



CURRENCY DEVALUATION AND ECONOMIC GROWTH IN NIGERIA

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Cite this article:

Oluwaseun Grace Obisesan (2024), Currency Devaluation and Economic Growth in Nigeria. African Journal of Accounting and Financial Research 7(2), 87-103. DOI: 10.52589/AJAFR-W2WFHV53

Manuscript History

Received: 16 Jan 2024

Accepted: 8 Apr 2024

Published: 1 May 2024

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ABSTRACT: *This study examined currency devaluation and economic growth in Nigeria. Specifically, the study economic growth, balance and external debt on currency devaluation in Nigeria and tracked the direction of causality between currency devaluation and real economic variables in Nigeria. The study adopted the qualitative and quantitative research design. Secondary time series data covering 1990 to 2020 were obtained in the study. Estimation methods used in the study's analysis includes descriptive statistics, correlation analysis, ARDL Co-integration analysis, parsimonious error correction model, granger causality test and other post estimation tests. Findings from the study revealed that gross domestic product exert positive significant impact on currency devaluation captured with currency devaluation both in the short and long run; balance of trade exert positive significant impact on Nigeria currency devaluation both in the short run and insignificant positive impact in the long run; external debt exerts negative significant impact on Nigeria currency devaluation in the short run; and positive significant impact in the long run; and a unidirectional relationship exists between external debt and currency devaluation, balance of trade and currency devaluation, external debt and balance of trade respectively. Premised on these findings, the study advocated that government in collaboration with monetary agencies should seek sound measures to reduce import and encourage exports towards maintaining positive trade balance and improve economic growth; government should create and introduce economic reforms or macroeconomic policies targeted at causing friendly business environment, boost economic output and improving the performance of the economy and government and the Central Bank of Nigeria should ensure debts contracted are deployed towards encouraging investment in exportable goods and services.*

KEYWORDS: Exchange Rate, Gross Domestic Product, Balance of Trade, External Debt, Nigeria.



1INTRODUCTION

A nation's currency describes more than being a legal tender and a factor for exchange of goods and services; it is also a measure of the real performance of an economy relative to another and the height of international transactions between resident of a country and that of another country (Amah, 2020). It demonstrates the image and pride of a nation as well as the total value created or damaged per time; hence the strength of a nation's currency is directly associated with the economic health of the nation and vice versa thereby requiring government to sustainably occasion policies that is targeted towards maintaining the health of this significant national asset. In the bid to manage this asset towards attaining consistent economic growth, currency devaluation is often considered; devaluation is an intentional downward moderation in the value of a country's currency. Put differently, devaluation is a drop in the value of a country in relation with goods, services and other monetary units with which the currency can be exchanged (Yioyio, 2015).

In most developing countries around the globe, the depreciation and appreciation of their currency in terms of foreign currency is tantamount to economic growth as changes in currency can exert expansionary or contractionary influence on economic growth. Since the creation of the International Monetary Fund (IMF) in 1947, the organization has promoted the idea of devaluation of currency as a precursor for economic growth and standard to be attained for financial aid and loans to their member countries for the growth of domestic firms as the basic drive of the IMF is to enhance firms competitiveness and promote the creation of domestic goods, output and encourage export (Gbadebo, Ogbonna and Igwe, 2020). However, the present rule of the IMF system encourages devaluation when a country's international payment position is in disequilibrium, whether the disequilibrium is occasioned by exogenous factors or endogenous developmental factors. Following the trauma associated to devaluation which stems from the fact that various economic adjustments to a discrete variation in the exchange rate are filled into a relatively short period; hence making currency devaluation a last resort option to be explored towards sustaining economic growth (Ofor & Manukaji, 2016).

The economy of Nigeria has over the years been a mono-economy with oil funding maintaining about 95 percent of foreign earnings, 80 percent contribution to gross domestic product, beyond 90 percent contribution to total exports valued at \$47.8 billion which as a result made Nigeria the 49th largest exporter and with about \$39.5 billion, she is placed as the 53rd biggest importer across the world (Observer of Economic Complicity, 2015). However, considering the economic adversities that the country has experienced in time past, exchange rates has remained sustainably inconsistent and highly volatile thereby which has trapped in several economic and financial quagmire that has impeded the growth of the economy till date (Akindiyo & Olawole, 2015). Even though currency devaluation have been severally affirmed to occasion and sustain economic growth through trade balance, high competitiveness of domestic industries amongst others, the case of Nigeria appears utterly different as the purpose of currency devaluation have not been achieved for a very long time (Okoroafor & Adeniji, 2017).

Despite the introduction of the Structural Adjustment Programme (SAP) in 1986 and several other policies from fixed regime to regulated and deregulated regime to total market determined exchange rate, the Nigerian naira still cascades on a consistent basis (Benson & Victor, 2012). Evidently, the value of naira relative to US dollar in 1981 stood at N0.61 and in about a decade, particularly 1990, the value of naira dropped putting naira at N7.90 to one US dollar. Albeit, the policy of monitored deregulation between 1994 to 1998 was acknowledged and adopted and the value of naira maintained N21.88 to a dollar; with further introduction of deregulation policy, the equivalent of naira to dollar was put at N86.32 in 1999. More shockingly, the exchange value of



naira from 2002 dropped rapidly and maintained the trend with the following specific average estimate N120.97 in 2002 and N135.5 in 2004. Although it increased to N132.15 and N118.57 in 2005 and 2008 respectively; but as a result of the global financial crises in 2009, it fell significantly to N150.01 in 2009 and fell further to N155.08 in 2012. This depreciation continued and yet unnoticeable growth was attained in the country, the currency was further dragged down to N220.34 in 2015 and in 2016, when the Central Bank introduced the fully market determined exchange rate, the value of naira cascaded further to N310 per dollar in 2016 and more recently the value of naira was put at N391.23 in 2020 (CBN, 2020).

According to Obadan (1996) in Okoroafor and Adeniji (2017), the basic cause of this inconsistent value of Nigerian naira includes poor production base typified by resource underutilization, import dependent production approach, unfit expert base and low non-oil export earnings as well as expansionary monetary and fiscal policies. As a result of these challenges, macroeconomic indicators in the country have worsened thereby posing increased macroeconomic uncertainty which has severally disrupted economic activities in the Nigeria thereby hampering economic growth. Again, the effect of currency devaluation has for a long time been divergent in literature as the traditionists argued that the positive impact of currency deviation stems from its potential of causing high domestic production thereby reducing imports, encouraging exports and increase the competitiveness of the country's product in the international markets which in effect improve the growth of industries and ultimately boosts the prosperity of the economy (Imimole & Enoma, 2011).

In contrast, the monetarists maintained that devaluation exerts no effect on real economic variables in the long run; they posit that currency devaluation only affects trade balance in the short run leaving all real economic variables unchanged in the long term. This approach is also premised on the assumption that the purchasing power parity which suggests that a shoot up in exchange rate in the short term occasions increase in economic output which positively affects balance of payment; however in the long term, the monetary implication of the devaluation is that the rise in output and increased balance of payment is abated with the increase in prices (Ofor & Manukaji, 2016). Observably, empirical evidence also reflects divergent findings as Ceglar and Titiloye (2018), Udo, Ben, Abener and Uzoma (2018), Udo, Ben and Imolemen (2018), Okoroafor and Adeniji (2017), Okaro (2017) ascertained positive association between currency devaluation and economic growth.

Albeit, Nwafor (2018) determined that naira rate has no significant relationship with economic growth. Another strand of studies affirmed that currency devaluation exert negative effect on real economic variables (Amah, 2020; Loto, 2018; Teru & Mohammed, 2017). Although a few studies adopted ordinary least square regression in tracking the association between currency devaluation and economic variables and their findings evidently contrast with other findings thereby increasing the divergence of results despite using weak estimations (OLS) which fails to track the long and short run dynamics of the variables (Amah, 2020; Udo, Ben, Abener & Uzoma, 2018; Udo, Ben & Imolemen, 2018; Nwafor, 2018; Okaro, 2017; Osundima & Osundima, 2013). Hence, this study sets out to assess the long and short run variation as well as track the causal relationship between of currency devaluation and economic growth in Nigeria.



LITERATURE REVIEW

Currency Devaluation

Devaluation of currency is a macro-economic fiscal policy that bothers on deliberate reduction in the value of home currency with the aim of maximizing gain in tradable items (Aiya, 2014). Akindiya, & Olawole (2015), remarked that African extraction has a bias for the fact that devaluation is an instrument being employed by the International Monetary Fund (IMF) and World Bank for fiscal equalization and stability. Aiya (2014) in Akindiya and Olawole (2015), devaluation of currency became popular in Nigeria when Babangida led administration in 1986 instituted the structural adjustment programme as a policy designed to achieve a realistic exchange rate for the Naira that was over-valued. In the Article of Agreement of the International Monetary Fund (IMF), Cooper (1971) define currency devaluation as that which is encouraged whenever a country's international payment position is in "fundamental disequilibrium" whether that disequilibrium is brought about by factors outside the country or by indigenous developments or elements.

Determinants of Naira Devaluation

According to Teru and Usman (2017), Currency devaluation usually comes about when some determination is made that the domestic currency is overvalued relative to major world currencies. The impact of Naira devaluation in the Nigerian economy depends on many factors which include:

- i. **Competitiveness Advantage:** If the country has lost its competitiveness advantage in a fixed exchange rate, devaluation could be beneficial in solving that decline in competitiveness and help to restore competitiveness and economic growth.
- ii. **The state of business cycle of the economy:** In a recession era, devaluation can help boost growth without causing inflation. Whereas, in a time of boom, a devaluation is more likely to cause inflation in the economy. In other words, the state of the global economy matters.
- iii. **Elasticity of demand for exports and imports:** A devaluation of a country's currency may take a long while to improve the current account base because demand is inelastic in the short term. If demand is price inelastic, a fall in the price of exports will lead to only a small rise in quantity. Therefore, the value of exports may actually fall. As such, when devaluation becomes necessary, its impact is expected to be felt in the long run. Because in the short term, demand may be inelastic, but over time demand may become more price elastic and have a bigger effect.
- iv. **Capital Flight:** This has also been seen as a factor; as foreign investors run shy of currencies in emerging markets exposed to oil price turbulence.
- v. **inflation:** The effect on inflation will depend on other factors such as; Spare capacity in the economy. E.g. in a recession, a devaluation is unlikely to cause inflation. Import prices are not the only determinant of inflation. Other factors affecting inflation such as wage increases may be important.



The reasons for Naira Devaluation

Teru and Usman (2017) maintained that almost all the countries of the world have devalued their currencies from time to time to achieve certain economic objectives. Following are the main reasons why a country like Nigeria would adopt to devalue its currency:

- i. **To Encourage Exports:** Devaluation policy is adopted to increase the exports of the country. As the currency of any country is devalued, the commodities of that country become cheaper for the other countries and they increase their demand.
- ii. **To Discourage Imports:** As the currency of any country is devalued the other countries goods becomes costly to import from that country. So the people reduce their demands for foreign goods.
- iii. **To Correct Balance of Payment:** When the balance of payment of any country is unfavorable the devaluation policy is adopted. When the currency is devalued, the value of imports increases but the value of exports will be greater than the value of imports; we will say that the balance of payment is favourable. An improvement in the current account on the Balance of Payments depends upon the Marshall Lerner condition and the elasticity of demand for exports and imports.

Therefore, Nigeria may wish to devalue its Naira so as to combat trade imbalances. Devaluation causes a country's exports to become less expensive, making them more competitive on the global market. This in turn means that imports are more expensive, making domestic consumers less likely to purchase them. Although, as Abolaji (2014), a Lagos economist, said on a daily trust newspaper that “devaluation made sense as it aimed to boost local industries by keeping import prices high. But this is not the case in Nigeria because we depend on imports. We import virtually everything we need in this country, from toothpicks to cars.” From another observation in 2014, a weak local currency could trigger inflation, said Denja Yaqub, from the Nigeria Labour Congress (NLC), adding: “People will have to pay more for goods and services.

Exchange Rate Management in Nigeria

The exchange rate is usually determined in principle by the interplay of supply and demand in a free market economy. In practice, however, no currency is allowed to float freely by the monetary authorities. In Nigeria, past exchange rate policies have been designed towards demand management, as the supply side has always been limited by the monoculture base of the economy, where foreign exchange inflow is dominated by oil export proceeds. The main objective of exchange rate policy in Nigeria are to preserve the international value of the domestic currency; maintain a favourable external reserve position; and ensure external balance without compromising the need for internal balance and the overall goal of sustainable output growth and employment in determining the daily exchange rate, the CBN is generally guided by the developments in the market on the one hand, and the movement in the nominal exchange rate (Teru & Usman, 2017).



Economic growth

Economic growth describes an accretion in gross domestic product or gross national income to attain an increase in real per capital income in an economy (Omar & Nazatal, 2018). Economic growth has long been considered an important goal of economic policy with a substantial body of research dedicated to explaining how this goal can be achieved (Fadare, 2010). Economic growth has received much attention among scholars. According to Khosravi and Karimi (2010), classical studies estimate that economic growth is largely linked to labour and capital as factors of production. The emergence of the endogenous growth theory has encouraged specialists to question the role of other factors in explaining the economic growth phenomenon (Bogdanov, 2010). Economic growth represents the expansion of a country's potential GDP or output. For instance, if the social rate of return on investment exceeds the private return, then tax policies that reduce tax evasion and avoidance can raise the growth rate and levels of utility. Growth models that incorporate public services, the optimal tax policy lingers on the characteristic of services (Olopade & Olopade, 2010). Economic growth has provided insight into why state grows at different rates over time; and this influences government in her choice of tax rates and expenditure levels that will influence the growth rates.

Impact of Currency Devaluation on Nigerian Economic Growth

Devaluating a currency is decided by the government issuing the currency, and unlike depreciation, is not the result of non-governmental activities. One reason a country may devalue its currency is to combat trade imbalances. Devaluation causes a country's exports to become less expensive, making them more competitive on the global market. This in turn means that imports are more expensive, making domestic consumers less likely to purchase them. While devaluating a currency can seem like an attractive option, it can have negative consequences. By making imports more expensive, it protects domestic industries who may then become less efficient without the pressure of competition. Higher exports relative to imports can also increase aggregate demand, which can lead to inflation. Whether deliberate or as a result of market climate, currency devaluation reduces the price of a country's domestic output. This has the potential to benefit the economy by helping to increase its export volume (Teru & Usman, 2017).

METHODOLOGY

Model Specification

In examining the relationship between currency devaluation and economic growth in Nigeria, this study adapted the model of Nwafor (2018) which examined the effect of naira rate on economic growth in Nigeria; the study captured gross domestic product and inflation rate as a function of exchange rate. The model of Nwafor (2018) is demonstrated below:

$$\text{GDP} = b_0 + b_1 \text{ExchR} + \mu \dots\dots\dots 3.1$$

$$\text{INF} = b_0 + b_1 \text{ExchR} + \mu \dots\dots\dots 3.2$$

Where:

GDP = Growth Rate of Gross Domestic Product of Nigeria

INF = Inflation Rate (proxied by Consumer Price Index)



ExchR = Exchange Rate

However, this study modified the model of Nwafor (2018) to accommodate real economic variables that are established in literature to occasion currency devaluation; undoubtedly, the height of economic activity that a country carries out with other countries (especially export) significantly affects the value of its currency especially when it consistently maintains favorable balance of payment (Ayen, 2014). Again, countries in their bid to reflect grossly poor economic position and obtain loans and financial aids from countries and financial institutions, drag the value of their currencies (Ofor & Manukaji, 2016). Hence, in the bid to further analyse these issues, giving attention to the long and short run dynamics which is not covered in the above model; this study present a modified model evidenced below:

Functional Form

$$CUD = f(GDP, BOT, EXD, U) \text{ ----- 3.3}$$

Linear Form

$$LEXR = \alpha_0 + \alpha_1 LGDP + \alpha_2 LBOT + \alpha_3 LEXD + U \text{ ----- 3.4}$$

Where:

CUD = Currency Devaluation (Proxied with Exchange Rate)

GDP = Gross Domestic Product

BOT = Balance of Trade

EXD = External Debt

U=Stochastic Error Term

$\alpha_0, \alpha_1, \alpha_2, \alpha_3$ are parameter estimates corresponding to constants term, value added tax, companies income tax, petroleum profit tax and gross fixed capital formation respectively.



DATA ANALYSIS

Descriptive Analysis

Table 4.1 Descriptive Statistics of Variables

	EXR	GDP	BOT	EXD
Mean	3.775606	8.639011	22.33956	24.01361
Median	4.671736	8.921325	22.26469	24.09391
Maximum	5.056246	11.29094	23.91651	24.52010
Minimum	0.693147	5.308268	19.55797	23.28528
Std. Dev.	1.402251	1.966893	1.226777	0.304825
Skewness	-0.724922	-0.288534	-0.404024	-0.702174
Kurtosis	2.088585	1.712237	2.346037	2.817695
Jarque-Bera Probability	3.177120 0.204220	2.157286 0.340057	1.170660 0.556922	2.172549 0.337471
Sum	98.16576	224.6143	580.8286	624.3538
Sum Sq. Dev.	49.15767	96.71665	37.62455	2.322960
Observations	26	26	26	26

Source: Author's Computation, (2023)

Table 4.1 descriptive statistics of variables based on observation collected over the period spanning from 1986 to 2020. As reported in the table average exchange rate for the period under study stood at 3.775606 naira, with minimum and maximum values of 0.693137 naira and 5.056246 naira respectively. Gross domestic product, balance of trade and external debt stood at 8.639011 million, 22.33956 thousand and 24.01361 thousand respectively. Maximum and minimum value reported on table 4.1 stood at 11.29094 million and 5.308268 million for gross domestic product, 23.91651 thousand and 19.55797 thousand for balance of trade, 23.52010 thousand and 23.28528 thousand for external debt respectively. Skewness statistics reported in table 4.1 revealed that all the variables used in the study are skewed to the left with reported values of -0.724922, -0.288534, 0.404024 and -0.702174 for exchange rate, gross domestic product, balance of trade and external debt respectively. Reported kurtosis statistics revealed that all the variables are platykurtic by the distribution peakedness. In specific terms reported kurtosis statistics stood at 2.088585, 1.712237, 2.346037 and 2.817695 for exchange rate, gross domestic product, balance of trade and external debt respectively. Jarque-bera statistics reported in table 4.1 stood at 3.177120 ($P=0.240220>0.05$) for exchange rate, 2.157286 ($p=0.340057>0.05$) for gross domestic product, 1.170660 ($p=0.556922>0.05$) for balance of trade, 2.172549 ($p=0.337471>0.05$) for external debt which reflect that all the variables are normality distributed.



Correlation Analysis

Table 4.2 Correlation Matrix

	EXR	GDP	BOT	EXD
EXR	1.000000			
GDP	0.952089	1.000000		
BOT	0.628210	0.675412	1.000000	
EXD	-0.254674	-0.434834	-0.448075	1.000000

Source: Author's Computation, (2023)

Results of correlation estimation showed in table 4.2 demonstrate the existence of positive correlation exchange rate and gross domestic product, exchange rate and balance of trade and negative correlation between exchange rate and external debt. Indications from the result revealed that exchange rate move in the same direction with all explanatory variables. Specifically, correlation estimates stood at 0.952089 for EXR and GDP, 0.628210 for EXR and BOT, -0.254674 for EXR and EXD respectively.

Unit Root Analysis

This section present summary of result of unit root test carried to ascertain the stationary property i.e. predictability properties of the variables. The test showed the order of integration of each of the variables, as presented in table 4.3 below.

Table 4.3 Summary of Unit Root Test Result

Variables	At Level			At First Difference			Order of integration
	ADF statistics	1% critical value	5% critical value	ADF statistics	1% critical value	5% critical value	
EXR	-2.576822	-3.639407	-2.951125	5.593840	-3.646342	-2.054021	I(1)
GDP	-0.555372	-3.639407	-2.951125	-6.805882	-3.646342	-2.054021	I(1)
BOT	-0.563635	-3.752946	-2.998064	-4.362097	-3.808546	-3.020686	I(1)
EXD	-1.386718	-3.646342	-2.954021	-4.323437	-3.646342	-2.054021	I(1)

Source: Author's Computation, (2023)

Unit root test result presented in table 4.3 reported Augmented Dickey Fuller (ADF) test statistics alongside critical values at 1% and 5% significant level respectively. Result showed that all the variables are not stationary at level, given the fact that the reported ADF statistics is less than the critical values both at 1% and 5% respectively. However all the variables become stationary after first difference, which implies that difference stationary, and integrated of order one I(1). Reported order of integration of the variables reflects how long the variables retained innovative shocks exerted on them. Observably result showed that all the variables used in the study only retain innovative shock exerted on them for a short period of time, after which they let go. Following the confirmation of the variables being integrated of order one I(1), it stands that there is no equilibrium relationship among the variables in the short run with the presence of unit root However there is likelihood of long run equilibrium relationship among the variable in the condition that they co-integrate. In the bid to ascertain whether set of variables co-integrate, Johansen co-integration test was conducted and the result presented in the next section.



Co-integration Analysis

Table 4.4 Johansen Co-integration Test Result

Series: *EXR GDP BOT EXD*

Hypothesized No of CE(s)	Trace Statistics	5 Percent Critical Value	Probability	Eigen Value
None*	59.28313	47.85613	0.0030	0.759634
At most 1	30.77130	29.79707	0.0385	0.497738
At most 2	16.99863	15.49471	0.0295	0.405387
At most 3	6.601746	3.841466	0.0102	0.281139

* denotes rejection of the hypothesis at 1% significance level

Trace test indicates 1 co-integrating eqn(s) at the 0.05 level

Source: Author's computation, (2023)

Result presented in table 4.4 above is the summary of co-integration test conducted in the study with respect to the model specified to examine association between currency devaluation and economic growth in Nigeria. Trace statistics reported in table 4.4 revealed that there is strong evidence to reject the null hypothesis of no co-integration, in favor of three co-integration equation at 5% level of significance. This implies that though there is no short run equilibrium relationship between proxies of currency devaluation, on the long run there is existence of equilibrium relationship. Hence the observed long run relationship is given by co-integration regression result presented in table 4.5 below. The rationale for co-integration regression as opposed to ordinary least square regression stemmed from the fact that regression involving level of series of difference stationary variables will produce misleading result as the conventional Wald test showing significant relationship between unrelated series (Phillips, 1986). Hence this study adopted the fully modified OLS to estimates the single co-integrating vector proposed by Phillips and Hansen (1990) which employs a semi-parametric correction to eliminate the problems caused by the long run correlation between the co-integrating equation and stochastic regressors innovations. The resulting Fully Modified OLS (FMOLS) estimator is asymptotically unbiased and has fully efficient mixture normal asymptotics allowing for standard Wald tests using asymptotic chi-square statistical inference

Table 4.5 Long Run Estimates

Series: *EXR GDP BOT EXD*

Variables	Coefficient	Std. Error	t-statistics	Probability
C	25.61091	7.380847	-3.469915	0.0022
GDP	0.726956	0.052283	13.90430	0.0000
BOT	0.034419	0.084436	0.407636	0.6875
EXD	0.930199	0.278279	3.342685	0.0029

R-square=0.938244, *Adjusted R-square*=0.929822, Durbin Watson=0.40083

Source: Author's Computation, (2023)

Estimation result presented in table 4.5 revealed that in the gross domestic product exert positive significant impact on currency devaluation proxied with gross domestic product with reported



coefficient estimate of 0.726956 ($p=0.0000<0.05$), balance of trade exert positive insignificant long run impact on currency devaluation with coefficient estimate of 0.034419 ($p=0.6875>0.05$). Furthermore, result showed that in the long run external debt exert significant positive impact on currency devaluation with coefficient estimate of 0.930199 ($p=0.0029<0.05$). Reported R-square statistics stood at 0.938244 which suggests that in the long run gross domestic product, balance of trade and external debt can jointly explain about 93% of the systematic variation in currency devaluation other things held constant.

Error Correction Model (ECM)

An error correction model estimated in the study was geared towards examining the relationship between currency devaluation and economic growth in Nigeria measured with real gross domestic product and also track the mechanism of adjustment of the short run disequilibrium relationship as well as how the short run inconsistencies was corrected over time to establish the long run equilibrium relationship reflected in co-integration regression estimation presented in table 4.5 above. The parsimonious error correction model was generated using estimation based on Akaike information criterion selection. In clear terms the parsimonious error correction model is ARDL model of order (1, 2, 2, 2, 2), selected automatically after evaluating a total number of 81 models.

Table 4.6 Short Run Estimates

Series: *EXR GDP BOT EXD*

Variables	Coefficient	Std. Error	t-statistics	Probability
D(EXR(-2))	-0.063313	0.214342	-0.295384	0.0720
D(GDP)	0.731107	0.878174	0.832531	0.0191
D(GDP(-1))	0.276106	0.928688	0.297307	0.0706
D(BOT)	0.145992	0.085797	1.701593	0.0109
D(EXD)	-0.513597	0.304444	1.687002	0.0137
ECT01	0.417242	0.268511	1.553912	0.0425
C	-0.032759	0.271380	-0.120712	0.0056

R-square=0.443810, *Adjusted R-square*=0.205444, Durbin-Watson=1.138874

Source: *Author's Computation, (2023)*

Parsimonious error correction model estimation result presented in table 4.6 revealed that in the short run gross domestic product exert positive significant impact on currency devaluation represented with exchange rate with coefficient estimate of 0.731107 ($p=0.0191<0.05$), balance of trade exert positive significant impact on currency devaluation with coefficient estimate of 0.145992 ($p=0.0109<0.05$). Result also showed that in the short run external debt exert significant negative impact on currency devaluation with reported coefficient estimate of -0.513597 ($p=0.0137<0.05$). Coefficient of one period lagged error correction term reported in table 4.6 stood at 0.4172 with probability value of 0.0425 which implies that over time about 42% of the short run inconsistencies is significantly corrected and incorporated into the long run dynamic annually. R-square statistics of 0.4438 reported in table 4.6 revealed that about 44% of the systematic variation in currency devaluation can be explained jointly by gross domestic product, balance of trade and external debt.



Granger Causality Test

Table 4.7 Pairwise Granger Casualty Tests

Null Hypothesis:	Obs	F-Statistic Prob.	
GDP does not Granger Cause EXR	33	1.09791	0.3475
EXR does not Granger Cause GDP		0.22756	0.7979
BOT does not Granger Cause EXR	20	0.33238	0.0224
EXR does not Granger Cause BOT		0.47221	0.6326
EXD does not Granger Cause EXR	33	0.21473	0.0081
EXR does not Granger Cause EXD		0.88548	0.4238
BOT does not Granger Cause GDP	20	2.17350	0.1483
GDP does not Granger Cause BOT		1.38539	0.2805
EXD does not Granger Cause GDP	33	0.34937	0.7082
GDP does not Granger Cause EXD		0.80359	0.4578
EXD does not Granger Cause BOT	20	0.26020	0.7743
BOT does not Granger Cause EXD		5.21507	0.0191

Source: *Author's Computation, (2023)*

The pairwise causality test shown in table 4.7 revealed that gross domestic product does not granger cause currency devaluation and currency devaluation does not granger cause gross domestic product;. Also, it is revealed that balance of trade does not granger cause gross domestic product and vice versa and external debt does not granger cause gross domestic product and vice versa, this suggests that there is no causal relationship between currency devaluation and gross domestic product, balance of trade and gross domestic product, external debt and gross domestic product respectively. Furthermore, external debt granger cause exchange rate while exchange rate does not granger cause external debt which reveals that a uni-directional causal relationship exists between external debt and currency devaluation; more so the result shows that the relationship between currency devaluation and balance of trade is uni-directional. Also, the result also reported that there exists a uni-directional causal association between external debt and balance of trade.

Table 4.8 Post Estimation Test

Linearity Test		
<i>Statistics</i>	<i>Values</i>	<i>Probability</i>
T-statistic	4.156505	0.0004
F-statistic	17.27653	0.0004
Likelihood Ratio	15.60818	0.0001
Normality Test		
<i>Statistics</i>	<i>Values</i>	<i>Probability</i>
Jarque-Bera Stat	0.662927	0.717872
Serial Correlation LM Test		
<i>Statistics</i>	<i>Values</i>	<i>Probability</i>



F-statistic	1.382928	0.2736
Heteroscedasticity Test		
<i>Statistics</i>	<i>Values</i>	<i>Probability</i>
F-statistic	0.665673	0.5820

Source: *Author's Computation, (2023)*

Result of Ramsey test presented in table 4.8 report three statistics including t-statistics and f-statistics, alongside their respective probability values. Specifically table 4.8 reported t-statistics of 4.156505 ($p=0.0004 > 0.05$), f-statistics of 17.27653 ($p=0.0004 > 0.05$) and likelihood ratio of 15.60818 ($p=0.0001 < 0.05$) thus reflecting that there is no enough evidence to reject the null hypothesis that the model is correctly specified.

The Jarque-bera statistics value for error term of the estimated models stood at 0.662927 ($p=0.7178 > 0.05$). The result revealed that there is no enough evidence to reject the null that the error term of the estimated model is normally distributed, given the probability value, thus confirming that the error term is normally distributed.

Breusch-Godfrey serial correlation LM test result presented in table 4.8 revealed f-statistics and probability value of 1.382928 and 0.2736 respectively. The statistics showed that there is no evidence to reject the null hypothesis of no serial correlation between successive values of error terms of the estimated models. Hence there is no problem of serial autocorrelation in the estimated models.

Table 4.8 report f-statistics and probability value of 0.665673 and 0.5820 which reflect that there is no evidence to reject the null hypothesis of constant variance of the error term (homoscedasticity). Hence the test confirmed that there is no problem of heteroscedasticity in the error term of the estimated models.

DISCUSSION OF FINDINGS

The obtained effectual estimation carried out in this study shows that in the short run, gross domestic product exert positive significant impact on currency devaluation captured with exchange rate which suggests that as gross domestic product increases, currency devaluation also increases. And in the long run findings evidence that as gross domestic product increases, currency devaluation also increases. The past realization of aggregate economic output which reflects the performance of the economy of Nigeria affirmed that it has practically not affected the value of Nigerian naira as exchange rate remains on the increase despite inconsistent although increasing growth in the total value of goods and services produced in the country; this undoubtedly reveals the height of relatively reduced prosperity of the economy of Nigeria as demonstrated in the regularly increasing devaluation of Nigerian naira to one dollar despite increasing gross domestic product.

Again, discoveries reveals that past values of balance of trade exert positive significant impact on currency devaluation in the short run and positive insignificant impact on Nigeria currency devaluation in the long run thereby implying that as balance of trade increases, currency devaluation as increases; that is exchange rate remains on the increase. Balance of trade which refers to the difference between the monetary value of total exports and imports carried out by a country with other countries per time revealed that Nigeria balance of trade still does not improve the value of its naira; this suggests that degrade of Nigerian naira has maintained an increasing trend despite the participation of the country in international trade.



Lastly, findings from the study shows that external debt exerts negative significant impact on Nigeria currency devaluation in the short run which indicates that as currency devaluation increases, external debt falls; and in the long run, it was revealed that external debt affects currency devaluation positively and significantly thereby implying that as external debt increases, devaluation of Nigerian naira also increases. External debt describes the value of money borrowed from foreign countries, that is outside the country and it also explains the cause for currency devaluation; the short run negative impact demonstrates the immediate effect of reduced external debt as it affirms that this strengthens the value of naira. However, as external debt increases in the long run, the value of Nigeria naira also degrades uncontrollably and ultimately occasioning spillover effect on the economic prosperity of Nigeria.

IMPLICATION OF FINDINGS

In the real sense, the gross domestic product of Nigeria although increases even though its increase is a far cry from that which is obtainable in other countries even in Africa; the insignificant increase in the value of Nigerian economy is however evident in the value of naira which has over time been on the decline. The economy of Nigeria is unarguably the largest in Africa thereby requiring noticeable increase in the value of goods and services created in the country; this in effect triggers massive increase in exports and obtain for the country favorable balance of payment which increases the demand for Nigerian naira and consequently strengthens it per time. However, the height of macroeconomic uncertainty and unfavorable position of other real issues as well as variables including political risks has increased the systematic and unsystematic risk faced by businesses and corporate firms in the country thereby adversely influencing their productivity which explains the cause of the inconsistent gross domestic product in Nigeria and degrading value of Nigerian naira.

Furthermore, the height of Nigeria's international trade is appreciable even though she imports more than exports thereby paying for imported goods in foreign currency which reduces the purchasing power of its local currency. Ideally, when a county's export is on the increase, countries that buy her exported product by all means exchange its currency for Nigerian naira and buy naira at whatever amount; this is despite exporters selling its product or service at any amount that they wishes. This economic activity if consistent increases the competitiveness of Nigerian naira and following the relatively increased value of Nigerian naira, countries will desire to lend money as well as carryout other international economic activities with the country which in effect maintains the value of the base currency which is naira.

Finally, the level at which a Nigeria engages in external debt explains primarily the value of its naira. And as Nigeria has steadily obtain large stock of external debt from foreign countries per time, in order to make the amount of money loaned suffice for the several policies and projects the government of Nigeria intends to achieve and also to portray the economy of Nigeria as badly needing such bailout from foreign countries, the Central Bank of Nigeria is caused to reduce the value of naira. This suggests that currency devaluation most times in Nigeria is deliberate even though it exposes individuals, manufacturers and businesses to increased expense spent on importation of raw materials which in effect shoot up inflation and drag down the growth of Nigerian economy; it is expected that at least the loan contracted should positively affect Nigerian Naira in the long run but corruption which is at its peak in Nigeria claims the fortune lent leaving the country in a worse state. Additionally, the servicing of such debt also holds grave consequences for Nigeria especially with its creeping economic output; this justifies the situation of Nigeria currency even till date.



CONCLUSION AND RECOMMENDATIONS

Premise on the estimation results obtained carried out in the study, it is evident that the currency devaluation has an association with economic growth in Nigeria. This study specifically determined that gross domestic product exert positive significant impact on currency devaluation captured with currency devaluation both in the short and long run; balance of trade exert positive significant impact on Nigeria currency devaluation both in the short run and insignificant positive impact in the long run; external debt exerts negative significant impact on Nigeria currency devaluation in the short run; and positive significant impact in the long run; and a unidirectional relationship exists between external debt and currency devaluation, balance of trade and currency devaluation, external debt and balance of trade respectively. It is therefore worthwhile to conclude that the reducing value of Nigerian naira drags down the growth of Nigerian economy which is evident in the position of naira today and the height of economic growth maintained in Nigeria. Based on the findings ascertained in the study, the following policy recommendations become imperative.

- i. Government in collaboration with monetary agencies should seek sound measures to reduce import and encourage exports towards maintaining positive trade balance and improve economic growth.
- ii. Government should create and introduce economic reforms or macroeconomic policies targeted at causing friendly business environment, boost economic output and improving the performance of the economy.
- iii. Government and the Central Bank of Nigeria should ensure debts contracted are deployed towards encouraging investment in exportable goods and services as this would increase the country's level of export and make Nigerian naira highly competitive.

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