months for complete equilibrium to be restored following a deviation in economic growth triggered by deposit mobilisation.

Validity Test: Residual Based Diagnostic Tests. We conducted an autocorrelation test with Breusch-Godfrey LM (BG) to check for serial correlation. BG has an advantage over the Durbin Watson test because it is a higher-order serial correlation test. We also checked for heteroscedastic residuals as reported in Table 4.

Table 4 – Breusch-Godfrey Serial Correlation and Heteroscedasticity Tests

F- statistic	0.5273	Prob. F (1,27)	0.5981
Obs* R ²	1.6030	Prob. Chi ² (1)	0.4486
Heteroscedasticity Test			
F- statistic	0.8955	Prob. F (1,27)	0.5451
Obs* R ²	8.5800	Prob. Chi ² (1)	0.4769

The probabilities of F (0.5981) and Chi² (0.4486) statistics of the BG test confirm the absence of autocorrelation. Also, the probabilities of F- and Chi-squared statistics of 0.5451 and 0.4769, respectively, show no heteroscedastic residuals in the model.

Stability-Based Diagnostic Test (Figure 1). The blue line between the red lines is within the 95% confidence level, showing that the model is stable and correctly specified.

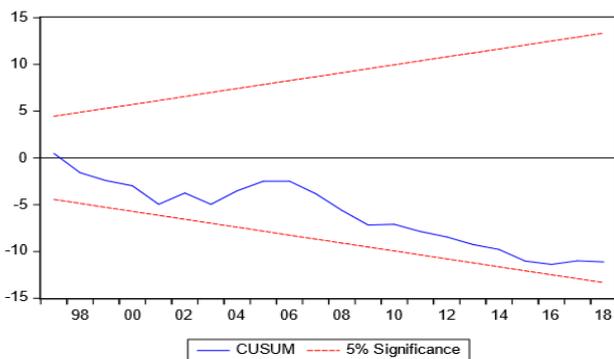


Figure 2 – CUSUM Graph

In addition, a test of confidence in using variables, as shown in Figure 2, supports the appropriateness of the model variables.

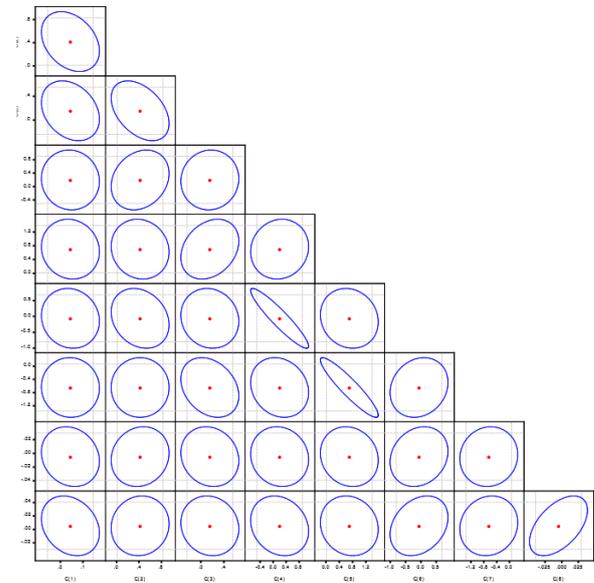


Figure 2 – Confidence Eclipse

Coefficient-Based Diagnostic Test. The long-run ARDL estimates are presented in Table 5 due to the responsiveness of economic growth for deposit mobilisation in Nigeria.

Table 5 – Results of ARDL Long-Run Test

Variable	Coefficient	t-statistic	Prob
LNCBD	0.1721	4.2461	0.0075
LNMBD	-0.1127	-0.3098	0.7592
LNAGD	-0.5954	-0.1210	0.9046

Notes: Author’s computation (extract from e-views)

Commercial bank deposits show an overwhelmingly positive and significant impact on the Nigerian economy; the coefficient and probability of commercial bank deposits are 0.1721 and 0.0075, respectively, in the long run. This means that a 1% change in commercial bank deposits causes a 17 % significant increase in the economic growth rate in Nigeria. For merchant bank deposits, the coefficient shows it is negatively linked with economic growth. Also, the stakes have no significant impact on the economy with a probability of 0.7592, more significant than 0.05. This is also the case with aggregate bank deposits with a coefficient of -0.5954, which is not statistically significant.

CONCLUSIONS

This investigation focused on bank deposits' effect on Nigeria's economic growth. It was found that commercial bank deposits had a positive relationship with the economy and exerted a significant impact on it. Contrarily, merchant bank deposits neither had a positive relationship nor a significant negative impact on the Nigerian economy. In the same vein, aggregate deposits had negative and non-significant relations with economic development.

Our work supports the finding of [39] that bank deposits have a long-run relationship with economic growth. This also follows the results of [8, 27, 35] for Nigeria, who all found that bank deposits have a substantial effect on economic growth. However, our finding on merchant bank deposits and the economy does not agree with [31, 49]. They found that merchant bank deposits are positively related to the economic growth of Mexico. This geographical divergence in findings between Mexico and Nigeria cannot be unconnected with the dominance of commercial banks in the Nigerian financial ecosystem over merchant banks.

By way of policy implications, it is advised that banks should be redirected to fair lending and fund channelling in the interest of the economy. Most banks do not channel deposit funds to priority (core) sectors of the economy like manufacturing and agriculture. Banks are more disposed to invest these deposits in trading activities, round-tripping, treasury bills, and other short-term securities. Additionally, these banks' unattractive low interest to depositors and exploitative commissions they collect are very discourag-

ing, making the public patronise unconventional and unregistered financial institutions like esusu, etc. This creates a leakage in fund channelling and reduces monetary policy effectiveness.

Additionally, this study discovered that the two variables of interest: bank deposits and economic growth, are cointegrated. The error correction term has a negative sign and is also significant, but the speed of adjustment is relatively deficient. It is therefore recommended that the government at all levels support the deposit mobilisation drive to boost savings in Nigeria. In addition, there should be an improvement in the interest rate regimes, especially the Monetary Policy Rate (MPR), as this will incentivise deposit mobilisation through increased savings. The monetary authority using its credit guidelines, needs to advise and compel the deposit institutions to allocate their credits to the critical sectors of the economy like manufacturing and agriculture.

Moreover, restoring confidence in the financial intermediation process is essential to building a solid financial system less vulnerable to domestic and external shocks. Rural banking schemes should be further encouraged to mainstream every fund and economic resource in the system. Commercial Banks should also be made by moral suasion or law to set up their offices beyond the cities and mobilise funds from the hinterland to allocate the same to the investors. This will, essentially, improve the banking habits of the rural dwellers. These measures can be growth enablers not just for the Nigerian economy but for other developing economies alike.

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