



ANY CONNECTION BETWEEN BANK CREDIT AND ECONOMIC GROWTH IN NIGERIA? AN EMPIRICAL RESPONSE

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Abstract: Aim/Purpose- Money market is a component of the financial system and commercial banks are the dominant institutions in the Nigerian Money market. The major objective of this study is to analyze the effect of commercial bank credit on economic growth in Nigeria from 1986-2019. Data were obtained from Central Bank of Nigeria Statistical Bulletin 2019, and analyzed using the Autoregressive Distributed Lag regression techniques. The independent variables employed in the study include Commercial Bank Credit to the Private Sector, Lending Rate, and Liquidity Ratio. While, the dependent variable employed is Growth Rate of Gross Domestic Product, used as proxy for economic growth. The findings revealed that, Credit to the Private Sector had insignificant negative effects on economic growth in Nigeria. It was therefore, recommended that policies that will reduce the cost of credit, harmonize the formal and informal sectors of the money market, and enable the activities of the money market to stimulate economic growth be designed and implemented in Nigeria. The impact of Credit on economic growth is limited by the size of the informal sector (unbanked public) in the Nigerian environment.

Introduction

An operational domestic money market (money market regulated and monitored by a domestic regulatory agency/institution), is a necessity for Nigeria as a nation to effectively mobilize the resources necessary for planned economic growth. This necessitated the establishment of the Nigerian money market, via the establishment of the Central Bank of Nigeria: To regulate the operations of money market

institution within Nigeria; To actualize the economic growth objective of government via the provision of the necessary mechanism, vital for the mobilization and channeling of savings, which expected to make finance available by corporations and government to meet short-term financing needs; Lay the groundwork for an up-to-date financial and monetary system, which is essential to the economic growth of the nation; Provision of channel(s) for a functioning,

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effective monetary policy; Providing investment opportunities for funds to speed-up the economic growth process in Nigeria (Afiemo, 2013).

The impact of the commercial banks are felt in the real sector of an economy via the effective and efficient transfer of mobilized fund in the form of credit to productive ventures. Hence, money market is expected to help increase the national credit base and moderate the unrestrained outflow of funds to foreign money markets, which was the prevailing situation prior to the establishment of the Central Bank of Nigeria (CBN), contribute significantly to meeting the investment desires of the domestic private sector, plus financing the short term credit necessities of government. This necessitated previous and ongoing reforms aimed at reviving the Nigerian banking the is hitherto marked by structural and operational weaknesses such that their catalytic role in promoting private sector led growth could be further enhanced, through more realistic reforms (Anyanwu, 1993).

These policy reforms became necessary, because credit anchored on banking operations impact on the economic growth of nations as asserted in the work of Balogun (2007), that the objectives of financial policy reforms include: Market liberalization for the advancement of a more efficient resource allocation, expansion of savings mobilization base, promotion of investment and growth through market-based interest rates, fostering wholesome competition

in the provision of services and above all laying the basis for inflation controlled economic growth. The thrust of the money market reforms is to build and nurture a competitive and healthy financial system to support growth and development and to avoid distress in the economy (Soludo, 2007).

However, the Nigerian money market is dualistic as it is divided into two sectors: The organized or formal sector and the unorganized or informal sector. The organized sector includes; The Central Bank of Nigeria (CBN), the commercial banks, microfinance banks etc. It is formal because, the various savings and credit flows between economic agents are recognized, controlled and legally backed by the laws of the country. While, the unorganized sector includes; indigenous money lenders, “Esusu” clubs, traders, co-operative societies, friends and relatives. Flow of savings and credit through this sector is unrecognized and uncontrolled with no legal backing. Its size in Nigeria is large and has inhibited developments in the sector (Udoma, 2012). Therefore, the existence of, and popularity of the Informal sector limits the effectiveness bank credit as transmission vehicles funds required for economic growth.

Increase in the value of production in any economy is predicated on the activities and operations of the financial system. Money market as part of the financial system, is made visible and active in Nigeria via the predominant activities of banks, as asserted by Okpala, Ezeanolue and Edoko (2018) that, in Nigeria, the



most robust section of the financial system is the banking system, which consists mainly of commercial banking activities. Furthermore, Nzotta (2004) advanced that, the banking sector is the foremost sector in the Nigerian financial service industry. He also labelled it as the most vibrant constituent and whatever snags it passes through, to affect the entire economy.

Empirical studies like Pradhan (2010), Banerjee (2012) and Christopoulos and Tsionas (2004), established that increase in bank credit to the private sector leads upward movement of economic growth. While, empirical research conducted by Chakraborty (2010), Hassan, Sanchez & Yu (2011); and Herwadkar and Ghosh (2013) posit that economic growth causes bank credit expansion. Furthermore, studies such as Calderón and Liu (2003), Bangake and Eggoh (2011), concluded that there a bidirectional causality between credit from bank and economic growth.

Fundamentally, activities of the deposit money banks affects the soundness and stability of via the channelization of mobilized saving by commercial banks. But, studies such as (Eze & Mansi, 2017; Igbiosa & Aigbovo 2015), while researchin the Nigerian Money market did not consider the peculiarity of the Nigerian money market that is dual in nature and dominated by commercial bank activities. Hence, this study investigates the effect of bank credit on economic growth in Nigeria, an emerging and dualistic economy. With a view to finding out, if the activities associated with the granting of credit by

deposit money banks generates the conditions favourable for increasing economic growth in Nigeria or otherwise. The rest of the paper is divided into; literature review, research methods and procedure, research findings and procedures, and conclusion.

Literature Review

Conceptually, credits are borrowed funds with specific terms for repayment. Economic agents/actors borrow when they do not have adequate accumulated savings to finance their proposed investment. They also take into cognizance if the expected earnings on the borrowed funds is more than the cost of borrowing (interest rate charged on the loan) to decipher if it is beneficial to borrow or shift forward the investment opportunity until when it is possible to accumulate enough savings, if the ability to service the debt is sure. Bank credit are usually obtained for productive purposes by economic agents, to generate revenue within the business (Okoh, 2019).

According to Haller (2012) economic growth is the course of growing the size of national economies, the macro-economic indications, especially the GDP per capita, in an ascendant but not necessarily linear direction, with positive effects on the economic-social sector. Economic growth is, in a narrow sense, an increase of the national income per capita. It involves the increase of the GDP, GNP and NI, therefore of the national wealth, including the production capacity, expressed in both absolute and relative size, per capita, covering also the



structural modifications of economy. In the works of Mladen (2015), he posited that economic growth is the continuous increase in the production capacity of a country, or a rise in gross domestic product as the main measurable indicator of production annually. Economic growth include changes in material production, during a comparative short period of time, usually one year.

Elena and Alina (2015) examined the implication of bank credit activities on economic growth with Romania as a case study. The study shows that credit activities of banks has effect on gross domestic product's movement. Prior to the study it was observed that contraction in the value/volume of credit in the Romanian economy slows down economic activities. Loana (2013) researched on the connection between bank credit and economic growth, and asked, if it is possible for an economy to grow without bank credit to household and investors. The findings of the research shows that credit offered to households and investors contribute to the formation of Gross Domestic Product.

Safdar, Iqra, Ishfaq, and Mohammad, (2015) research on the effect of bank advances to the private sector and economic growth in Pakistan. The study showed that bank credit had far-reaching influence with economic growth and the effect in short run was significant. The statistical analysis revealed that there was noticeable impact of bank credit to the private sector on economic growth in Pakistan economy. Mostafa and Mohammad (2019) researched on

the effect of inflation on financial development and economic growth, in Organization of Petroleum Exporting countries (OPEC) economies for the period of 1970 to 2015. The research applied Panel Smooth Threshold Regression (PSTR) to appraise the nonlinear effects of inflation as it concern economic growth and financial development of OPEC nations. The results of the study showed that the thresholds of inflation rate were 20.33 and 20.36 considering the two different proxies of financial development (domestic credit provided by banking and domestic credit to private sector). The results posited that during increased inflation, the effect of financial development on the economic growth in the studied economies would slow-down and would even become negative.

The study by Emecheta and Ibe (2014) investigated the effect of bank credit on economic growth in Nigeria, applying the reduced form of vector autoregressive (VAR) technique and using annual time series data from 1960 to 2011. Current gross domestic product (GDP) is the dependent variable and proxy for economic growth while bank credit to the private sector (CPS) to GDP ratio and broad money (M2) to GDP ratio were representations for financial indicator and financial depth respectively. The major finding is that there is a significant positive relationship between bank credit to the private sector and economic growth.

The works of Okafor, Ezeaku and Ugwuegbe (2016) examined the causal effect of



bank credit on economic growth in Nigeria over the period 1981-2014. They adopted the Vector autoregressive (VAR) Granger causality test. The variables, real gross domestic product (RGDP), private sector credit (PSC) and broad money supply (M2) were exposed to preliminary tests. While, a validity test of serial autocorrelation was also done on the residuals of the variables. The findings showed a unidirectional causality from private sector credit and broad money supply to economic growth as measured by real gross domestic product (RGDP), whereas there was no response system from RGDP to either Private Sector Credit (PSC) or M2, approving the effect of private sector credit on economic growth.

In the works of Yakubu and Affoi (2014), they carried out a study to explore the effect of commercial banks credit on economic growth of the Nigerian economy, using data from 1992 to 2012 collected from the central bank of Nigeria statistical bulletin. To determine the role of commercial bank credit in the Nigerian economy, bank credit to the private sector of the economy was used by the assessors to estimate the influence on Nigeria's economic growth. Applying the ordinary least square technique it was found that commercial bank credit has significant influence on economic growth in Nigerian.

The study conducted by Ayanwun, Anawunde and Okoye (2017) researched empirically, the impact of commercial banks' advances on economic growth of Nigeria from 1986 to 2015 by particularly determining the

impact of commercial banks' advances on real gross domestic product, applying the ordinary least square (OLS) regression method. The Johansen co-integration predicted a long run relationship between commercial banks' lending and gross domestic product. The granger impact assessment evidenced that commercial banks' lending has significant effect on real gross domestic product and real gross domestic product on the other hand, has significant impact on credit to private sector. Thus a bi-directional relationship was established.

The study by Branch, Cooper and Moxey (2016) explored the link between economic growth and private sector credit, in Bahamian economy. Historic trends revealed that periods of either economic prosperity or recession are reflected by changes in credit. To test the relationships, the study used the Ordinary Least Squares (OLS) method, Johansen co-integration test and Granger Causality test, findings showed that economic growth and Government expenditure have a positive and significant effect on credit to the economy. The results denote that for the Bahamas, an upward movement in the economy is traceable to growth in private sector credit, thus contributing to a more robust economic development.

In the works of Olowofeso, Adeleke and Udoji (2015), they examined the effect of private sector credit on economic growth in Nigeria using the Gregory and Hansen cointegration test that accounted for structural breaks and endogeneity problems, quarterly data (2000:Q1



to 2014:Q4) were used for the study. While, the modified ordinary least squares method was employed to evaluate the model coefficients. The key finding amongst others is that, there is a direct and statistically significant effect of private sector credit on output, while increased prime lending rate was constraining economic growth.

Another study by Aliyu and Yusuf (2013) assessed the connection between banks credit to private sector (CPS) and the real sector of Nigeria with a view to establishing the significant contribution of private sector credit to real sector growth in Nigeria. They used annual time series data from 1986 to 2010, sourced from central bank of Nigeria (CBN) statistical bulletin. The data was analyzed using multiple regression and based on the coefficient of determination (R square), the study reveals a 96.1% variation between the CPS and real sector growth in Nigeria. The assessment therefore concludes that there is a statistically significant effect of credit to private sector on the real sector of Nigeria.

The research conducted by Adelegan (2018) examined the dynamic effect of domestic credit to the private sector on gross domestic product (GDP) in Nigeria, for the period of 1970 to 2015. The research was aimed at providing an empirical framework for understanding the interactions between domestic credit to the private sector and their effect on the real sector. The empirical findings reveals that the relationship between economic growth and domestic credit to the private sector is positive and insignificant.

The study by Murty, Sailaja and Demissie. (2012) focused on the long-run effect of bank credit on economic growth in Ethiopia, adopting a multivariate Johansen cointegration approach on time series data for the period 1971/72 – 2010/2011. Notably, transmission mechanism through which bank credit to private sector affects long-run growth was examined. The results held that, bank credit has significant effect on economic growth in Ethiopia. The effect is through its role in efficient apportionment of available financial resources.

The study carried out by Akpansung and Babalola, (2010) examined the relationship between banking sector credit and economic growth in Nigeria over the period 1970-2008. Two-Stage Least Squares (TSLS) estimation technique was used for the regression model. The results of Granger causality test show evidence of unidirectional causal relationship from GDP to private sector credit (PSC) and from industrial production index (IND) to GDP. Estimated regression models specify that private sector credit influences positively on economic growth over the period of reporting. The study mentioned the need for more financial market development that favors more credit to the private sector with reduced interest rate to stimulate economic growth.

Research Methods and Procedures

The data for the study were secondary data, obtained from the Central Bank of Nigeria (CBN) statistical bulletin for the period 1986-2019.



Following the reviewed literatures, the study postulates the effect of bank credit on economic growth in Nigeria as;

$$RGDP = F(CPS, LDR,$$

LQR).....(1)

And the econometric form is

$$RGDP = a_0 + a_1CPS + a_2LDR + a_3LQR +$$

Ut.....(2)

RGDP = Real Growth rate of Gross

Domestic Product

CPS = Commercial Bank Credit to Private Sector (Proxy by Growth rate of Credit to the private sector)

LDR = Lending rate

LQR = Liquidity Ratio

a_0 = Constant, $a_1 - a_3$ = Coefficients of variables, Ut = Stochastic error term.

a priori expectation $a_1, > 0$ $a_3, a_2 < 0$

The method of data analysis used for this research include; ADF Unit Root Test and Autoregressive Distributed Lag (ARDL). The Augmented Dickey-Fuller (ADF) test was used to test the stationarity of the variables in this study and Autoregressive Distributed Lag (ARDL) was employed for the analysis of the data. These techniques were used to analyze the effect of the independent variables on the dependent variable. The models were tested for the presence of Serial Correlation and Heteroscedasticity and the stability of the regression coefficients was tested using the cumulative sum (CUSUM) and the cumulative sum of square (CUSUMSQ) of the recursive residual test for structural stability.

Findings and Discussions

Unit Root Tests

Table 1a: Augmented Dickey Fuller Unit Root Test

Variables	With constants and trends		Without constants and trends	
	Levels	1 st difference	Levels	1 st difference
LRGDP	-2.9625 ⁿ	4.5874***	-1.7248*	-7.8210***
LCPS	-4.6828***	-9.3481***	-2.5167**	-9.6391***
LLDR	-6.2775***	-5.1360***	-1.6637*	-5.8739***
LLQR	-1.2871 ⁿ	-4.2882***	0.8379 ⁿ	-4.0914***

Notes: (**) Significant at the 5%; (***) Significant at the 1% (n) not significant

Source: computation from E-view 9

Table 4.2a shows that some variables in model 2 were stationary at 1 %, at levels while others like LQR became stationary after 1st differencing with specification that has constant and specification

without constant. The result shows a mixture of order zero or I(0) and order one or I(1). Thus, the Autoregressive Distributed Lag (Bounds Testing)

approach to cointegration was used for the analysis of the study.

Cointegration

Table 2: ARDL Bound Test

Test statistics	Value	K
F- statistics	4.596469	3
Critical value bound		
Significant	I0	I1
10%	2.72	3.77
5%	3.23	4.35
2.5%	3.69	4.89
1%	4.29	5.61

Note: null hypothesis: no long run relationship exist

The results in table 4.2b above, that the null hypothesis is rejected, as the F- statistics is greater than the critical bound value at 5% and 10% respectively. Thus, the independent

variables (commercial bank credit to the private sector, lending rate and liquidity ratio) has long run effect on economic growth. But at the 2.5% and 1%, the result in table 4.2b is inconclusive about the long-run effect between the independent variables and economic growth in Nigeria, since the F-statistic (4.596469) is less than the upper bound critical value (5.61 and 4.89) at 1 % and 2.5% respectively. And greater than the lower bound critical value (4.29 and 3.69) at 1% and 2.5% respectively. However, the estimated long run coefficients that indicates the long run effect and Error correction term that measures the speed of adjustment are presented below.

Long-run Relationship

Table 3: Estimated Long Run Coefficient Using ARDL Approach ARDL (p, q₁, q₂, q₃,)

Selected based on Akaike Info Criterion

Dependent Variable: RGDP

Variable	Coefficient	Standard Error	t-statistics	p-values
LRGDP(-1)	0.272016	0.189584	1.434808	0.1668
LRGDP(-2)	0.315453	0.178842	1.763866	0.0930
LLQR	0.008512	0.048985	0.173769	0.8638
LLQR(-1)	0.102504	0.078473	1.306232	0.2063
LLQR(-2)	0.104175	0.075503	1.379743	0.1829
LLDR	0.293815	0.171395	1.714252	0.1019
LLDR(-1)	0.123837	0.180930	0.684445	0.5015
LLDR(-2)	-0.404347	0.156780	-2.579077	0.0179
LCPS	-0.017092	0.028072	-0.608876	0.5495
LCPS(-1)	0.022494	0.026840	0.838096	0.4119
LCPS(-2)	0.055044	0.026455	2.080695	0.0505

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C	-9.765782	5.831931	-1.674537	0.1096
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R-Squared 0.669597 Log. Likelihood -69.69192

Adj R-squared 0.487875 Akaike A/C 5.105745

Sum Square Resids 145.9996 Schawaz Sc. 5.655396

S.E equation 2.701847 Mean dependent 5.004375

F-Statistic 3.684733 S.D.dependent 3.775485

Diagnostic Tests

Test Statistics LM Version Prob.

A Serial Correlation $X^2 = 1.98988$ 0.3697

B Functional Form (Ramsey Reset) $X^2 = 6.81189$ 0.6751

C Heteroscedasticity $X^2 = 7.95942$ 0.7169

The result presented above shows that the coefficient of determination (R^2) is 68%. Thus, 70% variation in economic growth can be explained by the independent variables in the model. While the F-statistics show that the model is significant. All the independent variables including their lag one and two, except lag two of lending rate (LR) and commercial bank credit to the private sector (CPS), has positive effect on economic growth. However, the effects is insignificant.

The outcome of the result was confirmed using diagnostic test such as Breusch-Godfrey serial correlation LM test, Ramsey's Reset test and heteroscedasticity test. The result of these tests as presented in table 4.2c above shows that, the model passes all the diagnostic tests. The diagnostic test applied to the model shows that there is no evidence of serial correlation and heteroscedasticity. Besides the reset test implies the correctly specified ARDL model.

Table 4: ARDL Cointegrating and Long-run Form

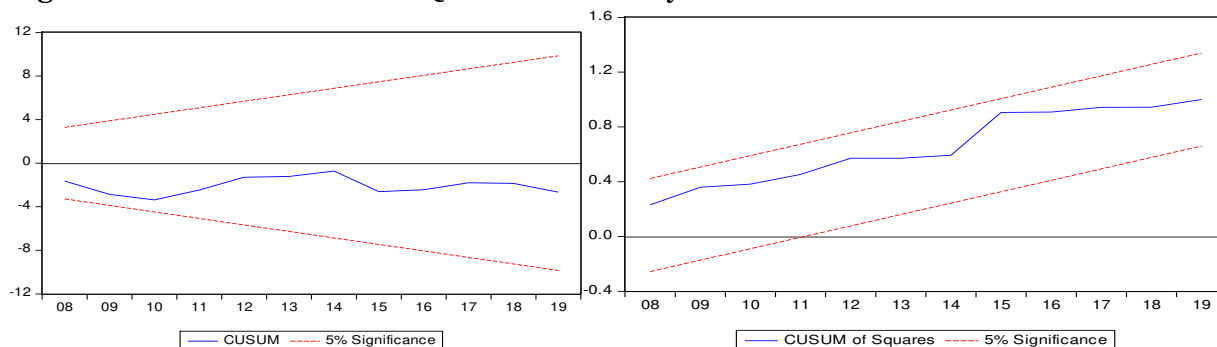
Variable	Coefficient	Standard Error	t-statistics	p-values
CointEq(-1)	-0.412531	0.164202	-2.512347	0.0207
D(LRGDP(-1))	-0.315453	0.178842	-1.763866	0.0930
D(LCPS)	-0.017092	0.028072	-0.608876	0.5495
D(LCPS(-1))	-0.055044	0.026455	-2.080695	0.0505
D(LLDR)	0.293815	0.171395	1.714252	0.1019
D(LLDR(-1))	0.404347	0.156780	2.579077	0.0179
D(LLQR)	0.008512	0.048985	0.173769	0.8638
D(LLQR(-1))	-0.104175	0.075503	-1.379743	0.1829
Long Run Coefficients				
LCPS	0.146525	0.110502	1.326001	0.1998
LLDR	0.032250	0.511125	0.063096	0.9503
LLQR	0.521637	0.258240	2.019965	0.0570
C	-23.672835	17.364690	-1.363274	0.1879

Source: computation from E-view 9

The table above, shows that the speed of adjustment back to the path, in the event of shock or gyration is 41.3%, per annum, as the ECM factor is correctly signed (-0.412531) and significant at 5%. The results from the table also revealed that commercial bank credit to the private has an insignificant positive long run effect on economic growth. Lending rate, and Liquidity ratio also has positive and insignificant effect of economic growth in the long run as revealed by the long run coefficients and the p-values.

Test of Stability

Fig. 1: CUSUM and CUSUMSQ Test for stability



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Plots of the CUSUM and CUSUMSQ for model 2 above, shows that the regression equation seems stable given that, neither the CUSUM nor the CUSUMSQ test statistics go beyond the bounds of the 5% level of significance.

Discussion of Results

Commercial bank credit to the private sector has a negative effect on economic growth against a priori expectation. This is in agreement with study done by (Ehigiamusoe, 2013). It may be attributed to the unattractiveness of loans to investors and entrepreneurs in Nigeria. It may also be caused by lack of confidence in the banking sector, due to series of bank failures that happened within the period of analysis. This negative effect may also be due to the high cost of bank credit in Nigeria, as noted recently in the Nigerian senate as a matter of urgent public importance that, “Nigeria’s current lending rate is one of the highest in the world and choking the private sector that should stimulate growth in the Nigerian economy”(Vanguard, 2020). However, the findings of this study is at variance with the results of the study, conducted by Emecheta and Ibe (2014), that Private Sector Credit has a significant relationship with Economic growth in Nigeria. Also, the work of Branch, Cooper and Moxey (2016) on the economy of Bahamas shown a positive significant relationship between private sector credit and economic growth. The study by Murty, Sailaja and Demissie (2012) on the economy of Ethiopia also reveals that, Credit to the private sector has significant effect on the economic growth of

Ethiopia through efficient apportionment of financial resources. May be it is the efficient apportionment of available financial resources, that is the missing link in Nigeria in the period covered by this study.

Conclusion

This study is to examine the effect of bank credit on economic growth in Nigeria. The result of this analysis showed that, the influence of commercial bank credit in the Nigerian economy is negative, this may not be unconnected to the high cost (interest rate and other charges) associated with credit acquisition in Nigeria. The insignificant effect may have been caused by the size of the informal sector in Nigeria. Thus, the study recommended as follows;

1. To ensure that the negative effect of commercial bank credit is reversed. Policies that will help to reduce the cost of acquiring credit in Nigeria should be designed.
2. The central bank of Nigeria should devise means (reduce liquidity ratio) to enable commercial banks grant more credit that will be enough to stimulate the economy on the path of growth.
3. The informal sector of the Nigerian financial system should be linked with the formal sector. This could be done by empowering the microfinance banks in the economy to be more responsive to grassroots demand for banking services, and engage in correspondent banking with commercial banks.

Further research is required in the area of deposit in order to ascertain the effect of the



Nigerian intermediation process on the economy.

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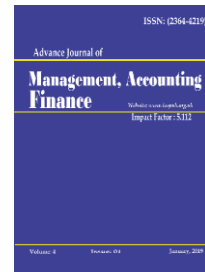
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APPENDIX Data for Model

YEAR	RGDP (%)	CPS (%)	LDR (%)	LQR (%)
1986	1.90	29.43	10.50	36.4
1987	0.17	19.63	17.50	46.5
1988	6.23	16.35	16.50	45.0
1989	6.66	16.38	26.80	40.3
1990	11.63	19.54	25.50	44.3
1991	(0.55)	18.75	20.01	38.6
1992	2.19	90.02	29.80	29.1
1993	1.57	19.47	18.32	42.2
1994	0.26	58.07	21.00	48.5
1995	1.87	39.97	20.18	33.1
1996	4.05	23.30	19.74	43.1
1997	2.89	22.60	13.54	40.2
1998	2.50	16.61	18.29	46.8
1999	0.52	22.18	21.32	61.0
2000	5.52	30.93	17.98	64.1
2001	6.67	43.46	18.29	52.9
2002	14.60	11.79	24.85	52.5
2003	9.50	26.81	20.71	50.9
2004	10.44	26.61	19.18	50.5

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2005	7.01	30.82	17.95	50.2
2006	6.73	32.06	17.26	55.7
2007	7.32	90.76	16.94	48.8
2008	7.20	59.38	15.14	44.3
2009	8.35	26.80	18.99	30.7
2010	9.54	-3.81	17.59	30.4
2011	5.31	44.28	16.02	42.0
2012	4.21	6.83	16.79	49.7
2013	5.49	6.86	16.72	63.2
2014	6.22	11.95	16.55	38.3
2015	2.79	3.28	16.85	42.3
2016	(1.58)	17.42	16.87	46.0
2017	0.82	1.40	17.58	49.1
2018	1.91	1.87	16.17	65.0
2019	2.27	17.30	14.99	103.9

Source: Central Bank of Nigeria (CBN) Statistical Bulletin, 2019 Edition

Note: RGDP = Growth Rate of Gross domestic Product, CPS = Growth Rate of Credit to the Private Sector, LDR = Lending Rate, LQR= Liquidity ratio