Effect of Naira Rate on Economic Growth in Nigeria

Michael Chukwunaekwu Nwafor
Department of Accounting and Finance,
Godfrey Okoye University,
Enugu, Nigeria.

Abstract
This research work explored the effect of Nigeria's currency rate on the economic growth of Nigeria. It is focused on establishing the extent to which Naira rate have influenced economic growth from using data spanning between 2006 and 2016; and the extent to which the Naira rate has influenced inflation in Nigeria within the same time frame. This study however employed Ordinary Least Squares technique of analysis to construct a regression model to test stated hypotheses. Findings revealed that the Naira rate has no significant impact on economic growth in Nigeria and that the Naira rate has a significant influence on inflation rate in Naira. The study, therefore, recommends that the export base of Nigeria should be strengthened to ensure a sustainable impact and that local manufacturing should be fully encouraged.

Keywords: *Naira; Exchange Rate; Inflation; GDP; Currency*

1. Introduction

The depreciation of a country's currency should foster increased production output, the CBN will rather pump in billions of dollars into the FOREX market to leverage the value of Naira than pump in these money to productive activities which will in long run improve Naira, what an expression of good understanding of common economics? Does the CBN pursue a short-term appreciation of Naira or a long run? Won't it be economically wise to put in money to productive activities which will have multi-effect on the nation's economy than pursuing one economic-slump symptom – drop in currency value? If money pumped into the forex market from time to time could be pushed into productive activities, Nigeria's GDP will improve, employment rate will improve, inflation will drop significantly and even the *lastborn* (value of Naira) of Nigeria's economic indices that always seeks immediate attention will appreciate. It is traditional knowledge that when countries produce locally for exportation in larger quantities than they import, the value of their currency will appreciate against all odds. Pumping money to the forex market is the laziest solution any economy should adopt to cure progressive drop in currency value.

Exchange rate is the price of one country's currency in relation to another country. It is the required amount of units of a currency that can buy another amount of units of another currency.

In Nigeria, the exchange rate policy has undergone significant transformation from the immediate post-independence period when the country maintained a fixed parity with the British pound, through the oil boom of the 1970s, to the floating of the currency in 1986, following the near collapse of the economy between 1982 and 1985 period. In each of these epochs, the economic and political considerations underpinning the exchange rate policy had important repercussions for the structural evolution of the economy, inflation, the balance of payments and real income. There could not be a better time to research into this line of

interest as there has never been a time in the history of Nigeria that Naira fell to the tone of N358 to 1 dollar in the official market, hence, the focus of this research is to examine the effect of Naira value on economic growth in Nigeria.

This study therefore seeks provide answers to questions: does the Naira rate have significant impact on economic growth in Nigeria? It also seeks to establish the extent to which Naira rate have influenced economic growth; and to examine the extent to which the Naira rate have influenced the inflation in Nigeria

2. Literature Review

Theoretical Review

Theories of Foreign Exchange Rate

This study reviewed three main theories namely: The Mint Parity Theory, The Purchasing Power Parity Theory, and The Balance of Payment Theory

i. **The Mint Parity Theory** – This theory is associated with the working of the international gold standard. Under this system, the currency in use is made of gold or is convertible into gold at a fixed rate (Jhingan 2004). Here, the value of the currency unit was defined in terms of certain weight of gold and the Central Bank of the country concerned was always ready to buy and sell gold at the specified price. The rate at which the local currency could be converted into gold is called the mint price of gold.

ii. **The Purchasing Power Parity Theory** – This Theory states that spot exchange rate between currencies will change to the differential in inflation rate between countries. The theory states that the equilibrium exchange rate between two inconvertible paper currencies is determined by the equality of their purchasing power. That is, the exchange rate between two countries is determined by their relative price levels (Obadan, 2006).

iii. **The Balance of Payment Theory** – This theory stipulates that under free exchange rate, the exchange rate of the currency of a country depends upon its balance of payment. According to Jhingan (2004), a favourable balance of payments raises the exchange rate, while an unfavorable balance of payments reduces the exchange rate. Thus the theory implies that the exchange rate is determined by the demand for and supply of foreign exchange.

2.1.2 Factor that Determine Exchange Rate

Factors that determine exchange rate as stated in Bergen (2017) include:

Differentials in Inflation

Generally, an economy with a steadily lower inflation rate is characterized by a rising currency value, as its purchasing power increases relative to other currencies. During the last half of the 20th century, the countries with low inflation included Japan, Germany and Switzerland, while the U.S. and Canada achieved low inflation only later. Those countries with higher inflation typically see depreciation in their currency in relation to the currencies of their trading partners. This is also usually accompanied by higher interest rates.

Differentials in Interest Rates

Interest rates, inflation and exchange rates are all highly correlated. By manipulating interest rates, central banks exert influence over both inflation and exchange rates, and changing interest rates impact inflation and currency values. Higher interest rates offer lenders in an economy a higher return relative to other countries. Therefore, higher interest rates attract

foreign capital and cause the exchange rate to rise. The impact of higher interest rates is mitigated, however, if inflation in the country is much higher than in others, or if additional factors serve to drive the currency down. The opposite relationship exists for decreasing interest rates - that is, lower interest rates tend to decrease exchange rates.

Current-Account Deficits

The current account is the balance of trade between a country and its trading partners, reflecting all payments between countries for goods, services, interest and dividends. A deficit in the current account shows the country is spending more on foreign trade than it is earning, and that it is borrowing capital from foreign sources to make up the deficit. In other words, the country requires more foreign currency than it receives through sales of exports, and it supplies more of its own currency than foreigners demand for its products. The excess demand for foreign currency lowers the country's exchange rate until domestic goods and services are cheap enough for foreigners, and foreign assets are too expensive to generate sales for domestic interests (Bergen, 2017).

Public Debt

Countries will engage in large-scale deficit financing to pay for public sector projects and governmental funding. While such activity stimulates the domestic economy, nations with large public deficits and debts are less attractive to foreign investors. The reason is that a large debt encourages inflation, and if inflation is high, the debt will be serviced and ultimately paid off with cheaper real dollars in the future (Bergen, 2017).

In the worst case scenario, a government may print money to pay part of a large debt, but increasing the money supply inevitably causes inflation. Moreover, if a government is not able to service its deficit through domestic means (selling domestic bonds, increasing the money supply), then it must increase the supply of securities for sale to foreigners, thereby lowering their prices. Finally, a large debt may prove worrisome to foreigners if they believe the country risks defaulting on its obligations. Foreigners will be less willing to own securities denominated in that currency if the risk of default is great. For this reason, a country's debt rating is a crucial determinant of its exchange rate.

Terms of Trade

A ratio comparing export prices to import prices, the terms of trade is related to current accounts and the balance of payments. If the price of a country's exports rises by a greater rate than that of its imports, its terms of trade have favorably improved. Increasing terms of trade, shows greater demand for the country's exports. This, in turn, results in rising revenues from exports, which provides increased demand for the country's currency (and an increase in the currency's value). If the price of exports rises by a smaller rate than that of its imports, the currency's value will decrease in relation to its trading partners (Bergen, 2017).

Political Stability and Economic Performance

Foreign investors inevitably seek out stable countries with strong economic performance in which to invest their capital. A country with such positive attributes will draw investment funds away from other countries perceived to have more political and economic risk. Political turmoil, for example, can cause a loss of confidence in a currency and a movement of capital to the currencies of more stable countries.

Empirical Review

Aliyu (2011) postulated that appreciation of exchange rate results in increased imports and

reduced export while depreciation would expand export and discourage import. He further stressed that depreciation of exchange rate tends to cause a shift from foreign goods to domestic goods. Hence, it leads to diversion of income from importing countries to countries exporting through a shift in terms of trade, and this tends to have impact on the exporting and importing countries' economic growth.

Hossain (2002) stated likewise that exchange rate helps to connect the price systems of two different countries by providing an international platform for trade and also effects on the volume of imports and exports, and also country's balance-of-payments position. Rogoffs and Reinhartl (2004) also opined that developing economies are relatively better-off in the choice of flexible exchange rate regimes.

Empirical works on exchange rate acknowledges Edwards and Levy-Yeyati (2003) who found evidence that countries with more flexible exchange rate grow faster. Faster economic growth is significantly associated with real exchange rate depreciation (Hausmann, Pritchett, and Rodrik 2005). Rodrik (2009) argued that real undervaluation promotes economic growth, increases the profitability of the tradable sector, and leads to an expansion of the share of tradable in domestic value added. He claims that the tradable sector in developing countries can be too small because it suffers more than the non-tradable sector from institutional weaknesses and market failures. A real exchange rate undervaluation works as a second-best policy to compensate for the negative effects of these distortions by enhancing the sector's profitability. Higher profitability promotes investment in the tradable sector, which then expands, and promotes economic growth.

Asher (2012) examined the impact of exchange rate fluctuation on the Nigeria economic growth for the period of 1980 to 2010. The result showed that real exchange rate has positive effect on the economic growth of Nigeria. In another study, Akpan (2008) investigated foreign exchange market and economic growth in an emerging petroleum based economy using data spanning from 1970 to 2003 in Nigeria. He found that there is a positive relationship between exchange rate and economic growth. Obansa, Okoroafor, Aluko and Millicent (2013) also examined the relationship between exchange rate and economic growth in Nigeria between 1970 and 2010. Their findings indicated that exchange rate has a strong impact on economic growth. It was concluded however that exchange rate liberalization was good to Nigerian economy as it promotes economic growth. Azeez, Kolapo and Ajayi (2012) also investigated the effect of exchange rate volatility on macroeconomic performance in Nigeria using data ranging from 1986 to 2010. They discovered that exchange rate is positively related to economic growth (proxied by GDP).

Past studies also showed that exchange rate has no significant effect on economic growth performance. For example, Bosworth, Collins, and Yuchin (1995) provided evidence that in a large sample of industrial and developing countries, real exchange rate volatility hampers economic growth and reduces productivity growth. Ubok-udom (1999) examined the issues surrounding the implementation of SAP in Nigeria, and drew up a conclusion that the peculiar features of Nigerian economy reduced the efficacy of currency depreciation in producing desirable effects. From the study of the relationship between exchange rate variation and growth of the domestic output in Nigeria (1971-1995); he expressed growth of domestic output as a linear function of variations in the average nominal exchange rate. He further used dummy variables to capture the periods of currency depreciation. The empirical result showed that all coefficients of the major explanatory variables have negative signs.

David, Umeh and Ameh (2010) also examined the effect of exchange rate fluctuations on Nigerian manufacturing industry. They employed multiple regression econometric tools which revealed a negative relationship between exchange rate volatility and manufacturing sector performance.

Aghion, Bacchetta, Ranciere and Rogoff (2009) found a similar result, but they also showed that the negative effect of real exchange rate volatility on economic growth shrinks in countries with higher levels of financial development. Barkoulas, Baum and Caglayan (2002) examined the impact of exchange rate fluctuation on the volume and variability of trade flows. They concluded that, exchange rate volatility discourages expansion of the volume of trade thereby reducing its benefits. Eichengreen and Leblang (2003) carried out their research in 12 countries over a period of 120 years and found strong inverse relationship between exchange rate stability and growth. They concluded that the results of such estimations strongly depend on the time period and the sample. Ogun (2006) studied on the impacts of real exchange rate on growth of non-oil export in Nigeria highlighted the effects of real exchange rate misalignment and volatility on the growth of non-oil exports. He employed the standard trade theory model of determinants of export growth and two different measures of real exchange misalignment, one of which entails deviation of the purchasing power parity (PPP), and the other which is model based estimation of equilibrium real exchange rate (ERER). He observed that irrespective of the alternative measures of misalignment employed, both real exchange misalignment and volatility adversely affected growth of Nigerian non-oil exports. Arize, Osang, and Slottje (2000) found a significant negative relationship between increases in exchange rate volatility and exports in developing countries.

Servén (2003) showed that real exchange rate volatility negatively affects investment in a large panel of developing countries. This negative impact is significantly larger in countries with highly open economies and less developed financial systems. He also found evidence of threshold effects, whereby uncertainty only matters when it is relatively high. In a similar study, Eme and Johnson (2012) investigated the effect of exchange rate movements on real output growth in Nigeria between 1986 and 2010. The result revealed that there is no evidence of a strong direct relationship between changes in exchange rate and output growth. Rather, Nigeria economic growth has been directly affected by monetary variables. Therefore, it hypothesized that Exchange Rate has no positive significant impact on economic growth of Nigeria.

3. Research Methodology

The research design employed by the researcher is ex post-facto research which aims at determining or establishing or measuring the relationship between one variable and another or the impact of one variable on another (Onwumere, 2009).

The nature of data for the analysis of this study is secondary accessed from the Central Bank of Nigeria Statistical Bulletin, 2015. A regression model has been employed, the essence of regression is to use a mathematical equation to express the nature of the relationship existing between variables and ultimately to use this equation to predict the value of one variable given a specific value of the other variable (Ugbam, 2001).

The following is a simple regression model

$Y = b_0 + b_1X + \mu.$

Where

Y = the variable we are trying to predict; b_0 = the intercept; b_1 = the slope; X = the variable we are using to predict Y; μ = the error term.

The intercept (b_0) is the value of the dependent variable when the independent variable is equal to zero while the slope of the regression line (b_1) represents the rate of change in Y as X changes. Because Y is dependent on X, the slope describes the predicted values of Y given X.

The above model can thus be applied in this study as:

$GDP = b_0 + b_1ExchR + \mu$ …….. Eqn. (1)

$INF = b_0 + b_1ExchR + \mu$ …..……...…….. Eqn. (2)

Where

GDP = Growth Rate of Gross Domestic Product of Nigeria

INF = Inflation Rate (proxied by Consumer Price Index)

ExchR = Exchange Rate

4. Data Analysis

Decision Rule: Reject H_0 if p-value ≤ .05, otherwise do not reject H_0.

Data Analyses from SPSS

Table 4.1 Model Summary

Equation 1	Multiple R	.498
	R Square	.248
	Adjusted R Square	.165
	Std. Error of the Estimate	2.534

Table 4.2 ANOVA

		Sum of Squares	Df	Mean Square	F	Sig.
Equation 1	Regression	19.109	1	19.109	2.975	.119
	Residual	57.807	9	6.423		
	Total	76.917	10			

Table 4.3 Coefficients

		Unstandardized Coefficients				
		B	Std. Error	Beta	T	Sig.
Equation 1	(Constant)	.830	2.690		.309	.765
	ExchR	.047	.027	.498	1.725	.119

The R of .498 shows a weak positive relationship between the dependent variable (GDP) and the independent variable (ExchR). The R-square of .248 shows that 24.8% of the variation in the dependent variable is explained by the independent variable. The ANOVA table shows that the model fit is non-significant (.199 > .05), hence not valid for prediction. The Coefficient table shows the intercept and the slope. The intercept of .830 shows the value of the independent variable when the dependent is constant, while the slope of .047 shows that at every percentage increase in ExchR, GDP will increase by 4.7%. After substituting the intercept, the slope and the standard error with its values from above SPSS output, we will

have
GDP = .830 – .047ExtR + e

Decision
Hypothesis I: The Naira rate have no significant impact on economic growth in Nigeria.
The P-value on which basis we can reject the null hypothesis that the Naira rate have no significant impact on economic growth in Nigeria is 0.119. Hence, we cannot reject the null hypothesis and affirm that the Naira rate have no significant impact on economic growth in Nigeria.

Table 4.4 Model Summary

Equation 1	Multiple R	.763
	R Square	.582
	Adjusted R Square	.536
	Std. Error of the Estimate	28.567

Table 4.5 ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Equation 1	Regression	10245.632	1	10245.632	12.555	.006
	Residual	7344.692	9	816.077		
	Total	17590.324	10			

Table 4.6 Coefficients

		Unstandardized Coefficients		Beta	T	Sig.
		B	Std. Error			
Equation 1	(Constant)	227.908	30.322		7.516	.000
	ExchR	-1.081	.305	-.763	-3.543	.006

The R of 0.763 shows a strong positive relationship between the dependent variable (INF) and the independent variable (ExchR). The R-square of 0.582 shows that only 58.2% of the variation in the dependent variable is explained by the independent variable. The ANOVA table shows that the model fit is significant (.006 < .05), hence valid for prediction. The Coefficient table shows the intercept and the slope. The intercept of 227.908 shows the value of the independent variable when the dependent is constant, while the slope of -1.081 shows that at every unit increase in ExchR, Inflation will decrease by 1.081 units. After substituting the intercept, the slope and the standard error with its values from above SPSS output, we will have
INF = 227.908 – 1.081ExchR + e

Decision
Hypothesis II: The Naira rate has no significant influence on inflation rate in Naira.
The P-value on which basis we can reject the null hypothesis that the Naira rate has no significant influence on inflation rate in Nigeria is 0.006. Hence, we reject the null hypothesis and conclude that the Naira rate have significant influence on inflation rate in Nigeria.

Summary/Discussion of Finding

After subjecting the hypotheses under test, the following were found:

1. The Naira rate has no significant impact on economic growth in Nigeria. This is true owing to the fact that the Nigerian currency (Naira) has been weakening against the dollar. This could be attributable to government overdependence on loan and high rate of importation. It is a traditionally known truth that if Country A exports goods to country B more than it imports from country B, the value of Country A's currency will be strengthening against that of Country B, *and vice versa.*

2. The Naira rate has significant influence on inflation rate in Nigeria. The slope of -1.081 shows that the relationship between exchange rate and inflation is inversed but statistical significance. This means that at every unit increase in Naira, inflation will drop by 1.081 units. This finding is in line with what is pragmatically obtainable. When the currency of Country A appreciates over Country B, the prices of imported goods from country B by Country A will automatically drop in country A given that Country A will be paying lesser to obtain same goods and services. This drop in the price of imported goods in Country A will likewise influence the \ price of similar local products.

Conclusion

From the findings, it is safe to conclude however, that Naira rate has great role to play in the achievement of a sustained economic growth in Nigeria because the Naira rate is one of the major determinants of price level of goods and services in Nigeria especially as most consumer goods in Nigeria are imported.

Recommendation

Given our findings, it is recommended that

1. The government should fight to strengthen the export base of Nigeria against the import base, to the point that our export-base to import-base ratio will be 2:1. This will leave a sustained impact on the Naira value.

2. The government should fully encourage local manufacturing and remanufacturing of goods as this can make the first recommendation obtainable.

3. Nigeria should do everything economically possible to strengthen the value of Naira in the FOREX market. This however excludes pumping billions of dollars into the FOREX market as this only creates a temporary economic condition.

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