International Journal of Academic Accounting, Finance & Management Research(IJAAFMR)
ISSN: 2643-976X
Vol. 7 Issue 4, April - 2023, Pages: 18-27

Effect of Foreign Exchange Fluctuations on Economic Growth in Nigeria

AJAYI Lawrence Boboye and AJAYI Ibidolapo Ezekiel

Department of Finance, Ekiti State University
Corresponding mail: ajayi.ibidolapo@eksu.edu.ng

Abstract: *The study examined the effect of foreign exchange fluctuations on economic growth in Nigeria. Specifically, examined the relationship between exchange rate and economic growth in Nigeria; investigated the effect of effect of balance of payment on economic growth in Nigeria and evaluated the effect of trade openness on economic growth in Nigeria. The quantitative and qualitative research design was adopted in the study. Secondary time series data spanning thirty-one years (1989-2020) was gathered in the study. Data gathered in the study was estimated using descriptive statistics, unit root analysis, Autoregressive Distributed Lag (ARDL) analysis, parsimonious error correction model and other post estimation tests. Findings from the study established that Balance of payment exerts negative insignificant effect on economic growth in Nigeria both in the long and short run with coefficient estimate of -1.163405 (p=0.8400<0.05) and -3.223405 (p=0.0535>0.05) respectively; exchange rate affects economic growth in Nigeria positively and significantly both in the short and long run with coefficient estimate of 76.64195 (p=0.0000<0.05) and -57.92612 (p=0.0000>0.05) respectively; trade openness exerts negative significant effect on economic growth in Nigeria in the short and long run with coefficient estimate of -110.2135 (p=0.0086<0.05) and -32.10217 (p=0.0087<0.05) respectively and inflation rate exerts positive significant effect on economic growth in Nigeria in the long run and positive insignificant effect in the short run with coefficient estimate of 84.76427 (p=0.0350<0.05) and 19.95149 (p=0.0858>0.05) respectively. Premised on these findings, Central Bank of Nigeria should create satisfactory exchange rate management towards regulating exchange rate and moderates its volatility for sustainable economic growth; monetary authorities should deploy satisfactory policies towards changing permanent inflation trend in the economy and ensures that it remains at a level suitable for sectoral output and ultimately boost economic growth and government and other monetary agencies should seek sound measures to reduce import and promote exports.*

Keywords: Growth rate, Exchange Rate, Trade Openness, Inflation Rate, Gross Capital Formation

INTRODUCTION

The appraisal of fluctuation in foreign exchange as well as its management has in the course of time particularly after the collapse of the Bretton Woods agreement in 1973 pulled very significant momentum cause by academics and policy makers; foreign exchange which describes the conversion of a country's currency to another at a certain rate or the specific value of currency that can buy an amount of another currency (Yakub, Sani, Obizue & Aliyu, 2019). Foreign exchange is also considered a metric for evaluating country's competitiveness at the international level; this suggests that as the value of a country's currency plummets, the competitiveness of the country at the international level also falls (Arize, Osang & Slottie, 2008). In fact, researchers have affirmed that with a balanced foreign exchange, macroeconomic performance of the country would be made prosperous, balance of payment would be made favorable and economic growth would be on the increase. However, fluctuations in exchange rate no doubt hold adverse implications for investment and macroeconomic stability which lately threatens the growth of the economy (Oghenebrume, 2018).

This has attracted the interest of monetary authorizes which occasioned the accordance of very significant regard to sound management of foreign exchange of countries all over the world especially Nigeria due to its relatively high foreign exchange and the adverse reaction of its macroeconomic factors to any change in exchange rate (Mbanasor & Obioma, 2017). This followed the reality that foreign exchange fluctuations have a direct association with county's balance of payment, which in effect affects sectoral performance and general economic growth. It improves foreign exchange of goods and services thus causing such country to gain and consolidate international competitiveness which ensures effectual balance of payment position, promotes favorable domestic prices, occasion price stability which reduces macroeconomic uncertainty and boosts economic growth (CBN, 2011). Although this has not been the case in Nigeria as import dependency which has been on the increase has increased the chances that Nigeria experience foreign exchange fluctuation and its adverse effect which has constrained speed in the growth of Nigerian economy (Mbanasor & Obioma, 2017).

Nigeria in recent times have seen huge efforts exerted by past government towards influencing the pace of growth of the economy with an ultimate intention to boost the height of economic development; this they attempted with the implementation of varying exchange rate management policies in their bid to stabilize foreign exchange, cause price stability and which would certainly boost living standard of people (Oghenebrume, 2018). A close examination of the developments of exchange rate arrangements in Nigeria

evidences that Nigeria exchange rate policy has been through series of change. It started with the fix parity in 1960 when it was basically related with the British Pound Sterling; albeit, considering the devaluation of Pound Sterling in 1967, the US Dollar was as a result influenced adversely by the parity. In 1972, due to the emergence of a very strong US dollar, the parity exchange with the British Pound was controlled; and in 1974, the intention to reduce the recurrence and consequence of currency devaluation was brought to fore and Nigerian currency became closely related with Pound and US Dollar, that which has is maintained up till this recent time has further increased porousness of the economy of Nigeria to fluctuations from these currencies (Oghenebrume, 2018).

In fact, Nigeria has constantly experienced foreign exchange fluctuations and unbalanced exchange rate which has impeded effective trade flows and contributed to the unimpressive growth of its economy. Hence, the cause of the concerted effort by the Central Bank of Nigeria towards controlling the menace; evidently, several institutional programmes and approaches were noticed after the implementation of the Structural Adjustment programme (SAP) in 1986. It kick-started with the Second tier Foreign Exchange Market (SFEM) which metamorphosed to the completely liberalized Foreign Exchange Market (FEM). However, due to the increasing fluctuation and instability of exchange rates, new policies were set out including the Autonomous Foreign Exchange Market (AFEM), Inter-bank Foreign Exchange Market (IFEM), Dutch Auction System (DAS), the Wholesale Dutch Auction System (WDAS) and the Retail Dutch Auction System (RDAS) (Yakub *et al.*, 2019). These efforts stems from the understanding of the threats that exchange rate fluctuation could cause for business survival, the increased risk it poses for investments and more importantly the height of macroeconomic uncertainty that follows foreign exchange fluctuations deleteriously affect the growth of the economy of Nigeria (Ubah, 2016; Mahmoud & Ali, 2011).

Nigeria has premised upon the threats that exchange rate fluctuation poses to the prosperity of her economy embarked of several broad goal of enhancing economic growth particularly by ensuring stable foreign exchange; hence, it has caused the reduction of import dependence and increased export so as to attract sustainably favorable balance of payment and improved economic growth (Kanu & Nwadiubu, 2020). Even though various changes have been occasioned especially the implementation of urgent exchange rate policies, foreign exchange have remained unstable and unfavorable; the case becomes more critical when it concerns naira. In fact, the existing exchange rate policies have on a steady increased the gap between the official and parallel markets which has made worse the disequilibrium in the foreign exchange market (Amassoma & Odeniyi, 2016). The ineffectuality of these policies further exacerbated foreign exchange thus decimating Nigeria external reserve, aggravating capital flight which has threatened sectoral performance and consequently cascaded national output which evidences poor economic growth (Amassoma & Odeniyi, 2016).

Considering this challenge, Nigeria has per time lost support and promotion in terms of international trade; this explains her relatively low participation and contribution in global trade, the consequence which is declining foreign reserve holds no positive prospect for the prosperity of the country (Kanu & Nwadiubu, 2020). This has also contributed to Nigeria's failure to effectively explore participation in international trade for improved economic productivity and prosperity; this challenge caused by foreign exchange fluctuation has impeded Nigeria from participating fully in international economic activities, thus causing the very low flow of funds from such trades coupled with the adversities that exchange rate fluctuation creates for local business in the country which have multiplied the occurrence of inconsistent economic growth (Amassoma & Odeniyi, 2016). This has therefore exposed policy makers, macroeconomists and academics to the huge role of determining adequate management of foreign exchange fluctuation which has clearly marred the performance of the economy of Nigeria (Uche, Anne & Chekwube, 2015).

In the midst of this lopsidedness in the economy of Nigeria as triggered by foreign exchange fluctuation, attempts have been made by academics and policy makers with the relatively high researches carried out with regard to foreign exchange fluctuation. Albeit, contrasting findings have been observed even in the midst of the urgent need to forestall the challenges posed by foreign exchange fluctuations; evidently Kingsley, Anakwe and Musa (2021), Iheanachor and Ozegbe (2021), Morina, Hysa, Ergun, Panat and Voica (2020), Otapo (2020), Fatbardha, Eglantina, Ugur, Mirela and Marian (2020) and Mehdi, Nasirpour and Jorjorzadeh (2014) established negative relationship between exchange rate and economic growth while Mamuda, Muhammad, Babangida and Jimoh (2021), Etale and Ochuba (2019), Adeyemi and Akinbayo (2019), Obisesan, Ogunsanwo and Akosile (2019), Adegboyo (2019), Bala, Olanisebe, Bello, Adedamola, Umar and Ado (2016) and Amassoma and Odeniyi (2016) affirmed positive association between exchange rate and economic growth. Again, the mixed findings of Yujing (2020) and Ufoeze, Okuma, Nwakoby and Alajekwu (2018) further worsened the dominance of divergent findings in literature. It is based on this premise that this study intends to track the effect of effect of foreign exchange fluctuations on economic growth in Nigeria.

REVIEW OF LITERATURE

Exchange Rates

An exchange rate implies the price of one currency in terms of another (Oghenebrume, 2018). Exchange rate is the ratio between a unit of one currency and the amount of another currency for which that unit can be exchanged at a particular time (Ngereboa & Ibe, 2013). When people travel to foreign countries, they must change their money into foreign currencies. The same is true when goods

are imported. For example, when Americans import goods from Japan, Europe or Nigeria, the dollars paid for these goods must be exchanged for Yen, Euros or Naira. In finance, an exchange rate between two currencies is the rate at which a currency will be exchanged. It is also regarded as the value of one country's currency in terms of another currency (Sulliavan *et al.*, 2003). For example, an interbank exchange rate of 370 Nigerian Naira to the United States Dollar (US$) means that #370 will be exchanged for each US$1 or that US$1 will be exchanged for #370. In the retail currency exchange market, a different buying rate and selling rate will be quoted by money dealers. The buying rate is the rate at which money dealers will buy foreign currency, and the selling rate is the rate at which they will sell the currency. The quoted rates will incorporate an allowance for a dealer's margin (or profit) in trading or else the margin may be recovered in the form of a "commission" or in some other way (Esezobor, 2009).

Exchange Rate Fluctuation

Exchange rate fluctuation refers to the tendency for foreign currencies to appreciate or depreciate, thus affecting the profitability of foreign exchange trades (Kanu & Nwadiubu, 2020). Fluctuation is the measurement of the amount that these rate change and the frequency of such changes. There are many instances of exchange rate fluctuation, including business dealings between parties in two different countries and international investments. Fluctuation in such circumstances is difficult to avoid. Exchange rate fluctuation explains a fluctuation in the economy's exchange rate. In Nigeria, there has been a persistent fluctuation in the exchange rate. The major factors contributing to the exchange rate fluctuation include interest rate, inflation, the balance of payment, government intervention etc (Kanu & Nwadiubu, 2020). Exchange rate changes directly influence the international competitiveness of firms, given their impact on input and output price Joseph (2002). Basically, foreign exchange rate fluctuation influences the value of the global competitiveness of a nation since the future cash flows of the national change with the fluctuations in the foreign exchange rates.

Central Bank Intervention and Exchange Rate Fluctuations

In thinking about how intervention may be effective, it is useful to conceptualize the exchange rate as an asset price. From this perspective, the current exchange rate depends on present and expected future fundamentals. A strand of research has also highlighted the susceptibility of exchange rate movements, at least in the short-run, to non-fundamental factors such as herd behaviour, information cascades, and speculation (Frankel & Froot, 1990). In this context, intervention might affect the spot exchange rate either through its impact on current fundamentals, expectations about future fundamentals, or expectations not based on fundamentals. The literature has focused discussion of these effects through four broad mechanisms: the monetary channel, the portfolio balance channel, the signalling channel and the microstructure or order flow channel. In the context of managed floating regimes, the usefulness of intervention depends on whether or not exchange rates can be influenced independently of the monetary policy stance since only in this case will intervention constitute a truly separate policy instrument. As such, much of the focus in the literature has been on whether interventions that are sterilized (i.e not backed by changes in monetary policy) have any significant effect. While the standard textbook distinction between sterilized and unsterilized intervention is based on a quantity criterion (the impact on base money), in practice the relevant condition is whether or not interest rates are affected. Since both the demand for and supply of base money changes significantly day to day due to autonomous factors, maintaining short-term interest rates does not always require that the entire amount of intervention be offset in the domestic money market.

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 recuces 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 and 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.

Exchange Rate Fluctuation and Economic Growth

Having indicated the channels through which effects of exchange rate fluctuation is pass on to growth performance in an economy. What is the eventual effect of exchange rate fluctuation on growth? Empirical evidences have shown strong effect of short-run and long-run adverse effect of exchange rate swings on economic growth performance through the trade channel likewise the investment

channel. In fact, evidence of the link from exchange rate fluctuation to growth is less than definitive. While Ghosh et al. (1997) found no relationship between observed exchange rate variability and economic growth for a sample of 136 countries over the period 1960-1989, Bailliu et al. (2001) reported a positive association between the degree of exchange rate flexibility and economic growth.

That this association is positive rather than negative leads one to suspect that this result reflects the influence of other factors correlated with exchange rate flexibility and growth: political stability, institutional strength, financial market development, for example. A further problem with much of this literature is that it focuses on the nominal rather than the real exchange rate: Dollar (1992) did report evidence of a negative OLS relationship between real exchange rate variability and growth in a sample of 95 developing countries covering the period 1976-85. Using different measures and country samples, Bosworth et al. (1995) and Hausmann et al. (1995) report similar results. Belke and Kaas (2004) find the same thing focusing on employment growth, the Central and Eastern European transition economies, and a subsequent period.

METHODOLOGY

Model Specification

In examining the effect of foreign exchange fluctuations on economic growth in Nigeria, this study moderates the model of Kingsley, Anakwe and Musa (2021) which explored the effect exchange fluctuation has on Nigeria's economic growth. Kingsley *et al* (2021) captured economic growth with gross domestic product growth rate while exchange rate fluctuation was represented with exchange rate, trade openness and gross capital formation. The model of Kingsley *et al* (2021) is represented in simple form below:

$GR = f(EXR, INF, TO, GCF)$ 3.1

$GR = f(\beta_0 + \beta_1 EXR + \beta_2 INF + \beta_3 TO + \beta_4 GCF)$..... 3.2

Where:

GR = Growth rate
EXR = Exchange rate
TO = Trade openness
INF = Inflation Rate
GCF = Gross capital formation
β_0 = constant or intercept
β_0 to β_4= regression coefficients

The moderation of the above model became urgent as this study has recognized the relationship between foreign exchange fluctuation and balance of payment; in fact, the gap created by loose exchange rate is made evident with the country's balance of payment. This which drags down the competitiveness of the country in international trade thereby constraining trade and capital flows, depletes foreign reserves which further aggravates the fluctuation of exchange and further destabilize the economy. Considering the significance of the balance of payment, the moderated model is presented below:

$GDP = f(EXR, BOP, TOP, INFR)$ 3.3

$GDP = \beta_0 + \beta_1 EXR + \beta_2 BOP + \beta_3 TOP + \beta_4 INFR + e$..... 3.4

Where:
GDP = Gross Domestic Product
EXR = Exchange rate
BOP = Balance of Payment
TOP = Trade Openness
INFR = Inflation Rate
β_0 = constant or intercept
β_0 to β_2 = regression coefficients
e = error term

Estimation Techniques and Sources of Data

This study will employ different estimation techniques such as Ordinary Least Square (OLS), ARDL Bounds Test Approach to Co-integration, and the Toda-Yamamoto non-Granger Causality Tests. OLS and Co-integration are used to address objectives one through to eight, ARDL bounds test approach to co-integration are used to establish long-run relationships. In contrast, the Toda-Yamamoto non-Granger causality test is used to capture objective nine. This study also conducts some preliminary analyses, including descriptive and correlation analysis. Other tests are the model diagnostic tests, such as model stability, serial correlation test, multicollinearity, and heteroskedasticity test, among others. Major sources of the data are from the Central Bank of Nigeria (CBN), Statistical Bulletin and the Nigeria Bureau of Statistics. The annual data obtained from these sources span from the period of 1989 to 2021; the justification for the choice of the period of study is based on the economic liberalization through the premise that implementation of Structural Adjustment Programme was achieved in the period when the economy was marred by inconsistent economic operations.

RESULTS AND DISCUSSION

Descriptive Analysis

Table 1: Descriptive Statistics of Variables

	GDP	BOP	REXR	TOP	INFR
Mean	6062.703	-1425769.	132.0313	17.19063	18.78750
Median	1980.150	21618.45	127.5000	22.85000	11.90000
Maximum	38622.90	3395066.	391.0000	24.60000	72.80000
Minimum	41.20000	-59220072	7.000000	-26.60000	5.400000
Std. Dev.	9193.613	10609260	111.2015	16.11754	17.44573
Skewness	2.098998	-5.286463	0.973920	-2.262832	1.868188
Kurtosis	6.961032	29.32821	3.248652	6.165609	5.202002
Jarque-Bera	44.41726	1073.282	5.141207	40.67028	25.07910
Probability	0.000000	0.098362	0.076489	0.067829	0.056739
Sum	194006.5	-45624598	4225.000	550.1000	601.2000
Sum Sq. Dev.	2.623209	3.493415	383339.0	8053.027	9434.955
Observations	32	32	32	32	32

Source: *Author's Computation, (2022)*

Table 1 descriptive statistics of variables based on observation collected over the period spanning from 1989 to 2020. As reported in the table average gross domestic product for the period under study stood at 6062.703 with minimum and maximum values of 41.2 billion and 38622.90 billion. Balance of payment maintained an average of -1425769 billion, with minimum and maximum values of 21618.45 billion and -59220072 billion respectively; real exchange rate, trade openness and inflation rate stood at 132.0313 naira, 17.19063 billion and 18.78750 per cent respectively. Minimum and maximum value reported on table 4.1 stood at 7 naira and 391 naira for real exchange rates, -26.6 billion and 24.6 billion for trade openness, 5.4 per cent and 72.8 per cent for inflation rate respectively. Skewness statistics reported in table 1 revealed that all the variables used in the study are skewed to the right except balance of payment and trade openness with reported values of 2.098998, -5.286463, 0.973920, -2.262832 and 1.868188 for balance of payment, real exchange rates, trade openness, inflation rate respectively. Reported kurtosis statistics revealed that all the variables are platykurtic by the distribution peakedness. In specific terms reported kurtosis statistics stood at 6.961032, 29.32821, 3 .248652, 6.165609 and 5.202002 for gross domestic product, balance of payment, real exchange rates, trade openness, inflation rate. Jarque-bera statistics reported in table 1 stood at 44.41726 ($p=0.0000<0.05$) for gross domestic product, 1073.282 ($p=0.0983>0.05$) for balance of payment, 5.1412 ($p= 0.0764>0.05$) for real exchange rate, 40.6702 ($p= 0.0678>0.05$) for trade openness, 25.0791 ($p=0.0567>0.05$) for inflation rate which reflect that all the variables except are normality distributed.

Correlation Analysis

Table 2: Correlation Matrix

	GDP	BOP	REXR	TOP	INFR
GDP	1.000000				

BOP	-0.018407	1.000000			
EXR	0.911690	-0.027600	1.000000		
TOP	-0.427120	-0.066690	-0.277939	1.000000	
INFR	-0.267258	0.047585	-0.431495	0.142138	1.000000

Source: *Author's Computation, (2022)*

Results of correlation estimation showed in table 4.2 demonstrates the existence of negative correlation between gross domestic product and balance of payment, gross domestic product and trade openness, gross domestic product and inflation rate and positive correlation between balance of payment and real exchange rates. Indications from the result revealed that gross domestic product move mostly in the same direction with all explanatory variables. Specifically, correlation estimates stood at -0.018407 for GDP and BOP, 0.911690 for GDP and EXR, -0.427120 for GDP and TOP, -0.267258 for GDP and INFR respectively.

Table 3: Summary of Unit Root Test Result

	At Level			At First Difference			
Variables	**ADF statistics**	**1% critical value**	**5% critical value**	**ADF statistics**	**1% critical value**	**5% critical value**	**Order of integration**
GDP	2.297078	-3.737853	-2.991878	4.424539	-3.737853	-2.991878	I(I)
BOP	-5.724358	-3.661661	-2.960411	-6.646129	-3.679322	-2.967767	I(0)
REXR	1.211742	-3.661661	-2.960411	-3.989774	-3.670170	-2.963972	I(1)
TOP	-3.628302	-3.661661	-2.960411	-5.201376	-3.699871	-2.976263	I(1)
INFR	-2.834352	-3.661661	-2.960411	-5.919690	-3.670170	-2.963972	I(1)

Source: *Author's Computation, (2022)*

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.

Co-integration Analysis

Table 4: ARDL Long Run Estimation Result

Series: *GDP, BOP, EXR, TOP, INFR*

Variables	Coefficient	Probability
C	-3770.807	0.0295
BOP	-1.163405	0.8400
EXR	76.64195	0.0000
TOP	-110.2135	0.0086
INFR	84.76427	0.0350

R-square=0.8849, *Adjusted R-square*=0.8678; Durbin-Watson=0.6690

Source: *Author's Computation, (2022)*

Estimation result presented in table 4.5 revealed that in the long run high balance of payment exert negative insignificant long run on gross domestic product with coefficient estimate of -1.163405 (p=0.8400>0.05). Furthermore, result showed that in the long run exchange rate exert significant positive impact on balance of payment with coefficient estimate of 76.6419 (p=0.0000>0.05); trade openness exert negative significant long run impact on gross domestic product in Nigeria with coefficient estimate of -110.2135

(p=0.0086<0.05) and inflation rate exerts positive insignificant impact on gross domestic product in the long run with coefficient estimate of 84.7642 (p=0.0350<0.05). Reported R-square statistics stood at 0.8849 which suggests that in the long run balance of payment, exchange rate, trade openness and inflation rate can jointly explain about 88% of the systematic variation in gross domestic product, all things being equal.

Error Correction Model (ECM)

Table 5: Short Run Estimation Result

Series: *GDP, BOP, EXR, TOP, INFR*

Variables	Coefficient	Probability
D(GDP(-2))	0.806338	0.0011
D(BOP)	-9.922306	0.4025
D(BOP(-1))	-2.544505	0.1017
D(BOP(-2))	-3.233405	0.0535
D(EXR)	57.92612	0.0000
D(EXR(-1))	-16.49535	0.1882
D(TOP)	-32.10217	0.0087
D(TOP(-1))	30.16984	0.0497
D(INFR)	9.048755	0.4991
D(INFR(-1))	6.195545	0.6224
D(INFR(-2))	19.95149	0.0858
ECT	0.130050	0.1067
C	-135.0841	0.5026

R-square=0.8847, *Adjusted R-square*=0.7982, Durbin-Watson=1.4611

Source: *Author's Computation, (2022)*

Parsimonious error correction model estimation result presented in table 4.6 revealed that in the short run balance of payment exert negative insignificant impact on gross domestic product with coefficient estimate of -3.2334 (p=0.0535=0.05), exchange rate exerts positive significant impact on gross domestic product with coefficient estimate of 57.9261 (p=0.0000<0.05). Result also showed that in the short run trade openness exert negative significant impact on gross domestic product with reported coefficient estimate of -32.1021 (p=0.0087<0.05) and inflation rate exert positive insignificant impact on gross domestic product with coefficient estimate of 19.9514 (p=0.0858<0.05). Coefficient of one period lagged error correction term reported in table 4.6 stood at 0.1300 with probability value of 0.1067 which implies that over time about 13% of the short run inconsistencies is significantly corrected and incorporated into the long run dynamic annually. R-square statistics of 0.88 reported in table 4.6 revealed that about 88% of the systematic variation in balance of payment can be explained jointly by balance of payment, exchange rate, trade openness and inflation rate.

Table 6: Post Estimation Test

Linearity Test		
Statistics	***Values***	***Probability***
T-statistic	6.294463	0.0000
F-statistic	39.62027	0.0000
Likelihood Ratio	29.62522	0.0000
Normality Test		
Statistics	***Values***	***Probability***
Jarque-Bera Stat	3.9474	0.1389
Serial Correlation LM Test		
Statistics	***Values***	***Probability***
F-statistic	17.4609	0.0000
Heteroscedasticity Test		
Statistics	***Values***	***Probability***
F-statistic	4.011424	0.0111

Source: *Author's Computation, (2022)*

Result of Ramsey test presented in table 4.7 report three statistics including t-statistics and f-statistics, alongside their respective probability values. Specifically, table 4.7 reported t-statistics of 6.2944 (p=0.0000<0.05), f-statistics of 39.6202 (p=0.0000<0.05) and likelihood ratio of 29.6252 (p=0.0000<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 3.9474 (p= 0.1389<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 4.7 revealed f-statistics and probability value of 17.4609 and 0.0000 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 4.7 report f-statistics and probability value of 4.0114 and 0.0111 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 most obtainable and efficient estimation carried out in this study showed that balance of payment exerts negative impact on gross domestic product in the long and short run; this suggests that as gross domestic product is increasing, balance of payment remains on the decrease. Even though both noticeable and unnoticeable growth has been noticed in the gross domestic growth of Nigeria per time; it is quite evident that the goods and services produced in the country is not enough to be consumed within the country and in effect nothing is left to be exported. Hence, transactions made with other countries remains on the decline thus making the Nigeria naira less competitive despite reducing foreign reserve; these adversities caused by relatively low and most times balance of payment deficit mars the stability of the economy which ultimately cause the growth of the economy of Nigeria to be very inconsistent.

Again, findings further revealed that balance of payment exerts negative impact on economic growth both in the long and short run which indicates that as balance of payment reduces, economic growth increases almost insignificantly. Considering the unimpressive international trade occasioned in Nigeria, the competitiveness of its currency remains critically low, a country's currency suggests the height at which international transactions would be caused between residents of a country. In this regard, balance of payment which has been irregular in Nigeria explains the relatively reason for the reduced value and fluctuation of foreign exchange; this exerts very significant effect on the growth of the economy of Nigeria which although records increase but very unnoticeable and unsteady one.

Furthermore, foreign exchange affects economic growth positively both in the long and short run which implies that as foreign exchange shoots up, economic growth also increases. As established from related findings in this study, Nigeria could be exposed to numerous foreign exchange trade activities if its foreign exchange or relative value of its currency is highly competitive; this would certainly improve its foreign reserve and foreign direct investment. However, reverse has been the case in Nigeria as the unsustainable value of its currency as reflected in exchange rate has made foreign exchange transactions almost impossible especially the importation of resources that could encourage sectoral output and in effect boost the growth of the economy of Nigeria.

Also, it was established in the results that trade openness exerts negative impact on economic growth of Nigeria both in the short and long run; this connotes that as economic growth increases in Nigeria, trade openness tends to fall. Trade openness which describes the amount of economic transaction of a certain country with other countries of the world; it also drives or affect the value of a nation's currency and is also sensitive to economic growth of the country. Notwithstanding, the increased involvement of a country in foreign trade enhances inflow in terms of foreign reserves which is undoubtedly a precursor for economic growth.

Finally, discoveries obtained in the study demonstrated that in the short and long run inflation rate exerts positive significant impact on economic growth which implies that an increase in inflation rate will increase economic growth; the finding evidence that that as inflation rate increases, economic growth tend to increase. The increase in the prices of goods and services in the country increase the level of long-term investment which boosts the productivity of business firms and reduces economic uncertainty; if all these are obtainable, the country tends to export effectively which ultimately affects its balance of payment which ultimately improves economic growth. However, as evidenced in the findings, countries adopt inflation as a measure to mop of money circulating in the economy; that is reduce money supply and encourage the productiveness of the business sector towards enhancing exports, obtaining favorable balance of payment and enhancing the growth of the economy.

CONCLUSION AND RECOMMENDATIONS

Premise on the analytical results carried out in the study, it is evident that foreign exchange fluctuations has a significant relationship with balance of payment in Nigeria. This study specifically established that balance of payment exerts negative insignificant effect on economic growth in Nigeria both in the long and short run, exchange rate affects economic growth in Nigeria positively and significantly both in the short and long run, trade openness exerts negative significant effect on economic growth in Nigeria in the short and long run and inflation rate exerts positive significant effect on economic growth in Nigeria in the long run and positive insignificant effect in the short run. Hence, this study concludes that foreign exchange fluctuations affects economic growth in Nigeria to a very significant extent. Based on the findings ascertained in the study, the following policy recommendations become imperative.

i. The Central Bank of Nigeria should create satisfactory exchange rate management towards regulating exchange rate and moderates its volatility for sustainable economic growth;
ii. Monetary authorities should deploy satisfactory policies towards changing permanent inflation trend in the economy and ensures that it remains at a level suitable for sectoral output and ultimately boost economic growth;
iii. Government and other monetary agencies should seek sound measures to reduce import and promote exports towards maintaining trade balance and favorable balance of payment which are precursors for economic growth.

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