

Effect of Deposit Money Banks' Loans and Advances to Services on Service Sector in Nigeria: 1986 – 2021

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ABSTRACT

This study presents an analysis of the effect of deposit money banks loans and advances to services on service sector in Nigeria. Model estimation was in line with the technique of Autoregressive Distributive Lag (ARDL) model/bound test for a long and short-run relationship. How the service sector of the real economy have been affected by deposit money banks' loans and advances was evaluated following the approach of the granger causality test and using data that spanned from 1986 to 2021. From the result of the analysis, deposit money banks loans and advances to services has negative but insignificant relationship with the sector's contribution to real gross domestic product and has not affected the growth of the service sector. The study concluded that deposit money banks' loans and advances has not significantly affected the service sector of the real economy in Nigeria. This study is suggesting that government should look into domestic regulations such as sector-targeted promotion, policies development of human capital, strong institutions and provision of critical infrastructure to promote the service sector. This will engender the profitable production and export of services that will contribute to the growth of the real sector. The services industry is massive with a lot of potentials that could be harnessed to diversify and create unprecedented employment in the country and that if the enabling environment is created the service export alone would surpass revenue generated from oil and gas.

Keywords: Deposit money banks' loans and advances; Service sector.

1. INTRODUCTION

Deposit Money Banks (DMBs) play an important role in economic development of developing countries by providing loanable funds to the real sector of the economy. The banks collect savings from the people and mobilize savings for investment in industrial projects. The investors borrow from banks to finance the projects. Nevertheless, economic growth and development have been a major objective of successive Nigerian governments. During the colonial period for instance, the focus was on the provision of physical infrastructure in the belief, in line with the prevailing economic ideas, that the facilities would induce the private investments that would produce the desired growth. After independence in 1960, the government became more directly involved in promoting economic growth. The thinking this time was to nurture

private entrepreneurs and mobilize needed domestic resources for investment in some preferred sectors. This brought banks and their intermediation function into prominence in the economic history of Nigeria (Uzomba, Chukwu, Jumbo & Nwankwo, 2014).

According to Uzomba, Chukwu, Jumbo and Nwankwo (2014), deposit money banks which are also known as commercial banks are financial institutions that provide services, such as accepting deposits, giving business loans and auto loans, mortgage lending, and basic investment products like savings accounts and certificates of activities deposit. The mainstream theory asserts that commercial banks act as financial intermediaries to channel savers' money to firms and individuals who seek funding for their acts (Uzomba, Chukwu, Jumbo & Nwankwo, 2014). Their importance as a catalyst to economic growth/development is widely recognized by both monetary and development economists. DMBs are involved in the process of increasing the wealth of the economy, particularly the capital goods needed for raising productivity. The developed economies need the service of the banking system to enable the economy attain economic growth, while the developing economies need the service of banking system for sectorial development. Furthermore, Special funds are provided to the investors for the completion of projects. The bank provides a guarantee for industrial loan from international agencies. The foreign capital, flows to developing countries for investment in projects (Onoh as cited in Ikubor, 2020).

Studies on deposit money banks loans and advances have been centred on the real sector as a whole. Even when there is disaggregation, the emphases have been on agriculture, industrial, and wholesale and retail trade (see Okosodo, 2016; Ayeomoni & Aladejana, 2016; Udoka, Mbat, & Duke, 2016; Makinde, 2016; Nteegah, 2017; Ogunmuyiwa, Okuneye, & Amaefule, 2017; Olowofeso, Adeboye, Adejo, Basse, & Abraham, 2017; Ubesie, Echekoba, Chris-Ejiogu, & Ananwude, 2019). The service sector has been ignored based on studies in the context of the Nigeria environment thus this study seeks to examine the effect of deposit money banks loans and advances on services on service sector contribution to real sector growth in Nigeria from 1986 to 2021. The remainder of this study is structured as follows: section two reviews relevant literature;

section three discloses the method of analysis; section four discusses the result and the data analysis whereas section five concluded the study.

2. LITERATURE REVIEW

Money is an essential element for any business, because it fulfils the short term and long term requirement of funds. It is not possible for the owner to bring all the money himself, so he/she take recourse to loans and advances. Loans refer to a debt provided by a financial institution for a particular period while advances are the funds provided by the banks to the business to fulfil working capital requirement which are to be payable within one year. The loan amount is required to be repaid along with the interest, either in lump sum or in suitable instalments. It can be a term loan (payable after 3 years) or demand loan (payable within 3 years). In the same way, advances also require repayment along with the interest within one year. Credit is the system by which goods and services are provided in return for deferred rather than immediate payment; it may be provided by the seller, or by a bank or finance company (Nwaru&Okorontah, 2014). Bank credit is the credit made available to the economy by the deposit money banks. Atseye, Edim and Ezeaku (2015) assert that discussion in theoretical background regarding the relevance of bank credits and their role in economic development have received considerable attention in the literature of finance. Effective and efficient financial intermediation depends mostly on the development in the banking sector, especially in a developing economy like Nigeria. This is on the argument that deposit money banks are very important agents of economic growth and development on the basis of the capability to mobilizing savings from surplus units of the economy and distributing same to deficit units in the economy for production. With bank credit, the lacuna between the borrower and the lender is filled owing to the attribute of bank credit as a blood stream of an economy (Ogunmuyiwa, Okuneye&Amaefule, 2017).

Aligning with Mazeli, Adigwe and Ananwude (2020), this study is anchored on the Finance-Led Growth Hypothesis. The theory views the importance of the development of the financial system as a catalyst for the growth and development of an economy. The theory assumes that the efficient and effective intermediation function of the financial system is a stimulant to the growth of the real sector (Mazeli, Adigwe,

&Ananwude, 2020). This proposition is one that we wish to prove or rebut in this research, to know whether deposit money banks contribute to growth and development.

There are dearth of empirical studies on the service sector and deposit money banks loans and advances nexus in Nigeria. Consequently, this study reviewed available empirical studies based on internet searches. Adesola and Ewa (2020) investigated the impact of deposit money banks services on the growth of the Nigerian economy. The study was specifically meant to examine the impact of aggregate banks credits, aggregate banks deposits and effect of interest rates spread on the growth of the Nigerian economy. To achieve these objectives, Time series data were collected from the CBN statistical Bulletin using the desk survey method from 1984 to 2017. The data were analysed using various econometrics techniques such as the descriptive statistics test, the augmented Dickey-Fuller (ADF) unit root test, correlation matrix, and Autoregressive Distributive Lag (ARDL) Model. Findings from the analysis showed that, there is an insignificant short and long run effects of aggregate banks credits on the growth of the Nigerian economy. It also revealed insignificant short and long-run effects of aggregate banks deposits on the growth of the Nigerian economy and furthermore, insignificant short and long-run effects of interest rates spread on the growth of the Nigerian economy.

Alzyadat (2021) studied the impact of sectoral bank credit facilities provided by commercial banks on the non-oil economic growth in Saudi Arabia. Bank credit facilities are given for nine economic sectors: agriculture, manufacturing, mining, electricity and water, health services, construction, wholesale and retail trade, transportation and communications, services, and finance sector. The study employs annual data from 1970 to 2019. The study employs the Autoregressive Distributed Lag (ARDL) approach to identify the long-run and short-run dynamics relationships among the variables. The main results reveal that the overall impact of total bank credit has a significant and positive effect on non-oil economic growth in KSA. The results revealed that the effect of bank credit on the non-oil GDP growth in the short and long run was uneven. The study finds that all sectors have a positive and significant impact in the long run, except for the agricultural and mining sectors. Likewise, all sectors have a positive and significant impact in the short run, except for construction, finance, services, and transportation & communications.

Abina and Obi (2020) investigated the nexus between sectorial output growth and commercial bank credit in Nigeria. Sectorial output growth was broken down into three different proxies which include production sector, Commercial sector and Service sector contribution to gross domestic product while bank credit to production sector, general commerce and service sector served as the independent variables which are used to proxy commercial bank credit. The study made use of secondary data obtained from Central Bank of Nigeria Statistical bulletin for the period 1981 to 2019. It employed Descriptive Statistics, Phillips-Perron (PP) Unit Root Test, Simple Regression Analysis and Granger Causality Test. The Granger Causality result showed that bi-directional causality is identified in the three models while there were positive and significant relationship between bank credit to production sector, general commerce, service sector and production sector contribution to gross domestic product, general commerce sector contribution to gross domestic product and service sector contribution to gross domestic product respectively.

3. METHODOLOGY

Model estimation was in line with the technique of Autoregressive Distributive Lag (ARDL) model/bound test for a long and short-run relationship. How service sector of the real economy have grown owing to the loans and advances they received from the deposit money banks moderated by the cost of fund/interest rate were evaluated using following the approach of the granger causality test. The data spanned from 1986 to 2021 and sourced from the Central Bank of Nigeria statistical bulletin. The study adapted the model of Bada (2017) and stated thus;

$$GDPA\&M = \beta_0 + \beta_1 BCTPS + \beta_2 INTR + \beta_3 PLR + \beta_4 MS + \beta_5 EXR + \beta_6 ACGSF + \mu \dots \dots \dots (i)$$

Where:

GDPA&M = Manufacturing Sector Output and Agricultural Sector Output

BCTPS= Bank Credit to Private Sector

INT = Interest Rate

PLR = Prime lending rate

MS= Broad Money supply

EXR=Exchange rate

ACGSF=Agricultural Credit Scheme Guarantee Fund

β_0 = intercept

μ = Error term or the residual

Having modified the model of Bada (2017), the functional model for this study are stated as follows:

SSCRGDP

$$= f(DMBLS, PLR) \dots \dots \dots (ii)$$

The log-linear function are stated as:

$$\begin{aligned} \text{LogSSCRGDP}_t & \\ &= a_0 + a_1 \log DMBLS_t + a_2 \log PLR_t \\ &+ u_t \dots \dots \dots (iii) \end{aligned}$$

Where:

SSCRGDP = Service sector contribution to real GDP;

DDMBLS = Deposit money banks' loans and advances to services;

PLR = the prime lending;

a_0 = constant coefficient;

μ = a random error term; and

t = the time trend; normally included in standard time-series specifications to account for the omitted variables in the model.

4. RESULTS OF ANALYSIS AND DISCUSSION

The analysis started with the presentation of the descriptive attributes of the data as shown in Table 1. The mean, median, maximum, standard deviation, skewness, kurtosis, Jarque-Bera, p-value and number of observations of the data were captured in an attempt to analyse the descriptive statistics of the data. From Table 1, the mean of the variables are 13482.86 for *SSCRGDP*, 1752.921 for *DMBLS*, and 18.33611 for *PLR*. The median for the data were shown to be 8983.255, 1.995000, and 17.77000 respectively for *SSCRGDP*, *DMBLS*, and *PLR*. The maximum and minimum values are 38771.49 and 3884.640 for *SSCRGDP*, 8952.960 and 0.000000 for *DMBLS*, and 29.80000 and 10.50000 for *PLR*. The standard deviation for the data are 9620.151, 2743.449, and 3.921631 accordingly for *SSCRGDP*, *DMBLS*, and *PLR*. The data were

positively skewed to normality as evidenced by the positive coefficient of the skewness for all the data, while the kurtosis for all the variables were positive. The Jarque-Bera statistic p-values for all the variables discloses that SSCR GDP is not normally distributed. Consequently, this study applied another econometric test of normality – Shapiro-Wilk which according to Thode as cited by Yap and Sim (2011), is the best choice and recommended by researchers as the best choice for testing the normality of data. Owing to the weakness in Jarque-Bera power to identifying the normality of the data, the Shapiro-Wilk normality test was presented in Table 2 for the concerned variables. The result of the Shapiro-Wilk normality test (at 5% significance level) entails that the data were normally distributed and inference from model estimations are reliable in statistical term of reference.

Table 1: Descriptive Properties of the Data

	Mean	Median	Max.	Min.	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
SSCRGDP	13482.86	8983.2	38771.49	3884.64	9620.151	0.83141	2.6214	4.362453	0.1129	36
DMBLS	1752.9	1.9950	8952.9	0.00000	2743.4	1.30460	3.1896	10.26595	0.0059	36
PLR	18.336	17.770	29.800	10.5000	3.9216	0.78233	4.3290	6.321950	0.0423	36
	11	00	00	0	31	4	78		8	

Source: Output Data from E-views 10.0

Table 2: Shapiro-Wilk Test of Normality

Variables	Shapiro-Wilk Test Statistic	P-value
SSCRGDP	0.860234	0.0003
DMBLS	0.679641	0.0013
PLR	0.927875	0.0215

Source: Output Data from Gretl

The unit root test is utilized to ascertain stationarity in a time series. A time series has stationarity if a shift in time does not cause a change in the shape of the distribution;

unit root are one cause for non-stationarity in time series data. The assessment of the stationarity of the data were carried with Augmented Dickey-Fuller (ADF) and Phillips Perron (PP). The unit root test was performed at level and first difference. The non-stationarity of the data at level necessitated the first difference estimation. ADF results are presented in Table 3 and 4, while PP tests in Table 5 and 6. The ADF and PP unit root test results indicated that all the variable were not stationary at level but all became stationary at first difference of estimation via none, intercept, and trend and intercept. In overall, the data were stationary thus free from any stationarity defect that most time series data possess.

Table 3: Result of ADF Test at Level

Variables	Intercept	Trend & Intercept	None	Inference
	-3.033236		-0.819033	Stationary
SSCRGDP	(0.04)**	-3.468068 (0.06)	(0.35)	
	1.022748		1.813040	Not Stationary
DMBLS	(0.99)	-0.892140 (0.94)	(0.98)	
	-4.063464	-3.506646	-0.626219	Stationary
PLR	(0.00)*	(0.05)**	(0.43)	

Source: Data output via E-views 10.0

Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where () & (**) denote significance at 1% and 5% respectively.*

Table 4:Result of ADF Test at First Difference

Variables	Intercept	Trend & Intercept	None	Inference
	-1.218947 (0.65)	-0.225491	-4.433353	Stationary
SSCRGDP		(0.98)	(0.01)*	
	-5.092086	-6.186576	-4.746795	Stationary
DMBLS	(0.00)*	(0.00)*	(0.00)*	
PLR	-5.677280	-5.873450	-5.761470	Stationary

(0.00)* (0.00)* (0.00)*

Source: Data output via E-views 10.0

Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where () & (**) denote significance at 1% and 5% respectively.*

Table 5: Result of PP Test at Level

Variables	Intercept	Trend Intercept	& None	Inference
	1.688682		4.434355	Not
SSCRGDP	(0.99)	-2.197949 (0.47)	(1.00)	Stationary
	2.173384		2.993060	Not
DMBLS	(0.99)	-0.230249 (0.98)	(0.99)	Stationary
	-4.310681	-5.658215	-0.449349	Stationary
PLR	(0.00)*	(0.00)*	(0.52)	

Source: Output Data via E-views 10.0

Note: Spectral estimation methods are Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where () & (**) denotes significance at 1% and 5% respectively.*

Table 6: Result of PP Test at First Difference

Variables	Intercept	Trend Intercept	& None	Inference
	-7.580401	-8.466295	-6.769192	Stationary
SSCRGDP	(0.00)*	(0.00)*	(0.00)*	
	-5.032708	-10.55723	-4.746828	Stationary
DMBLS	(0.00)*	(0.00)*	(0.00)*	
	-10.16496	-10.38978	-10.30771	Stationary
PLR	(0.00)*	(0.00)*	(0.00)*	

Source: Output Data via E-views 10.0

Note: Spectral estimation methods are Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where () & (**) denotes significance at 1% and 5% respectively.*

The confirmation of the stationarity of the data made way for the testing of the long run relationship between deposit money banks' loan and advances, and the real economy. The Autoregressive Distributive Lag (ARDL) was selected because it takes into consideration the different order of integration of variables. The biases that may be associated with stationarity at level or first difference estimation is completely eliminated with the application of the ARDL co-integration methodology. From the ARDL result in Table 7, it was observed that deposit money bank loans and advances to services is not related with service sector contribution to real gross domestic product in the long run. To back it up, the f-statistic of 3.34 is lower than the upper bound test of 3.87.

Table 7: SSCR GDP → DMBLS + PLR

T-Test	5% Critical Value Bound		Remark
		Upper	
F-Statistic	Lower Bound	Bound	
3.341371	3.1	3.87	Null Hypothesis Accepted

Source: Data output via E-views 10.0

The nature of relationship between loans and advances of deposit money banks in Nigeria and service sector contribution to real gross domestic product was assessed using the ARDL regression approach as against the conventional OLS methodology. The choice of ARDL is predicated on the fact that the variables have different order of integration and ARDL is perfectly suited to handle such. The global utility of Adjusted R-square, f-statistic, Durbin Watson and the relative statistic of the individual variables were the statistical yardstick for interpretation of the ARDL short run relationship analysis. Based on global utility criteria, Table 8 shows that 88.88% variation in service sector contribution to gross domestic product was attributed to deposit money banks loans and advances to service sector and prime lending rate which is significant by looking at the p-value (0.00) and f-statistic (25.78). The Durbin Watson value of 1.61

falls within the acceptable range that is devoid of autocorrelation problem. From the individual variables' coefficient analysis, deposit money banks loans and advances to service sector has insignificant negative relationship, while prime lending rate has insignificant negative relationship with service sector contribution to gross domestic product. Service sector contribution to gross domestic product would be up by a tune of ₦2,873.47 billion when deposit money banks loans and advances to service sector and prime lending rate are kept constant. Rising deposit money banks loans and advances to service sector by a percentage result in 1.13 factor appreciation in service sector contribution to gross domestic product, while an equivalent increase in prime lending rate would lead to a 216.09 depreciation in service sector contribution to gross domestic product.

To determine the effect of deposit money banks loans and advances on service sector, the granger causality analysis was performed. The choice of granger causality analysis was based on the fact that it is structured to detect a variable that can predict or cause change in another which is obviously not the case in the OLS technique which only ascertains the nature of relationship between variables. Two variables may correlated but may not have any effect or cause changes on the other. On the service sector linkage with deposit money bank loans advances to service sector, Table 9 reveals that there is a unidirectional relationship between service sector contribution to real gross domestic product and deposit money bank loans advances to service sector at significance level of 5%. The result implies that service sector contribution to real gross domestic product has significant effect on deposit money bank loans advances to service sector. Similarly, service sector contribution to real gross domestic product has significant effect on deposit money bank loans advances to service sector at significance level of 5%.

Table 8: ARDL Regression $SSCRGDP \rightarrow DMBLS + PLR$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SSCRGDP(-1)	-0.020244	0.344656	-0.058738	0.9537
SSCRGDP(-2)	0.845848	0.398563	2.122242	0.0459

SSCRGDP(-3)	-0.640611	0.486740	-1.316125	0.2023
SSCRGDP(-4)	1.349008	0.520577	2.591370	0.0170
DMBLS	1.133125	1.216136	0.931742	0.3621
DMBLS(-1)	-4.356223	2.083633	-2.090686	0.0489
DMBLS(-2)	4.170488	2.037390	2.046976	0.0534
DMBLS(-3)	-5.277855	1.972372	-2.675892	0.0141
DMBLS(-4)	2.829917	1.037594	2.727383	0.0126
PLR	-216.0999	199.8539	-1.081290	0.2918
C	2873.473	4842.068	0.593439	0.5592
R-squared	0.924682	Mean dependent var		14662.07
Adjusted R-squared	0.888817	S.D. dependent var		9569.096
S.E. of regression	3190.732	Akaike info criterion		19.24017
Sum squared resid	2.14E+08	Schwarz criterion		19.74402
Log likelihood	-296.8428	Hannan-Quinn criter.		19.40719
F-statistic	25.78193	Durbin-Watson stat		1.619948
Prob (F-statistic)	0.000000			

Source: Data output via E-views 10.0

Table 9: Granger Causality Result for SSCR GDP → DMBLS + PLR

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
			0.093	
			2	
DMBLS does not Granger Cause SSCR GDP	35	2.99504	0.000	No Causality
SSCR GDP does not Granger Cause DMBLS		22.1629	0	Causality
			0.312	
			0	
PLR does not Granger Cause SSCR GDP	35	1.05523	0.005	No Causality
SSCR GDP does not Granger Cause PLR		8.90786	4	Causality

Source: Data output via E-views 10.0

Table 8 reveals a non-significant positive relationship between deposit money banks loans and advances to the services on service sector contribution to real gross domestic product. Similarly, in Table 9, the significant effect of deposit money banks loans and advances to the services on service sector contribution to real gross domestic product was not supported. Despite the fact that this is not statistically significant, the outcome may point to the developing nature of the Nigeria service sector which dominantly are hinged to other developing countries in Africa for patronage. This is not in agreement with Alzyadat (2021) and Abina and Obi (2020) on the positive effect of deposit money banks loans and advances on service sector performance. The prolonged strike by the Academic Staff Union of Universities (ASUU) has shown exist of some lecturers and medical personnel, especially from Lagos to Europe, North America and South America continents. Nonetheless, if the service sectors were working even up to 70%, the resignation of these lecturers and medical personnel would have been at the barest minimum compared to what was reported within the period of ASUU strike.

5. CONCLUSION AND POLICY IMPLICATIONS

This study presents an analysis of the effect of deposit money banks loans and advances to services on service sector in Nigeria. Model estimation was in line with the technique of Autoregressive Distributive Lag (ARDL) model/bound test for a long and short-run relationship. How the service sector of the real economy have been affected by deposit money banks' loans and advances were evaluated using following the approach of the granger causality test, and using data that spanned from 1986 to 2021. From the result of the analysis, the study concluded that deposit money banks' loans and advances has not significantly affected the service sector of the real economy in Nigeria. Deposit money banks loans and advances to services has negative but insignificant relationship with the sector's contribution to real gross domestic product.

This study is suggesting that government should look into domestic regulations such as sector-targeted promotion, policies development of human capital, strong institutions and provision of critical infrastructure to promote the service sector. This will engender the profitable production and export of services that will contribute to the growth of the real sector. The services industry is massive with a lot of potentials that

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