
BANKING SECTOR DEVELOPMENT AND PERFORMANCE OF THE NIGERIAN ECONOMY

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ABSTRACT

The study examines banking sector development and performance of the Nigerian economy using time series data for the period 1988 to 2013. The study uses unit root test to determine the stationary state of the variables. It also employs the Johansson co-integration and error correction model (ECM) statistical techniques to establish both short-run and long-run dynamic relationships between the endogenous and exogenous variables. The findings reveal that total number of banks (TNB), broad money supply (M_2 GR) and interest rate had negative effects on the performance of the Nigerian economy in the period observed and were statistically insignificant. However, bank credit and bank deposit have positive impact on economic growth and the relationships are statistically significant in the short-run. The paper concludes that certain banking sector variables positively promote economic growth in Nigeria. The paper recommends that monetary authority, the Central Bank of Nigeria should strengthen the banking sector by coming up with appropriate monetary and regulatory policies that promote the financial intermediation role of banks and ultimately banks' contribution to Nigerian economic growth.

Keywords: Banking sector, bank credit, bank Deposit, interest rate and financial Intermediation.

1.0 INTRODUCTION

The significance of the banking sector as a major driver of the Nigerian economy cannot be over emphasized. It has continued to promote financial intermediation within and outside the nation's boundary over time. The level of investments and capital accumulations in an economy are largely

determined by the level of the banking sector development. In Nigeria, successive regimes of government have introduced policies geared towards promoting the continuous development and enhancement of the banking sector with a view to ensuring the overall performance of the economy. The actual result has been the reverse. As

noted by Lawrence, Moni and Elkhomun (2014) the financial system particularly the banking sector has to a large extent remains underdeveloped due to the adoption of financially repressive policies, political corruption/poor macroeconomic management, bank malfeasance, giving rise to insolvencies, low saving rates and insufficient resource allocation. They assert that the import of the underdevelopment has meant that the Nigerian economy struggles to accelerate economic growth and reduce poverty.

A well developed banking sector should foster adequate fund mobilization from the surplus unit to the deficit units of the economy, reduce asymmetry of information, transaction costs, agency and monitoring costs and on the overall promotes good corporate governance, maximizes the wealth of the shareholders as well as serve as major driver of the larger economy whether in developed or developing countries. Olusegun, Ganiyu and Oluseyi (2013) share similar view that if a financial system is well developed, it will enhance investment by identifying and funding good business opportunities, mobilizes savings, enables the trading, hedging and diversification of risk and facilitates the exchange of goods and services. They further emphasize that all these result in a more efficient allocation of resources, rapid accumulation of physical and human capital and foster technological progress which in turn results in economic growth. However, empirical studies on the nexus between the banking sector development and economic growth using varying indices across different periods have produced contradictory results (See Lawrence et al, 2014, Aigbovo & Osamwonyi, 2013; Igbiosa, 2012; King & Levine, 1993). Therefore, this study seeks to extend the debate by focusing specifically on the banking sector and its impact on economic growth.

The research problem of the study emanating from the above background is encapsulated in

the research questions thus: namely, is there a relationship between total number of banks and the performance of the Nigerian economy? What is the impact of monetary policy on the performance of the Nigerian economy? Does bank credit positively influence performance of the Nigerian economy? And to what extent do bank deposits contribute to performance of the Nigerian economy? Similarly, the specific objectives of this paper are to examine if there is a relationship between total numbers of banks and the performance of the Nigerian economy; investigate the impact of monetary policy on the performance of the Nigerian economy; find out if bank credit positively influences performance of the Nigerian economy; and determine the extent to which bank deposit contribute to performance of the Nigerian economy.

The rest of this article is structured as follows: Section two contains the review of related literature, section three is the methodology, section four concerns with analysis and discussion of findings while section five is conclusion and recommendations.

2.0 REVIEW OF RELATED LITERATURE

2.1 Conceptual Clarification

Banks are vital institutions and they make up the financial system of any nation. They majorly in the business of financial intermediation; unlike the capital market, banks primarily involve in short term lending at least for the purpose of safety depositors' funds and to avoid assets- liabilities mismatch. The concept and definition of bank varies from country to country and from authors to authors. However, the Business Dictionary defines bank as an establishment authorized by a government to accept deposit, pay interest, clear cheques, make loans, act as an intermediary in financial transactions, and

provide other financial services to its customers. According to Wikipedia, a bank is a financial institution that creates credit by lending money to a borrower, thereby creating a corresponding deposit on the bank's balance sheet. In Nigeria particularly, the banking industry can be described as oligopolistic in terms of characteristics.

The policies of every government in any nation are to influence positively the economy and its sustainable growth. This is because the achievement of macro-economic growth is central to the performance of every sectors of an economy. The aim is to stem unemployment, increase output, improve industrial capacity utilization and enhance the living standard of the citizenry. Economic growth occurs when a nation's production possibility frontier (PPF) shifts outward. Economic growth being the growth in output of goods and services is an important objective of government since it culminates in increased per capita income and living standard. Bencivenga and Smith (1991) note that economic growth will increase if more savings are channeled into the activity with high productivity while reducing the risk associated with liquidity needs. Economic growth is a gradual and steady change in the long-run which comes about by a general increase in the rate of savings and population (Jhingan, 2005).

Olusegun et al (2013) describe it as a positive change in the level of production of goods and services by a country over a certain period of time. They explain that economic growth is measured by the increase in the amount of goods and services produced in a country. In relation to this, Jhingan (2003) posits that an economy is said to be growing when it increases its production of more goods and services. The concept of economic growth is viewed as an increase in the net national product in a given period of time (Dewett, 2005). Todare and Smith (2006) see

economic growth as a steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national output and income. Jhingan (2006) views economic growth as an increase in output, explaining that it is related to a quantitatively sustained increase in a country's per capita income or output accompanied by expansion in its labour force, consumption, capital and volume of trade. The main characteristics of economic growth are high rate of growth per capita income or output; high rate of productivity, high rate of structural transformation, international flows of labour, goods and capital (Ochejele, 2007). Economic growth can also be measured in terms of Gross Domestic Product (GDP).

Sanusi (2011) notes the important role the banking sector plays in promoting economic growth and development through the process of financial intermediation. He stresses that many economists have acknowledged that the financial system, with banks as its major components, provides linkages for the different sectors of the economy and encourages high level of specialization, expertise, economies of scale and a conducive environment for the implementation of various economic policies of government intended to achieve non-inflationary growth, exchange rate stability, balance of payment equilibrium and high levels of employment.

Indeed, in the Literature, the banking sector development is often seen as the major driver of financial sector development. Financial sector development is all the wholesale, retail, formal and informal institutions in an economy offering financial services to consumers, business and other financial institutions (Osuji & Chigbu, 2012). According to Financial sector team of the Department for International Development (2004), financial sector development includes everything from banks, stock exchanges and

insurers, to credit unions, microfinance institutions and money lenders. In this regard, Liang and Reichert (2007) note that endogenous financial development results directly from economic growth. As an economy grows, the aggregate demands for goods and services increases; to expand output, producers must look for efficient ways to raise capital while consumers on the other hand will seek more efficient means to earn higher rates of return on their savings and consequently a more efficient financial market is required (Osuji&Chigbu, 2012). It is in the light of the above, that this study evaluates the critical role the banking sector plays in the growth of the Nigerian economy.

2.2 Theoretical Framework

Every research work that stands the test of time is always built on theories. Thus, this study is underpinned to the theory of endogenous growth and the Robert Solow neo-classical theory of growth. The neo-classical growth theory of Solow (1956) posits that growth depends on capital accumulation which involves increasing the stock of capital goods to expand productive capacity and the need for sufficient saving to finance increased allocation of resources towards investment. In consonance with this, Nnanna (2004) states that the rate of output growth is determined by the accumulation of capital, the efficiency of resource utilization and the ability to acquire and adopt modern technology. His view in this regard was that the degree of financial system development is crucial for attracting and sustaining capital flows, savings mobilization and utilization. Thus, Solow's (1956) growth theory succinctly harps on the relative importance of savings and capital investment in promoting economic growth. His submission was that the performance of an economy, in terms of growth and development can be expanded or contracted if society saved or dis-saved part of their resources and then

use it to build into the future. This theory clearly has a robust nexus with the subject matter under consideration in that banks are particularly known for financial intermediation, taking surplus from unit to deficit unit. This there by enhances credit creation, capital accumulation and investment which consequently engender economic performance whether in developed and developing countries. Goldsmith (1969) contributes further to the neo-classical growth theory of Solow (1956). He emphasizes on how to transform short-term financial instrument into long term ones and how long term financing can result in economic growth. Building on the Harrod-Domar framework, Goldsmith (1969) opines that liquidity can be generated in the financial system if there are surplus savers, that is, individuals who save more than they invest; and borrowers who want to invest more than they save so that the surplus is transferred to investors by means of financial instruments. According to Yanique, Roland, Allan and Anthony (2012), the creation of liquidity is critical to the process of economic growth as alluded to by Goldsmith (1969).

Another theory that has emerged to explain the relationship between banking sector development and performance of an economy by way of economic growth is the endogenous growth theory. Endogenous growth theory says that in the absence of exogenous technological progress, self-sustaining growth and economic growth rates are associated with preference, technology, income distribution and institutional arrangement (Pagano, 1993). Hence, this growth theory indicates that finance not only has a level effect, that is improved level of capital stock and the level of productivity, but also growth effect which is concerned with the growth rates of capital stock and productivity (Lawrence et al, 2014). According to Yanique, Roland, Allan and Anthony (2012), the

endogenous growth theory posits that financial intermediaries can affect the growth creation process as innovation and knowledge are achieved through costly research and development activities, which are usually only possible when external funding is available through the financial system. In furtherance of the endogenous growth model, the new growth model by Greenwood and Jovanovic (1990) shows that improved capital allocation can foster the performance of an economy. As firms and entrepreneurs seek capital, financial intermediaries can obtain valuable information in the process; thus reducing the cost involved in verifying and monitoring these firms (Yanique, Roland, Allan, & Anthony, 2012). There is therefore a link between this theory and the issue being investigated in that the goal of banks is majorly capital accumulation and allocation, this then contributes to the level of investments; and investment is known to impact on the real gross domestic product of a country.

2.3 Review of Empirical Literature

The banking sector as a sub-set of the financial system is central to the effective operation of an economy whether in developing or in emerging economies like Nigeria. Due to the relative importance of a developed banking sector, many researchers have continued to ascertain how it influences the performance of an economy given that it is faced with divergent challenges. Some of the studies that have considered the empirical relationship between banking sector development and the performance of a country's economy have mixed results. According to Narcise, Ebrahim and Mahdi (2014), some of them have concluded positive effect, some negative and some could not show any certain result. King and Levine (1993) studied the

relationship between banking sector development and economic growth in developing countries during 1960 – 1989. The result obtained indicates positive relationship between each of the banking sector development indices and economic growth. They report a granger causality direction between banking sector development and economic growth. Rioja and Valev's (2003) work on the relationship between banking sector development and economic growth shows that some indices of financial sector development have negative effect and some others have positive but very little effect on economic growth. Calderon and Liu (2003) examine how banking sector development improves an economy. Their findings reveal that the banking sector generally leads to growth, and they also report a two-way causality between economic growth and banking sector development. Ritab (2007) report a positive relationship between the development of banking sector and increase in economic growth. Ang (2007) study shows that banking sector development causes economic growth by improving investment performance and thus enhance economic development.

Aigbovo and Osamwonyi (2013) ascertain the impact of banking sector development and economic growth in Nigeria in the period 1981 – 2011 using explanatory variables such as total asset of deposit money banks to GDP, private sector credit to GDP, liquidity liability ratio of banks. While the other variables were positive and significant, liquidity liability ratio of banks had negative sign. They also find a one-way causality running from economic growth to banking sector development. Ali (2012) examines the relationship between banking sector development and economic growth in Lebanon over the period 1992 – 2011 using granger causality test and ordinary least square (OLS) method. They ascertain a one-

way causality running from economic growth to banking sector measures such as deposit growth and credit to local private sector. However, bank credit to private sector, banking sector size, efficiency and concentration were reported to impact significantly on economic growth.

Chinaemerem and Chigbu (2012) investigate the impact of banking sector development variables on economic growth in Nigeria from 1960 to 2008 with the use of granger causality test, co-integration and error correction method (ECM). They employ two indicators of banking sector development such as money supply (MS) and credit to private sector (CPS). The empirical result indicates that money supply (MS) and credit to private sector (CPS) were positively related to economic growth of Nigeria in the period observed. Similarly, the Johansen and Granger causality test point out that money supply and credit to private sector were co-integrated with GDP while granger test shows that all the independent variables actually granger cause GDP and GDP granger causes other variables in Nigeria. Ndako (2010) examines the long-run causality between banking sector development and economic growth in Nigeria from 1961 to 2007 using the multivariate vector autoregressive (VAR) models based on three indicators of banking sector development which include bank credit to private sector and liquidity. The result produced the likelihood of uni-directional causality from economic growth to banking sector development with the use of bank credit to private sector, while the use of liquid liabilities points out bi-directional causality between banking sector development and economic growth.

Olusegun et al (2013) evaluate the impact of financial sector development on the Nigerian economic growth using ratio of liquidity liability to GDP (M2/GDP), real interest rate (INTR), ratio of credit to private sector to GDP

(CP/GDP) while the economic growth was measured by the real GDP (RGDP). The Ordinary least square (OLS) method of the regression analysis was employed. The empirical result indicates that only the real interest rate was negatively related. All the explanatory variables were statistically insignificant with real GDP. Lawrence et al (2014) empirically examines the development of financial system and economic growth in Nigeria employing ordinary least square (OLS) regression, unit root test and cointegration technique. The results show that financial system development enhances economic growth positively in Nigeria. It should be noted that the methodology used in the above identified empirical studies have their strengths and weaknesses. Basically both estimation techniques are only useful for dynamic relationships/ impacts among variables in an econometric construct. However, their weaknesses are that they are used despite the fact variables in a model are integrated at varying order and levels; of course this obvious limitation is what this present study intends to ameliorated through the use of the Johansen and Juselius cointegration and the parsimonious error correction mechanism (ECM) estimation techniques. This paper extends previous studies in temporal dimension and examines other variables such as bank deposit, total number of banks listed and amongst others not hitherto used by prior studies with a view to making empirical validation of the relationships between banking sector development variables and economic growth in Nigeria.

3.0 METHODOLOGY

The focus of this study is to examine the relationship between banking sector development and the performance of the Nigerian economy. Annual data set for the period 1988-2013 was extracted from the

Central Bank of Nigeria Statistical Bulletin various issues and used for the econometric analysis by the researchers. This form of direct physical method of data collection is not amenable to manipulation and massaging as is often common to methods use by researchers in primary data collection. The choice of this period is premised on the fact that within this period, the Nigerian government undertook several reforms to reposition the banking sector. The statistical technique employed in this study includes the error correction model (ECM) and the ordinary Least Squares (OLS) multivariate regression. Prior to estimation of the model; stationary tests are conducted to test for its stochastic properties in order to avoid estimating spurious regressions results since estimating regressions using non-stationary variables based on ordinary least square could lead to spurious and inconsistent results (Aiyedogbon, 2012). The stationarity properties of the time series data are investigated in this study using the Augmented Dickey-Fuller (ADF) test. The null hypothesis of the existence of unit roots is rejected against the alternative if the ADF test statistic is greater than the critical value otherwise the test fails to reject the null hypothesis at 5% level of significance. Johansen and Juselius (1988) approach is utilized in examining the presence or absence of long-run relationships among the variables.

3.1 Model Specification

The model employed in this study follows Aigbovo and Osamwonyi (2013). The model they employed was: $RGDP = F(PSC, BLL, BA)$

$$\dots\dots\dots (1)$$

Equation (1) was expressed in its econometric form as follows:

$$RGDP = \beta_0 + \beta_1 PSC + \beta_2 BLL + \beta_3 BA + Ut \dots\dots\dots (2)$$

Where:

- RGDP = Real Gross Domestic Product
- PSC = Private Sector Credit/GDP ratio
- BLL = liquid liability ratio of banks
- BA = Total asset of deposit money banks/GDP ratio (size of the banking sector/GDP)

Ut = Stochastic error term. The model above is used with a modification and is expressed in a deterministic form as: $GDPGR = F(TNB, BC/GDP, BD/GDP \text{ and } INTR)$. It is stated in its econometric form as:

$$GDPGR_t = \beta_0 + \beta_1 BC_t + \beta_2 TNB_t + \beta_3 BD_t + \beta_4 INTR_t + \beta_5 M2GR_t + ut$$

Where

$\beta_1 - \beta_5$ are coefficients of parameters to be estimated.

GDPGR = represents gross domestic product growth rate, and is the endogenous variable,

BC = Total bank credit to the private sector.

TNB = Total no of banks listed in Nigeria,

BD = Total Bank deposit.

INTR = Interest rates charged by banks. Here, prime lending rate is used for operationalization.

M2GR = Broad money supply growth rate.

ut = is the error term

t = represents the time period

β_0 = the intercept term

An a priori expectation in this study is $\beta_1 - \beta_3, \beta_5 > 0, \beta_4 < 0$. This portends that the set of explanatory variables are expected to positively relate to the GDP growth rate over the period except interest rate that is negatively related. In other words, an increase in broad money supply growth rate, bank deposit, bank credit to customers and the number of quoted banks from the stand of existing theories are expected to engender economic growth. However, a rise in interest rate (i.e lending rate)

is expected in accordance with theory, to have a contrary effect on economic growth.

4.0 EMPIRICAL ANALYSIS

In this section, the econometric results of the time series employed in this study are presented. The long – run estimation of the model is done using ordinary least squares. The unit root test of all the variables are then carried

out for the purpose of detrending. Thereafter, the Johansonco-integration and parsimonious error correction model is used to established both the long-run and short-run relationship among the variables. For the purpose of justification of the empirical analysis of this paper, the data used are reported under appendix (see appendix A).The results are presented below:

TABLE 4.1: ORDINARY LEAST SQUARES REGRESSION RESULTS SHOULD THE LONG-RUN RELATIONSHIPS BETWEEN BANKING SECTOR DEVELOPMENT VARIABLES AND ECONOMIC GROWTH

Dependent Variable: GDPGR
 Method: Least Squares
 Date: 08/12/15 Time: 05:50
 Sample (adjusted): 1989 2013
 Included observations: 25 after adjustments
 Convergence achieved after 99 iterations

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.97E+08	7.08E+09	0.041997	0.9670
BC	0.435154	0.586730	0.741660	0.4679
BD	0.898498	0.925905	0.970399	0.3447
TNB	-24837.28	27322.40	-0.909045	0.3753
M2GR	505.0524	24358.55	0.020734	0.9837
INTR	-60070.94	79524.61	-0.755376	0.4598
AR(1)	0.996974	0.073931	13.48520	0.0000
R-squared	0.983561	Mean dependent var		12845242
Adjusted R-squared	0.978081	S.D. dependent var		13305590
S.E. of regression	1969883.	Akaike info criterion		32.05634
Sum squared resid	6.98E+13	Schwarz criterion		32.39763
Log likelihood	-393.7043	Hannan-Quinn criter.		32.15100
F-statistic	179.4935	Durbin-Watson stat		2.094036
Prob(F-statistic)	0.000000			
Inverted AR Roots	1.00			

E-views 7.0 Output

From the table above, we observed that the model predicted about 98% systematic variation in the dependent variable, GDPGR using the adjusted coefficient of determination, leaving about 2% unaccounted for to stochastic error term. It suggests that banking sector development in the long-run influences the performance of the Nigerian Economy. The F – Statistic value of 179.49 reveals that all the explanation put together are statistically significant at 99% level. It indicates the goodness of fit of the model. The

individual coefficient indicate that a unit change in Bank credit (BC), Bank Deposit (BD) and Broad money supply growth rate (M2GR) increase the performance of the Nigeria economy, though they are not statistically significant at 95% level as shown above. Similarly a unit change in total number of Banks (TNB) and interest rate (INTR) result to a decrease in the performance of the Nigeria economy on the long – run bases. Also, the Durbin – Watson statistic value of 2.094 shows the absence of serial Autocorrelation in the time series data.

Table 4.2 Summary of the unit root test at 5%

Variables	ADF statistics	T-critical values	Remark
GDPGR	-4.099169	-3.632896	Stationary at first differences
BC	-3.897496	-3.644963	Stationary at level
BD	-4.783864	-3.690814	Stationary at first difference
TNB	-4.591243	-3.612199	Stationary at first difference
M2GR	-4.426211	-3.632896	Stationary at level
INTR	-5.468652	-3.603202	Stationary at level

Source: Authors computation 2015.

In table 4.2 above, we present summary results of the unit root test at 5%. The ADF results which compare the augmented dickey fuller statistic against the Mckinnon critical values at 5% shows that at levels, Bank credit (BC), broad money supply growth rate (M2GR) and interest rates (INTR) are stationary. Gross domestic product growth

rate (GDPGR), Bank Deposit (BD) and total number of Banks (TNB) are stationary at first difference. Given that all the time series used in this study are stationary, we proceed to conduct the co-integration test based on the Johansen co-integration procedures and to examine whether a long-run stable relationship exists among the variables. The results of the co-integration test are presented on table 4.3 below.

Table 4.3: Johansen co-integration test results

Date: 08/12/15 Time: 05:46
 Sample (adjusted): 1990 2013
 Included observations: 24 after adjustments
 Trend assumption: Linear deterministic trend
 Series: GDPGR BC BD TNB M2GR INTR
 Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.958425	154.3679	95.75366	0.0000
At most 1 *	0.801470	78.04172	69.81889	0.0095
At most 2	0.594629	39.23811	47.85613	0.2509
At most 3	0.307917	17.56727	29.79707	0.5981
At most 4	0.274225	8.734101	15.49471	0.3906
At most 5	0.042478	1.041747	3.841466	0.3074

Trace test indicates 2 cointegratingeqn(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 *	0.958425	76.32616	40.07757	0.0000
At most 1 *	0.801470	38.80361	33.87687	0.0119
At most 2	0.594629	21.67083	27.58434	0.2378
At most 3	0.307917	8.833173	21.13162	0.8457
At most 4	0.274225	7.692354	14.26460	0.4108
At most 5	0.042478	1.041747	3.841466	0.3074

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level
 * denotes rejection of the hypothesis at the 0.05 level
 **MacKinnon-Haug-Michelis (1999) p-values

A careful examination of the results from the above table indicates that both the trace and maximum eigen value statistics depict there are at least two co-integrating variables in the relationship between Gross Domestic Product Growth Rate and the independent variables. This therefore suggests that there is a long – run relationship between banking sector development and performance of the Nigerian economy.

4.4 Parsimonious ECM

The parsimonious ECM allows restricted number of parameter estimates into our model. The ECM has been lauded for combining short-run dynamics with long –run equilibrium in a broad macro econometrics framework (Iyoha, 2006). In this study, the ECM is estimated using the first difference of the variables. The results are contained on table 4.4 below:

Table 4.4: Parsimonious ECM Result

Dependent Variable: DGDPR
 Method: Least Squares
 Date: 08/12/15 Time: 06:16
 Sample (adjusted): 1990 2013
 Included observations: 24 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	319070.7	374250.9	0.852558	0.4073
DBC	2.080804	0.617331	3.370647	0.0042*
DBC(-1)	3.932022	0.903694	4.351057	0.0006 *
DBD	2.805630	0.780699	3.593741	0.0027*
DBD(-1)	-6.666240	1.488322	-4.479031	0.0004*
DTNB	-27424.11	18846.16	-1.455157	0.1662
DM2GR	-4997.172	18815.67	-0.265586	0.7942
DINTR	-64799.32	58858.26	-1.100939	0.2883
ECM(-1)	-0.269206	0.156300	-1.722363	0.0056*
R-squared	0.752582	Mean dependent var		1608113.
Adjusted R-squared	0.620626	S.D. dependent var		2148865.
S.E. of regression	1323557.	Akaike info criterion		31.30954
Sum squared resid	2.63E+13	Schwarz criterion		31.75131
Log likelihood	-366.7145	Hannan-Quinn criter.		31.42674
F-statistic	5.703283	Durbin-Watson stat		2.281734
Prob(F-statistic)	0.001912			

Source: E-view 7.0

Key: * indicates statistical significant at 1% level.

The table above presents the Parsimonious ECM result. The R-Squared value of 0.75 shows that about 75% of the variation in the dependent variable, GDPGR is collectively explained by the included regressors. The adjusted coefficient of

determination puts the systematic variation at 62%, leaving the remaining percentage unexplained as a result of the stochastic error term. Judging by R² and its adjusted counterpart, the estimated model is robust. The F-statistics at 5.70 with P = 0.001, shows that at 1% significant level, we accept the alternative hypothesis which specifies a systematic relationship between the

dependent variable and all the included regressors and the overall goodness of fit of the model. To examine the impact of each of the independent variables on the dependent variable, we examine the estimated coefficients. As observed, TNB has negative coefficient (-2.74) but statistically insignificant at 5% level ($P = 0.16$). BC has positive coefficient (2.08) and is statistically significant at 1% level ($P = 0.004$). A one period lag of Bank credit, DBC (-1), has positive coefficient (3.93) and is statistically significant at 1% level ($P=0.0006$). Bank deposit (BD) has positive coefficient (2.80) and is statistically significant at 1% level ($P = 0.0027$). One period lag of Bank deposit, DBD (-1) has negative coefficient, implying that it decreases gross domestic product growth rate (- 6.66) though is statistically significant at 1% level ($P = 0.0004$). Money supply growth rate has negative coefficient (-4997.17) and is statistically insignificant at 5% level ($P=0.79$). Similarly, interest rate has negative coefficient (-64799.32) and is statistically insignificant at 5% level ($P=0.28$). The ECM Coefficient is negative(-0.2692) and is statistically significant at 1% ($P = 0.0056$). The ECM coefficient can thus serve as error equilibrium. The ECM value of 0.2692 showed that any temporary deviation from the long-run equilibrium between DGDPGR and the regressors can be restored at the rate of 26.92%. Finally, the Durbin – Watson statistic put at 2.28 which can be approximated to 2 shows the absence of first – order serial dependence.

4.5 DISCUSSION OF FINDINGS

This study arrives at the following findings: There exists a long – run stable relationship as well as a short- run dynamic relationship between banking sector development and economic growth. This result is consistent with King and Levine

(1993); Ritab (2007); Ang (2007); Aigbovo and Osanwonyi (2013); Lawrence et al (2014). The individual indices used to examine banking sector development and performance of the Nigerian economy reveals that interest rate has a negative impact on the performance of the Nigeria economy and the relationship is not statistically significant in both the short and long- run temporal dimensions. This result is in tandem with Adekunle et al (2013) and conforms to the a priori expectation of this study. It suggests that the interest rate policy of the monetary authority, the Central Bank of Nigeria (CBN) is not favourable to the financial intermediation role of credit extension from the surplus units to the deficit units of the banking sector and consequently has negative impact on the performance of the Nigerian economy. Total Number of Banks (TNB) employed to capture the size of the banking sector in Nigeria indicates that both the short and long-run relationships do not have positive impact on economic growth. This is not consistent with the stated a priori of this study. The result suggests that more re-engineering instead of mere reliance on reconsolidations or mergers and acquisitions needed to enhance access to banking services and resilience against any external shocks in order to engender the performance of the Nigerian economy. Bank credit which represents banks core/liquid assets portraying availability of credit to potential investors is positively and statically related to the performance of the Nigerian economy in the period observed. Similarly, the one period lag of bank credit has positive and statistically significant relationship with economic performance. The positive and statistically significant relationship between bank credit (including its one period lag) and economic growth is true only in the short-

run. However, in the long-run, although the relationship is positive, it is not statistically significant. The result is consistent with the a-priori expectation of this study. On the empirical front a lot of prior studies have confirmed the significant effect of this banking sector index on economic growth and development (Aigbovo & Osamwonyi, 2013; Narcis, Ebrahim & Mahdi, 2014). Bank Deposit (BD) and its one period lag have positive and significant impact on Gross Domestic Product Growth Rate in the short run while the long run relationship though positive is not statistically significant. The result is contrary to Aigbovo and Osamwonyi (2013) and is however consistent with Ang (2007). The implication of this is that deposit by bank customers positively influences the liquidity of banks, enhances banks' asset base and profitability; and given sound credit management policy in the banking sector, ultimately improves the economy. The impact of money supply growth rate on the performance of the economy is mixed. In the short-run the influence is negative while in the long-run the effect is positive. Both the short and long run relationship are however not statistically significant. This suggests that monetary policy has positive impact on economic growth in the long run. The empirical result is somewhat in tandem with Olusegun et al (2013) and inconsistent with Chinnamerem and Chigbu (2012).

5.0 CONCLUSION AND RECOMMENDATION

This study has empirically examined banking sector development and performance of the Nigerian economy using data covering the period 1988 to 2013 with the aid of co-integration technique and Error correctional model (ECM) to establish both the short-run and long-run relationships. While banking sector development indicators such as interest

rates and total number of banks have negative effects on the economy, others such as Bank Credit and bank deposits have positive effect. Thus, we conclude that the development of certain banking sector variables such as bank credit and bank deposits promote the growth of the Nigerian economy. Premised on this, it is suggested that a further bank reconsolidation and re-engineering are needed to optimize the size of existing banks currently operational in Nigeria and to enhance their operational efficiency with a view to improving the performance of the economy. The monetary authority, the Central Bank of Nigeria should ensure sound monetary and regulatory policies to enable banks perform their financial intermediation role effectively and consequently their financial contribution to the growth of the Nigerian economy.

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Appendix A

Data used for the multivariate regression analysis

years	GDPGR	BC	BD	TNB	M2GR	INTR
1988	263294.5	27326.42	29065.1	42	34.99	16.5
1989	382261.5	30403.22	27164.9	47	3.54	26.8
1990	472648.4	33547.7	38777.3	58	45.92	25.5
1991	545672.4	41352.46	52408.7	65	27.43	20.01
1992	875342.5	58122.95	63623.2	65	47.53	29.8
1993	1089679	143424.21	110453.6	66	53.76	18.32
1994	1399703	180004.76	142537.5	65	34.5	21
1995	2907358	238596.19	178962.1	64	19.41	20.18
1996	4032300	316207.08	214359.8	64	16.18	19.74
1997	4189250	351,956.19	269847.2	64	16.04	13.54
1998	3989450	431168.36	314303.5	54	22.32	18.29
1999	4679212	530373.3	476350.9	54	33.12	21.32
2000	6713575	764961.52	702104.5	54	48.07	11.98
2001	6895198	930493.93	947182.9	90	27	18.29
2002	7795758	1096535.6	1157112	90	21.55	24.85
2003	9913518	1421664	1337296	90	24.11	20.71
2004	11411067	1838389.9	1661482	89	14.02	19.18
2005	14610881	2290617.8	2036090	25	24.35	17.95
2006	18564595	3668657.8	3245157	25	43.09	17.26
2007	20657318	3668657.8	5001471	24	44.8	16.94
2008	24296329	6920498.8	7960167	24	57.88	15.14
2009	24794239	9102049.1	9150038	24	17.07	18.99
2010	33984754	10157021	9784543	24	6.91	17.59
2011	37409861	10660072	11452763	24	15.43	16.02
2012	40544100	14649276	13132097	21	16.39	20.99
2013	38976980	12654674	12292430	21	15.91	18.505

Source: Extracted from CBN statistical bulletin, various issues.