

EFFECTS OF COMMERCIAL BANKS CREDIT TO SMALL SCALE ENTERPRISES, MANUFACTURING AND AGRICULTURAL SECTORS ON ECONOMIC GROWTH IN NIGERIA.

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ABSTRACT

This study examines the effects of commercial bank credit to agriculture (CBAFF), small-scale enterprises (CBSSE), and manufacturing sectors (CBMF) on economic growth (GDP) in Nigeria. Annual time series data covering the periods of 1992 to 2017, collected from the Central Bank of Nigeria and World Bank were used in the study. The stationarity of the series was evaluated using ADF, PP and KPSS unit-roots, whereas the long-run and the short-run dynamic relationship were analysed using the ARDL bound test technique. The findings of the study revealed that there is a long-run relationship between the variables. It also shows that the error correction term is negative and statistically significant. This further indicates that CBAFF has a positive and statistically significant effect on GDP in both the short-run and in the long run; CBSSE has a negative effect on GDP in the short run but a positive effect in the long run, whereas CBMF has a negative effect on GDP both in the short run and in the long run. The study, therefore, recommends that more commercial bank credit should be made available to these key sectors at the lower interest rate and longer repayment period and also other factors such as basic infrastructure, incentives, subsidies should be provided by the government to improve the performance of these sectors (especially manufacturing).

Key Words: Commercial Bank Credit, Small Scale Enterprises, Manufacturing, Agriculture, Economic Growth and ARDL.

1. INTRODUCTION

Access to finance has been considered one of the biggest obstacles to business growth in developing countries like Nigeria. This has been evidenced in the 2014 micro-enterprises survey, where 27.9% of businesses engaged in manufacturing activities and 30.4% of small-scale businesses reported access to finance as the biggest

challenge affecting their performance. Economists believe that banks' development and efficient financial intermediation contribute to the growth of the economy by channeling the deposits made by the surplus spending unit to the businesses that need funds for financing their businesses. Nyanyawu (2012) observed that banks channel excess funds deposited by customers to investors who need funds to create additional wealth in the economy. Similarly, Onyia (2019) noted that the financial sector plays an intermediation role between the surplus and deposit units by mobilizing savings and allocating them to the real sector for investment purposes. Several studies have attempted to examine the relationship between bank credit and the economic growth. However only few focused on the short- run and the long-run analysis therefore little is known about this relationship.

A survey of the literature revealed that most of the researches on the relationship between bank credit and economic growth focuses on aggregate credit, whereas few have considered only one sector of the economy. Understanding the short-run and long-run relationship between bank credits to various sectors on economic growth will be of paramount importance in designing short-term, medium-term, and long-term policies.

The main objective of the study is to examine the long run and the short-run dynamics effects of commercial bank credit to agriculture, small-scale enterprises, and manufacturing sectors on economic growth (GDP) in Nigeria.

2. LITERATURE REVIEW

2.1 Theoretical Review

The theoretical link between commercial bank credit to agriculture, small-scale enterprises, manufacturing, and economic growth is studied in light of the finance-growth theory. The theory according to Courage and Leonard (2019) “there is a direct link between the financial sector and the real sector through the size of the financial sector. This implies that, as the financial sector becomes more developed in terms of size and scope of activities, its contributions to economic growth increase via the provision of sophisticated debt instruments that enhance financing”. Considering this theoretical postulations, one could expect that increase in commercial banks credit to the key financial sectors (agriculture, small scale enterprises and manufacturing), will lead to the increase in the employment of productive resources which in turn leads to the increase in output and consequently lead to economic growth.

2.2 Empirical Literature

The results of the study conducted by Murty, Sailaja, and Demissie (2012) on the long-run effect of bank credit on economic growth in Ethiopia for the periods of 1972 – 2011 using the Johansen co-integration approach showed that there is a positive long-run relationship between bank credit and economic growth. Bank deposit liabilities, human capital, domestic capital, and trade openness were also found to positively impact economic growth.

Nuno (2012) analyzed the nexus between bank lending and economic growth for the European Union for the periods between 1990 and 2010. The data obtained were analyzed using a dynamic panel GMM system estimator. The results show that saving enhances growth and inflation has a negative impact on economic growth. Also, results indicate that domestic credit discourages growth.

Imoughele, Ehikioya, and Mohammed (2014) analyzed the impact of a commercial bank on the growth of small and medium scale enterprises in Nigeria for the periods between 1986 and 2012. Using co-integration and error correction modelling techniques, the study found that commercial bank credit to small and medium scale enterprises SMEs, total government expenditure, and bank density has a positive but insignificant effect on the SMEs output. It also reveals that the interest rate has an adverse effect on SMEs' output.

Neelam (2014) investigated the effect of commercial bank credit to the private sector on the economic growth in Nepal during the periods of 1975 to 2013. The study employed the Johansen co-integration and error correction model approach to the analysis of the data. The result indicates Bank credit to the private sector impact positively on the growth in the long run only. Whereas, in the short run, the feedback effect from economic growth to private sector credit has been observed.

Oke and Aluko (2015) assessed the effect of commercial banks on small and medium enterprises financing in Nigeria during the periods spanning between 2002 and 2012. Using panel regression technique, the study found that commercial bank loan has a significant impact on SME's financing.

Suna (2015), investigated the impact of Bank Credit on Economic Growth and inflation for 10 European countries over the periods of 2006-2012. With the aid of the panel regression model, the study found that domestic credit by banks has no effect on inflation but did affect economic growth.

Ebele and LoreMBER (2016) examined the relationship between commercial bank credit and manufacturing sector output in Nigeria for the period of 1980 to 2015 using the Cochrane-Orcutt method. The results obtained from the study indicates that the

inflation rate and interest rate have a negative effect on manufacturing sector output while loans and advances, and broad money supply positively affect manufacturing output.

Kalu, Alice, Chioma, Augustina, and Chinwe (2017) evaluated the relative impact of bank credit on the manufacturing sector in Nigeria for the period spanning from 1986 to 2013. Utilizing the ARDL bound co-integration test, the study found that there is a long-run relationship, and also there exists a significant relationship both in the long run and in the short run.

Clement, Ayodeji, and Rafiat (2018) examined the impacts of commercial bank lending to small and medium enterprises on the Nigerian economy for the periods 1998-2017. The estimated results from ordinary least square techniques showed that commercial bank loans to SMEs had a negative and insignificant effect on GDP.

Onyia (2019) studied the impact of sectoral commercial bank credit allocation to the real sector on the output performance of the Nigerian economy for the period 1986-2018. Applying the vector error correction model (VECM) to annual time series data, the study found that commercial bank credit allocation to the real sector has a long-run positive relationship with the sector output performance.

Akubo, Abraham, and Alope (2019) examined the effects of deposit money banks' real sector financing on economic growth in Nigeria. The estimated results from the ordinary least square revealed that loans of deposit money banks to manufacturing, mining, and quarrying have a significant positive effect on real GDP.

Courage and Leonard (2019) analyzed the effects of commercial bank credit to the real sector on economic growth in Nigeria for the periods of 1981 to 2015. Employing the cointegration and error correction mechanism, the study found that commercial bank credit to manufacturing and agricultural sector significantly affect economic growth both in the short run and in the long run.

Olaide 2019 studied the role of bank credit on the economic growth and inflation in Nigeria for 1996 and 2014. The data on GDP, Domestic Credit, Net Domestic Credit, and inflation obtained from the Central Bank of Nigeria was analyzed using descriptive statistics and Granger causality. The study found that both domestic credit and net domestic credit have a significant relationship with GDP but such evidence cannot be established in the case of inflation.

Okafor (2020) investigated the effects of commercial bank credit on agricultural development of Nigeria using the Ordinary Least Square methods. The results obtained revealed that government spending on agricultural sector, credit to

agricultural sector and agricultural credit guarantee scheme fund have significant and positive effect on agricultural output, whereas, interest rate was found to have negative but insignificant effect on agricultural output.

Fred, Adeyemi, Adewale and Festus (2021) studied the effect of deposit money banks credit to small and medium scale enterprises on economic growth of Nigeria for the periods between 2010 and 2019 using fixed and random effect regression. The results of the study revealed that loans and advances to SMEs’ in agricultural sector positively and significantly affect economic growth, whereas, loans and advances to general commerce negatively but insignificantly affect economic growth.

3. METHODOLOGY

3.1 Sources and Nature of Data

The study utilizes the annual time series data on Commercial Bank Credit to Agriculture (CBAFF), Commercial Bank Credit to Small Scale Enterprises (CBSSE), Commercial Bank Credit to Manufacturing (CBMF), and Gross Domestic Product (GDP) for the periods spanning from 1992 to 2017. The data was obtained from the Central Bank of Nigeria and the World Bank.

3.2 Model Specification

Several estimation techniques have been used to analyze the effects of bank credit on economic growth. For instance, the Autoregressive Distributed Lagged (ARDL) model has been used by Kalu, et al. 2017. The ordinary least square method has been utilized by Akubo 2019; Clement 2018, Oke and Aluko (2015). Error Correction Model (ECM) has been used by Courage and Leonard (2019) Johansen co-integration technique has been employed by Onyia 2019. The study prefers the ARDL due to its advantages over other techniques which include: its applicability to the small sample and it can also be used on the combination of both I (0) and I (1) series which has been our case among others.

The model used in the study is specified based on the finance growth theory and the empirical works of Courage and Leonard (2019). Therefore, the model is specified mathematically as:

$$GDP = F(CBAFF, CBSSE, CBMF) \dots \dots \dots 3.1$$

Equation 3.1 is specified in econometrics as:

$$GDP_t = \beta_0 + \beta_{1t}CBAFF + \beta_{2t}CBSSE + \beta_{3t}CBMF + \varepsilon_t \dots \dots \dots 3.2$$

To correct the measurements differences and bring the variables to comparable levels, the variables are expressed in logarithmic order given as:

$$LOGGDP_t = \beta_0 + \beta_{1t}LOGCBAFF + \beta_{2t}LOGCBSSE + \beta_{3t}LOGCBMF + \epsilon_t \dots \dots \dots 3.3$$

The ARDL model combining both the long-run and the short-run relationship between the variables is specified as:

$$\Delta GDP_t = \alpha_i + \sum_{j=1}^{m-1} \beta_{ij} \Delta GDP_{t-j} + \sum_{l=0}^{n-1} \varphi_{il} \Delta CBAFF_{t-l} + \sum_{r=0}^{p-1} \tau_{ir} \Delta CBSSE_{t-r} + \sum_{s=0}^{q-1} \tau_{is} \Delta CBMF_{t-s} + \gamma_1 GDP_{t-1} + \gamma_2 CBAFF_{t-1} + \gamma_3 CBSSE_{t-1} + \gamma_4 CBMF_{t-1} + \epsilon_t \dots \dots \dots 3.4$$

Long run equation form of equation 3.4 is given as:

$$GDP_t = \mu_i + \sum_{j=1}^{m-1} \gamma_{1j} GDP_{t-j} + \sum_{l=0}^{n-1} \gamma_{2l} CBAFF_{t-l} + \sum_{r=0}^{p-1} \gamma_{3r} CBSSE_{t-r} + \sum_{s=0}^{q-1} \gamma_{4s} CBMF_{t-s} + v_t \dots \dots \dots 3.5$$

Short Run equation expressed as Error Correction Model generated from equation 3.4 is given as:

$$\Delta GDP_t = \alpha_i + \sum_{j=1}^{m-1} \beta_{ij} \Delta GDP_{t-j} + \sum_{l=0}^{n-1} \varphi_{il} \Delta CBAFF_{t-l} + \sum_{r=0}^{p-1} \tau_{ir} \Delta CBSSE_{t-r} + \sum_{s=0}^{q-1} \tau_{is} \Delta CBMF_{t-s} + \lambda ECT_{t-1} + \epsilon_t \dots \dots \dots 3.6$$

Where:

ECT_{t-1} is the error correction term defined from the **long-run equilibrium relationship and measures the speed of adjustment**. γ is the coefficients of the long run parameters, GDP stands for Gross Domestic Product (a proxy for economic growth), CBAFF represents commercial bank credit to agriculture, CBSSE is the **commercial bank credit to small-scale enterprises**, and CBMF stands for **commercial bank credit to manufacturing sectors**.

4. RESULTS AND DISCUSSION

Table 4.1: Unit Root Tests

Panel A: ADF Test								
Variable	Coefficient	Levels			First Difference			
		P-Value	Order of integration	Remark	Coefficient	P-Value	Order of integration	Remark
GDP	-1.5411	0.4969		NS	-4.3408**	0.0025	I(1)	S
CBAFF	-2.8781	0.0622		NS	-4.7093**	0.001	I(1)	S
CBSE	-1.889	0.3317		NS	-4.5790**	0.0014	I(1)	S
CBMF	-6.0191**	0	I(0)	S			I(0)	S

Panel B: PP Test								
Variable	Coefficient	Levels			First Difference			
		P-Value	Order of integration	Remark	Coefficient	P-Value	Order of integration	Remark
GDP	-1.5631	0.486		NS	-4.3391**	0.0025	I(1)	S
CBAFF	-2.8781	0.0622		NS	-4.9535**	0.0006	I(1)	S
CBSSE	-1.8022	0.3708		NS	-4.6223**	0.0013	I(1)	S
CBMF	-5.8000**	0.0001	I(0)	S			I(0)	S

Panel C: KPSS Test								
Variable	Coefficient	Levels			First Difference			
		5% Critical Value	Order of integration	Remark	Coefficient	5% Critical Value	Order of integration	Remark
GDP	0.6347	0.463		NS	0.0930**	0.463	I(1)	S
CBAFF	0.7544	0.463		NS	0.2962**	0.463	I(1)	S
CBSSE	0.2601	0.463		NS	0.1281**	0.463	I(1)	S
CBMF	0.7383**	0.463	I(0)	S			I(0)	S

Source: Author's Computation using E-views 10

Table 4.1 presents the ADF, PP, and KPSS unit root tests the results of the study. The results indicate that CBMF is stationary at a level I (0) whereas, all other variables namely: GDP, CBSSE, and CBAFF are non-stationary at level but became stationary after taking their first difference

4.1 ARDL Bound Test

Table 4.2: Co-integration Test Results

Null hypothesis: No long-run relationship		
Test Statistics	Value	K
F-statistics	6.0095	3
Critical Values		
Level of Significance	I(0)	I(1)
10%	2.01	3.1
5%	2.45	3.63
2.5%	2.87	4.16
1%	3.42	4.84

Source: Author's Computation using E-views 10

After testing for the stationarity, the next step is to apply the ARDL bound test to examine whether the co-integration relationship exists. As shown in table 4.2, the ARDL bound F-statistic (6.0095) is greater than both the upper and lower bounds critical values at 5% and 1% level of significance. Consequently, the null hypothesis of no long-run relationship between the variables is rejected.

4.2 Long-run estimates of ARDL:

Panel A in table 4.3 presents the ARDL Model (4, 3, 4, 4) long-run results with GDP as the dependent variable. The table reveals that the coefficient of CBAFF is positive and statistically significant at a 5% level. This implies that a one per cent increase in commercial bank credit to the agricultural sector increases GDP by about 18% in the long run. Similarly, the coefficient of CBSSE is also positive and statistically significant at the 10% level. This means that a 1% increase in commercial bank credit to small scale enterprise increase the GDP on the average by about 5% in the long-run. Finally, the coefficient of CBMF is negative and statistically significant at the 10% level. This suggests that in the long run 1% increase in commercial bank credit to manufacturing decreases GDP by about 17%.

4.3 Short-run ARDL results

Panel B in table 4.3 provides the short ARDL results with GDP as the dependent variable. The error correction term is negative and statistically significant. This implies that the short-run disturbances in the system will adjust to the long-run equilibrium path at the speed of 1.67 (i.e. less than a year). The 1st, 2nd and 3rd Lagged Values of the dependent variable are positive and statistically significant. This implies that GDP is affected by its lagged values. The coefficient of CBAFF (7.03) is positive

and statistically significant. This means that in the short-run, a 1% increase in commercial bank credit to agriculture increases GDP by about 7.03% whereas, the coefficients of 1st and 2nd lagged values of CBAFF are statistically insignificant. The result also shows that the coefficient of the CBSSE is negative and statistically significant. This suggests that in the short-run commercial bank loan to small scale enterprises reduces GDP by 6% at the current period, by 19% at the 1st lagged period, by 28% at the 2nd lagged period and by 6% at the 3rd lagged period. The coefficient of CBMF is negative and statistically significant at the current, and the 3rd periods, whereas, at the 3rd lagged period it is positive and also statistically significant.

The value of R² is 0.8953 meaning that about 89.5% of the variations in GDP is explained by the variables included in the model. Therefore, the model has a good fit.

4.4 Model Diagnostic Test

Table 4.3: Long run, Short-Run ARDL and Diagnostic tests Results

Panel A: Long Run Estimates, GDP is the Dependent Variable					
Selected Model: ARDL(4, 3, 4, 4)					
Variables	Coefficient	Standard error	t-statistics	P-Value	
LOGCBAFF	18.3210	6.5788	2.7849	0.0496	
LOGCBSSE	5.0143	2.0549	2.4402	0.0712	
LOGCBMF	-17.0053	7.1083	-2.3923	0.0750	
Panel B: Short Run Estimates, GDP is the Dependent Variable					
Variables	Coefficient	Standard error	t-statistics	P-Value	
D(NGDP(-1))	0.6211	0.1711	3.6298	0.0222	
D(NGDP(-2))	0.5972	0.1783	3.3489	0.0286	
D(NGDP(-3))	0.7860	0.2198	3.5752	0.0233	
D(CBAFF)	7.0274	1.2844	5.4716	0.0054	
D(CBAFF(-1))	-2.4348	1.1125	-2.1886	0.0938	
D(CBAFF(-2))	2.6803	0.9972	2.6879	0.0548	
D(CBLTSSE)	-6.1230	1.2241	-5.0021	0.0075	
D(CBLTSSE(-1))	-19.0897	3.2196	-5.9292	0.0041	
D(CBLTSSE(-2))	-28.2842	4.3036	-6.5723	0.0028	
D(CBLTSSE(-3))	-6.2310	2.1750	-2.8648	0.0457	
D(CBMF)	-17.6717	3.1600	-5.5923	0.0050	
D(CBMF(-1))	-2.0224	2.1490	-0.9411	0.3999	
D(CBMF(-2))	-5.6077	2.0107	-2.7889	0.0494	
D(CBMF(-3))	9.2119	1.8740	4.9157	0.0080	
ECT	-1.6616	0.2562	-6.4859	0.0029	

R-squared		0.895306
Durbin-Watson stat		2.380740
Panel C: Diagnostic Tests		
Tests	F-statistics	P-Value
Ramsey Reset	4.9694	0.1121
Serial Correlation	0.2853	0.6303
Breusch-Pagan- Godfrey	0.9424	0.6099
Jarque- Bera	0.2436	0.8853
Cusuum Sum Square	Stable	

Source: Author's Computation using E-views 10

Panel C in table 4.3 presents the diagnostic test results of our estimated ARDL model. The F-statistic of Ramsey Reset does not support the rejection of the null hypothesis of no omitted variable in the model. As a result, we conclude that our model is correctly specified. Similarly, the result shows that we cannot reject the null hypothesis of no serial correlation, homoscedasticity, and stability of our series at a 5% level of significance.

4.5 Policy Implication(s) of the Results

The results obtained supported the hypothesis in the case of commercial bank credit to agriculture in both the short-run and in the long run. This suggest that for the country to achieve economic growth more credit should be made available to farmers which will improve their productivity and consequently their output. The estimated results also show that a 1% increase in commercial bank credit to small scale enterprises reduces the GPD by 6%, 19%, 28% and 6% at the current, 1st, 2nd & 3rd lagged period, whereas, in the long-run, increase in the 1% increase in commercial bank credit to small scale enterprises increases GDP by 5%. This implies that for the small-scale enterprises to positively contribute to the economic growth the loan should be for a long period since at the short term loan reduces output and consequently growth. Commercial bank loan to manufacturing negatively affects economic growth both in the short run and in the long run. This could be attributed to the high cost of production, high interest rate, inflation, dumping, and lack of basic infrastructure among others.

5. CONCLUSION AND RECOMMENDATIONS

Based on the result obtained, the study established the evidence of a long-run co-integration relationship between commercial bank credit to agriculture, small scale enterprises, manufacturing, and economic growth. Furthermore, commercial bank credit to agriculture has a positive and significant effect on economic growth, commercial bank credit to small scale has a negative effect on economic growth in the short run but positively affect growth in the long run whereas, commercial bank credit to manufacturing had a negative effect on the economic growth both in the short-run and in the long-run. The study, therefore, recommends that more commercial bank credit should be made available to these key sectors at the lower interest rate and longer repayment period and also other factors such as basic infrastructure, incentives, subsidies should be provided to improve the performance of these sectors (especially manufacturing).

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