

## Effect of Financial Regulation on Economic Growth in Nigeria

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**Abstract:** *This study examined the effect of financial regulation on economic growth in Nigeria from 1981 to 2017. Data used in this study are secondary data sourced from the Central Bank of Nigeria Statistical Bulletin. Ordinary Least Square (OLS) was used to analyze the data. The variables are on real gross domestic investment, monetary policy rate, liquidity ratio, credit to private sector as well as interest rate. The study employed preliminary statistical test of (Augmented Dickey Fuller) ADF for unit root analysis, Johansen co- integration approach to establish long-run relationship for the data, and Error Correction Model. The findings indicate that credit to the private sector is significant and positively related to national development. Interest rate contributed significantly to stimulate economic growth. The study concludes that financial regulation has a positive significant effect on the Nigerian economy. Based on the findings the study recommends that, credit to the private sector should be directed at priority sectors of (manufacturing and agriculture) for its impact to be felt on the economy. Government regulation should be tilted towards encouraging private sector lending, with greater incentives to the banks that lend more to the real sector. Government should also to provide a stable macroeconomic environment which is crucial for the development of the financial markets and provision of efficient services needed to support the real sector to enhance growth*

**Keywords:** *financial regulation, economic growth, domestic investment, monetary policy rate, liquidity ratio, credit to private sector*

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### I. INTRODUCTION

The operation of financial regulation can have a positive impact on economic growth and the stability of an economy. It affects long term economic growth through its effect on the efficiency of intermediation between the savers and borrowers of funds. It affects the stability of the economy because of the high degree of leverage of its activities and its pivotal role in the settlement of all transactions in the economy, so that any failure in one segment risks

undermining the stability of the whole system (Uchenna & Garry, 2015).

The 2008-2009 global economic crises threw up myriad of inefficiencies in the structures of economic management in virtually all jurisdictions across the globe. These weaknesses were most evident in the financial services industry, a sector that formed the root and channel for the cyclonic spread of the crises to all nook and crannies of the globe. Thus, the prime challenge in the housing and mortgage sector snowballed into the insurance industry, the credit markets (deposit money banks) and the capital markets. This became an instant pointer to failings and failure of the institutional structures for regulation of the various segments of the financial market (Mukhtar, 2015). This in turn threw up a debate among Nigerians as to how an effective regulation could be installed to avoid future regulatory failures in the Nigeria's financial sector. An important aspect of the current review of the financial sector regulatory structures which was prompted by the collapse of major banks in the US and the UK as to whether a unified or consolidated financial sector regulation is more appropriate in preventing financial sector crises. In view of the above, consolidated model for financial regulation was oriented in Nigeria both during and after the crises. This study strives to examine the impact and effectiveness of financial regulation on monetary stability with clear emphasis on the banking sector. The following are the regulation in the Nigeria banking sector: (1) deregulation to allow for substantial private sector participation 1986-1993 (2) Regulation era following the deep financial distress 1993-1998 (3) liberalization and adoption of universal banking 1999-2010 (4) consolidation as a major components of financial regulation 2004-2005 (5) Need to address global financial crisis 2010-2012.

Financial regulation is being put in place to ensure a sound and safe financial system in an economy. However, inadequate regulatory framework and lack of an effective risk asset data base and information sharing system as well as lack of commitments and abuse of duties on the side of financial institutions have contributed in no small measure in disrupting the activities of banks, insurance companies and securities firms thereby, leading to distasteful incident of bank distress and liquidation. In line with these problems, various financial sector legislations, acts have been promulgated as well as the introduction of different strategies all aimed at increasing the effectiveness of financial regulation and supervision. These measures are mutually reinforcing and are designed to timely identify and diagnose emerging problems in the sector with a view to presenting most efficient resolution directed towards ensuring continued public confidence and stability in the Nigeria's financial system.

### **Statement of the Problem**

The effect of the existing financial regulations on the structure of the Nigerian banking sector which dominates the Nigerian financial system are regarded as very necessary to present and future stability of the financial system which itself is necessary for enhancing economic growth.

Regulation no doubt is needed to bring sanity into the banking sector as well as putting it in an internationally competitive status. The recapitalization policy as a form of financial regulation of the banking sector aims among others at the development of more resilient, competitive and dynamic banking system that supports and contributes positively to economic growth with the aim of achieving strong and forward looking banking institutions that are technology driven and ready to face the challenge of regulation.

Anyawu, (2013); Chris (2013); Currie, (2014). Das, & Kina (2014); are of the view that financial regulation have positive effect on economic growth in Nigeria. Dauda, & Mawoli, (2012); Fatai, (2012); Idowu, & Babatunde, (2014); Iyade, (2016); Kama, (2013); Mukhtar,

(2015), observed that financial regulation have negative effect on economic growth in Nigeria. The conflicting results and conclusions among the studies may have also been due to the methodologies adopted on data analysis by the authors. Also, the time series of the studies in Nigerian context as reviewed in the course of this study were rather short and may not have reflected the current effect of financial regulation on economic growth in Nigeria. The above have created a knowledge gap and justify the study to bridge the gap.

### **1.3 Objectives of the Study**

The main objective of the study is to examine the effect of financial regulation on economic growth in Nigeria. Other specific objectives include:

- i. To determine the effect of monetary policy rate on economic growth
- ii. To assess the effect of credit to private sector on economic growth
- iii. To examine the effect of liquidity ratio on economic growth
- iv. To examine the effect of interest rate on economic growth

### **1.7 Scope of the Study**

This study covers a period of thirty years, from 1981 to 2017. The choice of this study was as a result of many changes in financial sector, the research try to find out if these changes has really impacted on the Nigeria economic growth. The explanatory variables considered in the study are interest rate, liquidity ratio, lending rate, credit allocation to private sectors and the dependent variable is gross domestic product.

## **II. CONCEPTUAL FRAMEWORK**

### **Financial Regulation**

Financial regulation connotes the establishment of rules relating to a particular investment to the protection of consumers or investors; to ensure the solvency and financial soundness of financial institutions; to promote fairness, efficiency and transparency in the securities markets; and to promote a stable financial system (Botha & Makina, 2011). (Ekene 2014) suggest that the important role played by the financial system dictates that financial institutions need to be regulated to ensure consumer protection, stability of the financial system, and maximizing efficiency. When financial systems are left to themselves, they have been found to create instability and contagion effect. The World Bank (2001) reports 112 systemic banking crises in 93 countries between the late 1970s and the end of the twentieth century (Botha & Makina, 2011). Eichengreen and Bordo (2002) have argued that crises are more prevalent today than they were in the pre-1914 era of financial globalization indicating that the incidence of financial crisis has tended to rise as financial markets have become more liberalized.

A major plank for such financial stability was a review of the regulations and the need to balance such with inclusive growth, particularly for developing economies. As noted by Spratt (2013), the ineffective regulation caused the financial instability that devastated the real sector of some economies and finally metamorphosed, through contagion effects, into the global financial crisis.

Two main channels through which regulations could impact on economic growth and financial stability are firstly, through directly influencing the daily behaviour of financial market actors within the context of demand for and supply of credits. Secondly is through indirect effects based, for example, on the structure of the banking system which influences the pattern of

lending by the sector (Spratt, 2013). It is therefore imperative to review the structure of the Nigerian financial system as shaped by regulations under recent reforms. The structure of the Nigerian financial system has not witnessed dramatic changes in the last two decades or more despite policy changes. The structure can be divided broadly into banking and non-banking financial sectors. The two sectors consist of the operations units and the regulatory authorities. The banking sector has commercial banks, merchant banks, development or specialized banks, Microfinance banks and their regulatory authorities (e.g. Central Bank of Nigeria and Nigerian Deposit Insurance Corporation) while in the non-bank financial institutions (NBFIs) are insurance companies, pension fund and the stock exchange with such regulatory institutions as the Security and Exchange Commission (SEC), the National Insurance Commission (NAICOM) and National Pension Commission (PENCOM). However, the physical and operational structure of the banking sub-sector had witnessed structural expansion and contraction in tandem with changing reforms. The reforms, involving regulation, deregulation and re-regulation of the sector were basically carried out to ensure stability, instill confidence in the banking system and improve efficiency.

### **Neo-Classical Model of Growth**

The Neo-classical model of growth was first devised (create) by Robert Solow. The model believes that a sustained increase in capital investment increase the growth rate only temporally. This is because the ratio of capital to labour goes up (there is more capital available for each workers to use) but the marginal product of additional units of capital is assumed to decline and the economy eventually moves back to a long term growth path, with real GDP (Gross Domestic Product) growing at the same rate as the work force plus a factor to reflect improving “productivity”, “A steady state growth path” is reached when output capital and labour are all growing at the same rate so output per worker and capital per worker are constant. Neo-classical economies’ believe that to raise an economy’s long term trend rate of growth requires an increase in the labour supply and an improvement in the productivity of labour supply and an improvement in the productivity of labour and capital. Differences in the rate of technological change are said to explain much of the variation in economic growth between developed countries. The neo-classical model treats productivity improvements as an “exogenous” variable meaning that productivity is assumed to be independent of capital investment (IMF, 2001).

### **Empirical Review**

Emerenini & Eke (2014) the impact of monetary policy rate on economic growth in Nigeria using a monthly data from January 2007 to 2014. The ordinary least square (OLS) method was adopted because of its best linear unbiased estimator (BLUE) property. The result showed that expected inflation, gross domestic product, exchange rate and money supply influenced inflation, while annual treasury bill rate and monetary policy rate though rightly signed did not influence inflation in Nigeria within the period under investigation. The estimated model displayed that all the explanatory variables used for the analysis accounted for 90% variation in explaining the direction of inflation as regards to increase or decrease. The co-integration test showed that a long term relationship existed among the variables and they were stationary at order one I (1).

Aliyu, Saidu & Zubair (2017) analyzed whether a change in MPR has effect on gross domestic product in Nigeria. The study makes use of CBN data from 2006-2016 to examine the effect of Monetary Policy Rate on short term and long term rates in Nigeria. In Nigeria however, there seem to be disconnection between MPR and the direction of interest rates. Since 2016 the Monetary Policy Committee (MPC) had retained MPR at 14% for a long period but stability in

Monetary Policy Rate is barely reflected in the movement of short term and long term interest rates. The choice of the scope of the study lies in examining the response of interest rates to changes in MPR. Result obtained from this study will be used to gauge the effectiveness of MPR in an economy like Nigeria where financial infrastructure is not fully developed. The study concludes that the MPR influences the 91-Day Treasury Bills rate to the greatest extent followed by the Inter-Bank Call rate.

Onyeiwu (2015) examined that impact of money supply on the Nigeria economy between the periods of (1986-201) Ordinary Least Squares (OLS) method, unit root test and co-integration approach were conducted. The variables were on real gross domestic product, money supply, interest rate exchange rate, prime lending rate. The result showed that monetary policy represented by money exerted a positive impact on GDP growth and balance of payment by negative impact on rate of inflation and he concluded that CBN monetary policy is effective in regulating the liquidity of the economy which affects some macroeconomic variables such as output, employment and prices.

Chukwu (2016) analyzed the effect of monetary policy innovations in Nigeria from 1980-2010. The study used a Structural Vector Auto-Regression (SVAR) approach to trace the effects monetary policy stocks on output prices in Nigeria. The study also analyzed three alternative policy instrument, that is, broad money (M2), minimum rediscount rate (MRR), and the real effective exchange rate (REER). The study found evidence that monetary policy innovations have both real and nominal effect on economic parameter depending on the policy variable selected.

Umuaru and Zubairu (2012) investigated the impact of money supply on economic growth and development in Nigeria between 1970-2010 through the application of augmented Dickey-fuller technique in testing the unit root property of the series and Granger causality test of causation between GDP and inflation. The included variables were on real gross domestic product, inflation rate, interest rate, money supply, and savings. The results of unit root suggest that all the variables in the model are stationary and the results of causality suggest that GDP causes inflation and not inflation causing GDP. The results also revealed that money supply possessed a positive impact on economic growth through encouraging productivity and output level and on evolution of total factor productivity. A good performance of an economy in terms of per capita growth may therefore be attributed to the rate of inflation in the country.

Saibu, Nwosa and Agbeluyi (2015) investigate the effects of financial regulation and liquidity on economic growth in Nigeria. The results indicate that there is a bidirectional causality relationship between liquidity ratio and economic growth.

Obiakor and Okwu (2011) examine the nature and extent of the relationship between liquidity and profitability and economic growth. Analysis was based on accounts of the banks and the companies for the relevant period. A model of perceived functional relationship was specified and estimated using correlation and regression analysis. The results indicated that while a trade-off existed between liquidity and profitability in the banks with a negative but insignificant impact, the two variables were positively correlated with economic growth.

Uremadu (2012) carried out a study on the effect of liquidity on economic growth in Nigerians. Time series data for the 1980 to 2006 period was used for the study. The empirical results indicated a positive and significant relationship between liquidity ratio, and gross domestic product.

Ibe (2013) investigated that impact of liquidity management on the profitability of banks in Nigeria. Three banks were randomly selected to represent the entire banking industry in

Nigeria. The proxies for liquidity management include cash and short-term fund, bank balances and treasury bills and certificates, while profit after tax was the proxy for profitability. Elliot Rosenberg Stock (ERS) stationary test model was used to test the association of the variables under study, while regression analysis was used to test the hypothesis. The result showed that there is a statistically significant relationship between the variables of liquidity management and profitability of the selected banks.

Kehinde (2013) critically examined the relationship between liquidity position and gross domestic product in Nigeria. The results from ordinary least squares estimate found that liquidity has significant positive effect on gross domestic product

### **III. METHODOLOGY**

#### **Research Design**

This study used Ex-post facto research design,. In other words, data are collected after the event or phenomenon under investigation. Ex-post facto design usually involves the study of independent and dependent variables. Therefore, it gives no room for manipulation of any variables.

#### **Nature and Sources of Data**

The study used secondary data sourced from financial publications such as the, Central Bank of Nigeria, (CBN)Statistical Bulletin,

#### **Variables of the Study**

The model aims to regress a number of selected financial regulation variables on economic growth in Nigeria. Economic growth is proxied by gross domestic product (GDP) which is the dependent variable (Y) while monetary policy rate, credit to private sector liquidity ratio and interest rate are the independent variables(X).

#### **Model Specification**

The model used for the study was the adaptation and modification of the work of Alex (2012)

**The model is stated thus:**

$$RGDP = f(MPR, CAR, LR, INT)$$

**Where:**

RGDP = Real Gross Domestic Product

MPR=Monetary Policy Rate

CAR=Capital Adequacy Ratio

LR = Liquidity Ratio

IINT = Interest Rate

**The model was adapted and modified as follows.**

$$RGDP = f(MPR, CPS, LR, INT)$$

$$RGDP = \beta_0 + \beta_1MPR + \beta_2CPS + \beta_3LR + \beta_4INT + \mu \text{ ----- } 1$$

**Where:**

RGDP = Real Gross Domestic Product

MPR=Monetary Policy Rate

CPS=Credit to private sector

LR = liquidity ratio

INT = interest rate

$\mu$  = error term

$\alpha_0$  and  $\mu$  are the constant and error term respectively while  $\alpha_1, \alpha_2, \alpha_3$  and  $\alpha_4$  are the coefficients of financial regulation, Monetary Policy Rate, credit to private sector, Liquidity Ratio and Interest Rate respectively .

**Method of Data Analysis**

The study employed ordinary least square (OLS) method of estimation to establish the importance of the independent variables on the dependents variables. The (OLS) is the most efficient method because of the "Best Linear Unbiased Estimator" (BLUE) properties .the result is always satisfactory and simple to comprehend. The model equation will be estimated using a variety of analytical tools, including the unit root test and co-integration test.

**IV. CHAPTER FOUR**

**Unit Root**

**TABLE 4.1: Unit Root test of variables using the Augmented Dickey Fuller**

Variables	ADF test Statistics	Order of integration	Remark
RGDP	-5.423210	I(1)	Stationary
CPS	-4.412662	I(1)	Stationary
LR	-6.108788	I(1)	Stationary
INT	-5.904200	I(1)	Stationary
MPR	-6.710983	I(1)	Stationary

**Source:** Author’s Compilation Using E-views 9.0

Unit root testing of the variables shows that all the variables are stationary at first differencing. Given the above result, we are justified to conduct the co-integration and error correction model based on the ordinary least square technique for credit to private sector, liquidity ratio, interest rate, monetary policy rate and real gross domestic product.

From the table 4.1, it is revealed that the ADF test statistic is greater than the critical test value at 5% level of significance for all the differenced variables. Based on this result, the null hypothesis which says that the time series variables are not stationary at 1<sup>st</sup> difference is rejected, meaning that the series are stationary at their first differences i.e. they are integrated of the order one I (1).

**Test of Co-Integration**

**TABLE 4.2: Test for Co-integration**

Hypothesized No. of CE(s)	Trace statistic	5% critical value	Max-Eigen Statistic	5% critical value
None**	136.7091	88.80380	51.91776	38.33101
At most 1**	84.79130	63.87610	36.22323	32.11832
At most 2**	48.56808	42.91525	26.18359	25.82321
At most 3*	22.38448	25.87211	12.49885	19.38704
At most 3*	9.885626	12.51798	9.885626	12.51798

**Source:** Author’s Compilation Using E-views 9.0

From table 4.2, the evidence of at least three (3) of the co-integrating vectors rejecting the hypothesis of no co-integrating equations in both the cases of the Trace Statistics and the Maximum Eigen Value of Statistics, the result confirms the existence of a stable (steady) long run equilibrium relationship between the five variables; credit to private sector, liquidity ratio, interest rate, monetary policy rate and real gross domestic product. Hence, we conclude that the variables possess the properties of long run convergence and are suitable for conducting the correction for short run dynamics in the non-stationary time series using the ECM.

**Presentation of Regression Result**

**Table 4.3: Error Correction Model Results**

Variables	Coefficient	Standard Error	t-statistics	Probability
C	2.350815	0.241076	9.751339	0.0000
LCPS	0.865470	0.038750	22.33490	0.0000
LR	-2.730005	0.018731	-3.701456	0.0088
INT	0.033193	0.014367	2.310418	0.0279
MPR	-0.000189	0.013398	-0.014121	0.9888
ECM(-1)	-0.560427	0.161899	-3.461594	0.0016

**Source:** Author’s Compilation Using E-views 9.0

R-squared = 0.930787  
 Adjusted R-squared = 0.289251  
 F-Statistic = 245.2503  
 Prob - 00000  
 Durbin-Watson Stat = 1.885943

### **Interpretation of Regression Result**

A close examination of the estimated model shows that the result is satisfactory from the high value of the  $R^2$  given to us as 0.930787 approximately 93% systematic variation in the dependent variable which is RGDP using these four independent variables which are credit to private sector, liquidity ratio, interest rate, monetary policy rate. Only 7% is left unexplained and this is assumed to be captured by the error term, U.

The adjusted  $R^2$  is given as 0.92.89251. This means that after adjusting for the degree of freedom, the adjusted  $R^2$  explains approximately 92% systematic variation in the dependent variable. The higher the adjusted  $R^2$ , the lower the residual variance error due to a one-on-one relationship between the both of them and this means our model have a better predictive ability. The F-ratio with the value of 245.2503 shows that the model easily passes the F-test at 1% significance level and this means that the hypotheses of a significant linear relationship between the dependent and independent variables taken together is validated.

The a priori criteria are determined by the existing economic theory and state the sign and magnitude of the variables. From the result report in table 4.3, and from the coefficient column, we discover that credit to private sector has a positive sign as 0.865470, this implies that increase in credit to private sector increase the real gross domestic product by 86%. It further confirm to apriori expectation. Liquidity rate has a negative sign given its value as -2.730005. This implies that decrease in Liquidity rate increase the real gross domestic product by 2%, this confirm to theoretical expectation. From the regression result above, it was observed that interest rate has a positive sign given its sign as 0.033193, this implies that increase in interest rate increases GDP by 3%. This suggests that it does not conform to a priori expectations. Lastly, monetary policy rate has a negative sign given its value as -0.00189, this further suggest it conform to theoretical expectation, furthermore, decreases in monetary policy rate increases the real gross domestic product, this conform to apriori criteria.

T-statistic, this is the measure use to determine the individual statistical significance of the variables in the model. From the model, it is obtained that the level of credit to private sector in Nigeria is statistically significant at 10%, given the value as 22.33490. This implies that it contributes to economic growth and also a contributing factor to financial institutions in Nigeria. However, liquidity rate is statistically significant given its value as -3.701456. it contributes 5% impact to the growth of GDP Furthermore, interest rate is statistically significant given its value as 2.310418, adding that it has a low probability value of 0.0279. Lastly, monetary policy rate is statistically insignificant and therefore has not contributed significantly to the growth of Nigeria economy.

The Durbin-Watson statistics is used to test for the presence of autocorrelation in our in our model. From the result above, our Durbin-Watson result is (1.8), this does satisfy the above stated condition. This means that there is no presence of autocorrelation among the explanatory variables.

### **Hypotheses Testing**

The hypothesis is tested on the basis of statistical analysis.

#### **Hypothesis One**

H0: Monetary policy rate has no significant impact on the economic growth of Nigerian.

H1: Monetary policy rate has significant impact on the economic growth.

From the regression result, we discover that in the t-statistics column the value for MPR is - 0.014121 while its probability is 0.9888. Since its probability is greater than 0.05% desired level of significance, we accept the null hypothesis and reject the alternative hypothesis, which states that Monetary policy rate has no significant impact on the economic growth of Nigerian.

### **Hypotheses Two**

**Ho:** Credit to private sector has no contributed significantly on Nigeria economic growth.

**Hi:** Credit to private sector has contributed significantly on Nigeria economic growth

It was discovered from the t-statistics Colum that Credit to private sector value is 22.33490 while its probability is 0.0.0000. Since its probability is less than 0.05-desired level of significance, we accept the alternative hypothesis and reject the null hypothesis, we therefore conclude in favour of alternative hypothesis, which state that Credit to private sector has contributed significantly on Nigeria economic growth

### **Hypotheses Three**

**H0:** Liquidity ratio has no significant impact on the economic growth of Nigerian.

**H1:** Liquidity ratio has significant impact on the economic growth.

From the regression result, we discover that in the t-statistics column the value for MPR is - 3.701456 while its probability is 0.0098. Since its probability is lower than 0.05% desired level of significance, we reject the null hypothesis and accept the alternative hypothesis, which states that Liquidity ratio has significant impact on the economic growth of Nigerian

### **Hypotheses Four**

**Ho:** Interest rate has no contributed significantly on Nigeria economic growth.

**Hi:** Interest rate has contributed significantly on Nigeria economic growth

It was discovered from the t-statistics Colum that Interest rate value is 2.310418 while its probability is 0.0.0279. Since its probability is less than 0.05-desired level of significance, we accept the alternative hypothesis and reject the null hypothesis, we therefore conclude in favour of alternative hypothesis, which state that Interest rate has contributed significantly on Nigeria economic growth.

## **V. CONCLUSTION AND RECOMMENDATIONS**

### **Conclusion**

This study shows that financial regulation can make an important contribution to economic growth. This is likely to be true in developing countries, whose financial sectors are particularly underdeveloped, and without it economic development may be constrained,. By reducing the interest rate and the availability of credits, facilitating and encouraging inflows of foreign capital, and optimising the allocation of capital between competing uses, financial sector development can boost long-run growth through its impact on capital accumulation and on the monetary

policy rate. Though the scale may be different, access to financial services can increase economic activities: by increasing investment and productivity resulting in greater income generation, and by facilitating risk management thus reducing vulnerability to shocks. The result also reveals that there is long-run relationship between financial regulation and economic growth in Nigeria,. The study concludes that credit to private sector, liquidity ratio and interest rate affect economic growth in Nigeria.

### **Recommendations**

The following are the recommendations of the study.

- i. Central Bank of Nigeria should check mate monetary policy rate to ensure the prevention of inflation in the economy.
- ii. Credit to the private sector should be directed at priority sectors for its impact to be felt in the economy. Government regulation should be tilted towards encouraging private sector lending, with greater incentives for banks that lend to them. Government should also endeavor to provide a stable macroeconomic environment. A stable macroeconomic environment is crucial for the development of the financial markets and provision of efficient services needed to support the real sector for economic development.
- iii. The monetary authorities should always take liquidity ratio of banks into consideration as it has the capacity to trigger economic development of Nigeria.
- iv. Effort should be made to reduce interest rates to encourage investors to borrow and invest, this will increase the productive capacity of the economy

### **Contribution to Knowledge**

This study contributed to knowledge by modifying the work of Akex (2012) and also extended the period of study to 2017

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## APPENDIX I REGRESSION RESULT FOR THE MODEL

Dependent Variable: LRGDP  
Method: Least Squares  
Date: 09/05/18 Time: 18:36  
Sample (adjusted): 1982 2017  
Included observations: 36 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.350815	0.241076	9.751339	0.0000
LCPS	0.865470	0.038750	22.33490	0.0000
LR	-2.730005	0.018731	-0.001456	0.9988
INT	0.033193	0.014367	2.310418	0.0279
MPR	-0.000189	0.013398	-0.014121	0.9888
ECM(-1)	-0.560427	0.161899	-3.461594	0.0016

  

R-squared	0.930787	Mean dependent var	8.351858
Adjusted R-squared	0.929251	S.D. dependent var	2.311248
S.E. of regression	0.239619	Akaike info criterion	0.131480
Sum squared resid	1.722520	Schwarz criterion	0.395400
Log likelihood	3.633361	Hannan-Quinn criter.	0.223595
F-statistic	245.2503	Durbin-Watson stat	1.885943
Prob(F-statistic)	0.000000		

## APPENDIX II

### DATA FOR THE MODEL

	LRGDP	LCPS	LR	INT	MPR	ECM
1981	4.546799	2.148268	6	7.75	10	0.027119
1982	4.615220	2.367436	7.5	10.25	11.75	-0.160358
1983	4.701026	2.457021	7.5	10	11.5	-0.137670
1984	4.755915	2.522524	9.5	12.5	13	-0.199620
1985	4.902233	2.570320	9.5	9.25	11.75	0.031364
1986	4.902307	2.724580	9.5	10.5	12	-0.141803
1987	5.263364	3.048325	14	17.5	19.2	-0.273506
1988	5.573256	3.307985	14.5	16.5	17.6	-0.119200
1989	5.946101	3.414443	16.4	26.8	24.6	-0.220905
1990	6.158355	3.513037	18.8	25.5	27.7	-0.029157
1991	6.302014	3.722072	14.29	20.01	20.8	0.111120
1992	6.774612	4.062510	16.1	29.8	31.2	-0.100902
1993	6.993639	4.845132	16.66	18.32	36.09	-0.168650
1994	7.244013	4.965777	13.5	21	21	-0.027270
1995	7.975001	5.192957	12.61	20.18	20.79	0.529121
1996	8.302092	5.474789	11.69	19.74	20.86	0.620020

1997	8.340277	5.756407	4.8	13.54	23.32	0.484959
1998	8.291409	5.863518	5.49	18.29	21.34	0.215247
1999	8.450885	6.066502	5.33	21.32	27.19	0.043311
2000	8.811886	6.273575	5.29	17.98	21.55	0.401288
2001	8.838581	6.639824	5.49	18.29	21.34	0.119978
2002	8.961335	6.835711	4.15	24.85	30.19	-0.255801
2003	9.201655	6.999915	4.11	20.71	22.88	0.060510
2004	9.342339	7.259580	4.19	19.18	20.82	0.060308
2005	9.589522	7.516645	3.83	17.95	19.49	0.143072
2006	9.829011	7.736578	3.14	17.26	18.7	0.218793
2007	9.935825	8.210692	3.55	16.94	18.36	-0.044658
2008	10.09808	8.845256	2.84	15.14	18.7	-0.362072
2009	10.11837	9.232037	2.68	18.99	22.62	-0.835278
2010	10.90801	9.193229	2.21	17.59	22.51	0.026978
2011	11.05058	9.559841	1.41	16.02	22.42	-0.093950
2012	11.18044	9.625872	1.7	16.79	23.79	-0.052865
2013	11.29094	9.692240	2.17	16.72	24.69	0.005505
2014	11.39688	9.805105	3.38	16.55	25.74	0.036948
2015	11.45259	9.837375	3.58	16.85	26.71	0.050158
2016	11.52771	9.997986	3.75	17.08	27.29	-0.017872
2017	11.64142	10.01192	3.28	17.78	26.81	0.055738

Sources: CBN Bulletin 2017