# EXCHANGE RATE POLICY EFFECTS ON PERFORMANCE OF THE MANUFACTURING SECTOR IN NIGERIA: 1975–2023

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## ABSTRACT

*This study examined the impact of exchange rate policies on Nigeria's manufacturing sector from 1975 to 2023. The study employed the ARDL estimation technique and discovered a negative association between exchange rate policy and Nigeria's manufacturing sector's performance. The short run beneficial impact was caused by the weakening of the naira as a result of recurring instability. The long-term beneficial impact was caused by the immediate and direct effects of currency rate movements as a result of inflows of crude oil revenue which constitute Nigeria's principal source of exports. This shows that the exchange rate plays a significant and negative role in the sector's growth. Exchange rate policies determine the types and intervention for access to foreign exchange which ultimately have impacts on Nigeria's manufacturing sector. Import and operational costs rise when the naira falls in value. Inflation's long-term impact is negligible, driven by supply chain dynamics, input costs, and consumer demand. Interest rates and the balance of payments have a long-term favourable but small effect. The manufacturing sector's performance is significantly influenced by the stability of exchange rate and its management policies. Following the findings, the paper recommends that the government should ensure that any exchange rate policy adopted benefits the industrial sector. Furthermore, the government should turn its focus and policy directions towards the development of the industrial sector, because this would draw the attention of international investors, increasing the influx of foreign currency into the economy and strengthening the local currency.*

**Keywords**: Exchange rate, Manufacturing sector, ARDL
**JEL Classification:** F31, L60, O24

## INTRODUCTION

The industrial sector of an economy is often regarded as the engine of growth and economic development, largely due to its pivotal role in broadening the productive

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base of the economy, enhancing its revenue-earning capacity, and reducing unemployment and poverty (Iyoha, 2010; Central Bank of Nigeria, 2012). As such, the manufacturing sector is a crucial driver of modern economies, contributing to trade expansion, innovation, and productivity growth. Since Nigeria's independence in 1960, various development plans and policies have focused on manufacturing sector reforms (Onwuka, 2022; Mlambo, 2020). However, the country's manufacturing base has been rated as poor and backward, with fluctuations in the oil market and militant activities causing calls for diversification. The manufacturing sector's link with agriculture and other input suppliers makes it essential to reducing hunger and poverty and creating job opportunities.

Nevertheless, the contribution of Nigeria's manufacturing sector to Gross Domestic Product (GDP) has not been impressive for decades, with a modest 4.8% contribution in 1960. For instance, the sector's contribution to the GDP increased to 7.2% in 1970 and 7.4% in 1975 (Central Bank of Nigeria, 2020). In 1987, the Federal Government of Nigeria banned the importation of raw materials under the World Bank's Structural Adjustment Programmes (SAPs) to support import substitution strategies (World Bank, 2020).

In Nigeria, exchange rate depreciated sharply from ₦2.02/$1 in 1986 to ₦17.30/$1 by 1992 and further to ₦1561/$1 in 2025 (CBN, 2025). Exchange rate policy in Nigeria has undergone several transformations, reflecting the country's efforts to stabilize its currency and foster economic growth. However, the volatility and frequent devaluations of the Nigerian Naira have posed substantial challenges to the manufacturing sector. This policy, combined with the Privatisation and Commercialization Act of 1988, encouraged higher efficiency in the manufacturing sector. The commencement of the structural adjustment programme in 1986 marked the end of the fixed exchange rate policy. As a result, the fixed exchange rate policy was replaced by a floating exchange rate policy in an attempt to return the economy on a path of sustainable growth. The floating exchange rate policy aimed to develop the industrial sector by increasing the availability of foreign exchange to investors, stimulating the competitiveness of domestic industries, encouraging local value-added, promoting and diversifying exports, and reducing the economy's reliance on oil. The Nigerian manufacturing industry faces challenges in obtaining raw materials, which affects productivity. Exchange rate devaluation or depreciation can hinder sector performance (Nsofo, Takson, & Ugwuegbe, 2017).

## LITERATURE REVIEW

Theoretical Framework

*The Monetary Approach*

This study is anchored on the Monetary Approach Theory. This technique is focused on the role of money as a unit of exchange. Hence it depicts exchange rates as a

function of a country's relative shift in money stock, inflation rate, and domestic output compared to a trading partner economy. According to Frankel (2001), this model of exchange rate determination achieves equilibrium when existing money holdings in both nations are willingly held. The monetary approach under the flexible exchange rate can be offered in two forms: the monetary approach and the asset market approach, and it focuses on the role of money and other assets in influencing exchange rates. According to Obioma (2000), the asset market or monetary approach attributes variance in exchange rates primarily to income and expected rates of return as well as other variables influencing the supply and demand for various national currencies. Thus, based on the notion that income determines supply and demand for money, the monetary model proposes three key exchange rate determinants: relative money supplies, relative income, and interest rate differentials.

## Empirical Review

Abdul-Mumuni (2019) researched how currency rates influenced the success of Ghana's industrial sector between 1986 and 2013. The autoregressive distributed lag (ARDL) estimate approach was utilised in the study, and the results reveal that the exchange rate has a significant beneficial effect on manufacturing company performance. In a related study, Boateng (2019) examined the impact of currency rates on the financial performance of Ghanaian manufacturing firms from 2009 to 2017, with return on assets and equity as dependent variables. The control variables used in the study were imports, foreign direct investment and nominal interest rates, and the estimation method was panel regression. The study's findings revealed that the financial performance of manufacturing businesses is negatively correlated with the exchange rate.

Ali (2020) researched on the influence of currency rate variations on manufacturing performance in Nigeria, and the findings suggested that exchange rate volatility had a negative impact on the performance of Nigeria's manufacturing sector. Mlambo (2020) employed panel group techniques to study the impact of the currency rate on industrial performance in Southern African Customs Union (SACU) member countries from 1995 to 2016. The research demonstrated that currency fluctuations, imports, and foreign direct investments all had a negative influence on industrial performance. Exports and inflation associated positively with manufacturing success.

Asaleye, Maimako, Inegbedion, Lawal and Ogundipe (2021) investigated the effect of currency rates on industrial performance in Nigeria. The shock effect, short and long run exchange rate elasticities, and industrial performance were investigated using Structural Vector Auto Regression (SVAR), Error Correction Method (ECM), and Canonical Co-Integrating Regression (CCR), respectively. Employment and production were used as proxy indicators for manufacturing sector performance. The results showed that changes in the exchange rate are fairly elastic in terms of output

and employment in both the short and long run. Currency rate fluctuations, on the other hand, have no immediate impact on employment. The variance decomposition with the SVAR revealed that the forecast error shock to the exchange rate had a higher impact on employment than output. The findings revealed that the Nigerian exchange rate did not increase output or employment in the manufacturing sector.

Williams (2018) discovered that exchange rate fluctuations had a favourable impact on Nigerian listed enterprises' performance from 2012 to 2016, with a substantial correlation between inflation and performance. Tams-alasia, Olokoyo, Okoye, and Ejemeyovwi (2018) discovered that exchange rate deregulation had no substantial positive long-term effect on industrial production.

According to Falaye, Eseyin, Otekunrin, Asamu, Ogunlade, Egbide, and Razak (2018), the Naira's devaluation has a negative impact on Nigeria's manufacturing industry. According to Orji et al. (2018), the currency rate, government capital spending, imports, and foreign direct investment all have a beneficial impact on industrial output. Ayobami (2019) discovered a favourable association between exchange rate variations and manufacturing business growth in Nigeria.

In another study, Samuel and Wale-Odunaiya (2021) examined the impact of Nigeria's currency rate undervaluation on manufacturing output and economic growth between 1981 and 2019. The vector error correction mechanism was applied, and the impulse response function revealed that the real effective exchange rate has no significant effect on economic growth and is adversely correlated with industrial output. Most recently, Onwuka (2022) employed Autoregressive Distributed Lag Model (ARDL) to examine the effect of exchange rate volatility on the performance of Nigeria's manufacturing sector. The ARDL findings show that exchange rate volatility, interest rates, and inflation rates all have a negative impact on the manufacturing sector's long-term performance, but imports and gross capital formation have a positive effect. Furthermore, exchange rate volatility, gross capital formation, and interest rates were discovered to have a considerable impact on manufacturing performance, but imports and inflation were found to be insignificant.

## METHODOLOGY

This study employed quarterly time series data from 1981 to 2023 derived from the CBN Statistical Bulletin (various issues). However, an exchange rate represents the cost of exchanging one currency for another. This analysis used the Nigerian naira exchange rate to the US dollar. The Price Level ($PL$) was calculated using the consumer inflation rate, which is a measure of the overall price level.

In a broader sense, price level refers to the cost of a good, service, or security in the economy. The Balance of Payments ($BOP$) is a record of all international financial transactions carried out by a country's inhabitants. It depicts the difference between

money pouring into the country and money going out to the rest of the globe over a certain period, such as a quarter or year. Manufacturing output as a percentage of GDP ( $MGDP$ ) as a dependent variable is measured as manufacturing sector performance. It represents the aggregate monetary value of goods produced by all the manufacturing firms in the economy per year as a percentage of economic growth.

The real interest rate ($INT$) is the rate of interest that an investor, saver, or lender receives (or expects to receive) after accounting for inflation. More precisely, the Fisher's (1930) equation asserts that the real interest rate is roughly equal to the nominal interest rate minus the inflation rate. In emerging and developing economies with volatile exchange rates, the exchange rate is seen as an important open economy variable for domestic enterprises (Igbanugo & Eze, 2017). The Exchange Rate Regime Slope dummy variables were employed to assess the exchange rate regime. Exchange rate regimes include Fixed Exchange Rate (FR), Full-Floating Rate (FFR), and Managed Floating Rate (MFR). Igbanugo and Eze (2017) were used to measure the slope dummies.

**Model Specification**

The model for this study is specified based on the chosen theory and empirical literature as follows:

$$MGDP = f(ERP, EXR, INF, INT. BOP) \quad (1)$$

Where: $MGDP$ = Manufacturing output as a percentage of GDP; $ERP$ = exchange rate regime; $EXR$ = Exchange Rate; $INF$ = inflation rate; $INT$ = real interest rate; and $BOP$ = balance of payments.

Equation 1 is transformed into its econometric form as follows:

$$\Delta MGDP = \alpha_0 + \alpha_1 ERP + \alpha_2 EXR + \alpha_3 INF + \alpha_4 INT + \alpha_5 BOP + \varepsilon_t \quad (2)$$

The model in equation 2 is transformed into ARDL model as follows:

$$\begin{aligned} \Delta MGDP = {} & \alpha_0 + \alpha_1 MGDP_{t-1} + \alpha_2 ERP_{t-1} + \alpha_3 EXR_{t-1} + \alpha_4 INF_{t-1} + \alpha_5 INT_{t-1} \\ & + \alpha_6 BOP_{t-1} + \alpha_{1i} \Delta MGDP_{t-i} + \alpha_{2i} \Delta ERP_{t-i} + \alpha_{3i} \Delta EXR_{t-i} \\ & + \alpha_{4i} \Delta INF_{t-i} + \alpha_{5i} \Delta INT_{t-i} + \alpha_{6i} \Delta BOP_{t-i} + \varepsilon_t \end{aligned} \quad (3)$$

The autoregressive distributed lag (ARDL) regression model is used to determine the impact of oil price volatility, petrol pump prices, exchange rates, and inflation rates on Nigerian economic growth. The ARDL, as described by Pesaran, Shin and Smith (2001), is an autoregressive model that describes the short run dynamic link between the transmission of exchange rate policy effects and the performance of Nigeria's manufacturing sector in 1975–2023. It is distinguished by a distributed lag component and a symmetric adjustment process that seeks long run equilibrium. The

Akaike Information Criteria (AIC) are used to turn the model into an ARDL model, with penalties for loss of degree of freedom and additional coefficients.

The F-statistic or Wald statistic is used to test for cointegration, and the hypothesis is accepted or rejected based on a comparison of the calculated F-statistic to the F-statistic given by Pesaran, Shin and Smith (2001) and Narayan (2005) for small samples. If cointegration is demonstrated, the ARDL model can be converted into an Error Correction Model (ECM) specification for this study, which will include first lag short run coefficients, long run coefficients, and convergence coefficients. The study then evaluates the long run effect and short run dynamics using the Error Correction Term (ECT) equation, which describes the output evolution process by which agents adjust for prediction errors committed during the previous period.

## RESULTS

### Descriptive Analysis

This section presents the results as shown in the summary statistics of all the variables used in this study. Prior to performing the primary regression analysis, it is important to demonstrate the fundamental statistical characteristics of the variables employed in the study, such as manufacturing output as a percentage of GDP ($MGDP$), in which GDP is a proxy for economic growth. Other variables are the exchange rate regime ($EXR$), the inflation rate ($INF$), the real interest rate ($INT$), and the balance of payments ($BOP$) for the sampled period (1975–2023), which must be ascertained.

**Table 1: Descriptive Statistics**

| Variables | MGDP | EXP | EXR | INF | INT | BOP |
|---|---|---|---|---|---|---|
| Mean | 7.261518 | 0.775510 | 113.9974 | 19.25296 | -0.583245 | 4.45E+09 |
| Median | 5.000000 | 1.000000 | 92.33810 | 13.72020 | 1.067736 | 1.10E+09 |
| Maximum | 44.40000 | 1.000000 | 638.7000 | 72.83550 | 18.18000 | 3.65E+10 |
| Minimum | 3.400000 | 0.000000 | 0.546781 | 5.388008 | -65.85715 | -1.60E+10 |
| Std. Dev. | 6.311352 | 0.421570 | 142.5163 | 15.53965 | 13.34675 | 1.14E+10 |
| Skewness | 4.365739 | -1.320613 | 1.631215 | 1.860348 | -2.565123 | 1.095195 |
| Kurtosis | 25.71344 | 2.744019 | 5.621213 | 5.693624 | 13.15915 | 4.402753 |
| Jarque-Bera | 1208.951 | 14.37661 | 35.75817 | 43.07750 | 264.4523 | 13.24915 |
| Probability | 0.000000 | 0.000755 | 0.000000 | 0.000000 | 0.000000 | 0.001327 |
| Sum | 355.8144 | 38.00000 | 5585.874 | 943.3952 | -28.57902 | 2.09E+11 |
| Sum Sq. Dev. | 1911.992 | 8.530612 | 974922.5 | 11591.07 | 8550.510 | 6.02E+21 |
| Observations | 49 | 49 | 49 | 49 | 49 | 49 |

**Source**: Researcher's Computation using EViews 12 Software, 2024

**Keynotes:** $MGDP$ = manufacturing output as a percentage of GDP; $ERP$ = exchange rate regime; $INF$ = inflation rate; $INT$ = real interest rate; and $BOP$ = balance of payments

It can be seen from Table 1 that the $MGDP$ exhibits an average of 7.26% during the period of study. This shows that over the forty-nine years under examination, Nigeria's manufacturing has increased by about 7.26% of GDP per year on average. On the other hand, while the exchange rate regime ($EXR$) has a mean of 0.78%, exchange rate regime ($EXR$) has a mean of ₦114 during the study period. Mean for Inflation rate ($INF$), interest rate ($INT$) and balance of payment ($BOP$) are respectively 19.25%, -0.58% and ₦4.45 billion. When the data are organized in ascending or descending order, the median is the value that falls in the middle of the series. In accordance with Table 1, the median for $MGDP$ is about 5% while the medians for $ERP$, $EXR$, $INF$, $INT$ and $BOP$ are, respectively, 1%, ₦92.33, 13.72%, 1.06% and ₦1.10 billion. The series' maximum and minimum values for the period under consideration are known as Maximum and Minimum. The maximum value for $MGDP$, according to Table 1, is 44.40% while those for ERP, $EXR$, $INF$, $INT$ and $BOP$ are, respectively, 1%, ₦638.33, 72.83%, 18.18% and ₦3.65 billion. The minimal value, on the other hand, for $MGDP$ is 3.4% while the minimum values for $ERP$, $EXR$, $INF$, $INT$ and $BOP$ are, respectively, 0%, ₦0.55, 5.39%, -65.85% and ₦1.60 billion.

A measure of the spread or dispersion in the series is the standard deviation. Table 1 shows that the standard deviation (SD) for $MGDP$ is 6.31%, while the SD for $ERP$, $EXR$, $INF$, $INT$ and $BOP$ are, respectively, 0.42%, ₦142.52, 15.54%, 13.35% and ₦1.14 billion. This demonstrates that whereas exchange regime has a relatively small spread over time, exchange rate has the bigger spread across the research period. A real-valued random variable's probability distribution around its mean is measured by skewness. At point 0, a normal distribution is symmetrical. Positively skewed values are those that are more than zero, whereas negatively skewed values are those that are less than zero.

On the other hand, exchange rate regime is flat or platykurtic in relation to the normal. The Jarque-Bera test statistic is used to determine whether the series' normal distribution is present or not. According to Table 1, the Jarque-Bera (JB) for $MGDP$ is 1208.95 while the JB values for $ERP$, $EXR$, $INF$, $INT$ and $BOP$ are, respectively, 14.38, 35.76, 43.08 264.45 and 13.25. The probability values of the Jarque-Bera statistic all the variables were found to be lesser than 5% level of significance and thus supporting the null hypothesis that the residual of the variables has a normal distribution with zero means and constant variance.

**Correlations Analysis**

Table 2 is the correlation analysis result for this study. None of the independent variables are substantially correlated with one another, according to the correlation coefficients in Table 2.

**Table 2: Correlations Results**

| Variables | MGDP | ERP | EXR | INF | INT | BOP |
|---|---|---|---|---|---|---|
| MGDP | 1 | 0.00455 | 0.78616 | -0.13324 | 0.08784 | -0.26310 |
| ERP | 0.00455 | 1 | 0.40481 | 0.11847 | 0.35507 | 0.25482 |
| EXR | 0.78616 | 0.40481 | 1 | -0.15306 | 0.20569 | 0.02636 |
| INF | -0.13324 | 0.11847 | -0.15306 | 1 | -0.50602 | -0.20331 |
| INT | 0.08784 | 0.35507 | 0.20569 | -0.50602 | 1 | 0.18062 |
| BOP | -0.26310 | 0.25482 | 0.02636 | -0.20331 | 0.18062 | 1 |

**Source**: Authors' Computation using EViews 12 Software, 2024

**Unit Root Test**

To check for the series' stationarity properties and avoid false results, the study computed the *Augmented Dickey-Fuller* (ADF) unit root test. The estimated result of the ADF is summarized and presented in Table 3.

**Table 3: ADF Unit Root Test Result**

| Variables | ADF Test Statistic | Critical Value at 5% | Probability Value at 5% | Order of Integration |
|---|---|---|---|---|
| MGDP | -30.57701 | -2.925169 | 0.0001 | I(1) |
| EXP | -4.087124 | -3.513075 | 0.0126 | I(1) |
| EXR | -5.954292 | -3.508508 | 0.0000 | I(1) |
| INF | -3.917090 | -2.925169 | 0.0039 | I(0) |
| INT | -5.660246 | -3.506374 | 0.0001 | I(0) |
| BOP | -7.196080 | -1.948495 | 0.0000 | I(1) |

**Source**: Authors' computations using EViews, 2024

Table 3 shows the results of the ADF unit root test for analysing the stationarity qualities of the variables used in the study. In ADF, a variable is said to be stationary if the test statistic is smaller than the critical value at the 5% level of significance. Thus, according to the ADF results, variables $MGDP$, $EXP$, $EXR$, and $BOP$ were not stationary at levels but became stationary at the first difference; but variables $INF$ and $INT$ were stationary at levels. The ADF unit root test resulted in a mixed order of integration, with some variables integrating at I(1) and others at I(0). The mixed order of integration among the variables employed in this study meant that the non-stationary variables could behave erratically, resulting in misleading results, necessitating the employment of a more robust methodology to account for the unique characteristics of a mixture of stationary and non-stationary data. The results of mixed order integration in both ADF and PP justified the use of ARDL models in this investigation.

**Co-integration Test**

If two variables have an equilibrium or long-term relationship, they are said to be cointegrated. It serves as a pre-test to prevent erroneous regression scenarios.

**Table 4: Unrestricted Cointegration Rank Test (Trace and Eigen) on MGDP, ERP, EXR, INF, INT and BOP**

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.622497 | 123.8572 | 95.75366 | 0.0002 |
| At most 1 * | 0.601264 | 80.01928 | 69.81889 | 0.0061 |
| At most 2 | 0.319779 | 38.64378 | 47.85613 | 0.2747 |
| At most 3 | 0.221377 | 21.30361 | 29.79707 | 0.3390 |
| At most 4 | 0.143024 | 10.04333 | 15.49471 | 0.2774 |
| At most 5 | 0.066523 | 3.097760 | 3.841465 | 0.0784 |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

**Source:** Authors' computation using EViews 12 Software, 2024

The likelihood ratio (trace statistics) on Table 4 indicates that at 5% level of significance, there are two cointegrating variables. From this, the conclusion can be drawn that a long run relationship exists between these variables. This conclusion is robust because the unrestricted cointegration test using the maximum Eigenvalue confirmed the existence of two cointegrating equations.

**Table 5: ARDL Error Correction Regression Result**
**Dependent Variable: LNGDP**

| Variable | Coefficient | Std. Error | t-Statistic | Prob.* |
|---|---|---|---|---|
| D(MGDP(-1)) | -0.355354 | 0.077785 | -4.568421 | 0.0001 |
| D(ERP) | 0.650683 | 0.596867 | 1.090164 | 0.2856 |
| D(ERP(-1)) | 1.403087 | 0.601973 | 2.330813 | 0.0278 |
| D(EXR) | 0.008805 | 0.002752 | 3.199974 | 0.0036 |
| D(EXR(-1)) | -0.021335 | 0.004924 | -4.332529 | 0.0002 |
| D(EXR(-2)) | -0.023530 | 0.005877 | -4.003552 | 0.0005 |
| D(BOP) | -5.55E-11 | 1.38E-11 | -4.016731 | 0.0004 |
| D(BOP(-1)) | 2.17E-11 | 1.37E-11 | 1.577593 | 0.1268 |
| D(BOP(-2)) | -1.92E-11 | 1.44E-11 | -1.334697 | 0.1935 |
| D(BOP(-3)) | -3.74E-11 | 1.59E-11 | -2.342019 | 0.0271 |
| CointEq(-1)* | -0.277225 | 0.025790 | -10.74942 | 0.0000 |

**Source**: Authors' computation using EViews

The lagged error correction term (ECT) on Table 5 is, as was predicted, negative, smaller than unity, and statistically significant at 5% (0.0000). The coefficient showed that once the system is out of equilibrium, it takes an average (slow) speed of about 28% for it to return to a state of long run equilibrium. According to Banerjee, Dolado and Mestre (1998), a highly significant lagged error correction term indicates the presence of a long-term relationship between the variables and their ability to shift from a state of disequilibrium to one of equilibrium.

**Table 6: ARDL Long Run Form Estimates**
**Dependent Variable: LNGDP**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| ERP | -0.712067 | 1.786688 | -0.398540 | 0.6935 |
| EXR | 0.047944 | 0.010684 | 4.487519 | 0.0001 |
| INF | 0.088424 | 0.048243 | 1.832894 | 0.0783 |
| INT | 0.149611 | 0.081731 | 1.830533 | 0.0787 |
| BOP | -2.35E-11 | 5.14E-11 | -0.456270 | 0.6520 |
| C | 1.259656 | 1.999439 | 0.630005 | 0.5342 |

**Source**: Authors' computation using EViews

Furthermore, the estimated coefficient of exchange rate regime ($ERP$) from the ARDL short run estimates on Table 5 was 0.650683 with the probability value of 0.2856. Thus, the study found the coefficients of exchange rate regime ($EXP$) at levels and lag 1 were significantly positive: 1.40 (0.0278) which eliminated the findings from the short run estimation that exchange rate regime had a positive impact on the manufacturing sector performance in the short run because the short run positive impact of exchange rate regime on manufacturing sector performance was not statistically significant which suggested that the positive impact in the short run was not enough to grow the Nigeria's manufacturing sector. However, in the long run analysis on Table 6, the estimated coefficient and the probability value of exchange rate regime ($ERP$) were -0.712067 and 0.6935 respectively, and the study found that exchange rate regime had insignificant negative impact on manufacturing sector performance in Nigeria. This finding, although not statistically significant, supports Adebanjo, Oluwasegun, Adegbola, Asamu, Ben-Caleb, Rasak, Niyi-Oyebanji and Oluyela (2019) who examined the impact of exchange rate on the manufacturing sector in Nigeria and found that a devaluation of the Naira has a negative impact on the performance of the Nigerian manufacturing sector.

The estimated coefficient of exchange rate ($EXR$) from the ARDL short run estimates at level was 0.008805 with the probability value of 0.0036. Thus, the study found from the short run estimation that exchange rate had a positive and significant impact on the manufacturing sector performance in the short run which suggested that the

negative but significant impact in the short run was not enough to grow the Nigeria's manufacturing sector. Similarly, the estimated coefficient of exchange rate ($EXR$) from the ARDL short run estimates at first difference was also negative and significant, that is -0.021335 (0.0002).

In the long run analysis, the estimated coefficient and the probability values of exchange rate ($EXR$) were 0.047944 and 0.0001 respectively, and the study found that exchange rate had significant positive impact on manufacturing sector performance in Nigeria. This finding is in conformity with Orji and Ezeanyaeji (2022) who examined the impact of exchange rates on the performance of the manufacturing sector in Nigeria between 1990 and 2020 and found that exchange rate devaluation constrains manufacturing sector while exchange rate fluctuation hampers manufacturing output. It however, contradicted Tams-alasia, Olokoyo, Okoye and Ejemeyovwi (2018) who found that exchange rate deregulation had a non-significant positive long run effect on manufacturing output.

The short run negative and significant impact of the exchange rate on Nigeria's manufacturing sector performance could be attributable to the naira's continued depreciation. Nigeria's weak naira currency is deteriorating as a result of recurrent exchange rate volatility caused by its import-dependent and monocultural economy. The low demand for naira and high demand for foreign currencies have a detrimental impact on economic growth, raising the price of naira in exchange for foreign currencies. On the other hand, the long-term positive and significant impact of the exchange rate itself on manufacturing sector performance in Nigeria could be based on the assumption that the effect of exchange rate fluctuations is immediate and often direct because they pass through channels of transmission that take a shorter period of time for the impact to manifest, thereby making the long-term impact significant. Furthermore, the long-term favourable impact of the exchange rate on Nigerian manufacturing sector performance is related to the notion that the exchange rate is the primary source of Nigerian exports, on which the manufacturing sector relies to make money through the sale of commodities. These findings on both the short-term and long-term inverse relationships between exchange rate and manufacturing sector performance in Nigeria are in tandem with the findings by Adegboye and Alimi (2020), Oladipo and Akinbobola (2019), and Eze and Okpala (2021). The long run impact of manufacturing output as a percentage of GDP ($MGDP$), exchange rate regime ($EXP$), inflation rate ($INF$), real interest rate ($INT$) and balance of payments ($BOP$).

In the long run analysis, the estimated coefficient and the probability values of interest rate ($INT$) were 0.149611 and 0.0787 respectively. The long-term positive and insignificant impact of the interest rate itself on manufacturing sector performance in Nigeria could be based on the assumption that high interest rates can considerably

impact manufacturing by dampening demand by increasing borrowing costs, weakening demand, and controlling inflation. This can lead to reduced investment, production, spending, and decreased demand for manufactured goods. Additionally, higher interest rates can create a stronger currency, making exports more expensive for foreign buyers, thus leading to unsold stocks (Mishkin, 2007; Bordo & Haubrich, 2012). The short run estimated values of the balance of payment variable were significant at levels and three years later but insignificant at first and second differences. However, in the long run analysis, the estimated coefficient and the probability values of balance of payment were 2.35 and 0.6520 respectively. The long-term positive but insignificant impact of the balance of payment on manufacturing sector performance in Nigeria could be because, while the $BOP$ and manufacturing sector are interconnected, the exact nature of their relationship remains subject to ongoing research and debate. Factors beyond the BOP, such as domestic policies and structural reforms, also influence Nigeria's economic performance.

## CONCLUSION AND RECOMMENDATIONS

This study examined the exchange rate policy effects transmission on the manufacturing sector performance in Nigeria from 1975 to 2023. The study used the ARDL estimating technique and found an insignificant relationship between exchange rate policy effects and Nigeria's manufacturing sector performance. It also demonstrates that exchange rate regimes have not increased industrial production in Nigeria. The short run positive impact was due to the deterioration of the naira currency due to recurrent volatility. The long-term positive impact was due to the immediate and direct effect of exchange rate fluctuations, which are the primary source of Nigerian exports. This suggests that the exchange rate is a key factor in the sector's growth. Nigeria's manufacturing sector is influenced by exchange rate fluctuations, inflation, uncertainty, investment, competitiveness, and foreign exchange access. Naira depreciation increases import costs and operational costs. Inflation's long-term impact is insignificant, influenced by supply chain dynamics, input costs, and consumer demand. Interest rates and balance of payment also have a long-term positive but insignificant impact. Following the findings, the report suggests that to mitigate these effects, it is recommended that policies should align the exchange rate with the actual needs of the manufacturing sector. Stability in exchange rate management is crucial for the sector's performance.

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