THE INTERNATIONAL JOURNAL OF HUMANITIES & SOCIAL STUDIES

Reserve Management and Economic Growth in Nigeria

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Abstract:
The study examined the impact of external reserves on the economic growth in Nigeria using secondary data from 1980 to 2018. The stationary test indicates the data in the study to be stationary at 1(0) and 1(1). The cointegration test indicates a long run relationship among the variables. The autoregressive distributed lagged model (ARDL) bounds test was adopted for the estimation of the data. The results of the study revealed that external reserves (ERSV), exchange rated (RER) and export (XPOT) has a positive and a significant impact on economic growth (RGDP) of the Nigerian economy, while import (MPOT) has negative effect on economic growth. The study recommends that adequate sterilization policies should be put in place to reduce the negative effect of the high cost of foreign exchange reserve accumulation and the need to channel and invest the foreign exchange reserve accumulated into the real sector of the economy. Since excessive import is inimical to the economic health of the Nigeria economy, the government should encourage domestic production through policies such as a reduction in tax, etc. in order to promote domestic production for goods that close substitutes for that of the ones being imported.

Keywords: Foreign reserve management, economic growth, ARDL, Nigeria

1. Introduction

There increase in foreign reserves holdings of most economies in the past two decades, in particular when foreign reserves witnessed an increase from USD 1.2 trillion in January1995 to more than USD 4.0 in September 2005 (ECB, 2006). Increase in foreign reserves within this period indicated some characteristics which became very glaring in 2002-2004.   In the first instance global reserves increased by 85% or (91%) which is thrice faster than in the year 1999-2001. Secondly, the lion share of the accumulation was attributed to the monetary authorities in Asia, including Japan. Thirdly, few official creditors accounted for the holdings of a large proportion of the total accumulation. Fourthly, the oil exporting countries total current account surplus which is estimated to have surpassed that of the Asian economies in 2005 have accumulated asset in the form of 'traditional reserves' and building up foreign assets in so-called oil funds (ECB, 2006).

External reserves are mostly denominated in foreign currencies such as Dollar, SDR, Pounds, Gold, Treasury Bills, Euro, Yen and so on. Adequate holdings of external reserves are important because external financing, assist the economy to withstand shock occur unexpectedly or as a cushion effects when an economy is faced with pressing economic problems, intervention when the exchange rate is volatile or to boost a country credit worthiness when access to international market is difficult or impossible.

In Nigeria, external reserves have an effect on the economy. The reserves which stood at $9.9billion (20.4 percent of GDP) in 2000 rose to$10.4billion in 2001, representing 16.8 percent of GDP. Between 2002 and 2003, the contributions offoreign reserves to the GDP reduced to 9.9 and 9.2 percent in spite of noticeable increase in GDP while the value of Naira depreciated from N121.0 to N129.4 during the same period. These downward trends might not be unconnected to the 2003 elections and drawdown on the country's foreign reserves as a result of huge debt repayment to creditors Nations.
The proportions of foreign reserves to GDP have not followed any definitive pattern during2006-2010. In 2004, there were stronger foreign reserves vis-a-vis GDP increased from 9.2 percent in 2003 to 22.3 percent in 2004. This is more than the ten years average. Immediately after 2004, the GDP though keeps increasing, the proportions of foreign reserves declined between 20.9 percent and20.1 percent in 2005 and 2006 respectively. However, between 2007 and 2009 improvements occur in both GDP and foreign reserves at an average level 26.6 percent. The foreign reserves drop to$32.5billion in 2010 hence, leading to decline vis-a-vis GDP to $17.6billion.

The increasing level of reserves have serious implication for economy development since it can be directed to various use such as development of essential infrastructures which can accelerate employment and increase income which can further boost production through aggregate demand.

However, in Nigeria, the poor management of external reserves by the appropriate authorities has generated a lot of problems and imbalances. However, too much accumulation of foreign reserves creates financial and policy challenges to the monetary authorities.Some studies on external reserves in Nigeria include those of Alasan and Shaib (2011), Abiola and Adebayo(2013), Akinwunmi and Adekoya (2016), Nwosa (2017).This study filled observed gap on studies conducted in Nigeria by extending the data period as well as using a more sophisticated econometric method of analysis. The

research therefore investigated the effects of external reserves on economic growth as well as the effect of some macro-variables such as exports, imports, real exchange rate and inflation on economic growth

1.1. Research Hypothesis

The hypothesis in null form (H_0) is that external reserves, exports, imports, exchange rate and inflation have no significant impact on economic growth in Nigeria.

2. Literature Review

2.1. Theoretical Literature

Theories propounded by scholars to explain reserve accumulation include: the International Financial Integration Theory proposed that international integration should cause capital to flow from high income countries characterized by high capital labour ratios to low-income countries with lower capital-labour ratios (Prasad and Rajan, 2008).The Micro/Macro Theories are based on the controversies of monetarists and fiscalists (Keynesians). According to the monetarists the accumulation of reserves is due to the excess demand for the domestic currency and the growth of world trade. To the Keynesians, accumulation of foreign reserves is to improve the current account and thereby positively impact on the aggregate input. This impact is in the short run and will affect nominal exchange rates. According to Fukuda and Kon (2008) in the long run, real exchange rates are used to adjust the equilibrium balance of payment. There is the self-insurance theory which explains the holding of buffer stock of reserves to deal with the unforeseen shocks in the international financial system (Elhiraika, 2007; Fukuda and Kon, 2008). There is the Mercantilist Theory which is related to the expansion of trade and other international transactions that have necessitate the increase in accumulation of reserves. (Gupta and Agarwal, 2004 and Aizenman and Lee 2005). The Elasticity Approach focused on the effect of exchange rate appreciation or depreciation on resource flows of a country (Nzotta, 2004). Amongst these theories, 'International Financial Integration Theory' is perceived to be the best because through the process of foreign exchange liberalization this approach will improve the levels of investment through the access to foreign capital. It would also accelerate growth in poor countries and support higher returns to foreign investors who will be induced to make capital flows abroad. While other theories focused on the balances in international trade, international financial integration theory focused on the availability of capital which undoubtedly will leave lasting impact on low-income countries.

2.2. Empirical Literature

Gong (2012), examines a growth perspective of foreign reserve accumulation and finds that foreign reserves accumulation is a consequence of a growth strategy induced by strong capital investment in a financially constrained economy. Gong argued that the speed of foreign reserve accumulation will slow down with thedomestic financial deepening and the development of the domestic financial market, Gong believe that the positive relationship between real economic growth rate and demand for foreign reserves is the reason holding reserves isa catch-up strategies and a second best where the domestic financial market is under developed; the underdevelopment of the domestic financial market been the major motivation for foreign reserves accumulation. On the relationship between foreign reserves and economic growth, Gong using the Granger causality testthe relationship of foreign reserve and gross fixe capital formation finds that the growth of foreign reserves causes a growth of gross fixed capital formation.

In Nigeria, Nwosa (2017) investigated the relationship between external reserves and economic growth within the period 1981to 2017 using OLS econometric analysis and concluded that external reserves have a positive and significant effect on economic growth in Nigeria. Abiola and Adebayo (2013) critically investigated the channeling of the Nigeria's foreign exchange reserves into alternative outlets by adopting the theory of demand for international reserves based on three motives notably transaction, precautionary and mercantilist. The study among others observed that Nigeria foreign reserve is adequate. The level of reserves to import satisfies the international benchmark etc. Akinwunmi and Adekoya (2016) investigated the effect of external reserves management on Nigerian economic growth from 1985 to 2013 using secondary data. Akinwunmi and Adekoya (2016) study indicates that FDI, MPR and GDP contributes to the external reserve in Nigeria. Alasan and Shaib (2011) empirical study on the management of external reserves and economic development in Nigeria between1980-2008 revealed that there is statistical significant relationship in the management of Nigerian external reserves.

3. Methodology

3.1. Source of Data and Identification of Variables

The study used secondary data obtained from the Central Bank Statistical Bulletin (CBN). Economic growth proxy by the real gross domestic product at constant factor is the dependent variable. The independent variables are external reserves while real exchange rate, export, import and inflation are the control variables employed in the study.

3.2. Model Specification

In order to empirically analyze the effect of external reserve on economic growth, the RGDP was used as an index for economic growth and other relevant macroeconomic variables were also taken into account. The model specified in explicit form is:
$$RGDP_t = f(XRSV_t, RER_t, XPOT_t, MPOT_t, INF_t) \qquad (3.1)$$

Where:

$RGDP$ is Real Gross Domestic Product; $XRSV$ is External reserve, RER is Real Exchange Rate

$XPOT$ is Export, $MPOT$ is Import, INF is inflation rate and t represent the various time periods.

Equation (i) expresses the economic growth – indexed by RGDP (i.e., Real GDP also known as constant-price,'inflation-corrected' GDP or 'constant dollar GDP'), explicitly as a function of External Reserve.

$$RGDP_t = XRSV_t + RER_t + XPOT_t + MPOT_t + INF_t \qquad (5.2)$$

To take cognizance of all other factors that determine economic growth apart from the predictor variables specified in the equation above, the random error term was introduced to account for the unexplained variations in the dependent Variable. Thus, the new equation was stated as:

$$RGDP_t = \beta_0 + \beta_1 XRSV_t + \beta_2 RER_t + \beta_3 XPOT_t + \beta_4 MPOT_t + \beta_5 INF_t + \varepsilon_t \qquad (3.3)$$

ε is the stochastic element, a real random term which explains the variation in the regressand not explained by the reggressors while $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, and \beta_5$ are the parameter coefficients.

3.2.1. TheA Priori Expectation

$XRSV$ is expected to have a positive relationship with the level of economic growth proxy by $RGDP$. RER is expected to have a positive relationship with the economic growth. An increase in exchange rate will lead to an increase in export. $XPOT$ is expected to have a positive relationship with the growth of the economy. An increase in export will lead to an increase in the output growth, hence an increase in economic growth. The effect of $MPOT$ and INF on economic growth is ambiguous depending on the threshold.

Therefore, it implies that $\beta_1, \beta_2, nd\beta_3 > 0, 0 < \beta_4 and \beta_5 > 0$

3.3. Estimation Techniques

3.3.1. CointegrationTest

This is the testing of the presence or otherwise of co-integration between the series of the same order of integration through forming a co-integration equation. The use of maximum-likelihood test procedure established by Johansen and Juselius (1990) and Johansen (1991) was adopted. Specifically, if Y_t is a vector of n stochastic variables, then there exists a p-lag vector auto regression with Gaussian errors of the following form:

The trace statistic is given as;

$$\lambda_{trace} = \sum_{n-t+1}^{k} \ln(I - \lambda_j)^{-r} \qquad (3.4)$$

Where T is the number of time period observations and λ_j is the ith largest Eigen value.

Granger Representation Theorem, says that if Y and X are cointegrated, then the relationship between them can be expressed as an Error correction Model.

3.2.2. Error correction Model

This study adopts the error correction model for the short run estimation of the data used in this study. Representing equation (3) with an error correction form that allows for inclusion of long-run information, the error correction model (ECM) is therefore formulated as follows:

$$\ln RGDP = \alpha_0 + \sum_{i=1}^{n} \alpha_{1t} \ln \Delta RGDP_t + \sum_{i=1}^{n-1} \alpha_2 \ln \Delta XRSV_t + \sum_{i=2}^{n-2} \alpha_{3t} \ln \Delta EXR_t + \alpha_4 \sum_{i=3}^{n-3} \ln \Delta XPOT_t + \sum_{i=3}^{n-3} \alpha_5 \ln \Delta MPOT_t + \sum_{i=3}^{n-3} \alpha_6 \ln \Delta INF_t + \lambda ECM_{t-1} + \varepsilon_t \qquad 3.5$$

Δ is the first difference operator and λ is the error correction coefficient. Ln indicates logarithm, α_0 represents the constant which is the value of the economic growth when other independent variables summed to zero. $\alpha_-\alpha_6$ are the coefficients of the independent variables of the study.

3.2.3. Autoregressive Distributed Lag Model Bounds Test

This model is adopted for the estimation of the short run relationship among the variables of the study. The estimation procedure for the model specified above follows the Autoregressive Distributed Lag Model Bounds Test. The model has several advantages compared to other models when dealing with time series data. The model can be used to estimate short run relationship among series without the restriction of similar order of integration imposed by previous methods i.e., with no emphasis on whether the variables are I(0) or I(1) variables. The Engle-Granger approach to co-integration however requires that all series under consideration be l(1). In other words, the Autoregressive Distributed Lagged model allows for the series that are strictly l(0), strictly l(1) or the combination of both. Second, the endogeneity does not have a problem in the model framework because it is free of residual correlation.

From the empirical model above, the ARDL framework of equations (3.3)is as follows:

$$\Delta \ln RGDP_t = \varphi_0 + \sum_{i=0}^{p} \varphi_1 \Delta \ln RGDP_{t-1} + \sum_{i=0}^{p} \varphi_2 \Delta \ln XRSV_{t-1} + \sum_{i=0}^{p} \varphi_3 \Delta EXR_{t-1} + \sum_{i=0}^{p} \varphi_4 \Delta \ln XPOT_{t-1} +$$
$$\sum_{i=0}^{p} \varphi_5 \Delta \ln MPOT_{t-1} + \sum_{i=0}^{p} \varphi_6 \Delta INF_{t-1} + \sum_{I}^{P} \omega_5 \ln XRSV_{t-1} + \sum_{I}^{P} \omega_4 \ln EXR_{t-1} + \sum_{i=0}^{p} \omega_3 \ln XPOT_{t-1} +$$
$$\sum_{I}^{P} \omega_2 \ln MPOT_{t-1} + \sum_{I}^{P} \omega_1 INF_{t-1} + \mu_t$$

$$(3.6)$$

The autoregressive distributed lagged model for the impact of foreign reserves on the economic growth in Nigeria.

4. Data Analysis and Interpretation of Results

4.1. Descriptive Statistics

Table 1 below presents the descriptive statistics of the time series data used in the study. The maximum values of the data on each variable, the standard deviation, the skewness and kurtosis given the means and the medians lie within the minimum and the maximum values of the data on each variable, this shows consistency in the data used for the study. The skewness revealed that all the variables are positively skewed. The values of the kurtosis as given in the table is greater than zero, thus the kurtosis can be referred to as leptokurtic distribution (peaked).

	RGDP	XRSV	RER	XPOT	MPOT	INF
Mean	33183.06	1.14E+08	53.08680	5509.798	3858.846	19.06310
Median	22449.41	93776.74	53.75560	1309.543	862.5157	12.21778
Maximum	70121.07	4.43E+09	155.7536	50988.15	36804.85	72.83550
Minimum	12270.00	5479.700	0.546781	7.502500	5.983600	5.382224
Std. Dev.	19637.22	7.10E+08	48.10165	9146.285	6682.499	17.10160
Skewness	0.761869	6.002192	0.492700	3.321997	3.282047	1.783128
Kurtosis	2.049137	37.02631	2.049175	16.71525	16.18668	4.989565
Jarque-Bera	5.242116	2115.579	3.047007	377.4073	352.5856	27.09939
Probability	0.072726	0.000000	0.217947	0.000000	0.000000	0.000001

Table 1: Descriptive Statistics of the Data
Source: Author's Computation, 2019 Using E-View

4.2. Unit Root Test

The unit root test in Table2 indicates that all the variables are stationary at level I(0) while the export (XPOT) data is stationary at first difference I(1). This means they are integration of order one or I(1). It is important that the variables are stationary as this help prevent suffering from a spurious regression. The implication is that a method as recommended by Peseran et al. (2001) is suitable for a case like this where the data are stationary at the mixture of both levels and first difference.

	Augmented Dickey-Fuller (ADF) C.V 5%		Philips-Perron (PP) C.V 5%		
Variable	Level	1st difference	Level	1st difference	Remark
RGDP	-2.96776***	-2.96397	-2.96776***	-2.9639	I(0)
`XRSV	-2.3370***	-1.3489	-2.7627***	3.2203	I(0)
RER	-3.5879***	1.5074	-4.3453***	-2.1322	I(0)
XPOT	-3.0423**	4.4699	-3.3149**	-4.3489	1(1)
MPOT	-5.6177***	-2.072	-5.6134***	-2.0833	I(0)
INF	-4.6188***	-3.083	-6.8132***	-3.0944	I(0)

Table 2: The Results of Augmented Dickey-Fuller (ADF) and Phillips Perron (PP)
*, **, *** Represents the Level of Significance at 10%, 5% and At 1%' Respectively
Source: Author's Computation, 2019 Using E-View

4.3. Bounds Test

This test for the existence of the long run relationship among the variables of the model.Table 3 below shows that the calculated F-statistics(F =7.73) is greater than the critical values of the upper bounds at all levels of significance i.e., at 10%, 5%, 2.5% and 1%. This therefore implies existence of five vectors co-integrating or the variables have a long run relationship.

F-Bounds Test		Null Hypothesis: No Levels Relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	7.731306	10%	2.26	3.35
k	5	5%	2.62	3.79
		2.5%	2.96	4.18
		1%	3.41	4.68

Table 3: Bounds Test
Source: Author's computation, 2019

4.4. Granger Causality Test

Table 4 shows causality among the variables of the model. The result the second column of the table shows that external reserves (XRSV) granger-cause economic growth (RGDP). The null hypothesis that there is no causality between external reserves (XSRV) and economic growth (RGDP) is rejected following the significance of the results and implies the

acceptance of the alternative hypothesis that there is a causal relationship between external reserves(XRSV) and the real GDP.

The result in the third column of Table4indicates that real exchange rate (RER) granger causes economic growth (RGDP). In other words, there is a uni-directional causal relationship between the real exchange rate (RER) and economic growth (RGDP) in Nigeria. The result also shows that there is a bi-directional causal relationship between export (XPOT) and economic growth(RGDP).

Pairwise Granger Causality Tests Sample: 1980 2018 Lags: 2			
Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
XRSV does not Granger Cause RGDP	37	7.59972	0.0020
RGDP does not Granger Cause XRSV		0.35160	0.7062
RER does not Granger Cause RGDP	37	6.01551	0.0061
RGDP does not Granger Cause RER		0.10957	0.8966
XPOT does not Granger Cause RGDP	37	2.98681	0.0647
RGDP does not Granger Cause XPOT		10.3684	0.0003
MPOT does not Granger Cause RGDP	37	1.29088	0.2890
RGDP does not Granger Cause MPOT		3.30666	0.0495
INF does not Granger Cause RGDP	37	0.49108	0.6165
RGDP does not Granger Cause INF		1.78421	0.1842
RER does not Granger Cause XRSV	37	15.3916	2.E-05
XRSV does not Granger Cause RER		1.43432	0.2532
XPOT does not Granger Cause XRSV	37	2.59578	0.0902
XRSV does not Granger Cause XPOT		0.38476	0.6837

Table 4: Granger Causality Test
Source: Author's computation

4.5. Autoregressive Distributed Lagged Model (Short Run Form)

The short run result of the error correction form of the ARDL shows that external reserves (XRSV), real exchange rate (RER) and import (MPOT) have a significant relationship with economic growth (RGDP) in the short run. While import (MPOT) shows a negative relationship among the variables that are significant, external reserves (XRSV) and the real exchange rate (RER) have a positive relationship with the economic growth (RGDP).

ARDL short Run Form and Bounds Test Dependent Variable: D(RGDP) Selected Model: ARDL(1, 1, 0, 0, 0, 1) Sample: 1980 2018 Included observations: 38				
Conditional Error Correction Regression				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	0.058660	0.108535	0.540475	0.5930
RGDP(-1)*	-0.033873	0.029931	-1.131724	0.2670
XRSV(-1)	0.020392	0.010462	1.949188	0.0610
RER**	0.029777	0.011395	2.613232	0.0141
XPOT**	0.032902	0.022829	1.441250	0.1602
MPOT**	-0.046235	0.021887	-2.112486	0.0434
INF(-1)	-0.003055	0.008925	-0.342255	0.7346
D(XRSV)	0.000778	0.012084	0.064361	0.9491
D(INF)	-0.015672	0.008637	-1.814374	0.0800
* p-value incompatible with t-Bounds distribution.				

Table 5: Autoregressive Distributed Lagged Model (Short run form)

4.6. Autoregressive Distributed Lagged Model (Long Run Form)

External reserves (ERSV) show a positive and a significant relationship with economic growth (RGDP). The result is significant at 1% level of significance. This implies that a 1% increase in the external reserves (ERSV) will lead to 0.6% increase in economic growth (RGDP). Thus, suggesting that an increase in external reserves will lead to an increase in the growth of the economy.

In Table 6, a significant and positive relationship exists between exchange rate (RER) and economic growth (RGDP) at 5% level of significance. This indicates that a 1% increase in the real exchange rate (RER) will lead to 0.8% increase in economic growth (RGDP) in Nigeria. An increase in the real exchange rate will make import to be more expensive thereby making domestic goods to be relatively cheaper. This further implies that people will prefer to

patronize the domestic goods more and this will in turn leads to a higher level of production following an increase in the aggregate demand for domestically produced goods.

The result on export (XPOT) also shows a positive and significant impact on economic growth (RGDP) in Nigeria at 5% level of significance. The result further suggests that an increase of 1% in export (XPOT) level will lead to an increase of 0.97% in the level of economic growth (RGDP) in Nigeria. Export is part of an injection into the economy as it promotes domestically produced goods even though for the case of Nigeria, it is more of primary products for export.

However, import (MPOT) has a negative and a significant impact on economic growth (RGDP) in Nigeria. The result shows that an increase in the level of import (MPOT) will result into a reduction in the level of the economic growth (RGDP) in Nigeria. The result implies that an increase of 1% in the level of import will lead to 1.35 reduction in economic growth level in Nigeria.

The R square or the coefficient of determination result shows 99% of the change that must have taken place in the dependent variable is explained by the independent variables as contained in the model of the study.F-statistic also shows the independent variables of the study have a joint impact on the dependent variable given that F is significant. The Durbin Watson (DW) result sis impressive since it is higher than 2, indicating that the model used for estimation in the study is stable.

Dependent Variable: RGDP				
Selected Model: ARDL (1, 1, 0, 0, 0, 1)				
Sample: 1980 2018				
Levels Equation				
Case 3: Unrestricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
XRSV	0.602004	0.474034	1.269961	0.0002
RER	0.879080	0.950547	0.924815	0.0427
XPOT	0.971320	1.199619	0.809691	0.0247
MPOT	-1.364940	1.618900	-0.843128	0.0061
INF	-0.090176	0.264316	-0.341167	0.7354
R-squared	0.997801	Mean dependent var		4.459794
Adjusted R-squared	0.997195	S.D. dependent var		0.243806
S.E. of regression	0.012913	Akaike info criterion		-5.657735
Sum squared resid	0.004836	Schwarz criterion		-5.269885
Log likelihood	116.4970	Hannan-Quinn criter.		-5.519741
F-statistic	1645.033	Durbin-Watson stat		2.414629
Prob(F-statistic)	0.000000			

Table 6: Autoregressive Distributed Lagged Model (Long Run Form)
ARDL Long Run Form
Source: Author Computation

4.7. Serial Correlation

The non-significance of the result of the study shows that there is no serial correlation or multicollinearity among the data of the study in Table 7. The null hypothesis is therefore accepted that no serial correlation exists among the variables in the study.

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.817223	Prob. F(2,27)	0.1818
Obs*R-squared	4.508290	Prob. Chi-Square(2)	0.1050

Table 7: Serial Correlation
Source: Author's Computation, 2019 Using E-View

4.8.Heteroskedacticity

The null hypothesis that the data is not beset with heteroskedasticity is accepted due to non-significance of the result in Table 8.

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	1.626025	**Prob. F(8,29)**	0.1606
Obs*R-squared	11.76703	Prob. Chi-Square(8)	0.1619
Scaled explained SS	7.727302	Prob. Chi-Square(8)	0.4606

Table 8: Heteroskedasticity
Source: Author's Computation, 2019 Using E-View

4.9. Result of Stability Test

The decision rule is that for as long as the curve does not intersect the boundaries, it is concluded that the model estimated is a stable one.
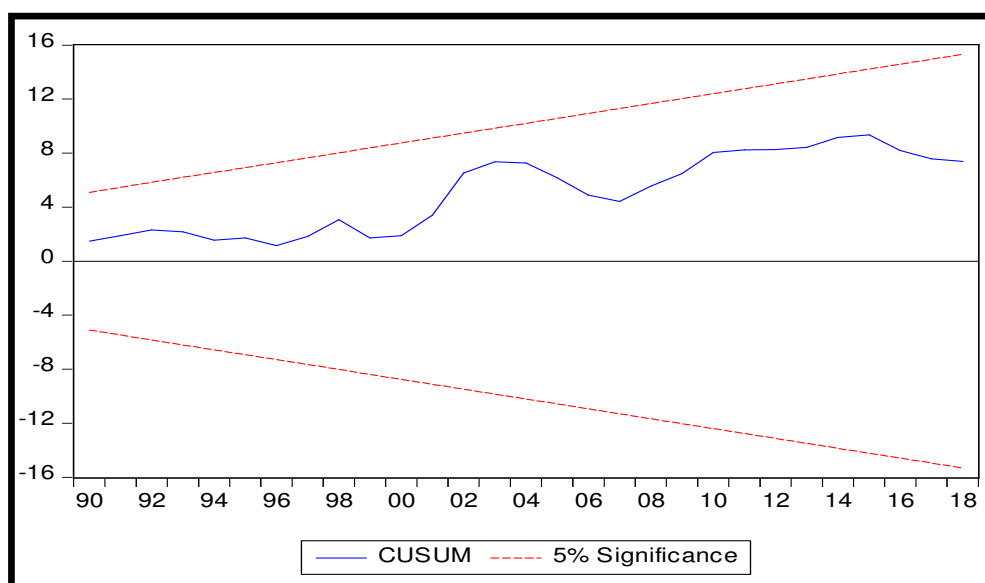

Figure 1: Stability Test on the Model of the Study
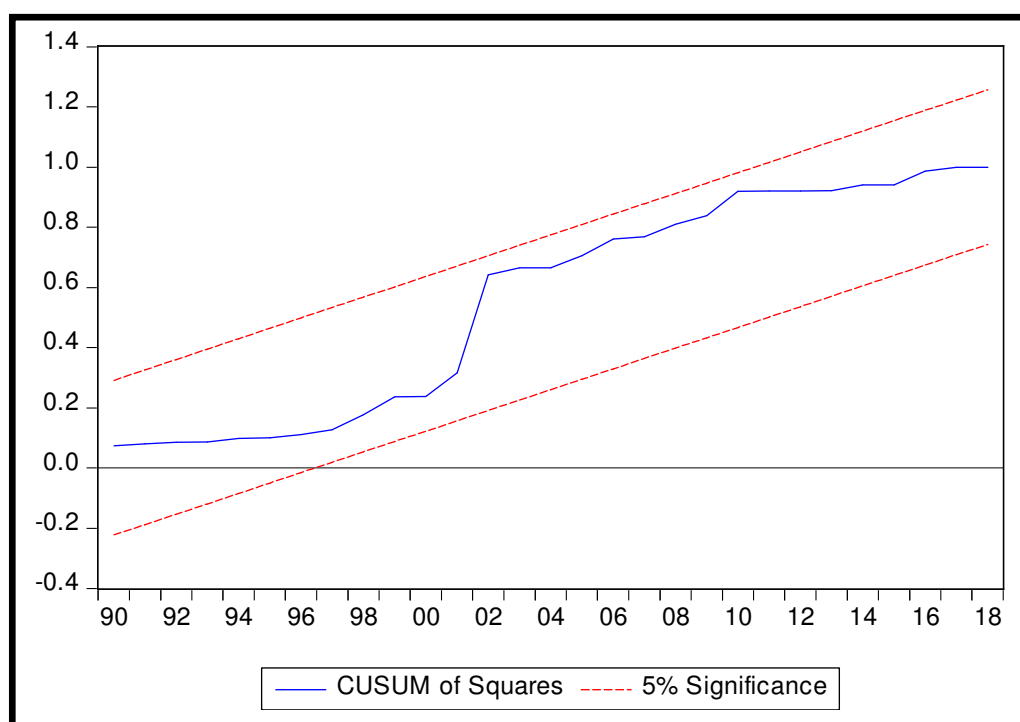*Source: Author's Computation, 2019*

Figure 2: Stability Test on the Model of the Study
Source: Author's Computation, 2019.

The decision rule is that for as long as the curve does not intersect the boundaries, it is a further confirmation that the model is stable.

The decision rule is that the null hypothesis of the existence of normality is accepted when the result is not statistically significant. This shows the model of the study is a normal one. The null hypothesis is that that the model of the study is normal. The null hypothesis is accepted if the result is not significant.
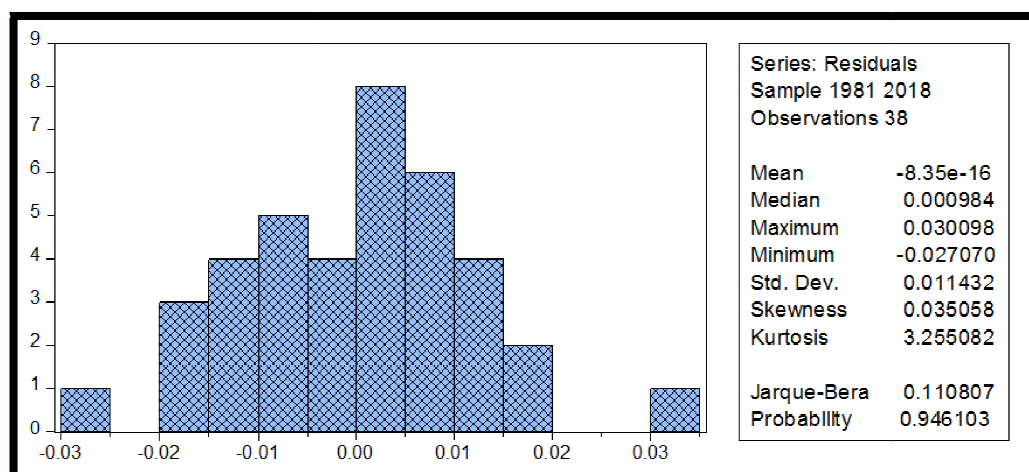
Figure 3: Normality Test
Source: Author's Computation, 2019

5. Discussion of Results

The findings of the study indicate a positive and statistically significant relationship between external reserves (ERSV) and economic growth(RGDP) in Nigeria. This implies that an increase in external reserves will lead to an increase in the level of economic growth. This finding is in tandem with the study of Eme and Johnson (2012), Osabuohien and Egwakhe (2008), Nwosa (2017), Akinwunmi and Adesanya (2016)

The study has also found out that exchange rate has a positive and a statistically significant relationship with the economic growth in Nigeria.

The study has also found out that export has a positive significant relationship with the economic growth in Nigeria.

The result also revealed that import has a negative impact on the economic growth in Nigeria. Other studies have also found out similar results with the ones of this study.

The result further shows that export has a positive and a significant relationship with the economic growth in Nigeria. This conforms with the findings of Abdulai and Jaquet (2002) Orubu, (1988) and Iyoha (1995)

The result has also shown that import increase leads to a reduction in the performance of the economy. A high level of import most especially for goods that can be produced in the country is not healthy for the economy. This impedes the development of infant industries among many others disadvantages such as continuous increase in exchange rate as it is a common knowledge that an increase in import will lead to an increase in the demand for foreign currencies which will in turn leads to a reduction in the level of production domestically.

6. Summary of Findings

The study examined the impact of external reserves on the economic growth in Nigeria using secondary data from 1980 to 2018. The stationary test indicates the data in the study to be stationary at 1(0) and 1(1). The cointegration test indicates a long run relationship among the variables. The autoregressive distributed lagged model (ARDL) bounds test was adopted for the estimation of the data. The results of the study revealed that external reserves (ERSV), exchange rated (RER) and export (XPOT) has a positive and a significant impact on economic growth (RGDP) of the Nigerian economy, while import (MPOT has negative effect on economic growth (RGDP). An increase in the external reserves will promote stability of the Nigerian currency against the foreign currency or the exchange rate which will then in turn bring about an increase in the performance of the economy. Stability actually increases the confidence of both the foreign investors and the investors from the country.

7. Conclusion

The study concludes in line with the findings that external reserves will promote stability in the exchange rate which will in turn promote the growth of an economy. Foreign exchange reserves can be considered a stabilizer output because they reduce the likelihood of falling output caused by a sudden outflow of capital or the depth of the collapse of output when it materializes sudden stop of capital inflows. Increase in export will promote the economic growth in Nigeria since increase in export means a larger market for the goods that are domestically produced. Promoting exports encourages production of goods which provides the economy with foreign exchange that may further enable importation of capital inputs that cannot be produced domestically. Also, in line with the findings of the study, it can be concluded that increase in import will lead to a reduction in the performance of the economy.

8. Recommendations

The study put forward the following policy recommendations;
- Adequate sterilization policies should be put in place to reduce the negative effect of the high cost of foreign exchange reserve accumulation and the need to channel and invest the foreign exchange reserve accumulated into the real sector of the economy such as manufacturing, infrastructural development, energy sector

development, education, and, research and developments which have the capacity to accelerate innovations that can lead to economic growth and eventual development in Nigeria.

- Efforts should be made to ensure exchange rate stability in order to stabilize Nigeria's economy. Government should stimulate the productive capacity of the economy, especially the agricultural or nonoil sector to increase aggregate supply of basic food products and meet the needs of the industrial sectors so that prices of goods and services could come down and consequently boost economic growth in the country.

- Consequently, economic stabilization policies that will enhance export promotion and productivity should be implemented and sustained. In this wise, government policies backed by will to promote and stimulate increased productivity of non-oil and traditional goods for export purposes is canvassed. It is important to also recognize that such produced goods meet international standards in order to compete favourably both in terms of quality and prices. It should be noted however, that Nigeria's non-oil exports are dominated by raw materials, mainly agricultural products. Secondly, quality human capital formation and development policies should be encouraged as this will enhance economic growth. Thirdly, emphasis should be geared to establish and develop adequate infrastructure (particularly, power generation and distribution) and enhanced institutions to check corruption. It is anticipated that this will promote processed primary agricultural exports and ensure judicious use of export proceeds particularly oil exports in the economic development process of Nigeria.

- Since the study has found excessive import to be inimical to the economic health of Nigeria, the government should encourage domestic production through policies such as a reduction in tax and putting place the needed infrastructures such as stable electricity and good road network in order to promote domestic production for goods that close substitutes for that of the ones being imported.

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