

## Does Exchange Rate Regime Affect Economic Development? Evidence from Nigeria

Lawrence Uchenna OKOYE  
Department of Banking and Finance  
Covenant University Ota, Nigeria  
[lawrence.okoye@covenantuniversity.edu.ng](mailto:lawrence.okoye@covenantuniversity.edu.ng)

Grace O. EVBUOMWAN  
Department of Banking and Finance  
Covenant University Ota, Nigeria  
[grace.evbuomwan@cu.edu.ng](mailto:grace.evbuomwan@cu.edu.ng)

Felix N. EZEJI  
Department of Banking and Finance  
Ebonyi State University, Abakaliki, Nigeria  
[felixezeji67@gmail.com](mailto:felixezeji67@gmail.com)

Olayinka A. ERIN  
Department of Accounting  
Covenant University Ota, Nigeria  
[olayinka.erin@stu.cu.edu.ng](mailto:olayinka.erin@stu.cu.edu.ng)

### Suggested Citation

Okoye, L.U., Evbuomwan, G.O., Ezeji, F.N., Erin, O.A. 2018. Does exchange rate regime affect economic development? Evidence from Nigeria, *Journal of Applied Economic Sciences*, Volume XIII, Winter, 8(62): 2459-2467.

### Abstract

The nexus between exchange rate regime and economic development was examined in this paper. Two distinct phases of exchange rate regimes namely, fixed and floating were adopted in the study. GDP per capita was adopted as proxy for economic development. Data analysis was based on the estimation method of ordinary least squares. Regression was conducted, in the first instance, to determine the overall effect of exchange rate regime on development using the full data sample (1970-2016). In the second instance, the data was disaggregated into fixed regime (1970-1986) and floating regime (1987-2016). The estimates for the full sample period, fixed regime, and floating regime show exchange rate as a significant impediment to development, with the strongest negative impact coming from the floating exchange rate regime.

Based on the above findings, we conclude that irrespective of policy adopted, exchange rate constitutes a major factor in the planning and implementation of development-oriented programmes and policies in a developing nation like Nigeria. However, the impact is far more severe when developing nations adopt liberalized exchange rate policies without first developing adequate industrial infrastructure to support a robust domestic production capacity.

**Keywords:** exchange rate management; economic development; fixed exchange rate; floating exchange rate

**JEL Classification:** E65; F41; O11; O24

### Introduction

Exchange rate management refers to the institution of the mechanism for the determination of exchange rate. It relates to the policy adopted in managing exchange rate. Exchange rate policy has important implications for both the level and movement of exchange rate in an economy. Hence, the choice of an appropriate policy constitutes a major challenge for governments, particularly, in developing open economies. Essentially, the mechanism for the determination of exchange rate is managed by the Central Bank as an integral part of monetary policy initiatives. In Nigeria, the Central Bank of Nigeria is vested with the responsibility of managing the exchange rate of the domestic currency relative to those of its major trading partners with an overriding objective of maintaining macroeconomic stability and international competitiveness.

At the early stage of financial development and integration, nations are inclined to adopt fixed exchange rate policy as it tends to offer anti-inflationary benefits without compromising growth. However, with institutional and economic advancements, they tend towards a more flexible or floating regime to achieve considerable benefits associated with it (Rogoff, Husain, Mody, Brooks and Oomes 2003). This argument may be justified on the grounds that at the early stages of a nation's existence, it is largely dependent on primary production for local and foreign markets while relying on manufactured and manufacturing imports for consumption and industrial development.

Adoption of fixed exchange rate policy at this initial stage supports this development strategy as it renders imports cheaper and exports more expensive. Based on the assumption that implementation of the fixed regime supports development of local industries, nations are thereby expected to transit to a more flexible or floating regime in which exchange rate is determined by the strength of their economic fundamentals, particularly their productive capacity.

In the immediate post-independence period, Nigeria adopted the fixed exchange rate policy which, according to Obadan (2006), aimed at implementing the economic policy of establishing development-oriented projects and support import-substituting industries. Exchange rate movement during the period was characterized by relative stability and higher growth (Nzekwu 2006). This was the era of massive inflow of foreign exchange from agricultural and mineral exports. The attendant liquidity surfeit however became the nation's albatross as it encouraged all manner of imports without adequate attention to industrial development, leading to severe balance of payment problems and depletion of external reserves. Under the fixed regime, exchange rate management was rather passive as it was dictated by trends in the movement of the US dollar and the British pound sterling, Nigeria's major trading partners.

Following the collapse of the international oil market in the late 1970s and early 1980s, the drastic decline in foreign exchange earning exacerbated the balance of payment problem, leading to massive external borrowings from bilateral and multilateral sources. According to Uche (2000), inability to develop alternative foreign exchange income stream led to severe cuts in government expenditure. To resolve the structural imbalance in the economy, the structural adjustment programme (SAP) was introduced mid-1986. SAP aimed at promoting efficiency in resource allocation by opening up the economy to the operation of market forces. Exchange rate deregulation was a major component of the programme. This marked the turning point from fixed to floating exchange rate regime. With the deregulation of the mechanism for the determination of exchange rate, exchange rate management became a core macroeconomic function of the Central Bank of Nigeria so as to control unstable or volatile trends. This is necessary because, according to Mordi (2006), volatility induces distortions in production and consumption patterns as it creates uncertainty and risks for economic agents with destabilizing effects on the macro economy.

At inception, SAP recorded some measure of success as industrial capacity utilization responded positively to massive devaluation of the domestic currency due, largely, to switching from foreign to local manufacturing inputs (Moser 1995). Data from the Manufacturers Association of Nigeria (2005) show evidence of increase in local raw material utilization from 54.1% in 2003 to 57.5% in 2004 and then to 67.10% in 2005. However, industrial capacity utilization declined from 48.9% in 2003 to 45.02% in 2004 and to 44.06% in 2005. This suggests that beyond raw materials, there are other inputs that posed a challenge to industrial expansion in Nigeria and these inputs also have high foreign exchange content. For instance, Osioma (1998) argued that there exists glaring evidence that the fundamental defects which informed the introduction of SAP such as high import dependency and weak industrial and technological base still persist. In one of the post-SAP budget speeches, the Federal Government of Nigeria (1989) explained that adoption of the floating exchange rate policy led to generalized increases in prices because of the high import content of local manufacturing. The high cost of imported industrial inputs adversely affected the operations of many small and medium scale businesses, leading to rationalizations, retrenchments and social problems like unemployment and poverty.

Over the years, studies have been undertaken by scholars across different climes to determine the link between different phases of exchange rate management and macroeconomic performance. However, while many of these studies have focused on the nexus between exchange rate and economic growth, not much attention has been given to the exchange rate-economic development nexus. Also, there is dearth of evidence on the link between exchange rate regime and economic development, particularly in less developed economies. This study extends the scope of literature in this area by analyzing the dynamics of exchange rate management and economic development in Nigeria.

## **1. Review of related literature**

Exchange rate is a key decision-making variable in the investment process of economic agents and as such its stability or otherwise is a major concern to public and private sector managers. Exchange rate dynamics have important implications for business outcomes and so an efficient management of the mechanism for its determination continues to constitute a serious macroeconomic challenge to the design and implementation of economic development strategy in many developing countries. It is widely acknowledged in financial economic literature that stable exchange rate promotes economic growth and development. However, unstable or volatile exchange rate creates uncertainty and risk for economic agents with destabilizing effects on the macro economy (Mordi 2006). For instance, unstable exchange rate induces distortions in production and consumption patterns which may generate further macroeconomic shocks.

Exchange rate management is concerned with the design and implementation of an appropriate mechanism for the determination of an optimum exchange rate for the economy. Odusola (2006) posits that in managing exchange rate, most countries focus on exchange rate policy because whatever policy a nation adopts affects the prices of goods and services in the economy. Over the years, the Central Bank of Nigeria has adopted varied mechanisms for determining the exchange rate in Nigeria. Essentially, it has varied from a fixed exchange rate, through a two-tier foreign exchange rate to a variety of market-based but essentially managed exchange rate regimes (Okafor 2011). During the fixed regime, exchange rate was largely subjected to administrative management and hence passive as it was dictated by trends in the movement of the British pound sterling and the US dollar (Obadan 2006). However, following the adoption of SAP in 1986, exchange rate management in Nigeria has become a core macroeconomic policy function of the Central Bank of Nigeria with an overriding objective of achieving a realistic and stable exchange rate consistent with internal and external balance (Mordi 2006).

The choice of exchange rate policy adopted at any given time derives from the economic objectives of the government. The immediate challenge Nigeria faced as an independent nation was to transit from primary to secondary production and to facilitate the transition process, the fixed exchange rate was adopted. A direct consequence of the policy was an over-valuation of the domestic currency. Major objective of the policy was to fast-track the industrialization process through massive importation of industrial inputs and thereby enhance growth and development. However, over-valuation also raises the price of exports thereby compromising international competitiveness, leading to rationalization of the scale of operations in export industries with attendant negative implications for employment and employee welfare. Callison (2000) contends that over-valuation of a nation's currency rather than alleviate poverty through industrial development, perpetuates it by acting as an impediment to the promotion of a broad-based or diversified employment-oriented economic growth. He argues that currency over-valuation undervalues main resource endowments of developing economies (land and labor), leading to lower returns to their owners (farmers, farm workers, and industrial workers) while at the same time encouraging capital-intensive investments that offer fewer jobs. In Nigeria, for example, Okafor (2000) argues that massive investments in capital-intensive import-substituting industries during the fixed regime produced industries that rely heavily on imported industrial infrastructure which became foreign exchange guzzlers with very low value addition.

Advocates of the fixed regime also contend that the regime is characterized by macroeconomic stability and low level of inflation. Nzekwu (2016) argues that pegging of exchange rate can lower inflation by inducing greater policy discipline and boosting confidence in the currency. Also, Rogoff, Husain, Mody, Brooks, and Oomes (2003) contend that at the early stage of a nation's financial development and integration, fixed exchange rate policy tends to offer anti-inflationary benefits without compromising growth. However, they posit that with institutional and economic advancements, nations tend to achieve considerable benefits from more flexible or floating regimes.

Adoption of floating or variable exchange rate policy in Nigeria mid-1986, however, may not be reasonably defended on grounds of institutional and economic advancements as espoused by Rogoff, Husain, Mody, Brooks, and Oomes (2003). It was rather structural imbalance in the economy that necessitated its adoption. The Central Bank of Nigeria (1995) explained that the structural adjustment programme (SAP) was designed to restructure and redirect the economy, eliminate price distortions and diversify the export base of the economy. Adoption of the floating exchange rate policy is one of the main strategies to achieve the objectives of SAP. For a highly import-dependent economy with very weak productive capacity, SAP triggered a whirlwind of currency devaluations, leading to unstable or volatile exchange rate with adverse consequences for inflation, employment and economic well-being of citizens. Owing to the high import content of installed domestic production capacity, SAP led to generalized increases in prices which adversely affected the operations of small and medium scale enterprises (Federal Government of Nigeria 1989), leading to job cuts, factory closures and other social problems. Similarly, Nzekwu (2006) asserts that exchange policies may have some social impact on the economy. Citing health care as an example, Nzekwu argues that high cost of imported drugs may constrain the poor to use local herbs and shrubs or other local alternatives or go untreated.

Frequent episodes of exchange rate depreciation under the floating regime in developing economies lead to exchange rate volatility which affects production and consumption patterns thereby perpetuating poverty. For instance, unstable exchange rate, a major characteristic of the regime, fuels other macroeconomic shocks like inflation which erodes the purchasing power of the poor thereby aggravating poverty among the poor. Inflation further hurts the poor through inequitable income and wealth distribution by lowering output and employment. Also, persistent depreciation can lead to capital flight and other unwholesome practices like round-tripping and other corruption-inducing opportunities all of which impact severely on the poor. However, contrary to widely held opinion that currency depreciation fuels inflationary pressure, Callison (2000) argues that it is rather inflation that led to

currency depreciation in Zambia. He argues that financing fiscal deficits through mechanisms that increase money supplies faster than output growth leads to inflation which causes currency depreciation in nominal terms.

Elbadawi (2015) examined the effect of real exchange rate on poverty. Controlling for household consumption growth and initial inequality, the result shows direct poverty-reducing impact of real exchange rate devaluation. It specifically shows that poverty alleviation is enhanced if real exchange rate devaluation is below 50 per cent. This finding suggests that devaluation of the real exchange rate is a veritable poverty reduction tool for most developing economies since the median country in the sample survey was undervalued at only 12%.

The study by Omojimate and Oriavwote (2012) analyzed the influence of real effective exchange rate on poverty reduction in Nigeria between 1980 and 2010 using the techniques of vector error correction model (VECM) and vector auto-regression (VAR). The VECM result shows that real exchange rate movements have significant positive impact on poverty in Nigeria. Also, the VAR estimates show significant contribution of real exchange rate variations to poverty during the period. An earlier study by Qumer (2007) on the link between real exchange rate and poverty also reports positive effect of real exchange rate on poverty if income inequality is low and institutions are strengthened.

Hua (2011) examined the social and economic effects of real exchange rate using panel data, for 1987-2008, from 29 provinces in China. Generalized method of moments (GMM) was adopted for the study. The result indicates negative effect of real exchange rate appreciation on growth, with greater impact in coastal than in inland provinces. It also shows negative effect of exchange appreciation on employment, which implies negative effect on poverty.

A number of studies present evidence in support of the claim that stable and competitive exchange rate policies support development in Asian economies. For instance, the study by Rodrik (2008) on the nexus between real exchange rate and economic growth shows that a high real exchange rate (currency undervaluation) stimulates growth, particularly in very poor developing economies, through enhanced performance of the tradable (particularly the industrial) sector. Rodrik justified this result on the premise that the tradable sectors in developing economies suffer disproportionately from market and government failures arising from weak institutions and product market failures which keep them from converging toward the high income or developed economies. Evidence from Rapetti, Scott, and Ranzi (2011), Ramzi, Rapetti, and Scott (2009, 2012) and the recent study of Dumill, Frenkel, and Rapetti (2015) provides further empirical support for Rodrik (2008). Rapetti, Scott, and Ranzi (2011) not only confirmed the growth-inducing effect of real exchange rate in poor developing economies but also show that it has sizable impact on middle income countries. They also show that the effect of real exchange rate undervaluation decreases with the level of GDP per capita. A more recent study of Dumill, Frenkel, and Rapetti (2015) shows a close link between macroeconomic policy and macroeconomic performance in Argentina between 2003 and 2013. The study specifically shows that Argentina's drift from high growth performance to stagflation derives from policy shift from stable and competitive real exchange rate to one of populist orientation.

Evidence from financial economic literature suggests dearth of empirical literature on the nexus between exchange rate policy and economic development, particularly in developing economies. None of the reviewed works dealt on a comparative analysis of policy impact of exchange rate regimes on economic development. We consider a study of this nature relevant for policy formulation.

## 2. Methodology

The study was designed to achieve two major objectives. First, it was designed to determine the effect of exchange rate on economic development in Nigeria over the period 1970 - 2016, and second, to determine the effect of exchange rate policy on economic development. For the second objective, the study segmented 1970 - 1986 as the fixed exchange rate policy period while 1987 - 2016 was segmented as the floating exchange rate policy period. The *ex-post facto* research method was adopted for the study because it offers considerable degree of convenience in the use of historical data to explain economic phenomena. Being an event study, the methodology developed by Campbell, Lo and Mackinlay (1997) was adopted.

The study covers the period 1970-2016 and data on the variables (GDP per capita, exchange rate, inflation rate, external debt and interest rate) were obtained from secondary sources like the Central Bank of Nigeria Statistical Bulletin and the World Bank. GDP per capita, adopted as the dependent variable, was used as proxy for economic development. The regression estimates were obtained using the econometric technique of the ordinary least squares (OLS).

### Model specification

This study extends and modifies the model in Omojimate and Oriavwote (2012). The authors conducted a study on real exchange rate and poverty in Nigeria in 1980-2010. The model adopted in their study is presented as follows:

$$LPCY = C_0 + C_1REER + C_2GSP + C_3PE + Ut \tag{i}$$

where: PCY = Poverty index, proxied as per capita GDP, REER = Real effective exchange rate, GSP = Absorption capacity, proxied as government spending, PE = Human capital development, proxied as primary school enrolment,  $C_0$  = Intercept or Constant, L = Natural logarithm, Ut = Random variable.

The present study extends and modifies Omojimito and Oriavwote (2012) by (i) expanding the scope from 1980 - 2010 to 1970 - 2016 (ii) segmenting the data to capture the policy impact of two major phases of exchange rate management (iii) introducing a new set of controlled variables. The model adopted for this, therefore, is specified as follows:

$$GDPC = \beta_0 + \beta_1 EXD + \beta_2 EXR + \beta_3 INF + \beta_4 IR + \epsilon_{it} \tag{ii}$$

where: GDPC is GDP per capita, proxy for economic development, EXD is external debt as ratio of GDP, EXR is nominal exchange rate, INF is inflation rate, IR is interest rate,  $\beta_0$  .....  $\beta_4$  represent coefficients to be estimated,  $\epsilon_{it}$  is random variable.

### 3. Analysis and discussion of results

In this section, the effect of exchange rate on economic development for the full data sample data (1970-2016) and under the two major phases of exchange rate management (fixed and floating regimes) was examined and the results presented and discussed.

Table 1. Unit root result

Variable	ADF Test @ Level	Prob*	Remark
GDPC	-5.713209	0.0001	1(0)
EXD	-4.355680	0.0607	1(0)
EXR	-4.880067	0.0014	1(0)
INF	-3.453548	0.0568	1(0)
IR	-4.175942	0.0019	1(0)

Note: Test critical values: 1% level = -4.170583; 5% level = -3.510740; 10% level = -3.185512  
 Source: Authors' computation, 2018; \* MacKinnon (1996) one-sided p-values.

The unit root test was conducted to determine if the time series data is non-stationary, and hence possess unit root. Based on 10% level of significance, the unit root test shows that all the variables are stationary at their levels and hence integrated of order zero (1(0)). Since all the variables are stationary at their levels, evidence of long-run relationship (co-integration) was therefore assumed. This implies that the variable has a tendency to move together and not drift apart over the long-run, and therefore suitable making economic projections or forecasts.

#### Regression estimates

Table 2. Full sample result (1970 – 2016)

Dependent Variable: GDPC				
Method: Least Squares				
Included observations: 46				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.329969	3.275412	0.406046	0.6868
EXD	0.074756	0.063024	1.186162	0.2424
EXR	-0.224235	0.076095	-2.946779	0.0053
INF	-0.019436	0.076641	-0.253601	0.8011
IR	0.364511	0.179871	3.358651	0.0217
R-squared	0.597305	Mean dependent var		1.602174
Adjusted R-squared	0.518993	S.D. dependent var		7.792261
S.E. of regression	7.313968	Akaike info criterion		6.919771
Sum squared resid	2193.259	Schwarz criterion		7.118536
Log likelihood	154.1547	Hannan-Quinn criter.		6.994230
F-statistic	25.19483	Durbin-Watson stat		1.941957
Prob(F-statistic)	0.055735			

Source: Authors' computation, 2018



The regression estimates for the entire sample period (1970-2016) shows significant negative impact of exchange rate movements on economic development, an indication that the cumulative effect of exchange rate management in Nigeria has not supported development. With regard to interest rate, the result shows evidence of significant positive impact on economic development. The result indicates that over the entire period, the level of interest rate in Nigeria aided the implementation and performance of development-oriented policy initiatives in Nigeria. In terms of magnitude of impact, the result shows that 1% increase (depreciation) in exchange rate lowers per capita GDP by 0.22% and vice versa. This result supports *a priori* reasoning that price increases associated with exchange rate depreciation lowers the quality of life thereby perpetuating poverty. On the other hand, a 1% rise in interest rate raises per capita GDP by 0.36%. The positive relationship suggests improvement in allocation and use of financial resources as borrowing became more expensive. These results are significant at 5 per cent. The study, however, did not show significant impact of external debt. The R<sup>2</sup> and Adjusted R<sup>2</sup> values of approximately 60 per cent and 52% respectively show that the independent variables significantly explain variations in economic development. The Durbin-Watson statistic of 1.92 indicates very negligible or no effect of negative auto correlation in the model.

Table 3. Fixed exchange rate regime (1970-1986)

Dependent Variable: GDPC				
Method: Least Squares				
Included observations: 16				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	30.41676	15.07248	2.018033	0.0686
EXD	1.186255	0.781322	1.518267	0.1572
EXR	-0.733847	0.327029	-2.243981	0.0464
INF	-3.358162	0.217471	-2.646943	0.0278
IR	-2.784918	1.696623	-1.641448	0.1290
R-squared	0.405376	Mean dependent var		0.356250
Adjusted R-squared	0.325513	S.D. dependent var		9.583178
S.E. of regression	7.870392	Akaike info criterion		7.214399
Sum squared resid	681.3738	Schwarz criterion		7.455833
Log likelihood	52.71520	Hannan-Quinn criter.		7.226763
F-statistic	28.09780	Durbin-Watson stat		2.042175
Prob(F-statistic)	0.078696			

Source: Authors' computation, 2018

The result for the fixed exchange rate period (1970-1986) also shows significant negative impact of exchange rate on economic development.

Table 4. Floating or variable exchange rate regime (1987-2016)

Dependent Variable: GDPC				
Method: Least Squares				
Included observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.600214	6.716292	0.833825	0.4123
EXD	0.055778	0.055499	1.005025	0.3245
EXR	-2.407649	0.084902	-2.445756	0.0218
INF	5.332974	0.079963	3.412365	0.0836
IR	-4.131896	0.295155	-2.446869	0.0588
R-squared	0.592728	Mean dependent var		2.266667
Adjusted R-squared	0.518365	S.D. dependent var		6.738276
S.E. of regression	6.398296	Akaike info criterion		6.700952
Sum squared resid	1023.455	Schwarz criterion		6.934485
Log likelihood	95.51428	Hannan-Quinn criter.		6.775661
F-statistic	15.79094	Durbin-Watson stat		2.015661
Prob(F-statistic)	0.162228			

Source: Authors' computation, 2018

This result indicates that the fixed exchange rate policy of the period did not promote development in Nigeria. Specifically, it indicates that a 1% increase in exchange rate (devaluation) decreases per capita GDP by 0.73%. Though the negative impact of the regime does not align with *a priori* theoretical expectations, it goes to

show the extent to which the Nigerian economy depends on importation for consumer and industrial goods. This explains successive currency devaluations during the period. Also, net over-valuation of the domestic currency rendered the nation's commodity exports uncompetitive. The cumulative effect of all these was a net outflow of foreign exchange. The result for inflation shows significant negative impact on development. The result indicates that as inflation increases by 1%, there is a 3.36% decline in per capita GDP. External debt and interest rate were shown to impact non-significantly on development during the period. The  $R^2$  (41%) and Adjusted  $R^2$  (32.6%) estimates show moderately strong explanatory power of the independent variables. The value of the Durbin-Watson statistic (2.02) indicates absence of negative auto correlation in the model.

The regression estimates for the variable or floating exchange rate regime (1987-2016) further shows exchange rate as a major player in the development process of the Nigerian economy. The result indicates that the floating regime is an impediment to economic development. Under the floating regime, the negative impact of exchange rate depreciation is strongest. 1% increase in exchange rate produced 2.41% decrease in per capita GDP, an indication of a drastic decline in living standard. Being an import-dependent economy, the high and variable exchange rate depreciations that characterize the floating regime obviously impacted negatively on Nigeria's development process. Both the level and movement of exchange rate have implications for macroeconomic performance. Interest rate was also shown to exert significant negative impact on development during the period, an indication that high interest rates associated with the deregulation policy did not support development-oriented programmes. The magnitude of impact is also more severely felt under the floating regime. Being a price variable, this outcome conforms to theoretical expectations. With regard to inflation, the study shows significant positive impact on development. This is not in agreement with theoretical expectations but it suggests that its level is still within development-supportive threshold. The effect of external debt on economic development was observed to be non-significant. The  $R^2$  and Adjusted  $R^2$  values of 59.3% and 51.8% respectively show that the independent variables significantly explain variations in development in Nigeria. The Durbin-Watson statistic of approximately 2.02 indicates no effect of negative auto correlation in the model.

### **Summary of findings, conclusion and recommendations**

The study was designed to examine the link between exchange rate management and economic development in Nigeria by analyzing the impact of different exchange rate policies on per capita GDP. The regression result for the entire sample period (1970-2016) shows significant negative impact of exchange rate on economic development. When the sample period was segmented according to policies adopted in managing exchange rate in Nigeria (we chose to classify policies of exchange rate into fixed and floating avoid unnecessary overlap), it was also observed that exchange rate significantly impeded development in Nigeria and the impact was shown to be more severe than for the entire sample period. For the floating exchange rate regime, the result not only showed significant negative impact of exchange rate on development but the impact was far more severe than in the previous cases. The strongest negative impact of exchange rate was transmitted to the development process during the variable or floating exchange rate regime.

Result on the behavior of interest rate during the different phases of exchange rate management was mixed. For the entire sample (1970-2016), the result shows significant positive impact of interest rate on development. There is evidence of non-significant negative impact of interest rate on economic development during the fixed regime. However, the impact of interest rate on development became significantly negative during the floating regime.

Inflation had non-significant negative impact on development over the sample period 1970-2016 but when the data was segmented, the result shows significant negative impact of inflation on development during the fixed regime and significant positive impact on development when a policy shift to floating regime was implemented.

With regard to external debt, the study indicates non-significant positive impact on development over all the phases covered in the study, indicating that external debt is a weak predictor of development within the scope of this study.

Following from the above findings, we conclude that irrespective of policy adopted, exchange rate is a major factor in the planning and implementation of development-oriented programmes and policies in a developing nation like Nigeria. However, the impact is far more severe when developing nations adopt liberalized exchange rate policies without first developing adequate industrial infrastructure to support a robust domestic production capacity.

The study therefore recommends that a developing nation should not only start with the adoption of the fixed exchange rate policy but must ensure that implementation targets the development of vibrant institutional,

industrial and financial infrastructure in order to reduce dependence on consumer and industrial goods imports before transiting to the floating exchange management regime.

### Acknowledgment

The authors duly appreciate Covenant University Ota, Nigeria for the full sponsorship of this publication.

### References

- [1] Callison, C.S. 2000. The foreign exchange rate and poverty reduction through economic growth. Retrieved, 20/01/2018, from: [http://pdf.usaid.gov/pdf\\_docs/PBAAD349.pdf](http://pdf.usaid.gov/pdf_docs/PBAAD349.pdf)
- [2] Campbell, J.Y., Lo, A.W., Mackinlay, A.C. 1997. Event-study analysis, in Campbell, J.Y., Lo, A.W., Mackinlay, A.C. (ed), *The Econometrics of Financial Markets*, New Jersey, Princeton University Press: 48-55. Retrieved, September 20, 2017, from: <https://www.nrc.gov/docs/ML1208/ML12088A329.pdf>
- [3] Damill, M., Frenkel, R., Rapetti, M. 2015. Macroeconomic Policies in Argentina 2002-2013, *Comparative Economic Studies*, 57(3): 369-400.
- [4] Elbadawi, I.A. 2015. Real exchange rate undervaluation and poverty, In *Economic Growth and Poverty reduction in Sub-Saharan Africa*, Oxford University Press: 259-296. DOI: 10.1093/acprof:oso/9780198728450.003.0009
- [5] Hua, P. 2011. The economic and social effects of real exchange rate – Evidence from the Chinese provinces, Paper prepared for the International Conference on Social Cohesion and Development, Paris-France, January 20-21.
- [6] Mordi, C.N.O. 2016. Challenges of exchange rate volatility in economic management in Nigeria, *Bullion*, 30(3): 17-25.
- [7] Moser, G.G. 1995. The main determinants of inflation in Nigeria, *IMF Staff Papers*, 42(2): 270-289.
- [8] Nzekwu, G. 2006. Exchange rate stability and poverty reduction in Nigeria, *Bullion*, 30(3): 52-64.
- [9] Obadan, M.I. 2006. Overview of exchange rate management in Nigeria from 1986 to date, *Bullion*, 30(3): 1-9.
- [10] Odusola, A. 2006. Economics of exchange rate management, *Bullion*, 30(3): 38-44.
- [11] Okafor, F.O. 2000. Micro-Credit: an instrument for economic growth and balanced Development, *African Banking & Finance Review*. 1 (1): 31-42.
- [12] Okafor, F.O. 2011. *Fifty years of banking sector reforms in Nigeria (1960-2010): Past lessons: Future imperative*, First Bank of Nigeria Research Chair Report, Banking and Finance, Nnamdi Azikwe University, Awka, Enugu: Ezu Books Limited.
- [13] Obadan, M.I. 2006, Overview of exchange rate management in Nigeria from 1986 to date, *Bullion*, 30(3): 1-9.
- [14] Omojimiti, B.U. and Oriavwote, V.E. 2012. An empirical assessment of the real exchange rate and poverty, *Asian Economic and Financial Review*, 2(1): 244-254.
- [15] Osioma, B.C. 1998. Problems and prospects of Accountancy profession in the next millennium, Paper presented at National Conference of Nigerian Accounting Association, Benin City, October 5.
- [16] Oumar, D. 2007. Poverty and real exchange rate: Evidence from panel data, *Journal of African Development*, Spring, 9(1): 67-104.
- [17] Rapetti, M., Skott, P., Razmi, A. 2011. The real exchange rate and economic growth: Are developing countries different? Working Paper, University of Massachusetts, Department of Economics, No. 2011-07. Retrieved, <https://www.econstor.eu/bitstream/10419/64202/1/668006870.pdf>
- [18] Razmi, A., Rapetti, M., Skott, P. 2009. The Real Exchange Rate as an Instrument of Development Policy, Working Paper, University of Massachusetts, Department of Economics, Working Paper 2009-07. Retrieved, [http://www.bresserpereira.org.br/terceiros/cursos/2011/Razmi,Rapetti,Skott-real\\_exc\\_hange\\_rate.pdf](http://www.bresserpereira.org.br/terceiros/cursos/2011/Razmi,Rapetti,Skott-real_exc_hange_rate.pdf)
- [19] Razmi, A., Rapetti, M., Skott, P. 2012. The real exchange rate and economic development, *Structural Change and Economic Dynamics*, 23(2): 151-169.



- [20] Rodrik, D. 2008. The real exchange rate and economic growth, *Brookings Papers on Economic Activity*, Fall: 365-412.
- [21] Rogoff, K.S., Husain, A.M., Mody, A., Brooks, R., Oomes, N. 2003. Evolution and performance of exchange rate regimes, IMF Working Paper, 03(243). Available at: [https://www.researchgate.net/publication/228288069\\_Evolution\\_and\\_Performance\\_of\\_Exchange\\_Rate\\_Regimes](https://www.researchgate.net/publication/228288069_Evolution_and_Performance_of_Exchange_Rate_Regimes)
- [22] Uche, C.U. 2000. Poverty alleviation programme in Nigeria: Past, present and future, *Nigerian Journal of Banking and Finance*, 3: 1-24.
- \*\*\* Central Bank of Nigeria 1995. Monetary policy in Nigeria, *CBN Briefs*, Research Department Series, 95/03
- \*\*\* Federal Government of Nigeria 1989. *Budget Speech*.
- \*\*\* Manufacturers Association of Nigeria 2005. Review of the Nigerian economy, *MAN Economic Review*