International Journal of Advanced Studies in Business Strategies and Management | IJASBSM
p-ISSN: 2354-4236 | e-ISSN: 2354-4244
Volume 8, Number 1 December, 2020

Public External Debt and its Impact on Exchange Rate in Nigeria

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Article DOI: 10.48028/iiprds/ijasbsm.v8.i1.03

Abstract

The study is an attempt to empirically examine the impact of public external debt on exchange rate in Nigeria. The nature of data for this study is secondary data and the major source of data is the Statistical Bulletin published annually by the Central Bank of Nigeria (CBN) December, 2018.The study used Ordinary Least Squares (OLS) and Error Correction Model (ECM) tools of analysis in the investigation of the impact and relationship among the economic variables. The long and short run results confirmed that public external debt has impact on exchange rate in Nigeria. However, based on the probability value at the short run all independent variables were statistically significant in explaining variation in Exchange Rate in Nigeria except Foreign Reserve in Nigeria (FRN) at 5 percent level of significance. While, at the long run the External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) Foreign Reserve in Nigeria (FRN) was statistically significant in explaining the variation in Exchange Rate in Nigeria (EXCHR) at 5 percent level of significant. Therefore, the study recommends that Government should increase the mechanism to check and control the allocation and implementation of public funds in Nigeria to reduce deficit budget and exchange rate in Nigeria.

Keywords: *Public, External Debt, Exchange Rate, Debt Servicing, Foreign Reserve*

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Background to the Study

In Nigeria, like so many other developing countries, public expenditure has recorded a continuous increase over time. The tendency of increasing public expenditure can be attributed to factors like the growing population and increasing urbanization, which require increase in the sheer of scale of state services and traditional functions, including defence particularly where the country faces one form of crises or the other (Debt Management Office, 2018). For instance, the insurgencies from the Niger-delta militants, and the current Boko Haram crises in some states in the north-eastern part of Nigeria has forced the government to increase its spending of defence. Meanwhile, better quality services imply a higher cost (Bamidele and Joseph, 2013).

The difference between the revenue and expenditure of most governments may not always be zero. This raises the question of other sources of finance for their required expenditure including borrowing either from individuals, countries, multinationals amongst others. Most countries across the world borrow fund to meet their financing needs and close the budget deficit. These constitute debt, which can either be internal or external. External debt plays both an optimistic and destructive part in forming economic growth, especially of the developing nations. However, it is useful if it is utilized for investment-oriented purposes for example sectors like the power sector, educational sector among others. External debt may be an economic stimulant but when its accumulation gets to a very substantial level, a reasonable proportion of government expenditure and foreign exchange earnings will be used to service and repay the debt with heavy opportunity costs even for future generations (Imimole, Imoughele and Okhuese, 2014).

Thus, external debt is a major source of finance majorly used in supplementing domestic sources of funds in a bid to support the development process as well as other needs of a country. It must however be pointed out that excessive external debt may breed harmful effects to the sustainable economic growth and poverty reduction which developing nations seek. Also, external debt is not used effectively in productive activities; it is no exaggeration that Nigeria's huge external debt burden was one of the hard knots of the structural Adjustment Program (SAP) introduced in 1986 by the Babaginda administration (Okoye, 2013). The high level of debt service payment prevented the country from embarking on larger volume of domestic investment which would have enhanced economic growth and stabilize her exchange rate (Adeniran, Yusuf and Adeyemi, 2014). Therefore, this study is to empirically examine the impact of external debt on exchange rate in Nigeria.

Literature Review

Conceptual Review

External debt can be defined as debt owed to non-residents repayable in terms of foreign currency, food or service (World Bank, 2014). The external debt is debt incurred by a nation that is payable in currencies other than that of the debtor country. External debt includes short-term debts, such as trade debts which mature between one and two years, or whose payment would be settled within a fiscal year in which the transaction is conducted (Central Bank of Nigeria CBN, 2013).International Monetary Fund IMF (2014) offered, "Gross

external debt, at any given time, is the outstanding amount of those actual current, and not contingent, liabilities that require payment(s) of principal and or interest by the debtor at some point in the future and that are owed to non-residents by residents of an economy". Alam and Taib (2013) defined external debt as that portion of a country's debt that is acquired from foreign sources such as foreign corporations, government or financial institutions. According to Ogbeifin (2007), external debt arises as a result of the gap between domestic savings and investment. As the gap widens, debt accumulates and this makes the country to continually borrow increasing amount in order to stay afloat. DMO (2013) defined Nigeria's external debt as the debt owed by the public and private sectors of the Nigerian economy to non-residents and citizens that is payable in foreign currency, goods and services. Therefore, external debt refers to the part of a nation's debt that is owed to creditors outside the nation.

While, Uddin, Rahman and Quaosa (2014) sees exchange rate as the domestic price of a unit of foreign currency and exchange rate can be called the conversion factor that determines the rate of change of currencies. For Danladi and Uba (2016), exchange rate is the price of one country's currency in relation to another country, or the required amount of units of a currency that can buy an amount of units of another currency. The management of exchange rate system has been on the ladder of every government today owing to its great influence on the external sector performance. According to CBN (2014), the main objectives of exchange rate policy in Nigeria include to preserve the value of the domestic currency, maintain favorable external reserves position and ensure external balance without compromising the need for internal balance, and the overall goal of macro-economic stability. Exchange rate is the price of the currency of one country expressed in terms of the currency of another. For example, the Nigerian naira has exchange rate against the U.S dollar and many other currencies. It may be expressed as nominal exchange rate or real exchange rate. The nominal exchange rate is a monetary concept which measures the relative price of two currencies e.g. naira in relation to dollar (N/$), while the real exchange rate refers to the purchasing power of the domestic currency in terms of its relative price or value taking the effect of inflation into consideration.

Empirical Review

There are quite a number of empirical studies on external debts and other macroeconomic indicators both in developing and developed economies. However, based on the objective of the study some selected and relevant empirical studies were reviewed, among them is the work of Patrawimolporn (2007), who evaluated the effect of exchange rate on debt, debt services and public debt management in Thailand, using a simple differentiation technique. His findings reveal that exchange rate volatility affects debt services since a significant amount of debt services was saved when the exchange rate was adjusted. However, the study failed to show the effect of either the public debt or debt services on exchange rate itself. More so, since the study focus on Thailand economy, the findings may not be absolutely applicable to Nigeria. While, Adesola (2009) investigated the nature of relationship that connects foreign debt servicing and economic growth in Nigeria between the period of 1981 to 2004 employing the use of ordinary least square multiple regression approach in which his result showed that payment of debt to institutions as London and Paris club of creditors, Promissory Notes

holders and other creditors had significant impact on the economic growth (gross domestic product) and Gross Fixed Capital Formation, while debt payment to Paris Club and debt payments on promissory notes are positively connected to GDP and GFCF, debt payments to London creditors and other creditors indicated negative connection to GDP and GFCF within the period of study. Employing the Autoregressive Distributive Lag (ARDL) technique. Also, Akram (2010) examined the impact of public (domestic and foreign) debt on economic growth and investment in Pakistan with the result of the estimated model revealing that both domestic and external debts had negative relationship with per capita GDP and investment

In another study, Ogege and Ekpudu (2010) examined the impact of debt burden on the Nigerian economy using time series data from 1970-2007. Ordinary least square (OLS) was used to test the relationship between debt burden and growth of the Nigeria economy. The result showed a negative relationship between debt stocks of internal and external; and gross domestic product, meaning that an increase in debt stock will lead to a reduction on the growth rate of Nigerian economy. While, Ezeabasili, Isu and Mojekwu (2011) studied the relationship between Nigeria's external debt and economic growth from 1975-2006, with an error correction approach. Error correction estimate revealed that external debt has negative relationship with economic growth in Nigeria. Also, Sulaiman and Azeez (2012) investigated the effect of external debt on the economic growth of Nigeria, using econometric techniques of Ordinary Least Square, augmented dickey-fuller (ADF) unit root test, Johansenco-integration test and error correction method (ECM) in its analysis of gathered data. The model built for the study proxy, gross domestic product, as the endogenous variable measuring economic growth as a function of external debt, ratio of external debt to export, inflation, and exchange rate proxy as the exogenous variable. The co-integration result showed that long-run equilibrium relationship exists, among the variables. Findings from the error correction method showed that external debt has contributed positively to the Nigerian economy.

Furthermore, Ijeoma (2013), on her part, made use of linear regression model to empirically assess the impact of debt variables, which include external debt stock, external debt service payment on selected macroeconomic variables including gross domestic product and gross capital formation. The results reveal that there is a significant relationship between Nigerian debt service payment and gross fixed capital formation. The result further shows that exchange rate fluctuations affects external debt shock, external debt service payment and the nation's economic growth. Even though, the study considered Nigerian economy, however the result only shows the effect of exchange rate on external debt, whereas, the emphasis of the current study is on the impact of public debt on exchange rate, hence this study tends to bridge the gaps observed in previous studies examined. While, Olasode and Babatunde (2016) sought to explain the casual relationship between accumulated funds/loans from external sources and economic growth focusing on the Nigerian economy. The Autoregressive Distributed Lag (ARDL) model was employed to capture the effect of external debts and growth in Nigerian from 1984-2012. The result from the ordinary least squares method employed in the research confirms the presence of a dual behavior as the lag one of external debts is positive while external debts of current year has a negative effect on the performance of the economy.

More also, Panagiotis Pegkas (2017) empirically investigated the relationship between economic growth and several factors (investment, private and government consumption, trade openness, and population growth and government debt) in Greece. The results reveal a negative long-run effect of government debt on growth. The results indicate that the relationship between debt and growth depends on the debt breaks. Finally, Egungwu (2018), considered the impact of increase in external debt stock and it's servicing on human capital development in Nigeria within the period, 1986 to 2015 using Ordinary Least Square (OLS) regression technique. The study found that both external debt stock and external debt servicing had significant negative effect on human capital development; external debt stock borrowed from Paris Club and Multilateral Creditors had insignificant negative effect; those borrowed from London Club had insignificant positive effect while those borrowed from bilateral creditors had significant positive effect. On debt servicing, all the creditors showed insignificant positive effect except London club that had significant positive effect.

Theoretical Framework

The study adopted the Ricardo Theory of Public Debt as the theoretical framework. Ricardo's theory of public debt was based on an emphasis of the fact that the primary burden to the community was derived from wasteful nature of public expenditure itself rather than from the methods adopted to finance such expenditure. Regarding the question of financing public expenditure, his view was that the requisite funds would ultimately have to be drawn from the liquid resources of the community and that in point of economy; it would make no great difference whether such funds were raised by taxes or by loans. However, where the funds were raised through the later, it would be referred as public debt. External debt involves debt servicing, which in most cases require payment in foreign currency. Whereas, the continue increase or decrease in demand for foreign currency tends to influences the exchange rate.

Methodology

Sources of Data and Method of Analysis

The nature of data for this research works is secondary data and the major source of data for this study is the statistical bulletin published annually by the Central Bank of Nigeria (CBN) 2018. The study employs the unit root test to determine the statistical properties of the variables to determine if they are stationarity at level or first difference. This is done in order to avoid spurious regression and misleading judgment. This is done using the Augmented Dickey-Fuller (ADF). The study then proceeds to test whether there exists a long run relationship between impacts of public external debt on exchange rate in Nigeria by adopting the Johansson Co-integration test since the study deals with multivariate models. The study used Ordinary Least Squares (OLS) and Error Correction Model (ECM) tools of analysis in the investigation of the impact and relationship among the economic variables, the Ordinary Least Squares (OLS) was used to test the impact among the economic variables in this study while the Error Correction Model (ECM) was used to test the short-run impact of public external debt on exchange rate in Nigeria.

Model Specification and A-priori Expectation

In order to achieve the objective of the study, the linear regression model of Ogege and Ekpudu (2010) who examined the impact of debt burden on the Nigerian economy using time

series data from 1970-2007 and used Ordinary least square (OLS) was adopted and modified to estimate the impact of public debt on exchange rate in Nigeria. The model is specified thus;

$$EXCHR = f(EXDT, DSP, FRN) \quad (1)$$

Where, EXCHR = Exchange Rate in Nigeria, EXDT = External Debt in Nigeria, DSP = Debt Service Payment in Nigeria and FRN = Foreign Reserve in Nigeria. Specifying equation (1) in a mathematical form we have:

$$EXCHR = ß0 + ß1EXDT + ß2DSP + ß3FRN + U \quad (2)$$

Where U denotes the white noise error term in natural logarithm, ß0 = intercept or autonomous parameter estimate andß1…ß3 = parameter estimates associated with public external debt and exchange rate in Nigeria. All the variables are expressed in logarithmic form, also all the coefficients are expected to be negative. While the Error Correction Model (ECM) that will be used in this study is specified as follows:

$$\Delta EXCHR_t = \beta_0 + \sum_{g=1}^{m} \beta_{1i}\, EXCHR_{t-i} + \sum_{h=1}^{n} \beta_{2i}\, \Delta EXDT_{t-i} + \sum_{i=1}^{o} \beta_{3i}\, \Delta DSP_{t-i} + \sum_{j=0}^{p} \beta_{4i}\, \Delta FRN_{t-j} + \beta ECM_{t-1} + \varepsilon_t \quad (3)$$

The equation 3 above was used to adjust the estimation until the ECM turned negative. The negative sign of coefficient of the error correction term ECM (-1) shows the statistical significance of the equation in terms of its associated t-value and probability value. The a priori expectation is based on the knowledge of economic theory. All the variables are expected to have a positive relationship with real gross domestic product. i.e b_1 and b_2><0.

Presentation and Discussion of Results

To analyze the impact of public external debt on exchange rate in Nigeria, model estimation was carried out using annual time series data covering the period 1986 to 2018.

Descriptive Analysis of Variables

Table 1: Descriptive Analysis of Variables

	EXCHR	EXDT	DSP	FRN
Mean	105.1818	1731.945	404.2233	234026.2
Median	118.5000	689.8400	163.8100	103104.1
Maximum	362.3000	7759.200	2161.370	701674.6
Minimum	1.800000	41.45000	1.630000	18922.05
Std. Dev.	93.74655	1898.141	561.2743	208532.5
Skewness	0.950570	1.482987	1.900427	0.606286
Kurtosis	3.612877	4.580922	5.814395	1.887629
Jarque-Bera	5.486182	15.53243	30.75506	3.723087
Probability	0.064371	0.000424	0.000000	0.155433
Sum	3471.000	57154.18	13339.37	7722865.
Sum Sq. Dev.	281229.3	1.150008	10080922	1.390012
Observations	33	33	33	33

Source: Output from E-views 9.0 (2020)

The summary of descriptive statistics of relevant variables of study is as reported in Table 1. As may be observed from the table, the mean, median, standard deviation as well as the skewness and kurtosis measures of our variables of interest are given. The mean values of The Exchange Rate (EXCHR), External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN)are 105.18 US Dollars, 1731.95 Billion Naira, 404.22 Billion Naira and 234026.2 Billion Naira respectively. Their respective standard deviations are 93.7 US Dollars, 1898.1 Billion Naira, 561.3 Billion Naira and 208532.5 Billion Naira.

Also, the minimum values for Exchange Rate (EXCHR), External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) are 1.8 US Dollars, 41.4 Billion Naira, 1.6 Billion Naira and 18922.05 Billion Naira respectively, while the maximum values of Exchange Rate (EXCHR), External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) are 362.3 US Dollars, 7759.2 Billion Naira, 2161.4 Billion Naira and 701674.6 Billion Naira respectively. The Jarque-Bera test of normality shows that the error term in our specified equation is normally distributed. This is evidenced by the respective insignificant Jarque-Bera statistics of the relevant variables.

Correlation Analysis

Table 2: Correlation Analysis

Probability	**EXCHR**	**EXDTN**	**DSP**	**FRN**
EXCHR	1.000000			

EXDT	0.704575	1.000000		
	0.0000	-----		
DSP	0.902916	0.701108	1.000000	
	0.0000	0.0000	-----	
FRN	0.670090	0.162372	0.575161	1.000000
	0.0000	0.3666	0.0005	-----

Source: Output from E-views 9.0 (2020)

From Table 2 above there is positive and significant relationship between Exchange Rate in Nigeria (EXCHR) and External Debt in Nigeria (EXDTN). Similarly, there is a positive and significant relationship between Exchange Rate in Nigeria (EXCHR) and Debt Service Payment in Nigeria (DSPN). Also, there is a positive and significant relationship between Exchange Rate in Nigeria (EXCHR) and Foreign Reserve in Nigeria (FRN). This is indicated by their high Pearson Correlation coefficient of 0.70, 0.90 and 0.67 respectively and they are both significant at 1 percent level of significance (LOS) since the p-value is 0.000. Meaning an increase in Exchange Rate in Nigeria (EXCHR) is associated with an increase in External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN).

Furthermore, there is a positive and significant relationship between External Debt in Nigeria (EXDTN) and Debt Service Payment in Nigeria (DSPN) and this is indicated by its high Pearson Correlation coefficient of 0.70 which was significant at 1 percent level of significance (LOS) since the p-value is 0.000. On the other hand, there is a positive and insignificant relationship between External Debt in Nigeria (EXDTN) and Foreign Reserve in Nigeria (FRN) and this is indicated by its low Pearson Correlation coefficient of 0.16. Finally, there is a positive and significant relationship between Debt Service Payment in Nigeria (DSPN) and this is indicated by its high Pearson Correlation coefficient of 0.70 which was significant at 1 percent level of significance (LOS) since the p-value is 0.000.

Trend and Graphically Analysis

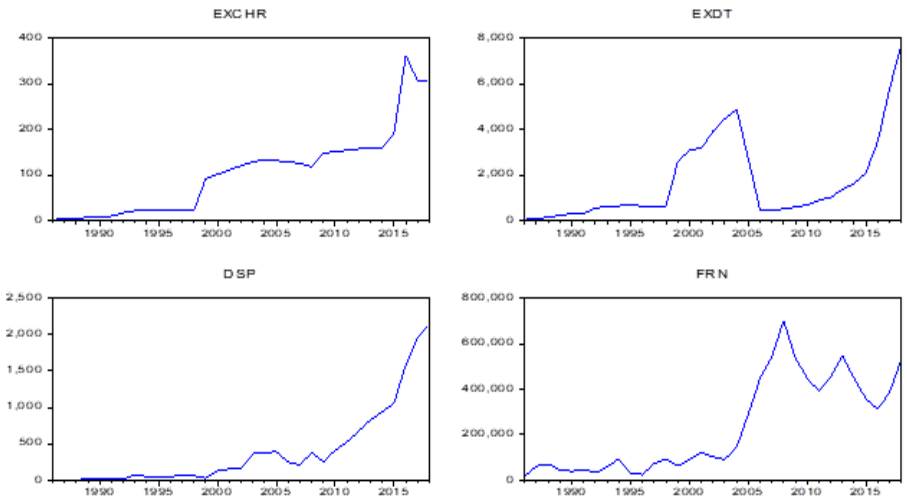

Figure 1: Trend Analysis for all the Variables (1986-2018)

The trends associated with our key variables are equally shown in the following graphs below. Accordingly, the chart associated with Exchange Rate (EXCHR), External Debt in Nigeria (EXDTN) and Foreign Reserve in Nigeria (FRN) variables exhibited significant fluctuations (at 5 years intervals) between 1986 to 2018 while Debt Service Payment in Nigeria (DSPN) showed upward trending 1986 to 2018.

Stationarity Test of Variables

Table 3: Augmented Dickey-Fuller Test

Variables	ADF Statistics	Critical Value	Stationary Status
EXCHR	-6.436161	-3.562882(5%)	I(1)
EXDTN	-2.284705	-1.950206(5%)	I(1)
DSPN	-4.375434	-3.562882(5%)	I(1)
FRN	-3.515640	-2.960411(5%)	I(1)

Source: Output from E-views 9.0 (2020)

Table 3shows the Augmented Dickey-Fuller stationarity test results of the five economic variables used in this study. From the results, the Exchange Rate (EXCHR), External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) were at first difference. This implies that the economic variables are fit and suitable to be used for the analysis.

Co-integration Test

Table 4: Co-integration Trace and Maximum Eigenvalue

Hypothesized No. of CE(s)	**Eigenvalue**	**Trace Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.787256	81.58481	47.85613	0.0000
At most 1 *	0.466292	33.60723	29.79707	0.0174
At most 2	0.299137	14.14212	15.49471	0.0791
At most 3	0.095845	3.123383	3.841466	0.0772
*Trace test indicates 2cointegratingeqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values*				
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Eigenvalue**	**Max-Eigen Statistic**	**0.05 Critical Value**	**Prob.****
None *	0.787256	47.97758	27.58434	0.0000
At most 1	0.466292	19.46511	21.13162	0.0842
At most 2	0.299137	11.01873	14.26460	0.1533
At most 3	0.095845	3.123383	3.841466	0.0772
*Max-eigenvalue test indicates 1 cointegratingeqn(s) at the 0.05 level * denotes rejection of the hypothesis at the 0.05 level **MacKinnon-Haug-Michelis (1999) p-values*				

Source: Author's E-views 9.0 Computation (2020)

Though the results from the unit root tests presented in Table 4 suggest that there is no possibility of a long-run relationship among the time series variables, the study proceeded to conduct the co-integration test applying the Johansen's procedure to establish co-integration among. The results of the trace and maximum Eigen value of the unrestricted co-integration rank test are presented in Table 4.

From Table 4, the study revealed that both the trace test and maximum Eigen value statistics indicate 2 co-integrating equation at the 5% level of significance. Based on this evidence, we can safely reject the null hypothesis of no co-integrating vectors and conveniently accept the alternative hypothesis of the presence of co-integrating vectors among all the variables in our model of study. This implies that long-run relationships exist among the variables that is, Exchange Rate in Nigeria (EXCHR), External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) that are specified model.

Discussion of Regression Results

Table 5: Long run regression results

Variable	Coefficient	Std. Error	t-Statistics	Prob.
EXDT	0.014732	0.004752	3.099900	0.0043
DSP	0.083920	0.019386	4.328824	0.0002
FRN	0.000150	3.770005	3.966176	0.0004
C	10.74457	10.60626	1.013040	0.3194
R-squared	0.886752			
Adjusted R-squared	0.875036			
F-statistic	75.69139			
Durbin-Watson stat	1.690205			
Prob(F-statistic)	0.000000			

Source: Author's E-views 9.0 Computation (2020)

Table 5 shows the OLS results of the study. The R-square of 0.88 per cent suggests that there is a strong relationship Nigeria's public external debt and exchange rate in Nigeria. This also implies that Nigeria's public external debt indicators in Nigeria have a good fit in determining variations in exchange rate in Nigeria. Also, the F-statistic value of 75.69 shows that the model employed is statistically significant in determining variations in exchange rate in Nigeria. However, From the long-run regression results obtained in Table 5, it was revealed that a unit increase in External Debt in Nigeria (EXDTN)on the average holding other independent variables constant will lead to 0.015-unit in Exchange Rate in Nigeria (EXCHR) and based on the probability value, External Debt in Nigeria (EXDTN) was statistically significant in explaining the variation in Exchange Rate in Nigeria (EXCHR) at 5 percent level of significant.

Also, the result revealed that a unit increase in Debt Service Payment in Nigeria (DSPN)on the average holding other independent variables constant will lead to 0.054-unit in Exchange Rate in Nigeria (EXCHR) and based on the probability value, Debt Service Payment in Nigeria (DSPN) was statistically significant in explaining the variation in Exchange Rate in Nigeria (EXCHR) at 5 percent level of significant. Finally, Also, the result revealed that a unit increase in Foreign Reserve in Nigeria (FRN)on the average holding other independent variables constant will lead to 0.00015-unit in Exchange Rate in Nigeria (EXCHR) and based on the probability value, Foreign Reserve in Nigeria (FRN) was statistically significant in explaining the variation in Exchange Rate in Nigeria (EXCHR) at 5 percent level of significant.

Table 6: ECM Regression Results

Variable	Coefficient	Std. Error	t-Statistics	Prob.
D(EXCHR(-1))	2.305354	0.645695	3.570346	0.0051
D(EXDT)	0.039401	0.005551	7.097471	0.0000
D(DSP)	0.122261	0.051794	2.360550	0.0399
D(FRN)	0.000079	0.000079	1.003953	0.3391
ECM(-1)	-0.586933	0.888718	-0.660427	0.0024

Source: Author's E-views 9.0 Computation (2020)

From the short-run regression results obtained in Table 6 the following interpretation can be inferred; Since the variables were found to be cointegrated implying that they have longrun equilibrium relationship, it is necessary to test for shortrun relationship. The ECM parameter is negative (-) and significant which is -0.586, this shows that 59% disequilibrium in the previous period is being corrected to restore equilibrium in the current period.It has been established that the variables are cointegrated and also have short run relationship established from the ECM.

From the short-run regression results revealed that all the independent variables have positive impact on exchange rate in Nigeria including the lagged value of Exchange Rate in Nigeria (EXCHR (-1)). Similarly, based on the probability value all independent variables were statistically significant in explaining variation in Exchange Rate in Nigeria except Foreign Reserve in Nigeria (FRN) at 5 percent level of significance. Thus, a unit increase in External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) will lead to 0.039, 0.122 and 0.00008-unit in Exchange Rate in Nigeria (EXCHR)on the average holding other independent variables constant respectively.

Stability Test (Cusum)

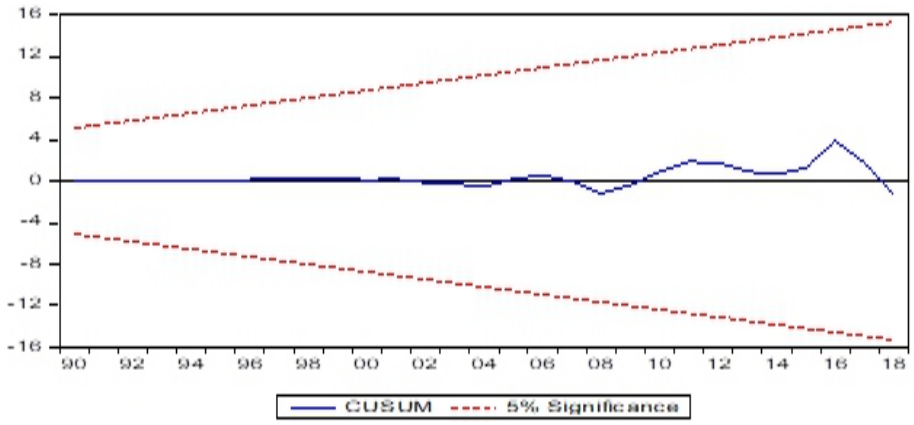

Figure 2: Stability Test (Cusum)

This figure 2 shows the stability of result and the entire model and from the results it was clear that the result is stable and reliable in explaining variation on exchange rate in Nigeria. That is, the External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria (DSPN) and Foreign Reserve in Nigeria (FRN) are fit in explaining variation on exchange rate in Nigeria.

Conclusion and Recommendations

In conclusion, the long and short run results confirmed that public external debt has impact on exchange rate in Nigeria. However, based on the probability value at the short run all independent variables were statistically significant in explaining variation in Exchange Rate in Nigeria except Foreign Reserve in Nigeria (FRN) at 5 percent level of significance. While, at the long run the External Debt in Nigeria (EXDTN), Debt Service Payment in Nigeria

(DSPN) and Foreign Reserve in Nigeria (FRN) Foreign Reserve in Nigeria (FRN) was statistically significant in explaining the variation in Exchange Rate in Nigeria (EXCHR) at 5 percent level of significant. The study was similar to the empirical study of Olasode and Babatunde (2016) who explain the casual relationship between accumulated funds/loans from external sources and economic growth focusing on the Nigerian economy. The study findings agreed to Olasode and Babatunde (2016) that external debt in Nigeria has positive and significant impact on macroeconomic indicators like economic growth and exchange in Nigeria. Finally, this implies that has government increase its external debt, the resultant effect is that the exchange rate in Nigeria keep increasing and this means that government have to careful in borrowing externally in Nigeria because it will put pressure on exchange rate and foreign reserve in Nigeria.

Therefore, the study recommends the following policy.

i. Government should maintain a favorable and controlled public external debt in order to reduce the exchange rate in Nigeria.
ii. Government should increase the mechanism to check and control the allocation and implementation of public funds in Nigeria to reduce deficit budget and exchange rate in Nigeria.

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