

FINANCIAL INTERMEDIATION PROCESS AND ECONOMIC GROWTH: EVIDENCE FROM NIGERIA

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ABSTRACT

The study examined the effect of the financial intermediation process on the growth of the Nigerian economy. The study spanned from 1995 to 2019. Variables considered include total bank loans and advances, total bank deposits, cost of loans and advances, and cost of deposits against the real gross domestic product. The study adopted the Vector Error Correction Model and OLS estimation technique. The VECM reported that the model is rightly signed with a VEC Cointegrating value of less than one but was significant still. The Ordinary least square test reported that total bank deposit, total bank loans, and advances, and cost of bank loans and advances exerted a positive effect on real gross domestic product. Meanwhile, the cost of deposit exerted a negative effect on economic growth. Expectedly, total bank loans and advances exerted a high statistically significant effect on economic growth. Based on this, we concluded that a total bank loan is a strong determinant of economic growth. It is on this premise that we recommend that, the current bank loan policy should be sustained. Lastly, there is a need to intensify the deposit collection and accumulation process in Nigeria.

Keywords: Financial Intermediation Process, Economic Growth, Evidence, Nigeria

INTRODUCTION

In every economy groups of individuals, organizations, firms, and government will always look for financial resources in other to finance their productive activities. This happens mainly when their expenses exceed their revenue. Hence the need for circulation of funds in the economy will become very vital, and transfer of funds from the saver's sector in the economy to the borrower's sector in the economy, which is called the process of financial intermediation becomes a vital tool of operation. Financial intermediation and economic growth remain some of the most controversial issues in financial parlance. Moreover, as the nature of the relationship between financial intermediation and economic growth remains one of the most debated issues within and among policymakers, financial analysts, and development economists, hence providing enough evidence either in support or rejection of this claim has some implications (policy implication) policymakers, financial analyst and development economist.

According to Ibrahim, Aziza, and Iklm (2021), the central bank of Nigeria in July 2004 came up with thirteen notch plan with the idea of setting up enormous financial intermediaries (Bank) with a stable financial statement and also assuring safe and standard banking practices to monitor the industry. As explicitly stated by Usman, Alimi, and Onayemi (2018), financial intermediaries (Banks) are the surest means through which countries can bridge her financial intermediation gap. However, others refuted this claim and posited that financial intermediaries (Banks) impede growth, disrupt tranquility, wealth maximization, reduce information asymmetry, transaction costs, and also spur growth.

Critical evaluation of extant studies revealed that it is no doubt that large attention is focused on the construct. However, all existing studies are not unifying. Outcomes of studies conducted on the subject matter differ in terms of nature of the relationship (positive and negative), country, the method used and the areas covered. It is on these premised various theories and empirical studies are made. It is on this note that scholars in the likes of Ibrahim, Aziza, and Iklm (2021); Alimi and Adeoye (2020); Emmanuel and Nwekemezie (2019) raised the degree of relationship between both. However, with so many experts and scholars, having research on this topic and coming out with different findings and recommendations, it is clear that some organizations, firms, and also governments are still finding it difficult to withstand and grow in the economy as

a result of financial difficulties and economic hardship. Hence, the effectiveness of the financial intermediation process is being questioned. It's on this premise that the study seeks to evaluate the impact of the financial intermediation process on the economic growth of Nigeria.

Research in this area at this time is paramount. Criticisms are apparent that about financials to the financial system, a topic such as the impact of financial intermediation process on the economic growth of Nigeria has attracted attention. This research will be an important addition to the understanding of the financial intermediation process. Contributions will also be made to the literature that has attempted to determine the impact of the financial intermediation process on the economic growth of Nigeria. This research will very important for exploring factors that have not been examined in the financial intermediation process but that have produced interesting and conflicting results. This study will also serve as a source of secondary data for future researchers in the area financial intermediation process.

LITERATURE REVIEW

Theoretical Review

The theory of Financial Intermediation states that the development of one sector in the financial system leads to the development of another. i.e. the improvement in the functions of financial intermediaries (Banks), leads to the improvement of the financial markets. Historically, the development of financial intermediaries has been on from the ancient era till date, mobilizing deposits from individuals and households and transferring such as loans to economic agents with capital in return. These funds are thereby used by the economic agents to finance productive economic products that will yield returns to bring an economic boom. The study is underpinned by the theory of Financial Intermediation. This is very common and very essential in the body of financial knowledge. This theory appeared first in the works of Goldsmith (1969) and Shaw (1973) it was asserted by scholars that one area that plays a very key role in the growth of an economy is the financial market which comprises of money market and capital market. It went furthermore to state that the quantity and quality of services each country's financial institution is providing is what attributes to the differences in their economic growth. Usman, Alimi, and Onayemi (2018) evaluated the effect of bank intermediation activities on economic growth in Nigeria supported the assertion.

Conceptual Clarification and Linkages

A run through webometrics reveals that the definition of financial intermediation is unifying despite its multi-facet nature. Financial intermediation involves bridging the fiscal gap between actual lenders (savers/surplus economic units) and actual borrowers (borrowers/deficit units) within an economic system to achieve economic balance (equilibrium) (Anigbogu, Okoli, & Nwako, 2015). Meanwhile, the financial intermediation process is an inter-temporal and interpersonal/un-intermediated transfer of financial resources within an economy (Sulaiman&Aluko, 2015).

Nwanne (2015) stated that one key role of financial intermediaries is the ability to transform not liquid debts administered by an organization in a more liquid form which is held by consumers. Ibrahim, Aziza, and Iklm (2021) was of the view that financial intermediaries such as banks effectiveness results in liquid assets because of the fund diversification. While Ziorklui, (2001) argued that increase in savings and upsurge in capital accumulation is achieved through the improvement of financial intermediation.

Empirical Review

Although, there seem to be few studies conducted on the subject matter, some of these studies related to the construct directly or indirectly provide a relevant empirical basis for this study. Ibrahim, Aziza, and Iklm (2021) investigated the impact of financial intermediation on economic growth in Turkey using annual data spanning 1970–2017. Variables that were used include: Gross fixed capital formation, financial intermediation, interest rate against Gross Domestic Product. Design/methodology/approach augmented Dickey-Fuller and Phillips– Perron unit-root, Autoregressive Distributed Lag (ARDL) all was applied in the study to establish the long-run impact of financial intermediation alongside other control factors on economic growth.

Alimi and Adeoye (2020) evaluated the effect of financial intermediation activities on the growth of Nigeria's economy. Data were obtained from the Central Bank of Nigeria Statistical Bulletins between 1983 and 2018. Descriptive statistics such as mean, median, skewness, and mode, etc., and econometric statistics like Ordinary Least Squares (OLS) were used to analyze the data obtained. Variable used includes Broad Money Supply, Size of Credit, and Credit delivered to the Private Sector.

Emmanuel and Nwekemezie (2019) examined the effect of financial intermediation on the development of the economy of Nigeria using data spanning 1986 to 2017. Data were obtained from the Central Bank of Nigeria Statistical Bulletin, World Bank (World Development Indicators), and International Monetary Fund (World Economic Outlook). The study considered a credit to the private sector, lending rate, and money supply as independent variables, while real GDP growth rate and the unemployment rate were employed as dependent variables. Autoregressive distributed lag (ARDL) technique was employed and views 9 was used for the analyses.

Usman, Alimi, and Onayemi (2018) evaluated the effect of bank intermediation activities on economic growth in Nigeria within the period 1983 and 2014. Data were obtained from the Central Bank of Nigeria Statistical Bulletins. The Ordinary Least Squares (OLS) regression technique was adopted for the estimation of the hypotheses. The result showed that loans and advances and money supply have a positive effect on economic growth. The cointegration result indicated the existence of a long-run relationship between the variables.

Bamidele, Lucas and Olumuyiwa (2018) investigated the impact of financial intermediaries on capital market development in Nigeria from 1981 to 2016. credit to the private sector to GDP, broad money supply, and total bank savings against, market capitalization was used to capture capital market development. Co-integration was employed. The study found that financial intermediaries exerted a positive impact on capital market development in Nigeria.

METHODOLOGY

The study adopted the ex-post-facto research design. This research design was deemed the most suitable research design for this study. Variable considered include total bank loans and advances, total bank deposits, cost of lending (prime lending rate), and cost of deposit (deposit rate), against real GDP. Data for the study was sourced from CBN statistical bulletin (2019). Meanwhile, the study adopted the Vector Error Correction Model using the ordinary least (OLS) technique. The regression was possible through the instrumentality of econometric views (E-Views) version 9.0. Econometrically, our model is specified:

$$RGDP = \beta_0 + \beta_1 TBAD + \beta_2 TBAL + \beta_3 COL + \beta_4 COD + \mu \dots \dots \dots 1$$

Where:

- RGDP = Real Gross Domestic Product
- TBAD = Total Bank Deposits
- AGBC = Total Bank Loans and Advances
- COL = Cost of Loans and Advances
- COD = Cost of Deposit
- β_0 = Intercept
- $\beta_1 - \beta_5$ = Parameter estimates
- μ = Error term.

Table 1: Operationalization of Target Variables alongside A priori expectation

Variable	Definition	Nature of Variable	A priori Expectation
Real GDP	Annual Real GDP	Dependent	NIL
Total Bank Deposits	Summation of Saving, Demand Deposit, and Time deposits	Independent	Positive
Total Bank Loans and Advances	Summation of all loans	Independent	Positive
Cost of Deposit	Deposit Interest Rate	Independent	Positive
Deposit Rate	Prime Lending Rate	Independent	Negative

Source: Researcher’s Compilation (2021)

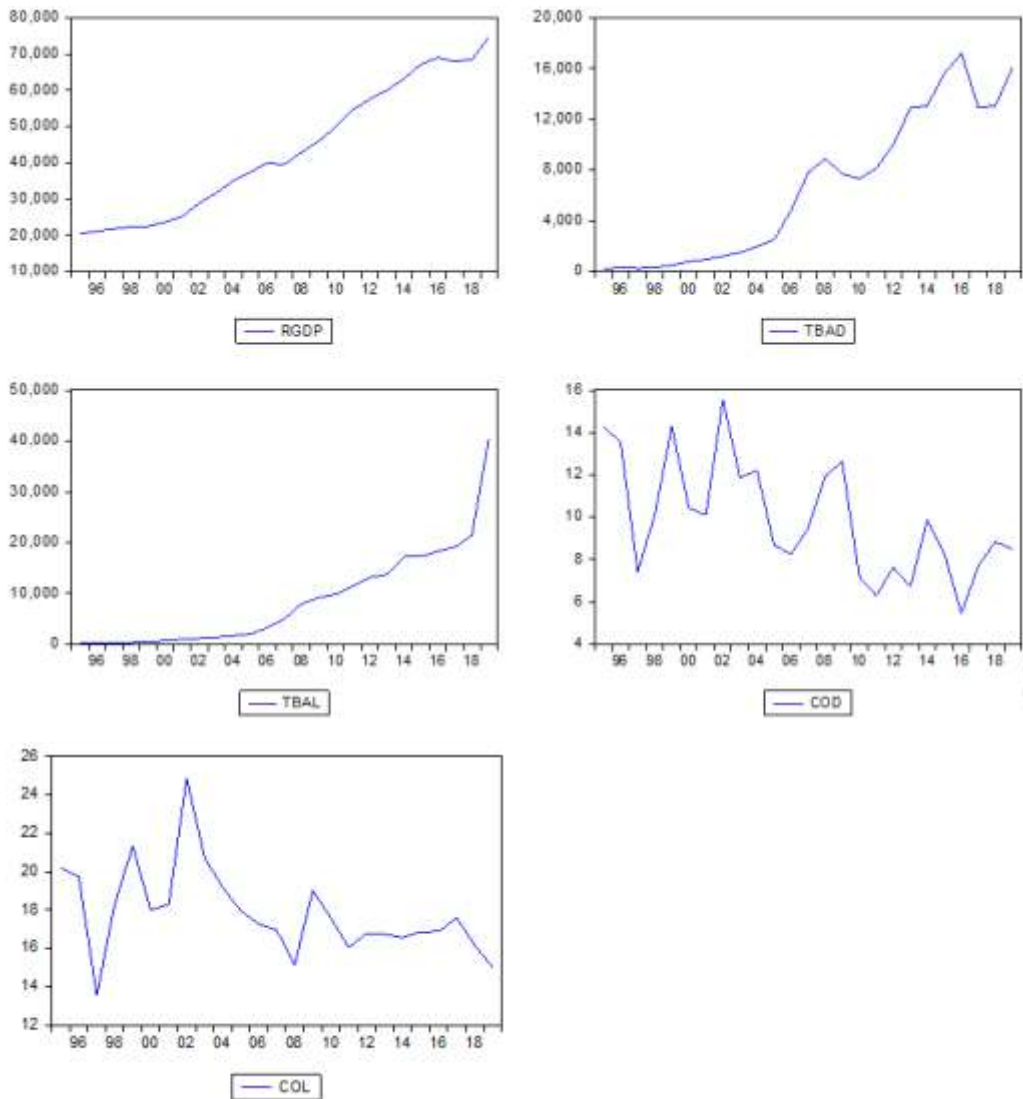
RESULT AND DISCUSSIONS

Data Analysis

Trend Analysis

This was directed at examining the trends in the movements of the variables of interest. This sub-section is categorized into three. The first figure accounted for the financial intermediation process (Deposit Accumulation-total bank deposits and Credit Expansion-total bank loans), financial intermediation cost (cost of deposits and cost of loans and advances), and economic growth. They are presented below:

Figure 1: Financial Intermediation Process (Deposit Accumulation and Credit Expansion)



Source: E-VIEWS Output 2021 as adapted from CBN Statistical Bulletin (2019)

Figure 1 above clearly revealed that total loans and advances extended to different economic agents expressed as total bank loans and advances denoted by TBAL were relatively higher than total bank deposits. This suggests that the financial intermediation process is relatively efficient since more loans being the largest asset of the banking industry was given out in comparison to the total

liabilities over the studied period.

More so, it also revealed that the total cost of bank loans and advances exceeded the total costs of bank deposits. This suggests that the costs of loans are relatively high over the studied period. However, both were not stable over the studied period. However, the Nigerian economy was relatively stable throughout the studied period.

Descriptive Statistics

Table 2: Summary of Descriptive Statistics

	RGDP	TBAD	TBAL	COL	COD
Mean	43645.99	6648.033	8669.341	17.85960	9.893200
Median	39995.50	7312.730	5001.470	17.58000	9.490000
Maximum	74694.00	17187.77	40577.65	24.85000	15.57000
Minimum	20353.20	169.4400	178.9600	13.54000	5.460000
Std. Dev.	18301.16	5872.228	9803.559	2.321462	2.750057
Observations	25	25	25	25	25

Source: E-VIEWS Output 2021

The descriptive statistics in table 2 clearly revealed that real gross domestic product had the highest average value estimated at 43645.99. Meanwhile, the cost of deposit had the lowest average value estimated at 9.893200. With regards, maximum value, real gross domestic product recorded the highest maximum value estimated at 74694.00 while cost of deposit recorded the lowest standard deviation value estimated at 15.57000. In like manner, real gross domestic product recorded the highest maximum value while the cost of deposit recorded the lowest standard deviation value.

Furthermore, in terms of standard deviation values, the entire study variable reported low standard deviation values suggesting that the model is relatively stable. However, there is a further need to test if such assertion is true or not. Given this, we subjected the model to the VEC Residual Normality test. The result is presented below:

Table 3: VEC Residual Normality Tests
 Orthogonalization: Residual Correlation (Doornik -Hansen)
 Null Hypothesis: residuals are multivariate normal
 Date: 06/28/21 Time: 15:02
 Sample: 1995 2019
 Included observations: 23

Component	Skewness	Chi-sq	Df	Prob.
1	0.326859	0.584404	1	0.4446
2	-0.532428	1.495425	1	0.2214
3	0.341677	0.637247	1	0.4247
4	0.794323	3.121769	1	0.0773
5	0.404720	0.885293	1	0.3468
Joint		6.724137	5	0.2420

Component	Kurtosis	Chi-sq	Df	Prob.
1	2.853233	0.325942	1	0.5681
2	3.640606	1.764839	1	0.1840
3	2.786709	0.183488	1	0.6684
4	2.998112	0.484118	1	0.4866
5	3.128746	0.752983	1	0.3855
Joint		3.511371	5	0.6217

Component	Jarque-Bera	Df	Prob.
1	0.910346	2	0.6343
2	3.260264	2	0.1959
3	0.820735	2	0.6634
4	3.605887	2	0.1648
5	1.638276	2	0.4408
Joint	10.23551	10	0.4201

Source: E-VIEWS Output 2021

The diagnostic test above clearly revealed that the study variables are not normally distributed since all p-values (0.2420, 0.6217, and 0.4201) of both Skewness and Kurtosis are greater than 5% significant level. This implies that the Ordinary Least Square assumption of normal distribution was retained.

Table 4: Correlation Analysis

	RGDP	TBAD	TBAL	COL	COD
RGDP	1.000000				
TBAD	0.412767	1.000000			
TBAL	0.508918	0.341948	1.000000		
COL	-0.028612	-0.120906	-0.091441	1.000000	
COD	-0.104383	-0.095374	0.075450	0.541082	1.000000

Source: E-VIEWS Output 2021

The correlation analysis above clearly revealed that all the study regressors are positively related to the regressed. However, the cost of loans and advances and the cost of deposits are negatively correlated with real gross domestic product. More so, none of the regressors exhibited a high correlation. This suggests that the model may be free from multicollinearity problems.

Table 5: Summary of Unit Root Test

Variable	Order of Integration	ADF T-Statistics	MacKinnon T-Critical @ 5%	P-value	Decision
Real Gross Domestic Product	1(1)	-3.946554	-3.004861	0.0068	Stationary
Total Bank Loans and Advances	1(1)	-4.160360	-3.733200	0.0241	Stationary
Total Bank Deposits	1(1)	-4.541806	-3.004861	0.0018	Stationary
Cost of Deposits	1(1)	-6.691896	-3.004861	0.0000	Stationary
Cost of Loans & Advances	1(1)	-7.848765	-3.004861	0.0000	Stationary

Source: E-VIEWS Output 2021

The regression result above clearly revealed that all the study variables are stationary at their first differencing. This justifies the need to check if the variables under study co-integrated or not. The result is therefore presented below:

Table 6: Johanson Cointegration Test

Date: 06/20/21 Time: 18:46
 Sample (adjusted): 1997 2019
 Included observations: 23 after adjustments
 Trend assumption: Linear deterministic trend
 Series: RGDP TBAD TBAL COL COD
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.940448	131.4912	69.81889	0.0000
At most 1 *	0.788117	66.61055	47.85613	0.0004
At most 2 *	0.638888	30.92099	29.79707	0.0370
At most 3	0.238205	7.493926	15.49471	0.5210
At most 4	0.052326	1.236124	3.841466	0.2662

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.940448	64.88067	33.87687	0.0000
At most 1 *	0.788117	35.68957	27.58434	0.0037
At most 2 *	0.638888	23.42706	21.13162	0.0233
At most 3	0.238205	6.257802	14.26460	0.5804
At most 4	0.052326	1.236124	3.841466	0.2662

Max-eigenvalue test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: E-VIEWS Output 2021

The Johansson test result presented above reported 3 cointegrating equations. This implies that the financial intermediation process has a long-run effect on economic growth. Hence, we proceeded to VEC Granger Causality/Block Exogeneity Wald Tests.

Regression Result

Before the regression result proper, we subjected the model to Vector Error Correction Model to check the deviation from the short run. The result is presented in the table7:

Table 7: Vector Error Correction Model

Method: Least Squares (Gauss-Newton / Marquardt steps)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM (-1)	-0.305362	0.133897	-2.280566	0.0376
D(LOG(TBAD(-1)))	0.079690	0.084966	0.937907	0.3631
D(LOG(TBAL(-1)))	-0.004490	0.005976	-0.751388	0.4640
D(COD(-1))	-0.000502	0.005123	-0.098057	0.9232
D(COL(-1))	-0.014351	0.016878	-0.850255	0.4086
R-squared	0.611066	Mean dependent var.		0.002648
Adjusted R-squared	0.575493	S.D. dependent var.		0.042014
S.E. of regression	0.038150	Akaike info criterion		-3.441209
Sum squared resid.	0.021831	Schwarz criterion		-3.094059
Log-likelihood	44.85330	Hannan-Quinn criteria.		-3.359431
F-statistic	1.744961	Durbin-Watson stat		2.032320
Prob. (F-statistic)	0.178569			

Source: E-Views 9.0. Output 2021

The vector error correction model (VECM) suggests that the model is rightly signed with a coefficient value of -0.305362 and a p-value of 0.0376. This suggested that short-run deviation can be corrected by 30.54%. By this, we proceeded to the regression result proper.

Dependent Variable: RGDP_0

Method: ARMA Maximum Likelihood (OPG - BHHH)

Date: 06/20/21 Time: 15:50

Sample: 1998 2019

Included observations: 22

Convergence achieved after 14 iterations

Coefficient covariance computed using the outer product of gradients

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	38472.09	19150.04	2.008982	0.0629
TBAD	0.175144	0.329339	0.531805	0.6026
TBAL	0.497159	0.228874	2.172199	0.0463
COL	50.21244	689.6037	0.072813	0.9429
COD	-68.00883	390.6485	-0.174092	0.8641
AR(1)	0.988118	0.196723	5.022880	0.0002
SIGMASQ	6176418.	4785260.	1.290717	0.2163
R-squared	0.977778	Mean dependent var		40154.13
Adjusted R-squared	0.968889	S.D. dependent var		17063.74
S.E. of regression	3009.775	Akaike info criterion		19.28074
Sum squared resid	1.36E+08	Schwarz criterion		19.62789
Log-likelihood	-205.0882	Hannan-Quinn criteria.		19.36252
F-statistic	109.9990	Durbin-Watson stat		1.591735
Prob(F-statistic)	0.000000			
Inverted AR Roots	.99			

Source: E-Views 9.0. Output 2021

The ARMA Maximum Likelihood was used to correct the issue of autocorrelation exhibited by the model. Based on the corrected OLS result, we can confidently say that the model has a high explanatory power since both the R-squared reported the regressors jointly accounted for 0.977778 variations in the regressed while the remaining insignificant values of 0.22% were captured by

the error term. More so, the Adjusted R-squared reaffirmed this assertion. Meanwhile, the Durbin Watson value of 1.591735 suggests that the model is free from the issue of serial auto-correlation. This again suggests that the model is reliable.

Furthermore, the F-statistics revealed that the regressors on the overall have high statistical values. This further revealed that all financial intermediation proxies are strong enough to determine growth.

Individually, total bank deposit, total bank loans, and advances, and cost of bank loans and advances reported coefficient values of 0.175144, 0.497159, and 50.21244. This implies that total bank deposit, total bank loans, and advances, and the cost of bank loans and advances are growth-inducing. Meanwhile, the cost of deposit exerted a negative effect on economic growth. This is attributed to the negative coefficient value estimated at -68.00883. Expectedly, total bank loans and advances exerted a high statistically significant effect on economic growth. This is because its p-value is less than 0.0463. Meanwhile, the rest other variables were not statistically significant in the determination of economic growth

CONCLUSION AND RECOMMENDATIONS

The study critically examined the effect of the financial intermediation process on the growth of the Nigerian economy from 1995 to 2019 using the Vector Error Correction Model and OLS estimation technique. Meanwhile, the model was first subjected to a Diagnostic test. The normality test revealed that the model is normally distributed. Meanwhile, the unit root test reported that the model all integrated at the same level while the cointegration test revealed that the financial intermediation process overall has a long-run statistically significant effect on the growth of the Nigerian economy. Further, the VECM reported that the model is rightly signed with a VEC Cointegrating value of less than one but was significant still. Based on the OLS result, we that total bank loans are a strong determinant of economic growth. It is on this premise that the study recommends that:

1. There is a need to intensify the deposit collection and accumulation process in Nigeria.
2. The current bank loan policy should be sustained.
3. Banks in Nigeria must ensure that that the current move of stabilizing its prime lending rate should be sustained
4. Efforts should be made to improve the current cost of deposit (deposit interest rate) since it retards economic growth.

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