Banks as Agents of Sustainability of the Nigerian Economy beyond Recession: An Empirical Evidence

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Abstract
Bank as a financial intermediary has a lot of responsibilities to play in other to sustain the gains of pre and post-recession economy. Nigerians have not fared differently since the economy is said to be out of recession. The unemployment rate has remained unchanged, the purchasing power of naira has remained low, and the real sector has not shown any sign of improvement, now that the economy is said to be out of economic recession. There are lots of concerns regarding the ability of the banking industry to sustain the economy beyond recession. Therefore, this paper is an attempt to investigate the role of banks as a means of sustaining the economy beyond recession. Time series data were collected from the Central Bank of Nigeria Statistical Bulletin from 1981 to 2017. The Vector Error Correction Mechanism (VECM) was employed to analyze the data. Banking sector activities were proxied by Deposit Money Banks aggregate sectoral loans, loan-to-deposit-ratio, banking sector investments and interest rates, while real gross domestic product was used to represent the Nigerian Economy. Findings of the study revealed the existence of long run relationship between the role of banks and economic sustainability in Nigeria, which was statistically significant. Therefore, it was recommended that the management of interest rates should be prudently done to encourage the demand for bank loan and attraction of idle funds.

Keywords: *real gross domestic product, aggregate sectoral loans, loan-to-deposit-ratio, Banking sector investments, interest rates.*

1.0 Introduction

In the recent past, particularly, in year 2015, when the present administration in Nigeria came to power, unemployment was on the increase, companies those who could withstand the storm managed to break even, others closed shop as they could neither make profits nor break even. The housing sector too was not left out. Nigeria is not alone in the roll call of the economies that are witnessing down ward trend in socio-economic activities. It is taking a global shape in sequence.

The ongoing global financial crisis has been accompanied by recessions in many countries. This pattern is consistent with the historical record. Synchronized recessions have occurred in advanced economies several times in the past four decades—the mid-70s, early 80s, early 90s, and early 2000s. Because the United States is the world's largest economy and has strong trade and financial linkages with many other economies, most of these globally synchronized recession episodes also coincide with U.S. recessions. (*Stijn and Ayhan 2009)*
According to Benjamin (2017), every country is affected by the movement in economic cycle. The movement in economic cycle implies an economy-wide oscillation in production capacity, trade and general economic activities over medium-to-long-term in a free market economy. Free market economy is one where there is no government intervention in

economic activities; but the forces of demand and supply determines the extent of growth in economic activities. The business cycle is the upward and downward movements of levels of gross domestic product (GDP), and refers to the period of expansions and contractions in the level of economic activities (business fluctuations) around its long-term growth trend. These fluctuations involve shifts over time between periods of relatively rapid economic growth (boom), and periods of relative stagnation or decline.

Recession as a phase of economic cycle occurs after two consecutive quarters of negative growth featuring low output and investment, abnormal increases in unemployment due to massive retrenchment, fall in the availability of credit facilities, fluctuation in forex market, illiquidity, downsizing and layoff as well as reduced amount of trade and commerce.
Akpan (2017), stipulates that the Nigerian economy slid into recession path in 2016 (since 2004) with real GDP of-0.36% and -1.5% and 0.8% growth rates in the first, second and fourth quarters in 2016 respectively, the contraction of economic activities resulted from an evaporation of confidence and no new investments, inordinate delay in government speeding during the period, acrimonious legislative squabbles in approving budget, erosion in the value of Naira in the forex market, pipelines vandalism, misaligned currency and forex shortages, high interest rate environmental as well as trade and import restrictions. The current recession seems to affect socio political structures, Nigeria's credit condition, general living standards, imports, production and employment as well as consumption demand in Nigeria.

There is no official definition of recession, but there is generally agreed definition of the term recession. But it can be said to be a period of decline in economic activity, within a short period of time. Recession can also be said to be two consecutive quarters of decline in a country's real (inflation adjusted) gross domestic product (GDP)—the value of all goods and services a country produces (see "Back to Basics," *F&D*, December 2008). Although this definition is a useful rule of thumb, it has drawbacks. A focus on GDP alone is narrow, and it is often better to consider a wider set of measures of economic activity to determine whether a country is indeed suffering a recession. Using other indicators can also provide a more timely gauge of the state of the economy. Therefore, it becomes imperative to evaluate other definitions of recession, in order to appreciate the impact of recession to an economy like ours.

However, Akpan (2017), defined recession as a period between a peak and trough and as a significant decline in economic activity spreads across the economy and can last from a few months to more than a year (NBER Business Cycle Dating Committee). Recession is also defined as a period characterized by a sharp slowdown in economic activity, declining employment and a decrease in investment and consumer spending. The Nigerian economy nosedived into recession again in 2016 due to a combination of factors and conditions which include the following:

(i) Poor implementation of socioeconomic plans.
(ii) Over-dependence on and misappropriation of the shares of oil receipts by the three tiers of government from 1999 till date.
(iii) Corruption – financial and political.

Recession, which has been seen from the above definition as a temporary decline in economic activities, means that the economy is expected to revive after the short period of time. All the economic activities would gradually begin to improve and contribute positively to the GDP. This implies that production sector is expected to increase its productive

capacity, unemployment would reduce, hence income per capita will increase. Therefore, bank as a financial institution has a significant role to play in making sure that the economy is sustained. The questions then are:

a. How has the bank helped in bringing out the economy from recession?
b. What role can banks play to sustain the economy beyond recession?

Akpan (2017) in his efforts opined recessions are usually compared by various macroeconomic indicators such as GDP decline, duration, unemployment, fall of industrial production, downturn of stock market indices, decrease in trade volumes or real personal income and many others. However, when many indicators are involved, a direct comparison of recessions' strength is generally inconclusive (and thus impossible): one recession may be evaluated worse by one indicator but better by another. Moreover, recessions are usually described qualitatively using vague terms such as 'mild' or 'severe'. Akpan (2017) went further to compare six recessions with four indicators, concludes:

> "Based on these indicators, the current recession has been worse than average; however, the declines are not unprecedented... Main recession indicators tend to support the claim that this recession could be the most severe in the past 40 years. However, we are still far from another Great Depression."

But one may ask: "What is an average recession?" because with no measure of recession magnitude, there is no average as well, or "Which recession is severe and which is not?" when the term 'severe' is not defined.

The economic hardship imposed on Nigerians during the period of 2015 to late 2017 is such that people do not need any economic barometer to understand recession. It has been glaring in all the sectors of the Nigerian economy. Bank as a financial intermediary has a lot of responsibilities to play in other to sustain the gains of pre and post-recession economy. Nigerians have not fared differently since the economy is said to be out of recession. The unemployment rate has remained unchanged, the purchasing power of naira has remained low, and the real sector has not shown any sign of improvement, now that Nigeria is said to be out of economic recession, What role then can the banking industry play to sustain this period?.

The primary objective of the study is to determine the role of banks as agents of sustainability beyond economic recession in Nigeria. Other objectives are:

a. to determine the impact of bank policies on economic growth as a means of economic recovery.
b. determine the effect of banks aggregate credits to various sectors on economic growth as a means of economic recovery.
c ascertain the contribution of banks investment drives on economic growth in Nigeria.

2.0 Review of Related Literature

The recent financial crisis has put the financial service sector of the economy under scrutiny, the activities of the Banks and other financial institutions are more than ever under serious questioning, not just within the local environment but it has taken global perspective. Expectations of the society is on the increase. How the financial sector would sustain the post recession economy of Nigeria not just on the aspect of risks management but on the overall economic management. Banks as a sustainability tool has a significant role to play on the way forward to sustaining Nigeria's economy beyond recession. They are expected to play a role in supporting national and international development agenda and to facilitate the transition to

a more robust economy. A robust economy is one which is near self-sustaining. This means that both real sector of the economy and other sectors must be working optimally. Banks as financial intermediary, has to find a suitable means of finance that will encourage investment into these sectors, if it must sustain the economy post recession.

Economic Recession

Tinuke (2012), Economic recession, which is the period in which there are reduced economic activities causing increase in unemployment, low productivity, and illiquidity. It is characterized by its length, abnormal increases in unemployment, falls in the availability of credit, shrinking output and investment, numerous bankruptcies, reduced amounts of trade and commerce, as well as highly volatile relative currency value fluctuations, mostly devaluations, financial crises and bank failure.

In line with Benjamin (2017), the US economic crisis, economic analysts were of the opinion that the situation was aggravated by the over reliance on market mechanism by the George Bush administration through unregulated credit expansion in the financial sector, particularly credit to home owners. Notably, in the 1980, the World Bank and the International Monetary Fund (IMF), in their thinking brought economic hardship on African countries when they introduced the free market doctrine which were represented by the Structural Adjustment Programmes (SAP). The free market economy imposed on African countries unrestricted trade and competition with the advanced market economy. African countries became a dumping ground for all manner of products from these highly advanced economy and had nothing in exchange for the free trade. The result of the failure of these programme in most African countries are increasing poverty, its free market doctrine persists in the form of flexible exchange rates; market determined interest rates in the financial sector and ongoing privatization of hitherto public owned enterprises.

For over three years now, the global economy has experienced the most traumatic moments in many decades. Although in some quarters, there seems to be a glimmer of hope, the dimensions in which the crisis manifested itself have made analysts to describe the situation as perhaps the worst economic recession since the Great Depression of the 1930s. Indeed, for the first time, the world economy has witnessed stagnation or minimal growth since more than seven decades. At the root of the recent financial crisis was the ‘’search for yield’’ by financial institutions and investors. The increasing integration of financial markets and the apparent relative stability of advanced economies, led investors and financial institutions to begin to search for profitable investment opportunities which resulted in over optimism, speculation and leverage (Benjamin, 2017).

Causes of the Current Economic Recession in Nigeria

According to Emmanuel (2016), the following are the causes of the recently witnessed economic recession in Nigeria:

1. **High Inflation rate:** Government banning the importation of certain essential agricultural products like Rice without considering gestation period is erroneous. Removal of fuel subsidy shouldn’t be simultaneous with the banning of these agricultural products. Major Causes of inflation; Speculation in stock market due to budget delay, rise in domestic oil price due to subsidy removal, fall in the global crude oil price deteriorating Nigeria exchange rate, almost the household price skyrocket. Nigeria inflation rate then stood at 18.63% that is extremely high, the highest for past last decades.

2. **Poor economic Planning:**
P**oor economic planning and no concrete implementation of her economic plans** is the major cause of Nigeria recession – budget delay, exchange rate policy. Yes the government proclaimed the usual generalities that every government indulges itself in;

- Diversifying the economy,
- Improving manufacturing/mining sector,
- Raising agricultural output,
- Encouraging foreign investment, among others, yet no concrete evidenced strategic plan for growth.

No doubt, the government took some steps like the elimination of dollar purchase privileges for importers of 40 items such as – rice, cement, toothpicks, private planes, poultry, meats, margarine, wheelbarrows, textiles, and soaps. They caused serious poverty in the land. The government through her policy widen the gap between the rich and poor – creating more economic hardship. When the CBN was selling dollars at N315 and people were buying at N480, the highly placed individuals in the country were putting call across the banking industry to get dollar at the official rate. This they later resold at the parallel market rate of N480. Think of the enormous gain they make. An individual can make as much as N1billion naira without doing anything according to the former CBN governor (Lamido Sanusi). The people that were profiting from this were people that were telling the government that if it didn't devalue the Naira people would suffer. The poor paid the price of a devalued currency and the rich schemed off the profits. Nigeria currency was devalued when crude oil price in the international market was very low and crude oil export was largely affected by the activities of Niger-Delta militants as such the policy was useless since Nigeria is a mono-product economy. Central Bank of Nigeria robbed peter to pay Paul. Where $1 billion taken from the Federation Account and sold by the CBN at N200 to the dollar, the states were losing N100 billion that could have gone into salaries, agriculture, healthcare. Yet, the states were going to borrow from the same government on a bailout when the government was selling dollars cheaply to a small group of people. This incidence is still ongoing and the government is doing nothing about it.

3. **High-Interest Rate:** Interest rate stood at between 26.77-27% in 2016. This was extremely high for investors. This high interest rate is discouraging investors. The poor investments culminate into high rate of unemployment in the country, reduction in aggregate demand especially from the households.

4. **High Taxation:** It is only in Nigeria that government charges high tax rate during economic recession. Small businesses are slaughtered with high interest rate. Both high interest and tax rate have lowered Nigeria aggregate demand.

5. **Policy conflict:** The economic policies appears conflicting. High-interest rate, high tax rate are tight monetary policy measures, while government is pursuing expansionary policy.

Theoretical Framework

This study is based on the financial intermediation theory of banking which emphasized on the role of banking industry to the growth and development of the Nigerian economy through sectoral allocation of loans and advances among others. In other words, our understanding of the role or roles played by banks as intermediaries both in the financial sector and real sector

is found in the many varied models in the areas known as intermediation theories, (Gurley and Shaw !960). These theories have been built on the models of resource allocation based on perfect and complete markets by stating that banking industry credits are necessary ingredients to the growth and development of the real sectors of any economy, (Leland and Pyle 1977). The proponents of these theories expressed that the banking sector of the economy could impact on real economic growth through the catalytic effect of adequate fund injection, regulation, technological innovation and capital accumulation. Pioneer contribution of Schumpeter (1934) is of the view that the financial institutions are necessary conditions for economic development. This view has been variously corroborated by other scholars like Gibson (1995), Cameron (1972), Desai (1995) and Gorton and Frank (2000). Fukuyarna, (1993) noted that classical economists of the nineteenth century have paid attention to the roles of financial intermediation in running the wheels of economic growth smoothly. For instance, Basher (1995) quoting Bagehot (1991) gave explicit examples of how money market developments in England could make capital flows across the country in search of the highest rate of return.

Historically, banks as major financial intermediaries play a central role in the growth and development of the real sectors, which appears to be true in virtually all economies including emerging economies which are at very early stage. The development of intermediaries tends to lead the development of financial markets themselves; hence the real sector (Mckinnon, 1973). In fact, banks have existed since ancient times, taking deposits from households and making loans to economic agents mainly the real sectors requiring capital.

In developed countries like United Kingdom and the United States, banks have played a major role in transferring of savings from the household sector into investments in the real sectors. As already noted above, our understanding of the role or roles played by banks as intermediaries both in the financial sector and real sector is found in the many and varied models in the areas known as intermediation theories. These theories of intermediation have built on the models of resource allocation based on perfect and complete markets.

Review of Related Empirical Literature

Ananzeh (2016) examined the relationship between bank credit and economic growth in Jordan at different sectors for the period that span from 1993 to 2014. The study employed two different methodologies Vector Error Correction Model (VECM) and Granger Causality Test, The results report for a long run relationship could be inferred between Real GDP, and its Explanatory variables of Total Bank Credit (TBC); Bank Credit for Agriculture sector (CFA); Bank Credit for Industry sector (CFI); Bank Credit for Construction sector (CFC); Bank Credit for Tourism sector (CFT). The findings revealed that TBC, CFA, CFI, CFC, and CFT are in the long term relationship with the development of Jordanian economy. Granger causality test conclude for a causal relationship going from economic growth to bank credit at agriculture and construction sectors in Jordan economy. Also the results report bidirectional causality observed among economic development and bank credit to construction sector that is the most important sectors in this economy. Moreover, our results point out that the efficiency of the bank credit facilities in a major economic sectors has an important role in the Jordanian economic growth, and shows the needs to enhance the role of financial sector for different economic sectors by adopting more appropriate macroeconomic policies.

Modebe, Ugwuegbe and Ugwuoke (2014) investigated the impact of bank credit on the growth of Nigerian economy for the period of 1986-2012. The data was sourced from CBN

statistical bulletin. To determine the impact of the independent variables on the dependent OLS method of estimation was employed. ADF was used to determine the order of integration, and all the variables were found to be integrated of same order one I(1). The Johansen and Juselius co-integration test was employed and the result showed that there is at most one co-integrating equation in the model, implying that there is a long run relationship between the variables in the model. The result of the OLS regression showed that there is a negative and significant relationship between GDP and TBCPS in the long run. M2 which was used as control variable has a positive and significant impact on GDP at the long run. The ECM showed that 24.03% of the disequilibrium will be corrected yearly. The short run dynamics of the variables indicates that TBCPS also have a negative and insignificant impact on GDP at the short-run. The result of the granger causality test reviles that causation runs from GDP to TBCPS and not the other way round, a case of unidirectional causality. The result also showed bidirectional causality between TBCPS and M2.

Ekpenyong and Acha (2011) examined the contribution of banks in Nigeria to the growth of the economy. It used bank savings mobilization and credit to the real sector as proxy for banks contribution while gross domestic product growth rate proxies' economic growth. Before correlation analysis and regression were used to test hypothesis, diagnostic tests were carried out on the variables to ensure stationarity and examine the cointegration properties of the model. Augmented Dickey-Fuller test was used to test stationarity while Trace statistic and Eigenvalue test were used to assess cointegration. Results show an insignificant impact of banks intermediation variables on economic growth. The study therefore concludes that the poor performance of these variables indicate that other variables such as human resources, social infrastructure, political stability and technology may play more robust role in economic growth in Nigeria than banks.

Abdulsalam and Ibrahim (2013) in their study re-examined the long run relationship between financial development indicators and economic growth in Nigeria over the period 1970-2010. Using the Johansen and Juselius (1990) approach to cointegration and Vector Error Correction Modelling (VECM). The findings of the study revealed that in the long-run, liquid liabilities of commercial banks and trade openness exert significant positive influence on economic growth, conversely, credit to the private sector, interest rate spread and government expenditure exert significant negative influence. The findings implied that, credit to the private sector is marred by the identified problems and government borrowing and high interest rate are crowding out investment and growth.

Adenugba, A. A. (2015) investigated banking system credit as an instrument of economic growth in Nigeria. Time series data collected from the Central Bank of Nigeria (CBN) Statistical Bulletin between periods of (1983-2012) was used to regress the model using the Ordinary Least Square (OLS) technique. Findings showed that banking system credit is indeed an instrument of economic growth in Nigeria. The research study concluded that, when the size of saving is increased, enough credits or loans will be available for individuals, government, entrepreneurs, private and public sector which will enhance economic growth. To this end therefore, there is need to develop our financial intermediaries towards greater effectiveness and efficiency because a sound financial system instills confidence among savers such that resources are effectively mobilized to increase productivity in the economy. The more liquid money is made available in an economy; the more opportunities exists for continued growth.

3.0 Methodology

The study employed the Vector Error Correction Mechanism (VECM) to empirically examine the existence of long run relationship between the role of banks as agents of sustainability and economic growth in Nigeria. Time series data on real gross domestic product (rgdp), Deposit Money Banks aggregate sectoral loans and advances (agslo), banking sector investments (binv), loan-to-deposit-ratio (ltdr) and interest rates (int) were sourced from the Central Bank of Nigeria Statistical Bulletin from the period 1981 to 2017.

Model Specifications

The model for the study is as specified below:

$rgdp = f(agslo, , binv, ltdr, int,)$ ……..*(1)*

From the above functional relationship, the model equation estimated was presented below:

$rgdp_t = \alpha_{01} + \alpha_{11}agslo_{t-1} + \alpha_{21t}binv_{t-1} + \alpha_{31t}ltdr_{t-1} + \alpha_{41t}int_{t-1} + \mu_{1t}$ ----*(2)*

rgdp = real gross domestic product
agslo = Deposit Money Banks aggregate sectoral loans and advances
binv = banking sector investments
ltdr = loan-to-deposit-ratio of banks
int = interest rates
t = time t
$\alpha_1 - \alpha_4$ = Parameters to be estimated or slope
α_0 =Intercept.

Units of Measurement Problems

This study includes variables that are measured in different units. This means that the units of measurement for the estimated regression coefficients will also be different and therefore lack comparability. Regression equation requires that the units of the term (*Y*) on the left side of the equation be the same as those of the total right side of the equation. To avoid this problem we took the data for the *Y* variable and logged each of the n values. That is, we construct:

$Y_i^* = log(b_n)$……(3)

Then we logged each of the X variables (the regressors in our model) in a corresponding way.

4.0 Data Presentation, Analysis and Results

Data set on real gross domestic product, loan-to-deposit-ratio, interest rates, aggregate sectoral loans and advances and their logs respectively.

Years	rgdp N'b	ltdr	int %	aslo N'b	binv N'b	Logrgdp	logltdr	logint	logaslo	logbinv
1981	15258	74.5	7.7	8.6	0.6	4.183498	1.872156	0.886491	0.934498	-0.22185
1982	14985.08	84.6	10.25	10.3	0.6	4.175659	1.92737	1.010724	1.012837	-0.22185
1983	13849.73	83.8	10	11.1	0.6	4.141441	1.923244	1	1.045323	-0.22185
1984	13779.26	81.9	12.5	11.5	0.5	4.139226	1.913284	1.09691	1.060698	-0.30103
1985	14953.91	66.9	9.25	12.2	0.6	4.174755	1.825426	0.966142	1.08636	-0.22185
1986	15237.99	83.2	10.5	15.7	0.8	4.182928	1.920123	1.021189	1.1959	-0.09691
1987	15263.93	72.9	17.5	17.5	1.1	4.183666	1.862728	1.243038	1.243038	0.041393
1988	16215.37	66.9	16.5	19.6	0.3	4.209927	1.825426	1.217484	1.292256	-0.52288
1989	17294.68	80.4	26.8	22	1	4.237913	1.905256	1.428135	1.342423	0
1990	19305.63	66.5	25.5	26	1.4	4.285684	1.822822	1.40654	1.414973	0.146128
1991	19199.06	59.8	20.01	31.3	0.6	4.28328	1.776701	1.301247	1.495544	-0.22185
1992	19620.19	55.2	29.8	42.7	1.2	4.292703	1.741939	1.474216	1.630428	0.079181
1993	19927.99	42.9	18.32	65.7	1.7	4.299463	1.632457	1.262925	1.817565	0.230449
1994	19979.12	60.9	21	94.2	1.5	4.300576	1.784617	1.322219	1.974051	0.176091
1995	20353.2	73.3	20.18	144.6	2.2	4.308633	1.865104	1.304921	2.160168	0.342423
1996	21177.92	72.9	19.74	169.4	2.5	4.325883	1.862728	1.295347	2.228913	0.39794
1997	21789.1	76.6	13.54	385.6	3.5	4.338239	1.884229	1.131619	2.586137	0.544068
1998	22332.87	74.4	18.29	272.9	4.2	4.348945	1.871573	1.262214	2.436004	0.623249
1999	22449.41	54.6	21.32	322.8	5.2	4.351205	1.737193	1.328787	2.508934	0.716003
2000	23688.28	51	17.98	508.3	7.9	4.374534	1.70757	1.25479	2.70612	0.897627
2001	25267.54	65.6	18.29	796.2	15.9	4.402563	1.816904	1.262214	2.901022	1.201397
2002	28957.71	62.8	24.85	954.6	35.4	4.461764	1.79796	1.395326	2.979821	1.549003
2003	31709.45	61.9	20.71	1210	62.9	4.501189	1.791691	1.31618	3.082785	1.798651
2004	35020.55	68.6	19.18	1519.2	72.8	4.544323	1.836324	1.282849	3.181615	1.862131

2005	37474.95	70.8	17.95	1976.7	88.4	4.573741	1.850033	1.254064	3.295941	1.946452
2006	39995.5	63.6	17.26	2524.3	141.6	4.602011	1.803457	1.237041	3.402141	2.151063
2007	42922.41	70.8	16.94	4813.5	292.3	4.632684	1.850033	1.228913	3.682461	2.465829
2008	46012.52	80.9	15.14	7799.4	480.7	4.662876	1.907949	1.180126	3.892061	2.681874
2009	49856.1	85.7	18.99	8912.1	890.3	4.697718	1.932981	1.278525	3.94998	2.949536
2010	54612.26	74.2	17.59	7706.4	1869.1	4.73729	1.870404	1.245266	3.886852	3.271633
2011	57511.04	44.8	16.02	7312.7	2574.7	4.759751	1.651278	1.204663	3.864078	3.410727
2012	59929.89	42.3	16.79	8150	2551.2	4.777643	1.62634	1.225051	3.911158	3.406745
2013	63218.72	38	16.72	10005.6	1836.9	4.800846	1.579784	1.223236	4.000243	3.264086
2014	67152.79	64.2	16.28	11475.2	1446.2	4.827064	1.807535	1.211654	4.05976	3.160228
2015	69023.93	69.6	16.93	13222.7	1003.2	4.839	1.842609	1.228657	4.12132	3.001388
2016	69931.24	80	17.08	15829.3	1495.8	4.844671	1.90309	1.232488	4.199462	3.174874
2017	68490.98	72.8	17.78	15775.5	1558.8	4.835633	1.862131	1.249932	4.197983	3.19279

Source: Central Bank of Nigeria, 2017

Data Analysis and Results

Table 4.1 Summary of Augmented Dickey-Fuller Unit Root Tests Results

Variables	ADF t-statistic	McKinnon critical values 1%	McKinnon critical values 5%	McKinnon critical values 10%	ADF Probability Values	Stationarity ~I(d)
RGDP	-3.181245	-3.632900	-2.948404	-2.612874	0.0297	**1(1)**
ASLO	-5.263224	-3.632900	-2.948404	-2.612874	0.0001	**1(1)**
BINV	-6.064182	-3.632900	-2.948404	-2.612874	0.0000	**1(1)**
INT	-5.432630	-3.639407	-2.951125	-2.614300	0.0001	**1(1)**
LTDR	-5.718275	-3.632900	-2.948404	-2.612874	0.0000	**1(1)**

Source: e-views 10.0

Given the rule for acceptance, the ADF t- statistic values at first difference were all higher than the t-critical values at all levels of significance. In this regard, we reject the null hypotheses (Ho) and accept the alternative hypotheses (H1) of no unit root at 1%, 5% and 10% significance levels. Therefore, we conclude that our time series or variables are stationary at first differencing in the order of 1(1). These results gave rise to Johansen co-integration analysis to establish the long run relationship of the variables.

Table 4.2: Johansen Co-integration Test

Date: 10/28/18 Time: 08:12
Sample (adjusted): 4 37
Included observations: 34 after adjustments
Trend assumption: Linear deterministic trend
Series: RGDP ASLO BINV INT LTDR
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.800796	127.8848	69.81889	0.0000
At most 1 *	0.652757	73.02828	47.85613	0.0000
At most 2 *	0.518009	37.06550	29.79707	0.0061
At most 3	0.185184	12.25131	15.49471	0.1453
At most 4 *	0.144047	5.288365	3.841466	0.0215

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.800796	54.85649	33.87687	0.0001
At most 1 *	0.652757	35.96279	27.58434	0.0033
At most 2 *	0.518009	24.81419	21.13162	0.0145

At most 3	0.185184	6.962944	14.26460	0.4935
At most 4 *	0.144047	5.288365	3.841466	0.0215

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: e-views 10.0

The result in table 4.2 above reveals that both the trace test and max-eigenvalue disclosed three (3) co-integrating variables at 5% level of significance. This signifies the existence of long-run relationship between the roles of banks (measured by aggregate sectoral loans and advances, bank investments, loan to deposit ratio, interest rates) and sustainable economic growth in Nigeria. However, we are of the fact that distortion in some of the variables in the short run might cause deviations, therefore, we proceed to estimate the speed at which the deviations in the short run can be corrected in the long run using the Vector Error Correction Mechanism (VECM).

Table 4.3 Vector Error Correction Estimates

Vector Error Correction:	D(RGDP)
CointEq1	-0.341634
	(0.07299)
	[-4.68027]

Source: e-views 10.0

The Vector Error Correction Mechanism result presented on table 4.3 shows that the error correction term is appropriately signed with a negative coefficient of -0.341634 and a significant t-statistic of -4.68027. In other words, disequilibrium in the short run is corrected in the long run at the speed of 34% per annum which is in line with our a priori expectation.

Table 4.4: Least Squares System Equation

Dependent Variable: D(RGDP)
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 10/28/18 Time: 08:39
Sample (adjusted): 4 37
Included observations: 34 after adjustments
D(RGDP) = C(1)*(RGDP(-1) - 0.0210561736417*ASLO(-1) - 0.165171597974*BINV(-1) - 0.167277414558*LTDR(-1) - 3.88173311247) + C(2)*D(RGDP(-1)) + C(3)*D(ASLO(-1)) + C(4) *D(BINV(-1)) + C(5)*D(LTDR(-1)) + C(6)*D(RGDP(-2)) + C(7)*D(ASLO(-2)) + C(8)*D(BINV(-2)) + C(9)*D(LTDR(-2)) + C(10) + C(11)*INT

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.341634	0.072995	-4.680265	0.0001
C(2)	0.496414	0.143387	3.462062	0.0021
C(3)	0.046218	0.026039	1.774973	0.0891
C(4)	-0.033964	0.015601	-2.177085	0.0400
C(5)	-0.035726	0.036070	-0.990458	0.3323

C(6)	-0.187304	0.162874	-1.149996	0.2620
C(7)	0.005989	0.031722	0.188806	0.8519
C(8)	-0.036422	0.015785	-2.307430	0.0304
C(9)	-0.008955	0.026665	-0.335847	0.7400
C(10)	-0.089906	0.034949	-2.572495	0.0170
C(11)	0.084721	0.029928	2.830880	0.0095

R-squared	0.636421	Mean dependent var	0.020417
Adjusted R-squared	0.478344	S.D. dependent var	0.016092
S.E. of regression	0.011623	Akaike info criterion	-5.815549
Sum squared resid	0.003107	Schwarz criterion	-5.321727
Log likelihood	109.8643	Hannan-Quinn criter.	-5.647142
F-statistic	4.026005	Durbin-Watson stat	2.409558
Prob(F-statistic)	0.002771		

Source: e-views 10.0

In order to actually establish the significance of the t-statistics -3.34292 and confirm causality between economic growth and the role of banks, the least square system equation for RGDP was extracted and estimated as shown on table 4.4 above. C (1) is the coefficient (-0.341634) of the cointegrated model for RGDP and represents the speed of adjustment towards long run equilibrium. With a probability of 0.0001< 5% (significant), the study indicates that the role of banks granger causes economic growth.

Diagnostic test

Table 4.5 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.824921	Prob. F(13,20)	0.6321
Obs*R-squared	11.86745	Prob. Chi-Square(13)	0.5385
Scaled explained SS	4.960950	Prob. Chi-Square(13)	0.9760

Source: e-views10.0

The result as shown on table 4.5 above shows that the model equation residuals are free from heteroscedasticity as all the three statistic: F-statistic, Obs* R-squared and Scaled explained SS have probabilities above 5% agreeing with the hypothesis that there is no Heteroskedasticity in the residuals of the model.

Discussion of Results

Recession is an economic trend that does no good to any economy, whether underdeveloped, developing or developed. The recent economic recession witnessed in Nigeria raised lots of concern as to the role of stakeholders in sustaining the state of the economy beyond recession, which the banking sector is not an exception. To this end, the data collected in order to determine the role of banks as one of the major agents of sustainability beyond economic recession in Nigeria were subjected to series of analysis. The Johansen cointegration test revealed the existence of long run relationship between the activities of the banking institutions and economic growth in Nigeria. In order to ascertain whether the errors in the short-run are likely to be corrected such that in the long run we have same results and the speed of adjustment, the vector error correction mechanism ((vecm) was estimated. The error correction term was appropriately signed with a negative coefficient of -0.341634 and a

significant t-statistic of -4.68027. In other words, disequilibrium in the short run is corrected in the long run at the speed of 34% per annum. This means that the claim of long run relationship is sustained and adjustments from the short run to the long run is possible. In the same vein, to establish the significance of the t-statistics -3.34292 and confirm causality between economic growth and the role of banks, the least square system equation for RGDP was extracted and estimated. C (1) is the coefficient (-0.341634) of the cointegrated equation for RGDP and represents the speed of adjustment towards long run equilibrium. With a probability of 0.0001< 5% (significant), the study indicates that the role of banks granger causes economic growth. Thus, we infer that banks via their operations are veritable agents of sustaining the economy beyond recession and should be encouraged. It is pertinent to also note that past real gross domestic product (C2) reinforces itself in the long run going by the positive and significant relationship exhibited on table 4.4 for the least square system equation. That is past economic growth leads to further economic growth in the present period. In the short run, only banking sector investments and interest rates impacted significantly on economic growth of Nigeria. Though there was a negative relationship between banking sector investments (C4) and economic growth, but interest rates (C10) exhibited a positive and significant relationship on economic growth in Nigeria. The Durbin-Watson statistic of 2.409558 shows that the model is free from autocorrelation. The Breusch-Pagan-Godfrey heteroskedasticity test with probability values greater than 5% show that the variances are constant over time.

5.0. Conclusion

The study concludes that banks are important agents of sustainability of the economy beyond recession. This is evidenced by the result of the Johansen cointegration analysis which shows the existence of long-run relationship between the variables of study. Also, the result of the VECM provided that the role of banks has significant impact on economic growth in Nigeria. However, in the short run, banking sector investments and interest rates have significance on economic growth. While aggregate sectoral loans and loan to deposit ratio has not translated into meaningful economic growth. This was evidenced by the result of the least square system equations.

Recommendations

1. Given the result of the analysis, policies that encourages banks to increase the amount of loans advances to various sectors of the economy especially the real sectors should be encouraged. This may be inform of expansionary monetary policy while keeping an eye on inflationary pressures.
2. Interest rate showed a significant relationship to economic growth, as such the management of interest rates should be prudently done to encourage the demand for bank loan and attraction of idle funds.
3. Banks as important agents of sustainability should be properly regulated by the government to avoid the distress syndrome that discourages the public from patronizing the banks.
4. Government should encourage banks to open new branches in the rural areas to tap the funds outside the banking system given the important role banks play as revealed by this study.
5. Some banking policies in Nigeria needs to be revisited as they have shown to have no significant impact on economic growth sustainability. For instance, loans-to-deposit ratio, Deposit Money Banks aggregate sectoral loans and advances among others needs to be improved upon for greater impact.

References

Abdulsalam A and Ibrahim M. G. (2013) Impact of Banking Sector Development on Economic Growth: Another Look at the Evidence from Nigeria. Journal of Business Management & Social Sciences Research (JBM&SSR). Volume 2, No.4.

Adenugba, A. A. (2015) Banking System Credit As an Instrument of Economic Growth in Nigeria (1983 - 2012). European Journal of Business, Economics and Accountancy. Vol. 3. No. 7.

Akpan M.J.D (2017) Economic recession in Nigeria: An assessment of legal resolution of contracts and insolvency disputes. International Journal of Development and Economic Sustainability. Vol 5 (5). 1 – 10.

Ananzeh I. E. N. (2016) Relationship between Bank Credit and Economic Growth: Evidence from Jordan. International Journal of Financial Research Vol 7 No. 2

Benjamin S. I (2017) Economic Recession in Nigeria: A case for government intervention. *SSRG Journal of Economics and Management Studies*. Vol 4 (6). 48 – 51

Ekpenyong D. B and Acha I (2011) Banks and Economic Growth in Nigeria. European Journal of Business and Management. Vol 3, No.4.

Emmanuel, J. N (2016) Economic Recession in Nigeria: Causes and Solution. https://educacinfo.com/economic-recession-nigeria/

Modebe, N. J; Ugwuegbe, S.U; and Ugwuoke R.O (2014) The Impact of Bank Credit on the Growth of Nigerian Economy: A Co Integration Approach. Research Journal of Finance and Accounting. Vol 5. No. 10.

Stijn C and Ayhan K. M. (2009) Back to Basics: What is Recession – Finance and Development. 52 -53. https://www.imf.org/external/pubs/ft/fandd/2009/03/pdf/basics.pdf

Tinuke, M. F. (20120 The global economic recession: Impact and strategies for human resources management in Nigeria. International Journal of Economics and Management Sciences. Vol. 1 (6). 7 – 12.

Appendix

Vector Error Correction Estimates
Date: 10/28/18 Time: 08:25
Sample (adjusted): 4 37
Included observations: 34 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
RGDP(-1)	1.000000
ASLO(-1)	-0.021056 (0.01742) [-1.20884]
BINV(-1)	-0.165172 (0.01477) [-11.1811]
LTDR(-1)	-0.167277 (0.05958) [-2.80762]
C	-3.881733

Error Correction:	D(RGDP)	D(ASLO)	D(BINV)	D(LTDR)
CointEq1	-0.341634 (0.07299) [-4.68027]	1.638007 (0.58915) [2.78030]	-1.958925 (1.31076) [-1.49450]	0.426761 (0.46152) [0.92469]
D(RGDP(-1))	0.496414 (0.14339) [3.46206]	0.057433 (1.15729) [0.04963]	4.119604 (2.57479) [1.59998]	1.226864 (0.90658) [1.35328]
D(RGDP(-2))	-0.187304 (0.16287) [-1.15000]	0.736875 (1.31457) [0.56054]	-0.242463 (2.92471) [-0.08290]	0.272813 (1.02979) [0.26492]
D(ASLO(-1))	0.046218 (0.02604) [1.77497]	-0.018847 (0.21016) [-0.08968]	0.732952 (0.46758) [1.56756]	0.515350 (0.16463) [3.13028]
D(ASLO(-2))	0.005989 (0.03172) [0.18881]	0.262951 (0.25603) [1.02703]	0.772429 (0.56962) [1.35603]	0.191759 (0.20057) [0.95609]
D(BINV(-1))	-0.033964 (0.01560) [-2.17708]	0.188563 (0.12592) [1.49754]	-0.538060 (0.28014) [-1.92067]	-0.181420 (0.09864) [-1.83925]

D(BINV(-2))	-0.036422	0.090203	-0.524435	-0.032407
	(0.01578)	(0.12740)	(0.28344)	(0.09980)
	[-2.30743]	[0.70803]	[-1.85023]	[-0.32472]
D(LTDR(-1))	-0.035726	-0.111416	-0.747410	-0.216945
	(0.03607)	(0.29113)	(0.64771)	(0.22806)
	[-0.99046]	[-0.38270]	[-1.15392]	[-0.95126]
D(LTDR(-2))	-0.008955	-0.291872	-0.308218	-0.084923
	(0.02666)	(0.21522)	(0.47882)	(0.16859)
	[-0.33585]	[-1.35618]	[-0.64370]	[-0.50372]
C	-0.089906	0.577641	-0.814641	0.255537
	(0.03495)	(0.28208)	(0.62757)	(0.22097)
	[-2.57250]	[2.04782]	[-1.29808]	[1.15644]
INT	0.084721	-0.439919	0.639097	-0.265172
	(0.02993)	(0.24155)	(0.53741)	(0.18922)
	[2.83088]	[-1.82124]	[1.18922]	[-1.40138]
R-squared	0.636421	0.311054	0.296987	0.471606
Adj. R-squared	0.478344	0.011512	-0.008670	0.241870
Sum sq. resids	0.003107	0.202394	1.001829	0.124202
S.E. equation	0.011623	0.093807	0.208705	0.073485
F-statistic	4.026005	1.038431	0.971635	2.052815
Log likelihood	109.8643	38.86238	11.67315	47.16362
Akaike AIC	-5.815549	-1.638964	-0.039597	-2.127272
Schwarz SC	-5.321727	-1.145141	0.454226	-1.633449
Mean dependent	0.020417	0.092725	0.100431	-0.001797
S.D. dependent	0.016092	0.094352	0.207806	0.084397

Determinant resid covariance (dof adj.)	1.52E-10
Determinant resid covariance	3.18E-11
Log likelihood	217.9206
Akaike information criterion	-9.995332
Schwarz criterion	-7.840470
Number of coefficients	48