Research Article

Analysis of the Impact of Banking Sector Credits on the Real Sector

Sule Magaji*[1], Saminu S. Dogo[1], & Ibrahim Musa[1]

[1]Department of Economics, University of Abuja, Nigeria

Abstract: This study examines the impact of credit from banking industry to Nigeria's real sector. It uses Auto Regressive Distributed Lagged (ARDL) model. The result indicates that Commercial Bank Credit (CBC) has great positive impact on Nigeria's real sector. Domestic private investment (DPI) was found to have a negative significant relationship with the real sector (RGDP). The estimated long and short runs equation of the specified econometric model shows a significant positive relationship existing between government capital expenditure (GCE) and real sector (RGDP). In the short run, a significant increase in DPI, CBC, and GCE will on average bring about a significant increase in RGDP. A unit increase in DPI, CBC, and GCE will bring about an increase in RGDP by 8.71 units, 3.18, and 0.42 respectively and the parameter estimate of DPI, CBC and GCE are statistically significant as computed by the t-value being -1.83, 2.19 and 1.95 respectively. The study confirms effective utilization and distribution of bank credits to the real sector is significant toward achieving Nigerian economic growth. The study, therefore, recommends that an improved banking sector credit improves the output of the real sector. There is also an urgent need to refocus existing strategies in the economy.
Keywords: Bank Credits, Financial Sector, Financial Institutions, and Real Sector.

INTRODUCTION

The significance of financial institutions in attaining economic growth in the economy attracts attention in recent times with various studies justifying its significance. The previous years, the credit volume of Nigeria has been on the increase with such increase expected to enhance economic agents and minimize the impact of economic shocks and achieve economic growth. Despite these assertions, economic growth has remained relatively low. Sustainable growth is only attainable if financial resources are effectively and efficiently mobilized and allocated for optimum economic performance (Owusu, 2016).

The critical role of financial institutions has prompted successive Nigerian governments to carry out reforms and innovations in the banking sector aimed at attaining financial stability to induce economic growth. Hasanov, Bayraml, and Al-Musehel (2018) highlighted the necessity of a self-sustaining banking system in absorbing adverse economic circumstances and financial distress, particularly in countries that produce raw materials, like Nigeria. Alkhazaleh (2017) advocates that the banks' core function of providing credits is the essential financing for all the sectors in the country.Timsina (2017) asserts that credit is the largest single source of income in the portfolios of most banks, which explains why credit management is a key focus.

Recently, commercial banks have increased the total amount of credit they have provided to the economy, however despite the steady increase, it has not translated into an improved level of development in the country through the standard of living, employment,

rates of poverty, and industrial output amongst others as the effect of bank credits to the real sector is expected to be seen at least in both quantitative and qualitative terms, for instance, determining the extent to which bank credits have impacted human development, decreased unemployment, and alleviated poverty in the economy is important.(Akujuobi&Nwezeaku, 2015).

The real sector in Nigeria has been shaky in recent times which is evident in the low level of GDP in the country. The real sector is a fundamental part of the economy as the activities carried out in this sector generates an economic output which is important in boosting the GDP of the economy. This further indicates why the real sector is capable of prospering the economy if accompanied by a healthier financial system. The dwindling progress of the real sector has been unimpressive in recent times in Nigeria basically due to massive importation of finished goods and insufficient financial support for the sector, which ultimately has contributed to the reduction in capacity utilization of the real sector in the country (Obamuyi, Edun&Kayode, 2018).

Nigeria's financial system has improved recently as a result of several reforms, but not as much as other emerging economies like South Africa, Brazil, and Egypt, which raises concerns about the inefficient utilization of the sizable amount of bank credit that commercial banks have extended to the economy over the years. In Nigeria, the implicitness connected to bank credit is a recurrent phenomenon as manufacturers and businesspeople lament their inability to access financing. In addition to having extremely high-interest rates, many small businesses find it difficult to obtain credit because

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*Corresponding Author: Sule Magaji

it requires collateral (Igwe, Magaji&Darma, 2021). Accordingly, production is hampered, which ultimately affects GDP and in turn economic growth.

Financial intermediation mobilizes deposits from surplus units and allocates credit facilities to borrowers/investors for economic productive investment. Economic development comprises the activities of both the private and public sectors, which are limited by the expense of bank debt instruments but require bank lending to expand and develop their businesses. However, banks incur financial intermediation costs when they mobilize and extend access to credit (loans and advances) to both the personal and public sectors of the economy (Magaji&Darma, 2021). This is due to the likelihood that high lending rates will discourage the use of bank credit while endangering banks' liquidity positions (Takon, John, Ononiwu, and Mgbado, 2020). For businesses dealing with money, including banks and other non-bank institutions, managing risk is a crucial task, which implies the need for an interest rate or the cost of financial intermediaries. (John Obim&Orok, 2018).

However, as the private sector contributes significantly to Nigeria's real sector, economic growth, and development, a rise in the expense of financial intermediaries will have a negative impact on that sector's development which primarily depend on bank credit as a source of financing their investment, due to the absence of a developed capital market (Nwite, 2014). The research of credit facilities and their capacity to spur growth has garnered renewed interest on a global scale but there has been least evidence available regarding the impact of bank credit on the real sector in Nigeria. Some of the previous research use short-term data while others use not up-to-date data. It has therefore become imperative to contextually measure and ascertain the level of the impact of bank credit on the real sector in Nigeria for effective policies to be developed accordingly. This constitutes the problem of interest in this research. This study's goal is to evaluate the effects of credit provided by the banking sector on Nigeria's real estate market.

Review of Empirical Literature

The relationship between financing and economic expansion has been the subject of numerous empirical studies, but the explanatory factors have not been agreed upon. The goal of Ahmed, Jayaraman, & Ahmed (2020) examine how these important economic indicators affected the total amount of credit provided by traditional commercial banks in the Sultanate of Oman. The study's findings indicate that macroeconomic indicators have a favorable effect on the amount of credit provided by traditional commercial banks in the Sultanate of Oman.Takon, John, Ononiwu, &Mgbado's (2020) study, which sought to assess the importance of the financial intermediaries cost and to suggest measures that could accelerate economic growth in Nigeria,

focused on the factors that determine the cost of financial intermediaries in Nigeria's pre- and post-consolidated banking sector. From the analysis, it was found that there was a significant correlation between credit for the private sector and GDP in Nigeria. Further research revealed a strong correlation between Nigeria's GDP and total deposits. Additionally, it was discovered that interest rates significantly impacted Nigeria's GDP.

Zeqiraj, V., Shawkat, H., Omer, I. &Aviral, K. T. (2020), examine the dynamic relationship between banking sector performance and GDP growth in 13 Southeast European nations between 2000 and 2015, taking into account factors such as trade openness, investment, and human capital, among others. The major empirical finding suggests a favorable and significant impact of banking sector performance on growth in the economy using an intricate detail generalized moments method (GMM).

Okoroafor, Magaji&Eze (2018) assess the effect of deposit money banks on capital formation in Nigeria, taking into account the liquidity ratio, bank savings, and deposit rate. To determine the long-run and short-run relationships, they performed unit root tests, ARDL co-integration tests, and ECM. The findings demonstrate a favorable association between bank savings and GFCF.

Anyanwu, Ananwude, &Okoye (2017) determine the effect of commercial bank lending on RGDP and the industrial production index to empirically evaluate the impact of bank lending on Nigeria's economic development from 1986 to 2015. Heterogeneity was identified in data from the preliminary statistics of the CBN. Commercial bank lending and GDP are predicted to have a long-term relationship by Johansen's cointegration, and this is true for the Industrial Production Index. According to the Granger Impact Assessment's findings, private sector lending has a substantial impact on real GDP while CB lending has a substantial impact on real GDP.

Tongurai &Vithessonthi (2017) examine how adjustments in the economic system and growth were affected by the development of the banking sector. They asserted that the growth of the banking industry had different effects on the growth of the agricultural and industrial sectors. Check to see if the banking sector's development is supported by the economic structure and growth. We will compile a committee sample of all nations from 1960 - 2016 to test the theory. The growth of the banking industry has a detrimental effect on the growth of the industrial and agricultural sectors. Only in nations with a high level of banking sector growth is the negative effect of banking sector growth on agriculture industry development visible. Our findings also demonstrate the expansion of the agricultural sector.

*Corresponding Author: Sule Magaji

Ben Salem & Trabelsi (2012) apply Pedroni's panel cointegration analysis to determine the significance of financial growth as a determinant of the growth of the seven SEMCs between 1970 and 2006. This study contends that growth and finance have a long-term relationship. The supply-side theory is also only very shakily supported. In actuality, the financial sector's development is a result of economic growth. These outcomes are related to external imbalances in the southern and eastern Mediterranean, a lack of institutional development, and a weak private sector, according to Ben Salem and Trabelsi.

RESEARCH METHODOLOGY

Based on theoretical reasoning, the modified model used by Safdar, Igra, Ishfaq, and Muhammed (2015), with substitution of some variables, was adopted for the study and specified as:

$$RGDP = f(CBC, DPI, GCE, \mu)$$
....(3.1)

$$RGDP = \alpha + \beta CBC + \lambda DPI + \delta GCE + \mu$$
.......…………...(3.2)

Where:
RGDP = Real GDP (proxy for real sector),
CBC = Commercial Bank Credit,
DPI = Domestic Private Investment,
GCE = Government Capital Expenditure,
α = Intercept of Drift term;
β, ϑ, δ: are slope parameters that measure the partial impact of the explanatory variables on the 14 regress and;
μt = is the arbitrary variable or error term; it is the proxy of all other variables that influence the regressor variable which is not included in this regression equation.

Based on theoretical expectations, it is expected that real GDP should have a positive relationship with commercial bank credit, domestic private investment, and government capital expenditure. We used 1986 – 2019 baking sector credit for the real sector in Nigeria obtained from CBN(2020).

RESEARCH FINDING/RESULTS

Table 1: Result of Phillip Perron Unit Root Test

Variable	Levels	t-stat critical value 5%	First Difference	t-stat critical value 5%	Order of Integration
RGDP	-3.68	-3.55	-	-	I(1)
CBC	-0.42	-3.55	-5.32	-3.56	I(1)
DPI	-2.93	-3.55	-5.63	-5.56	I(1)
GCE	-1.63	-3.55	-6.62	-3.56	I(1)

Source: Author's Computation E-view Version 9, 2021

The results of the unit root tests using the Phillip-Perron (PP) technique are reported in Table 1. The results showed that Real GDP, Commercial bank credit, domestic private investment, Government capital expenditure

Table 2: VAR Lag Order Selection Criteria Output

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1171.213	NA	9.32e+26	73.45082	73.63403	73.51155
1	-1043.620	215.3130*	8.81e+23*	66.47626*	67.39235*	66.77992*
2	-1030.335	19.09695	1.10e+24	66.64596	68.29491	67.19254

(*) describes the lag order that the criteria chose; LR: sequentially modified LR test statistic, each test conducted at the 5% level; Final prediction error (FPE) AIC stands for Akaike Information Criteria. HQ: Hannan-Quinn information criterion; SC: Schwarz information criterion.

As a first step of the ARDL procedure, the appropriate lag length for the model is determined using
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the Akaike Information Criterion approach of restricted VAR estimate

Table 3: Bound test for Cointegration

Test statistics	Coefficient	Lag length	Significance level	Pesaran et al (2001) Bound Critical Value	
				I(0)	I(1)
F-test	5.56	3	10%	2.72	3.77
			5%	3.23	4.35
			2.5%	4.29	5.61

Source: Author's Computation E-view Version 9, 2021 from Pesaran et al (2001) Bounds Test Fstatistic for unrestricted and no trend model.

A two-step process is used to approximate the long-run relationship after applying the lag selection criteria: first, it is investigated whether the variables in equation 3.2 have a long-run relationship, and then the short and long-run strictures are estimated.

The Wald test F-statistic (5.56) surpasses the 95percent and 90percent Upper Bound critical values of Peseran et al. (2001) (3.77 and 4.35, respectively), according to the results from table 3. We, therefore, conclude that there is a long-term relationship between the variables RGDP, CBC, DPI, and GCE, i.e., that the variables move together over the long-term with GDP as they regress and the null hypothesis of no cointegration cannot be accepted. Peseran et al (2001) claim that existence (Nazifi, Magaji& Ahmed, 2022).

Table 4: Long-run Relationship Estimates Dependent variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CBC	4.63	2.20	2.10	0.04
DPI	-12.69	7.28	-1.74	0.09
GCE	0.61	0.33	1.82	0.08
C	25.34	20.97	1.21	0.24

Source: Author's Computation E-view Version 9, 2021.

$$RGDP = 25.34 + 4.63*CBC - 12.69*DPI + 0.61*GCE \quad t \quad (1.21) \quad (2.10) \ (-1.74) \quad (1.82)$$

Table 4 shows the result of regressing RGDP on CBC, DPI, and GCE. From the regression output above, there is a favorable and significant correlation between RGDP and CPC. A unit change in CBC sustained, in the long run, will on average bring about a 4.63 net increase in RGDP, while holding other explanatory variables constant. The parameter estimate of CBC is significant statistically as the computed t-value (2.10) is greater than the t-critical value (2.04) at a 5 percent significant level. Thus, evidence abounds to reject the null hypothesis which states that the real sector in Nigeria is not significantly impacted by commercial bank credit. This is consistent with the a priori expectation and findings of Iwedi, et al (2015) and Safdar, et al (2015).

A negative but significant relationship exists between DPI and RGDP. A unit increase in DPI sustained, in the long run, will on average bring about 12. 69 units decrease in RGDP while holding other explanatory variables constant. The parameter estimate of DPI is statistically significant as the computed t-value (/-1.74/) is greater in absolute terms than the t-critical value at the 10% level of significance, which is 1.64. Therefore, there is sufficient evidence to disprove the null hypothesis, which claims domestic private investment has no significant impact on the real sector in Nigeria. This result is not consistent with the a priori expectation.

GCE has a positive significant relationship with RGDP. A unit change in GCE sustained in the long run will on average bring about a 0.61 unit increase in RGDP while holding the other 17 explanatory variables constant. The parameter estimate of GCE is statistically significant as the computed t-value (1.82) is greater than the t-critical value (1.64) at a 10 percent significant level. Thus, the null hypothesi9 s which states that government capital expenditure has no significant impact on the real sector in Nigeria can't be rejected. This is consistent with the a priori expectation and findings of Safdar et al (2015).

SHORT RUN REGRESSION RESULT

Table 5: Error Correction Model Estimates Dependent variable: RGDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CBC)	3.18	1.45	2.19	0.04
D(DPI)	-8.71	4.75	-1.83	0.08
D(GCE)	0.42	0.21	1.95	0.06
CointEq(-1)	-0.69	0.16	-4.29	0.00
Diagnostic Test				
Test Statistics			LM Version	
Serial Correlation	Obs.R-sqd = 5.41		Prob.$\chi^2(1)$ = 0.077	
(Breusch-Godfrey)	Obs.R-sqd = 9.24		Prob.$\chi^2(17)$ = 0.06	
Heteroscedasticity				
(Breusch-Pagan Godfrey	1.42		Prob. = 0.49	
Normality (JarqueBera)				

Source: Author's computation from Eviews Version 9, 2021.

From table 5, the estimated ARDL short-run model passes all diagnostic tests. The diagnostic test revealed that the residual estimate of the ECT is free from serial correlation and heteroscedasticity problems as the Probability of obs*R2 are greater than 5% in both cases. The test also shows that the estimated residuals are normally distributed going by the JarqueBera test result.

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*Corresponding Author: Sule Magaji

The predicted coefficient of ECTt-1 (error correction term) is projected to be negative (-0.69) and significant at the 1 percent level based on the calculated short-run dynamic growth model presented above. This suggests that the annual adjustment for a shock-induced variance from the long-run growth trajectory is 69%. According to the regression results above, there is a significant and positive correlation between CBC and RGDP. Keeping other explanatory variables constant, a unit change in CBC will, on average, result in a 3.18 unit increase in RGDP. The parameter estimate of CBC is statistically significant as the computed t-value (2.19)16is greater than the t-critical value (2.04) at a 5 percent significant level. Thus, evidence abounds to reject the null hypothesis which states that commercial bank credit has no significant impact on the real sector in Nigeria in the short run. This is consistent with the a priori expectation and findings of Iwedi, et al (2015) and Safdar, et al (2015).

A negative but significant relationship exists between DPI and RGDP. A unit increase in DPI will on average bring about an 8.71unit decrease in RGDP while holding other explanatory variables constant. The parameter estimate of DPI is statistically significant as the computed t-value (-1.83) is greater in absolute terms than the t-critical value at the 10% level of significance, which is 1.64. There is therefore sufficient evidence to disprove the null hypothesis, according to which domestic private investment in Nigeria's real sector has no discernible impact. This result is not consistent with the a priori expectation.

GCE has a positive significant relationship with RGDP. A unit change in GCE will on average bring about a 0.42 unit increase in RGDP while holding other explanatory variables constant. The parameter estimate of GCE is statistically significant as the computed t-value (1.95) is greater than the t-critical value (1.64) at a 10 percent significant level. Thus, the null 9 hypothesis which states that government capital expenditure has no significant impact on the real sector in Nigeria can't be rejected. This is consistent with the a priori expectation and findings of Safdar et al (2015).

Summary of Findings
From the findings, a favorable and significant connection exists between Commercial Bank Credit and Real GDP. A unit increase in CBC brings about a 4.63 unit increase in RGDP. This indicates that a change in CBC is accompanied by a significant change in RGDP. It is also found that a negative but significant relationship exists between (DPI) and RGDP. A unit increase in DPI brings about a 12.69 unit increase in RGDP in the long run. Therefore, a significant increase in DPI will bring about a greater increase in RGDP in the long run as indicated by the t-value.

Government Capital Expenditure GCE has a positive significant relationship with RGDP. 38A unit increase in GCE will bring about a 0.61 increase in RGDP. In the short run, a significant increase in DPI, CBC, and GCE will on average bring about a significant increase in RGDP. A unit increase in DPI, CBC, and GCE will bring about an increase in RGDP by 8.71 units, 3.18, and 0.42 respectively and the parameter estimate of DPI, CBC and GCE are statistically significant as computed by the t-value being -1.83, 2.19 and 1.95 respectively. This work used a different method (ARDL) and a longer period of data (1986 – 2019) and found different results.

CONCLUSION AND RECOMMENDATIONS

It was established that banking sector credit has a significant impact on the real sector in Nigeria. Implying that banking sector credit does contribute significantly to the variation or changes in economic activities in Nigeria. Despite the number of studies on related issues, there is weak evidence for 2 strong correlations some of which are inconclusive.

We recommend that given the fact that an improved banking sector credit improves the output of the real sector and in turn boosts economic growth in the economy, there is an urgent need to refocus existing strategies in the economy.

Also, the Government should establish a supportive environment in the economy to remove all administrative bottlenecks to registering businesses and to ensure that there is adequate security and social infrastructure that will promote (DPI), especially in the real sector, and in turn boost economic growth.

Furthermore, the (CBN) should make regulations against centering loans and advances to a few sectors such as oil and gas to improve credit access in agriculture and industries.

Finally, the Government should ensure that votes for capital expenditures are adequately expended on relevant projects, that there is zero tolerance for corruption, and that contractors employ quality material in developing social infrastructures.

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