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Original Article

Exchange Rates, Borrowing Costs and Optimizing Real Industrial Output in the Nigerian Economy

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***Abstract** - The importance of a consensus on how the relationship between the USD-NGN exchange rates and industrial output in Nigeria should be modeled cannot be over-emphasized. Empirical exercises which focus onhomogeneity testing and dynamic stabilityas primary considerations for loading variables in the Vector Autoregressive (VAR) space for modeling the relationship between exchange rates and real Industrial output in Nigeria are yet to be undertaken. This lacuna encourages the unhealthy over-emphasis on the application of exchange rate ceilings and floors (as opposed to managing borrowing costs) as measures to facilitate industrial output growth. The results of Vector Autoregression show that a differenced form VAR model is the most parsimonious and statistically viable model for capturing the dynamics of the relationship between exchange rates, borrowing costs, and real industrial output in Nigeria. Granger causality tests reveal short-run causality running from borrowing costs to real industrial output. It is recommended that monetary policymakers channel their efforts away from exchange rate management and focus on the management of lending rates as a strategy for optimizing industrial output in Nigeria.*

***Keywords** - Real Industrial Output, Lending Rates, Exchange Rates, Exogeneity, Differenced Form VAR, Dynamic Stability, Short Run Causality.*

I. INTRODUCTION

Industries in Nigeria, especially pharmaceuticals, consumer goods, and construction, are heavily reliant on imported goods either as raw materials or intermediate goods in their manufacturing processes. Nigeria's position as a net importer of foreign goods, especially raw materials, leaves Nigerian industries vulnerable to exchange rate shocks. Adverse shocks have the effects of downsizing the income statements and even the balance sheets of firms in the manufacturing industries as unfavorable moves in exchange rates imply increased production costs and consequently reduced profits. The recent dollar injections by the central bank of Nigeria to stabilize rates is tantamount to a shift in exchange rate regimes from floating to managed, and as such, insights derived from this study on the relationship between exchange rates and real sector output in Nigeria may have significant implications for current and future policies on exchange rates.

The graph below presents a visual exposition of the relationship between exchange rates and the logarithm of industrial output from the real sector in Nigeria from 1981 to 2018.

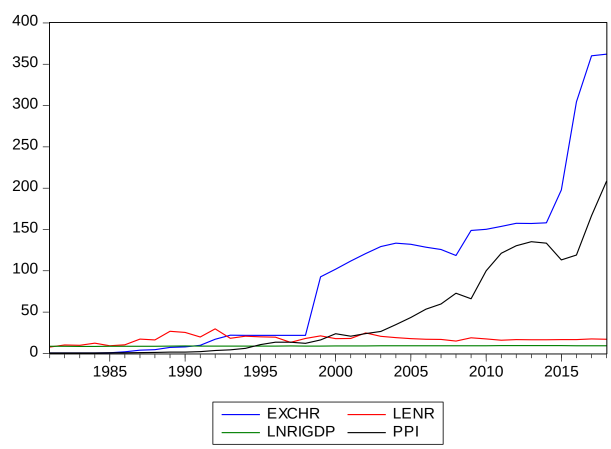

Fig. 1 Author's computations from Eviews

At first glance, it would appear that there has been no relationship between industrial output and exchange rates since the country adopted a democratic system of government. This comes as a surprise because real sector inflation rates (in this case, the producer price index) seem to be moving in tandem with exchange rates even amidst regime changes. Interestingly, the same conclusions can be arrived at when the graphs of industrial output and producer price index are compared. It appears that inflation in the industrial sector has no effect on output from that sector. Visual inspection portrays industrial output and lending rates as having the potential to co-move.These observations warrant further investigation as they do not conform to the fundamentals expected from an economy known to display highly negative net exports (as evidenced below) and that is heavily reliant on imported raw materials for industrial production, as shown by the vast disparity in trends of non-oil exports and nonoil imports below

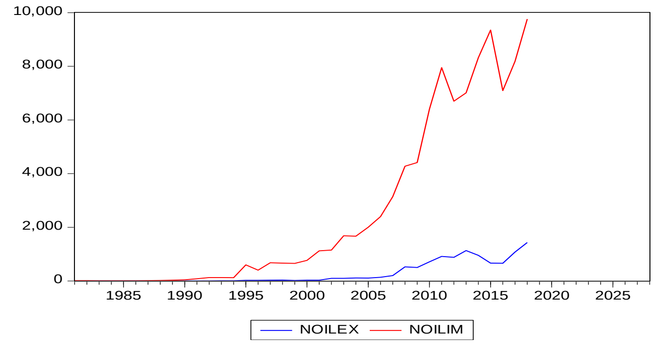

Fig. 2 Author's computations from Eviews

A. Research Questions

This study will provide answers to the following research questions:

- Is the real output of industries independent of exchange rates in Nigeria?
- Should the Central Bank of Nigeria continue with a managed exchange rate regime or simply focus on lending rates as a policy to manage industrial output?

B. Research Objectives

The objectives of this study are

- To build a parsimonious model capable of capturing the dynamics of the relationship between exchange rates, real industrial output, and borrowing costs in Nigeria and thus assess the effect of exchange rate on real industrial output over the period under study.
- To ascertain the existence or otherwise of a causal relationship between exchange rate and manufacturing industries output in Nigeria.
- To compare the efficacy of exchange rates over lending rates as a veritable tool for managing real industrial output in Nigeria's Economy.

II. LITERATURE REVIEW

Ehinomen and Oladipo (2012) applied OLS multiple regression techniques to study the impact of exchange rate management on the growth of the manufacturing sector in Nigeria from 1986 to 2010. They find no significant relationship between exchange rate depreciation and manufacturing output growth. Their study, however, points out that there is a statistically significant relationship between exchange rate appreciation and output growth. They recommend a policy mix that, on the one hand, facilitates exchange rate appreciation and, on the other hand, limits the importation of final and intermediate goods that can be manufactured locally.

Modebe and Okoye (2017) examined the impact of exchange rate fluctuations on the manufacturing sub-sector of Nigerian industries by applying vector error correction models. Their study revealed that the capacity utilization of the manufacturing sub-sector is positively and significantly affected by exchange rates. The study suggests diversification from oil as a way to minimize exchange rate shocks.

Tams-Alasia, Olokoyo, and Okoye(2018) studied the long-run relationship between Exchange Rate Deregulation on manufacturing industries' Performance in Nigeria from 1980 to 2016 using normalized cointegration and error correction techniques. They find that exchange has a positive (albeit statistically insignificant) effect on output and advocate exchange rate stabilization policies as an approach to improving industrial performance.

Another study that investigates the impact of exchange rates on industrial output in Nigeria was done by Ogunmuyiwa and Adelowokan (2018) with data from 1986 to 2016 using a combination of chow breakpoint tests and the Box-Jenkins methods. Contrary to what is observed from visual inspection of figure 1, their study points out a structural break in the pattern of industrial output beginning from 1999. In their study, they found a positive and significant relationship between exchange rates and industrial output. They recommend prudent exchange rate management in order to prevent inflation spirals in the goods market.

Similar to the study by Modebe and Okoye (2017) is the study by Charity et al. (2019) on the effects of exchange rate fluctuations on the productivity of manufacturing firms in Nigeria with data spanning 2015 to 2017 using the analysis of variance approach. The study concluded that a fixed exchange rate regime has a positive impact on the productivity of Nigerian firms.

The motivation for this paper comes from the fact there is a dearth in the literature with regards to considerations of real (as opposed to nominal) data. The literature is also lacking in arguments that consider other monetary policy options for boosting industrial output as a replacement for advocating the application of exchange rate subsidies even with the potentials for deadweight losses. It is also important to stress that a consensus on how the relationship between the Dollar-Naira exchange rates and industrial output in Nigeria should be modeled is yet to be achieved. Existing literature shows a lack of empirical exercise in testing for homogeneity, a primary consideration for loading variables in an autoregressive vector framework. This has severe implications for the selection of a parsimonious model for describing the relationship between Real Industrial output, Exchange rates, and Borrowing costs.

III. DESCRIPTION OF DATA AND METHODOLOGY

A. Description of Data

Data on variables of interest covered the period from 1981 to 2018 and was obtained from the statistical bulletin of the Central Bank of Nigeria (2018). The variables thathave been selected for inclusion in this study are:

- Real Industrial Gross Domestic Product (GDP) in 2010 prices. This variable is the closest proxy to real output from the industrial sector in deflated (2010) prices. It represents the contribution to National GDP from manufactured goods only. Specifically, this study will make use of the natural logarithm of Real Industrial Gross Domestic Product (LRIGDP) so that it may be discussed in terms of percentages.Contribution to GDP from the financial and service sectors is not included in this study.
- Lending Rate (LENR): Data historical lending rates are included in this study as a proxy for the influence of monetary policy. This is in line with macroeconomic economic theories concerning interest rates and output as put forward by the LM-relation.
- Exchange Rate (EXCHR): The focus of this study is the nexus between RIGDP LENR and EXCHR. It is therefore imperative that a proxy be included for exchange rates. This study has selected historical data on the NGNUSD Exchange rate from 1981 to 2018. The dollar exchange rate is preferred to the Chinese Yuan or the Euro in this study because the dollar is the major currency for international trade.
- Producer Price Index (PPI): This variable has been selected as a proxy for supply-side inflation. Visual inspection showed similar trend patterns between EXCHR and PPI, suggesting the possible existence of some statistical relationship. In line with the AS-AD model, inflation is thought to have a direct effect on output. For this reason, this variable was selected for inclusion in this study.

B. Methodology

Quantitative techniques are applied to building a model that can capture the relationship between the variables of interest. These techniques begin from undertaking stationarity tests in the form of the Augmented Dickey-Fuller (ADF) tests as recommended by Dickey and Fuller (1979) in order to determine the order of integration of each the Selection criteria. The Schwarz Bayesian Criterion (SBC) and Hannan-Quinn Criterion (HQC) are the preferred criteria for this study. The model with the smallest criteria estimates or small standard errors and a decent R^2 is selected.The estimated VAR is dynamically stable if all inverse roots lie inside the unit circle. If the VAR is not dynamically stable, variables and avoid spurious results, according to Dickey et al. (1987).

The typical ADF test involves estimating the following regression for each of the series:

$$\Delta Y_t = \delta Y_{t-1} + \sum_{i=1}^{n} \alpha_i \Delta Y_{t-i} + \mu_t \qquad (1)$$

Whereμ_t = pure white noise error term

The general to specific approach in which no variables are chosen ab initio to be either endogenous or exogenous is adopted. This will be decided after exposing the variables to variance decomposition tests as described by Lütkepohl (1990). Variance decompositions are useful in evaluating how shocks reverberate through a system (i.e., to analyze the pass-through of external shocks to each of the selected variables). Eviews displays separate variance decomposition for the endogenous variables that variance decompositions are effectively homogeneity tests as argued by Brooks (2002).

Cointegration tests are conducted within the framework described by Johansen (1988) to determine the possibility of obtaining a stationary linear combination of non-stationary variables and establish a stronger empirical basis for explaining the relationship between Real Industrial Output, Exchange rates, and Borrowing costs using a Vector Autoregressive (VAR) model.

The Vector Autoregressive (VAR) model introduced by Sims (1980) describes the evolution of a set of endogenous variables over a specified period as a linear function of only their past values.

A VAR (1) in two variables can be written in matrix form as

$$\begin{bmatrix} Y_{1,t} \\ Y_{2,t} \end{bmatrix} = \begin{bmatrix} C_1 \\ C_2 \end{bmatrix} + \begin{bmatrix} \beta_{1,1} & \beta_{1,2} \\ \beta_{2,1} & \beta_{2,1} \end{bmatrix} + \begin{bmatrix} Y_{1,t-1} \\ Y_{2,t-1} \end{bmatrix} + \begin{bmatrix} \epsilon_{1,t} \\ \epsilon_{2,t} \end{bmatrix} \qquad (2)$$

Or equivalently, as the following system of two equations

$$Y_{1,t} = C_1 + \beta_{1,1} Y_{1,t-1} + \beta_{1,2} Y_{2,t-1} + \epsilon_{1,t} \qquad (3)$$

$$Y_{2,t} = C_2 + \beta_{2,1} Y_{1,t-1} + \beta_{2,1} Y_{2,t-1} + \epsilon_{2,t} \qquad (4)$$

Each variable in the model has one equation, and this example has a maximum lag of 1. The current (time *t*) observation of each variable depends on its own lagged values as well as on the lagged values of each other variable in the VAR. It is necessary to determine the optimum lag length by using proper model order impulse response results are not valid. The AR roots graph reports the inverse roots of the characteristic AR polynomial within the framework of Lütkepohl (1989).

Given the following AR (p) process:

$$y(t) = a_1 y_{t-1} + \cdots + a_p y_{t-p} + \epsilon_t \qquad (5)$$

This can be re-expressed as

$$y_t = (1 - a_1 L_1 - \cdots - a_p L_P) y_t + \epsilon_t \quad (6)$$

Where L is the lag operator.

$$\text{Let} z^k = L(k) \quad (7)$$

Then we can express equation 6 as

$$1 - a_1 z^1 - \cdots - a_p z^p = 0 \quad (8)$$

And the z^1 to z^pThey are called the roots of the characteristic equation. Eviews show inverse roots (the reciprocal of the roots). If all inverse roots lie within the unit circle, then the VAR process is stable.

Granger causality tests were applied to ascertain the causal relationship between the variables and identify the direction of causality among the variables in order to lend credence to the results of Johansen's cointegration tests. Post estimation diagnostics were carried out on the final model to ensure the chosen Vector Autoregressive process neither suffers heteroscedasticity nor serial autocorrelation of the stochastic errors.

IV. DATA ANALYSIS, RESULTS, AND INTERPRETATIONS

A. *Stationarity Tests*

The Augmented Dickey-Fuller test results for stationarity on the first differences of the variables of interest are presented in table 1 below

Table .1

Variable	ADF Statistic	Critical Value at 5%	Probability	Order Of Integration
D(LNRIDP	-5.547051	-2.945842	0.0000	I(1)
D(LENR)	-6.187342	-3.544284	0.0001	I(1)
D(EXCHR)	-3.818949	2.945842	0.0061	I(1)
D(PPI)	-5.781183	-3.557759	0.0002	I(1)

Source: Author's computations from Eviews

Augmented Dickey-Fuller tests show that all variables are different stationery as opposed to being stationary level. They are stationary of order 1. That is, they are integrated of order 1. In this case, the autocovariance structure of each of the variables can be shown to decay after they have been differenced once.

B. *Homogeneity Test*

It is necessary to build an econometric model in order to properly study the relationship between GDP, EXCHR, and LENR. Such a model would not only be required to take a mathematical form but would also be required to treat variables as either endogenous or exogenous. The results of homogeneity tests via variance decompositions are presented in tables 2-4 below.

Table 1.

Dependent Variable: LNRIGDP

Period	Standard Error	Percentage Decomposition from LRIGDP	Percentage Decomposition from EXCHR	Percentage Decomposition from LENR	Percentage Decomposition from PPI
1	0.065947	100.0000	0.000000	0.000000	0.000000
3	0.104216	77.04122	2.050000	20.22682	0.681954
5	0.130004	50.93399	19.99333	28.27805	0.794628

Table 2.

Dependent Variable: EXCHR

Period	Standard Error	Percentage Decomposition from LRIGDP	Percentage Decomposition from EXCHR	Percentage Decomposition from LENR	Percentage Decomposition from PPI
1	19.11148	6.364538	93.63546	0.000000	0.000000
3	40.95929	4.094987	85.14966	0.379167	10.37618
5	45.35535	3.489762	85.56827	0.386415	10.55555

Table 3.

Dependent Variable: LENR

Period	Standard Error	Percentage Decomposition From LRIGDP	Percentage Decomposition from EXCHR	Percentage Decomposition From LENR	Percentage Decomposition From PPI
1	3.708095	1.767626	6.137690	92.09468	0.000000
3	4.302452	4.401626	4.729633	89.60628	1.262457
5	4.521546	5.452457	4.469153	88.76496	1.313434

Source: Author's computations from Eviews

The variance decompositions above show a higher response to shocks when LNRIGDP is the dependent variable.In line with the application of variance decompositions as homogeneity tests, the order in which these variables will enter the VAR to be estimated is

$$LNRIGDP_t, EXCHR_t, LENR_t, PPI_t$$

C. *Cointegration Tests*

Trace tests indicate no cointegration at a 5% size of the test, as shown in Table I. This implies that there is no long-run relationship among any of the variables in this study even though they have all been found to be different stationary and integrated of order 1. This study will proceed to estimate a VAR in levels and then a VAR in differences and interpret the model that displays the highest degree of dynamic stability. The most dynamically stable Model can be considered the most parsimonious model for studying the relationship between GDP, EXCHR, and LENR.

Series: LNRIGDP LENR PPI EXCHR

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Probability Value
None	0.3031	27.952	47.856	0.8158
At most 1	0.18868	14.950	29.7970	0.7833
At most 2	0.12170	7.4230	15.4947	0.5290
At most 3	0.07357	2.7511	3.8414	0.0972

Source: Author's computations from Eviews

D. Lag Length Selection

VAR Lag Order Selection Criteria

Endogenous variables: LNRIGDP LENR PPI EXCHR

Exogenous variables: C

Lag	LoL	LR	FPE	AIC	SC	HQ
0	-417.0401	NA	1419973.	25.51758	25.69898	25.57862
1	-295.5599	206.1482	2398.838	19.12484	20.03182*	19.43001*

Source: Author's computations from Eviews

Both the Schwarz and Hannan-Quinn Selection Criteria have selected a Vector Autoregressive lag length of 1.

Model Specification for VAR (1 1) in Level Form

$LNRIGDP_t = \beta_{10} + \beta_{11}LNRIGDP_{t-1} + \beta_{12}EXCHR_{t-1} + \beta_{13}LENR_{t-1} + \beta_{14}PPI_{t-1} + \epsilon_{1t}$ (9)

$EXCHR_t = \beta_{20} + \beta_{21}LNRIGDP_{t-1} + \beta_{22}EXCHR_{t-1} + \beta_{23}LENR_{t-1} + \beta_{24}PPI_{t-1} + \epsilon_{2t}$ (10)

$LENR_t = \beta_{30} + \beta_{31}LNRIGDP_{t-1} + \beta_{32}EXCHR_{t-1} + \beta_{33}LENR_{t-1} + \beta_{34}PPI_{t-1} + \epsilon_{3t}$ (11)

$PPI_t = \beta_{40} + \beta_{41}LNRIGDP_{t-1} + \beta_{42}EXCHR_{t-1} + \beta_{43}LENR_{t-1} + \beta_{44}PPI_{t-1} + \epsilon_{4t}$ (12)

Model Specification for VAR (1 1) in Differenced Form

$$\Delta LNRIGDP_t = \beta_{10} + \beta_{11}\Delta LNRIGDP_{t-1} + \beta_{12}\Delta EXCHR_{t-1} + \beta_{13}\Delta LENR_{t-1} + \beta_{14}\Delta PPI_{t-1} + \epsilon_{1t} \quad (13)$$

$$\Delta EXCHR_t = \beta_{20} + \beta_{21}\Delta LNRIGDP_{t-1} + \beta_{22}\Delta EXCHR_{t-1} + \beta_{23}\Delta LENR_{t-1} + \beta_{24}\Delta PPI_{t-1} + \epsilon_{2t} \quad (14)$$

$$\Delta LENR_t = \beta_{30} + \beta_{31}\Delta LNRIGDP_{t-1} + \beta_{32}\Delta EXCHR_{t-1} + \beta_{33}\Delta LENR_{t-1} + \beta_{34}\Delta PPI_{t-1} + \epsilon_{3t} \quad (15)$$

$$\Delta PPI_t = \beta_{40} + \beta_{41}\Delta LNRIGDP_{t-1} + \beta_{42}\Delta EXCHR_{t-1} + \beta_{3}\Delta LENR_{t-1} + \beta_{34}\Delta PPI_{t-1} + \epsilon_{3t} \quad (16)$$

G. Autocorrelation Test for the Estimated VAR (1 1) in Levels

VAR Residual Serial Correlation LM Tests Included observations: 37		
Lags	LM-Stat	Probability
1	27.15910	0.0397
Source: Author's computations from Eviews		

We, therefore, reject the Null hypothesis of no serial Auto Correlation for the VAR (11) in level form.

E. Estimate VAR (1 1) in Levels

Dependent Variable: LNRIGDP Included Observations: 37			
Variable	Coefficient	Standard Error	T-Statistics
LNRIGDP(-1)	0.785359	0.08374	9.37860
LENR(-1)	0.008153	0.00261	3.12172
PPI(-1)	0.000497	0.00054	0.92019
EXCHR(-1)	0.000278	0.00026	1.05293
C	1.784909	0.72442	2.46393

Source: Author's computations from Eviews

F. Dynamic Stability of the Estimated VAR (1 1) in Levels

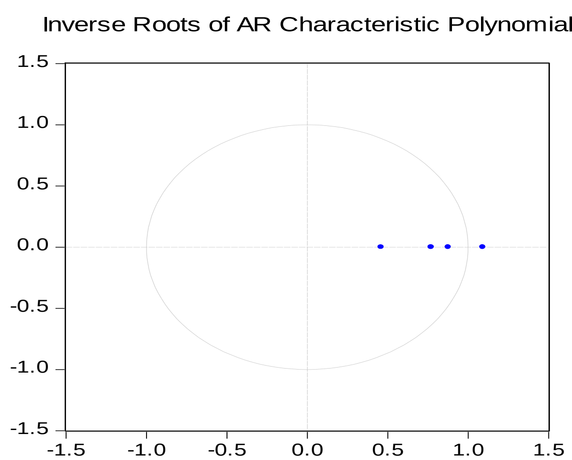

Fig. 3 Author's Computation from Eviews

An inverse root is outside the circle. The Varin level form is therefore dynamically unstable.

J. Autocorrelation Test for the Estimated VAR (1 1) in Differenced Form

VAR Residual Serial Correlation LM Tests Included observations: 36		
Lags	LM-Stat	Probability
1	22.51240	0.1274

Source: Authors Computations from Eviews

H. Estimate VAR (1 1) in Differenced Form

The Regression results from equation 13 are presented below

Dependent Variable: D(LNRIGDP) Included Observations: 36			
Variable	Coefficient	Standard	T-Statistics
D(LNRIGDP(-1))	0.099767	0.17397	0.57348
D(LENR(-1))	0.005393	0.00281	1.91887
D(PPI(-1))	0.001168	0.00107	0.92019
D(EXCHR(-1))	0.000112	0.00053	0.21252
C	0.009497	0.01381	0.68748

Source: Author's computations from Eviews

I. Dynamic Stability of the estimated VAR(1 1) in Difference form

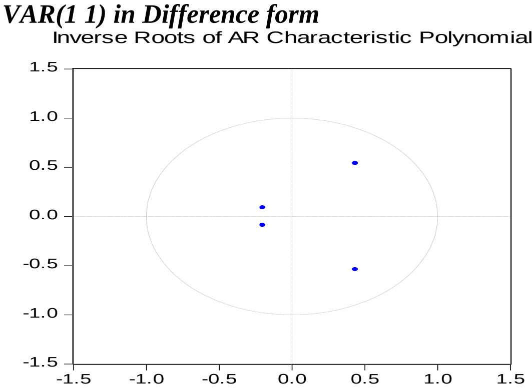

Fig .4 Author's Computation from Eviews

All inverse roots are inside the unit circle. The VAR in Differenced form is therefore dynamically stable. We do not reject the null of no autocorrelation for the VAR (1 1) in differences

K. Heteroscedasticity Test for the Estimated VAR (1 1) in Differenced Form

Chi-square	Degrees of Freedom	Probability
83.35911	80	0.3766

Source: Author's Computations from Eviews

We, therefore, do not reject the null hypothesis of Homoscedasticity in error terms for the (1 1) in differences.

A VAR (1 1) in differenced form is therefore not only dynamically stable but also possesses statistically desirable properties such as having error terms with a homo spread and no serial autocorrelation. This reaffirms the results from Johansen's cointegration tests that no long-run relationship exists among the variables in this study. A VAR (1 1) is, therefore, the most parsimonious model for studying the relationship between GDP, EXCHR, and LENR. A dynamically stable VAR (1 1) in differences shows that only a contemporaneous relationship (short Run Relationship) is possible among the variables in this study. This has serious implications for monetary policy and the choice between free and managed exchange rate regimes.

L. Granger Causality Tests

The outcomes from the Granger causality tests are in line preceding diagnostics. Only unidirectional Short-run causality is observed, and this runs from LENR to RIGDP and from EXCHR to PPI. These results conform to the visual evidence provided in figure 1 of section 1, in which EXCHR was shown to share trend patterns with PPI and in which LENR was shown to move in tandem with GDP. These observations are critical for monetary policies that target lending rates or exchange rates in a bid to optimize real industrial output.

Table .1

Pairwise Granger Causality Tests

Null Hypothesis	Number of Observations	F-Statistic	Prob.
LENR does not Granger Cause LNRIGDP	37	6.53848	0.0152
LNRIGDP does not Granger Cause LENR		0.03505	0.8526
PPI does not Granger Cause LNRIGDP	37	0.13438	0.7162
LNRIGDP does not Granger Cause PPI		0.00031	0.9860
EXCHR does not Granger Cause LNRIGDP	37	1.46984	0.2337
LNRIGDP does not Granger Cause EXCHR		0.27958	0.6004
PPI does not Granger Cause LENR	37	0.33916	0.5642
LENR does not Granger Cause PPI		0.36267	0.5510
EXCHR does not Granger Cause LENR	37	0.18627	0.6688
LENR does not Granger Cause EXCHR		0.02557	0.8739
EXCHR does not Granger Cause PPI	37	27.5500	8.E-06
PPI does not Granger Cause EXCHR		0.32102	0.5747

Source: Author's computations from Eviews

V. DISCUSSION OF RESULTS AND POLICY RECOMMENDATIONS

A. Summary of Results from Data Analysis

In this study, a VAR (1 1) in differences is the most statistically robust and dynamically stable model for explaining the relationship between Industrial Output, Borrowing Costs, and Exchange rates in Nigeria. Granger causality test support visual evidence of a short-run (albeit unidirectional) a causal relationship between exchange rate and inflation in the "real goods" producing industries and between the Real Industrial output and Lending Rates.

B. Answers to Research Questions

(i) Is the real output of industries independent of exchange rates in Nigeria? The real output of industries in Nigeria is independent of the Naira US Dollar exchange rate. This is because even though an increase in the exchange rate against the Naira results in increased production costs, as evidenced by an increased Producer Price Index, most of the increased production cost can be passed on to the final consumers leaving industry profits and consequently output unaffected. This is because most of the manufacturing industries in Nigeria are engaged in the production of goods that are necessities to which Nigerian consumers are price inelastic.

(ii) Should the central bank continue with a managed exchange rate regime or simply focus on lending rates as a policy to manage industrial output?

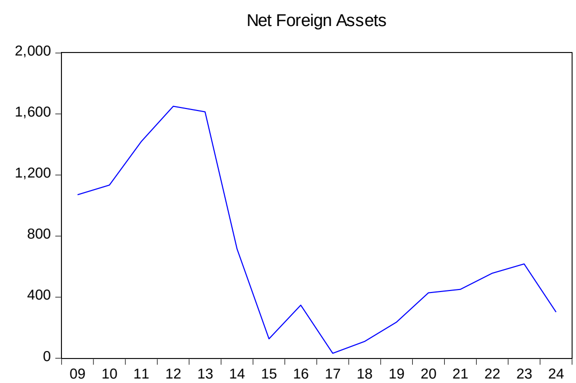

Fig .5 Author's Computations from Eviews

The graph above shows the trend of Nigeria's foreign assets on a quarterly basis starting from 2009 to 2018. The graph shows a sharp decline in Nigeria's net foreign assets base, including foreign cash reserves. The implication of this is that the net foreign assets base is not robust to monetary policies that seek to manage exchange rates by periodic interventions via foreign currency injections into the import window, particularly if such interventions are geared towards boosting industrial output and especially when empirical evidence has shown that Real Industrial output growth shares no long or short-run relationship with changes in Exchange rates but rather shares a contemporaneous relationship with Lending rates.

C. Policy Recommendations

The following policy recommendations are supported by the empirical evidence provided in this research:

- The Central Bank's interventions for economic stability via Foreign reserves injections should be channeled towards more responsive sectors in the economy as output from industries engaged in the production of real goods has been shown to be unresponsive to foreign exchange receipts
- If industrial output growth is the primary reason for injecting foreign currency into the import window, then a floating or free exchange rate market should be encouraged, so the true Naira US Dollar exchange rate is uncovered.
- Lending rates should be adopted as an aggressive tool of monetary policy if industrial output growth is to be maintained.
- The central Bank should shore up Foreign Assets Reserve and continue on its current trajectory of limiting foreign exchange for the importation of goods that can be produced locally in order to insulate the Nigerian Economy against foreign Currency shocks that may arise from sharp drops in the price per barrel of crude oil.

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