ARDL – BOUND TESTING APPROACH TO THE CONNECTION BETWEEN EXTERNAL RESERVE AND ECONOMIC GROWTH IN NIGERIA

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Abstract

This study investigated the connection between external reserve and economic growth in Nigeria. It covered the period of 1986 to 2018. Data were soured from Central Bank of Nigerian Statistical Bulletin (2018). The techniques adopted for analysis were Augmented Dickey-Fuller Unit Root, Philip Perron Unit Root, Autoregressive Distributed Lag (ARDL) and Granger Causality techniques. Base on Bound Co-integration test result it was found that external reserve, exchange rate, trade openness and inflation rate had long run relationship with real gross domestic product. The ARDL result indicated that external reserve and exchange rate positively influenced economic growth while trade openness and inflation rate were found to exert negative effect on economic growth. The causality result indicated that external reserve had bidirectional causality with economic growth in Nigeria. The implication of these findings is that the policy of holding and managing reserves will enhance liquidity position of a nation, serve as cushion during economic crisis, prevent exchange instability and provide long term resources for investment in infrastructural facilities which are growth inducing in the long run.

Key words: Central bank, economy crisis, economic growth, external reserve

JEL Classification: E58, F31, F43

1. INTRODUCTION

Maintaining adequate foreign reserves in both developed and developing countries is prerequisite to internal and external stability. This is because adequate reserve management is germane to the absorption of shocks and economy stability. External reserve comprises of assets and money that are held in foreign currencies and controlled by monetary authority of a nation. According to Meshak, (2014); Imarhiagbe (2015); Kashif, Sridharan and Thiyagarajan (2017), external reserves are readily available assets that are controlled by monetary authority for financing

balance of payments imbalance, exchange rate management, financing government international investment and other macroeconomic functions.

Achieving high level and sustainable growth has been one of the major policy thrust of government both in developed and developing countries. This is revealing in most of the policy frameworks of government which are mostly directed towards economic and financial stability that can support real sector development. Holding and monitoring of the foreign reserves level is one of the major policies of government in maintaining external stability and achieving internal growth. However, the historical precedence of accumulating high reserves can be traced to the Asian nations when high reserves were accumulated to absorb the shock caused by financial crisis and macroeconomic imbalance experienced in the early 90's (Ibrahim, 2011; Akpan, 2016). The phenomenon of holding high reserves among African countries is recent and forms the core policy of these nations because they are import dependent and mostly operate mono-culture economy. The justification for holding high external reserves by most African and vulnerable countries in East Asian is premised on the fact that external reserve serves as useful instrument in maintaining internal balance, liquidity bumper to cushion against exchange rate instability and important tool for protecting the exposure of an economy to external shocks and ensuring macroeconomic stability and quick recovery during financial turmoil (Nwosa, 2017; Kashif & Sridharan, 2015).

However, the policy of holding high reserve is subject to cost which may also negatively influence the economy. On this note, there are two contending arguments on the effect of external reserve on the economy. One school of thought is of the view that building of foreign reserves will serve as shock absorber during economic crisis. They based their argument on the fact that huge reserves are necessary to guide against foreign exchange volatility, increase credit rating of the economy, amass wealth, protect against fiscal shock and serve as fallback during deterioration in government revenue or capital inflow (Abiola & Adebayo, 2013). Aizenman and Lee (2005) argued that foreign reserves accumulation serves as tools for ensuring effective exchange rate management, promotion of trade and international competitiveness, boosting of investors' confidence which enhances investment and growth. However, the second school is of the opinion that holding of high reserves may be detrimental to economic growth and development. This school asserted that accumulated foreign reserves may be use for the provision of needed and critical facilities in the economy which will boost both domestic and international investments, create employment opportunities, enhance government revenue, boost domestic productivities and stimulate economy economic growth (Abiola & Adebayo, 2013).

In Nigeria, government significantly placed more emphasis in holding high reserves due to the nature of the economy. Ibrahim (2011) opined that the culture of holding high reserves in Nigeria began in 1999 resulting from the need to cut fiscal indiscipline which characterized the military regime which led to frivolous spending. This led to increase in the nation's reserves from USD4.98 billion in

1999 to USD51.33 billion in 2007 (CBN, 2017). However, external reserves further rose to USD53 billion in 2008 before falling to USD42.38 billion and USD32.33 billion in 2008 and 2009 which later rose slightly to USD32.64 billion in 2011 (CBN, 2017). Though, increased to USD32.6 and USD43.84 billion in 2012 and 2013 respectively, Nigeria experienced fall in external reserves to USD34.24 billion in 2014, USD28.28 billion in 2015 and USD26.99 billion in 2016 before rising to USD39.35 billion in 2017 (CBN, 2017).

Nigeria has been experiencing fluctuation in it reserves which result from recent recession, imbalance term of trade, overreliance on crude oil at the expense of important sector like agriculture, oil price shock, decline in oil revenue, exchange rate depreciation and constant financial crisis (Ibrahim, 2011; Papadavid, 2016; Nwosa, 2017). Akinwunmi and Adekoya (2016) opined that unsuitable government policies on fiscal and monetary and exchange rate policies negatively influence the reserves management of Nigeria. However, the implication of accumulation of external reserves and it management on the economy has been a subject of discussion and academic research among policy makers, experts and scholars. However, previous studies mainly focused on the effect of external reserves management on macroeconomic variables like investment, exchange rate, unemployment, inflation rate, international trade among others in Nigeria. For instance, Ibrahim (2011); Emmanuel (2013) examined the effect of external reserves on macroeconomic variables like exchange rate, inflation and investment in Nigeria. Also, Awujola, Obumneke and Oniore (2014) assessed the relationship between fiscal deficits and foreign reserves.

The study of Imarhiagbe (2015) focused on the impact of crude oil price on external reserves. Furthermore, the study of Nteegah and Okpoi (2016); Adegboyo, Efuntade and Efuntade (2019) centered on the implication of external trade on foreign exchange reserves. Likewise, Akpan (2016) examined the relationship between foreign reserves accumulation and macroeconomic environment. Also, Chinaemerem and Ebiringa (2012); Akinwumi and Adekoya (2016) focused on the effect of selected macroeconomic variables on external reserves management. In the same vein, Irefin and Yaaba (2011) studied the determents of foreign reserves in Nigeria.

However, few studies were conducted on the effect of external reserves on economic growth in Nigeria (Meshak, 2014; Eniekezimene & Apere, 2016; Nwosa, 2017; Awoederu, Ochalibe & Obekpa, 2017). These studies provided diverse results on the relationship between external reserves and economic growth. While the studies of Meshak (2014); Awoederu, *et al.*, (2017); Nwosa (2017) found positive relationship between external reverse and economic growth, Udo and Antai (2014); Eniekezimene and Apere (2016) established negative relationship between external reserve and economic growth. This diverse result may result from inability of the authors to capture some important macroeconomic variables like exchange rate, inflation rate, trade openness and net foreign asset which are major determinants of external reserves. Also, the study of Meshak (2014); Nwosa (2017) did not consider the time series properties of variables employed which may result

in spurious regression. In addition, Meshak (2014); Nwosa (2017); Awoederu, *et al.,* (2017) did not establish the direction of causality between external reserves and economic growth. Thus, it is of great necessity to re-examine the implication of external reserves management on economic growth in an open and resources dependent economy like Nigeria which is the aim of this study. Following this introduction, the rest of the paper was divided into section two which covered literature review and theories underpinning the study, section three which presented the methodology of the study. Results and discussion of findings from analyzed data were presented in section four, finally, conclusion and recommendations were presented in section.

2. LITERATURE REVIEW

Holding of higher foreign reserves has been the main focus of government in developing countries in the recent years due to incessant exchange rate instability and economic shock being experienced. According to Akpan (2016), foreign reserves are germane in supporting and sustaining monetary and foreign exchange policies in order to protect against currency instability and ensure smooth functioning of foreign exchange market and international payment system. Akinmulegun, Dare and Olurankinse (20090; Emmanuel (2013) opined that the accumulation of foreign reserves plays significant role in improving the adequacy of other assets, increase national liquidity and serves as cushion against unexpected shocks from external sources.

Archer and Halliday (1998) asserted countries hold foreign reserves for exchange rate fixing, forex market stability, exchange rate stability and response to economic emergency. Accumulation of foreign reserves also serves the purpose of influencing exchange rate in the foreign exchange market, settlement of imported goods and services, payment of interest on external debt, financing of domestic fiscal expenditure and insurance against currency crisis. It can also be used for urgent fighting of inflation or deflation, precautionary against unexpected shocks, cushion against deteriorating terms of trade and to meet unexpected capital outflows (Akinwun & Adekoya, 2016).

The importance and vast reasons of foreign reserves led to diverse of studies being conducted on the effect of foreign reserves on economic growth and other macroeconomic variables. Thus, there are two strands of literature conducted on the implication of external reserves accumulation on the economy. Firstly by focusing on studies that looked at the effect of external reserves on macroeconomic variables, Olokoyo, *et al.,* (2009) found that the accumulation of large foreign reserves is not germane in maintaining stable macroeconomic variables. However, Abdullateef and Waheed (2010) found that external reserves had significant effect on macroeconomic variables of foreign direct investment and exchange rate but had insignificant effect on domestic investment and inflation rate. In their study, Chinaemerem and Ebiringa (2012) found using Vector Autoregressive technique that there is indirect relationship between external reserves and macroeconomic stability. Also, Irefin and Yaaba (2012) found that income as a major

macroeconomic variable influence reserves holding in Nigeria. Emmanuel (2013) was also of the opinion that external reserves negatively influence exchange rate but had positive relationship with inflation rate in Nigeria.

Similarly study of Akpan (2016) which focused on the effect of reserves accumulation on macroeconomic environment in Nigeria found that there is long run relationship between foreign reserves and macroeconomic variables. Ibrahim (2011) observed in his study that external reserves influenced foreign direct investment and exchange rates. Awujola, *et al.,* (2014) found that foreign exchange reserve was determined by recurrent and capital expenditures in the long run. Imarhiagbe (2015) found that oil price volatility had positive impact on external reserves in Nigeria. Nteegah and Okpoi (2016) conducted a study on the effect of external trade on foreign exchange reserves. It was found from error correction model result that oil and non-oil export enhanced foreign reserves while oil and non-oil imports retard foreign reserves in Nigeria. Adegboyo, *et al.,* (2019) found that, while exchange rate, oil export and non-oil export stimulate external reserve, oil import and non-oil import deplete effect on external reserve in Nigeria.

The second strand of literature focus on the effect of foreign reserves on economic growth. In a study conducted by Alasan and Shaib (2011), it was revealed that external reserves management significantly influenced economic development in Nigeria. Udo and Antai (2014) investigated how foreign reserves impacted economic growth in Nigeria. The results showed that external reserves negatively influenced economic growth and investment. In a study conducted in India, Kashif and Sridharan (2015) adopted and vector error correction model to evaluate the effect of economic growth on international reserves from 1993 to 2013. It was revealed that economic growth had significant effect on international reserves.

Eniekezimene and Apere (2016) studied the effect of external reserve management on economic growth in and it was revealed external reserve inversely influenced economic growth. Akinwunmi and Adekoya (2016) however found that external reserves significantly influenced economic growth. Meshak (2014); Nwosa (2017) employed ordinary least square technique and found that external reserves improved economic growth in Nigeria. In Brazil, Error Correction Mechanism was adopted by Kashif *et al.,* (2017) and economic growth was indicated to stimulate to international reserves. Awoderu, *et al.,* (2017) also found that the external reserve promote economic growth in Nigeria

The empirical study of Borivoje and Tina (2015) in Brazil, China and Russia showed that foreign exchange reserves influenced economic growth positively. Basing his study in West African monetary zone, Isaac (2014) found negative relationship between economic growth and international reserves. Johnny and Johnnywalker (2018) in their study on the relationship between external reserves and economic growth established that eternal reserves positively influenced economic in Nigeria.

In summary, it could be deduced that majority of the studies conducted largely focused on the effect of external reserves management on macroeconomic variables like investment, exchange rate, unemployment, inflation rate, international trade among others. Though studies were conducted on the effect of foreign reserves on economic growth, there were diverse results on the relationship between foreign reserves and economic growth. For instance, studies by Meshak (2013); Awoederu, *et al.,* (2017); Nwosa (2017); Kashif *et al.,* (2017) showed positive relationship between external reverse and economic growth, Udo and Antai (2014); Eniekezimene and Apere (2016) established negative relationship between external reserve and economic growth. These may largely result from the inability of the study to captures important varaibles like exchange rate, inflation rate, and trade openness which are major determinants of economic growth and determine the stability and the ability of an economy to accumulate more foreign reserves. Also, some of the studies ignore the time series properties of the macroeconomic variables employed which may result in non-genuine result and hasty conclusion.

2.1. THEORETICAL FRAMEWORK

There are diverse theories that were proposed to explain the reasons for the accumulation of foreign reserve and its implication on economic growth. These theories include self-insurance theory, precautionary theory, mercantilist theory and macroeconomic stabilization theory. The self-insurance theory which was pioneered by Van Wijnbergen (1990) which investigated the cash/debt buy-backs in the context of missing terms of trade and the significance of holding reserves during economy crisis. The mercantilist theory stressed that the purpose of accumulating foreign reserves by countries is to effectively manage exchange rate and to maintain low exchange rate for the purpose of promoting trade, international competitiveness and economic growth (Durdu, Mendoza & Terrones, 2007; Yeyati, 2008).

The precautionary theory is related to the precautionary motives for holding money which is to meet unforeseen contingencies. In application to foreign reserve, the theory stresses the importance of reserve accumulation as saving mechanism to meet contingencies during the period of crisis and shortage of resources to induce growth (Awoderu, *et al.,* 2017). In developing countries like Nigeria, Aizenman and Marion (2003) employed the precautionary theory due to the wide gaps between actual and potential outputs in Nigeria. The theory stress that the actual growth is lower compared to potential for growth caused by resource gaps which pose constraints to economic growth in Nigeria (Abiola, 2002). Thus, the theory opines that the accumulation of foreign reserve will help meet unexpected contingencies like economic instability, exchange rate overvaluation and provision of infrastructure which are germane to promoting economic growth (Aizenman & Lee, 2005). It is thus, on this precautionary that that this study is anchored upon.

3. METHODOLOGY

3.1. SOURCE OF DATA AND MODEL DESIGN

This study analyzed the relationship between external reserves and economic growth in Nigeria using dynamic approach of ARDL – Bound technique approach from 1986 to 2018. This paper employed time series data which spanned through the period of 1986 to 2018. External reserve was measured as total annual stock of accumulated foreign reserves in Nigeria while economic growth is captured with real gross domestic product. Data on external reserves, real gross domestic product, exchange rate, trade openness and inflation rate were sourced from Central Bank of Nigeria (CBN) Statistical Bulletin (2018).

The variables for the study were selected in line with the study of Awoederu, *et al.,* (2017); Nwosa (2017); Kashif *et al.,* (2017). However, empirical model of Meshak (2014) was adapted in this study. The model stated that gross domestic product is influence by external reserves in Nigeria, given in functional form as:

$$\mathbf{GDP = \mathit{f}(TER) \quad (1)}$$

By modification, important variables like exchange rate, trade openness and inflation rate were used in this study because they are major macroeconomic variables that influence economic growth and determines the ability of the nation to accumulate foreign reserves. Exchange rate and trade openness measures the vulnerability of an economy or current account (Eniekezimene & Apere, 2016). Thus, by modifying the model of Meshak (2014) the empirical model for this study is given as:

$$\mathbf{RGDP = \mathit{f}(EXR, EXCH, TOP, INF) \quad (2)}$$

RGDP is real gross domestic product which is the dependent variable. EXTR represents external reserves which is the independent and main variable. EXCH is exchange rate, TOP is trade openness and INF is inflation rate all representing the control variables in the model. Thus econometrical linear equation of model (2) is given as:

$$\mathbf{LRGDP_t = \beta_0 + \beta_1 LEXTR_t + \beta_2 LEXCH_t + \beta_3 TOP_t + \beta_4 INF_t + \epsilon_t \quad (3)}$$

β_0 = Constant Term. $\beta_1 - \beta_4$ = Parameters. ϵ = error term. L is logarithm from of the variables.

3.2. DATA ESTIMATION TECHNIQUES

This study employed different econometric techniques to examine the effect of external reserves, exchange rate, trade openness and inflation rate on real gross domestic product. Firstly, the time series natures of the data were subjected to unit root testing. This is because most time series data are non-stationary and the estimation of the relationship among non-stationary may result in false regression. Thus, Augmented Dickey-Fuller and Philip-Perron unit root techniques were

employed to determine the unit root of the data. However, if the data series are observed to be integrated at order one or combination of level form and order one, a linear estimation of the series may have long run co-integration relationship which was found in the case of this study. Thus, based on the outcome of the unit root test which revealed that the data series are combination of level form and order one, Autoregressive Distributed Lag and Bound Testing co-integration technique were employed.

In line with the econometric procedure, the study employed dynamic approach of Bound Co-integration technique to ascertain the long run relationship among external reserves, exchange rate, trade openness, inflation rate, and real gross domestic product. The estimation of the long run relationship and adoption of dynamic technique of Bound Co-integration was justified on the fact that the data series were non-stationary in their level form but combination level and first difference which indicate that there is possibility of long run movement among the variables.

However, the study employed Autoregressive Distributed Lag technique to examine the short and long run effect of external reserves, exchange rate, trade openness and inflation rate on real gross domestic product. Autoregressive Distributed Lag technique tests the speed of adjustment of the dependent variable to change in the independent variable while estimating the dynamic coefficients of the effect of the independent variables on the dependent variable both in the short and long run. Finally, the direction of causality between external reserves and economic growth was established using Pair-wise Granger causality technique.

4. RESULTS AND DISCUSSION

Test of Stationarity

Table 1. *Summary of Unit Root Result*

	ADF Unit Root Result			PP Unit Root Result		
Series	**T-Statistic**	**Prob.**	**Status**	**T-Statistic**	**Prob.**	**Status**
LRGDP	-3.114380	0.0358**	I(1)	-3.114411	0.0358**	I(1)
LEXTR	-7.791649	0.0000**	I(1)	-8.648896	0.0000**	I(1)
LEXCH	-5.655158	0.0001**	I(1)	-3.023638	0.0433**	I(0)
TOP	-3.225412	0.0276**	I(0)	-3.940723	0.0049**	I(0)
INF	-4.746238	0.0007**	I(1)	-5.672315	0.0001**	I(1)
***** denotes significant at 0.05**						

Source: Author's Computation, 2020

The summary of the unit root test is presented in Table 1 using Augmented-Dickey Fuller and Philip Perron unit root technique. The result of the unit root under the unit ADF panel shows that only trade openness is stationary at

level form while log of real gross domestic product, log of external reserves, log of exchange rate and inflation rate are integrated at order one, I(1).

Also, the unit root result under the Philip Perron panel indicates that both trade openness and log of exchange rate are stationary at level while log of real gross domestic product, log of external reserves and inflation rate are stationary at first difference or integrated at order one. The null hypothesis of unit root was therefore rejected for the entire variables. Since the variables are integrated at different order, the study employed Bound Test to establish the long run relationship among the variables.

Optimum Lag Selection Criterion

Before estimating the model it is prerequisite to select the optimum lag for on which the critical value will be estimated; in this regard, the optimal lag (*p*) is determined empirically by employing the Akaike's Information Critical (AIC) presented in Table 2.

Table 2. *Lag Selection Criterion Result*

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-197.4097	NA	0.322844	13.05869	13.28998	13.13408
1	-61.42453	219.3309*	0.000257	5.898357	7.286087*	6.350722*
2	-32.33290	37.53759	0.000226*	5.634381*	8.178551	6.463717

Source: Author's Computation, 2020

Table 2 presents the result of lag selection to ascertain the optimum lag for the Autoregressive Disputed Lag Model. The table shows that the optimum lag is 2 as indicated by the Akaike Information criterion. Thus, the ARDL-Bound Co-integration would be estimated using lag 2.

Table 3. *Bound Co-integration Test*

Test Statistic	Value	K
F-statistic	6.467594	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
5%	2.86	4.01

Source: Author's Computation, 2020

Table 3 shows the result of the Bound Co-integration Test which is to use to determine the long run relationship among log of real gross domestic product, log of external reserves, log of exchange rate, trade openness and inflation rate. In order to reject the null hypothesis of no long run relationship among the variables, the F-statistic value must be greater than the Critical Value Bounds at 5% level of significance.

Based on this notion, Table 3 shows that F-statistic value is given as 6.467594 which is greater than the critical lower bounds value of 2.86 at 5%. Thus, it is concluded that there is long run relationship among log of real gross domestic

product, log of external reserves, log of exchange rate, trade openness and inflation rate.

Table 4: *Estimated Short and Long Run Result using ARDL Model Based AIC*

Dependent Variable: LRGDP

Panel A: Short Run Coefficients				Panel B: Long Run Coefficients			
Variable	**Coefficient**	**t-Statistic**	**Prob.**	**Variable**	**Coefficient**	**t-Statistic**	**Prob.**
D(LEXTR)	0.002386	0.337194	0.7395	**LEXTR**	0.305200	4.012774	0.0007
D(LEXTR(-1))	-0.027809	-4.040617	0.0006	**LEXCH**	0.102846	2.169957	0.0422
D(LEXCH)	-0.061688	-4.679588	0.0001	**TOP**	-0.118739	-1.215010	0.2385
D(TOP)	-0.015643	-1.057365	0.3029	**INF**	-0.006484	-1.531271	0.1414
D(INF)	-0.000947	-3.416859	0.0027	**C**	7.730647	10.769663	0.0000
D(INF(-1)	0.000757	2.210895	0.0389				
CointEq(-1)	-0.131740	-5.725143	0.0000				

Source: Author's Computation, 2020

The result of the estimated autoregressive distributed lag short and long model is presented in Table 4. In Table 4, Panel A presents the short run result also referred to as co-integration form of ARDL model. Under Panel A, it is found that log of external reserves has positive but insignificant effect on log of real gross domestic product but negative and significant effect at lag one. Also, the result indicates that log of exchange rate and trade openness has negative and effect on log of real gross domestic product in the short run with trade openness being insignificant at 5%. Furthermore, the result indicates that inflation rate exert negative and significant effect on log of real gross domestic product at current period but positive and significant effect at lag one. The co-integration equation shows a negative sign which is significant at 5% significance level. The implication of this is that the model has a self adjustment mechanism with a speed of 13% which implies that any disequilibrium in the short run will be corrected at highest level of 13% in the long run annually which allows the model to return to equilibrium state.

In the long run result under Panel B, external reserves exerted positive and significant effect on economic growth in Nigeria. The implication of this finding is that the holding of large amount of reserves in foreign currencies would create cushion to maintain internal stability during the period of economy shock thereby enhancing economic growth. This finding does not conform to empirical finding of Eniekezimene and Apere (2016) who established that external reserves had negative effect on economic growth in Nigeria but aggress with the finding of Meshak (2014); Kashif and Sridharan (2015); Awoderu, *et al.*, (2017).

Furthermore, exchange rate produce positive and significant effect on economic growth in the long run which is not in line with the finding of Awoderu,

et al., (2017) that there is negative relationship between exchange rate and economic growth. This implies that stable exchange rate would be achieved in the long run through building up of external reserves which promote economic growth.

However, trade openness is established to have negative effect on economic growth. The implication of this result is that the more the level of openness of the economy, the smaller the growth achieved which is due to the mono product nature of the economy and the higher taste for import goods which lead to instability in exchange rate and reserves. Similarly, inflation rate is found to exert negative effect on economic growth which indicates inflationary pressure will contribute negatively to the growth of the economy.

Table 5. *Pair-wise Granger Causality Test*

Null Hypothesis:	Obs	F-Statistic	Prob.
LEXTR does not Granger Cause LRGDP	31	4.36448	0.0232
LRGDP does not Granger Cause LEXTR		3.73981	0.0374
LEXCH does not Granger Cause LRGDP	31	2.41754	0.1089
LRGDP does not Granger Cause LEXCH		0.50111	0.6116
TOP does not Granger Cause LRGDP	31	0.61843	0.5465
LRGDP does not Granger Cause TOP		0.38640	0.6833
INF does not Granger Cause LRGDP	31	1.26718	0.2984
LRGDP does not Granger Cause INF		2.61531	0.0923

Source: Researcher's Computation, 2020

Table 5 shows the result of the granger causality test and it reveals that there is bi-directional relationship between log of external reserves and log of real gross domestic product. However, log of exchange rate, trade openness and inflation rate have independent causality with real log of gross domestic product and vice versa.

5. CONCLUSION AND RECOMMENDATIONS

The accumulation of large foreign reserves has been identified as one of the macroeconomic objectives of developing nations like Nigeria. This is because external reserves may provide buffer for the absorption of foreign exchange shock especially to nations that relies heavily on importation with little export. This study examined whether the policy of holding reserves is growth inducing alongside important variables like exchange rate, trade openness and inflation in open economy of Nigeria. The study revealed that external reserves had positive and significant effect on economic growth in Nigeria. This result from the capacity of the nation to accumulate enough reserves through the sales of crude oil, inflow of foreign investment and slight increase in crude oil price. However, fluctuation in crude oil price and mono-product nature of the economy has caused huge fluctuation in Nigeria foreign reserves. The implication of this result is that the policy of holding and managing reserves will enhance liquidity position of a

nation. Also, the accumulation of external reserves will help to provide funds for national investment in infrastructure and other basic amenities which are growth supporting.

In line with findings, it was concluded that the policy of holding external reserves is growth enhancing in Nigeria through the creation of foreign exchange stability, available of funds for investment in infrastructure, maintenance of economic stability and boost of investors' confidence. Thus, current policy of building up external reserves should be sustained by government because, policy of holding reserves is growth promoting through creation of economic stability. However, optimal level of reserves should be closely monitored to ensure that excess reserves would not negate the growth objective of the economy. Furthermore, government should continue and sustain current market based exchange rate policy. This is because the policy eliminates foreign exchange instability and risk and reduces the level of hoarding in the economy which strengthens the value and competiveness of the nation's currency. Government should formulate policies to improve the trade performance of the nation through the diversification of the nation's to other viable sector like agriculture and manufacturing sectors and at the same time makes local made goods attractive for both local and foreign consumption in order to boost the nation's reserves through higher export.

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