EMPIRICAL ANALYSIS OF THE EFFECT OF CURRENCY DEVALUATION ON THE MANUFACTURING SECTOR'S PERFORMANCE IN NIGERIA

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ABSTRACT

This study empirically investigated the effect of currency devaluation on manufacturing sector performance in Nigeria between; 1986-2022. The specific objectives were to investigate the effects of inflationary rate, exchange rate, net import and net export on manufacturing sector performance in Nigeria. The study adopted ex-post –facto research design Data were analyzed using Vector Error Correction and system Equation Estimation Techniques. The result showed that there is a negative and significant effect of exchange rate and inflationary rate and positive significant effect on net import and net export on manufacturing sector outputs in Nigeria; also a long run relationship was found to exist among the variables used. The implication of this is that devaluation of the country's currency makes export cheaper to foreign customers and import more expensive in the short run and tends to cause inflation and increase demand for exports as the result showed positive relationship between devaluation of the naira and the growth of export activities. The study concludes that devaluation of the naira is not a bad idea as some countries have used it to achieve some macro economics goals; just that the monetary authorities should put sound policies in place to curb the effects or make the effect moderate for manufacturing firms in Nigeria.

Key words: Devaluation, Currency Manufacturing sector, net import, Inflationary rate, and Exchange Rate.

Introduction

Devaluation refers to the declining value of a country currency in relation to other country's currencies in the global market, especially against the US dollar (Ude, 2006). Countries devalue their currency in order to improve their trade balance by boosting exports when trade deficits become a problem for the economy (Adekoya and Fagbohum, 2016). Sometimes devaluation of currency is forced upon a country when it fails to defend its exchange rate. Such ups and downs are very important for the economy of a country in order to remain stable among different economies of the world .Countries, also use devaluation of currency as a mechanism to compete with other countries. Trade deficits can be treated mentally by a country through a devaluation of the country's currency; exports will increase and imports will decrease and that will help the country to service its balance of payments especially debts but at a long run, this strategy won't work sustainably. Yioyio (2015) opined that devaluation of a nation's currency is a reduction in the value of money with respect to those goods, services or other monetary units with which the

currency of such nation can be exchanged. Hence, the currency of a nation can be devalued when discouraging importation and encouraging exportation of goods and services across the borders of the nation.

International Monetary Fund and World Bank, see devaluation as instrument for fiscal equalization and stability, particularly in the Developing nations such as Nigeria where several countries are indebted to these financial institutions. Devaluation of currency became popular in Nigeria when General Babangida led administration in 1986 initiated the Structural Adjustment Programme (SAP) as a policy designed to achieve a realistic exchange rate for the naira that was over-valued, which seems unhealthy for economic growth and development of the Nation, since overvalued currency further worsen balance of payment problems (Todaro, 1989).

Asinya and Nelson (2014) outlined some of the factors that played major impacts in currency devaluation in Nigeria as government policy, the external sector and macro-economic variables. They opined that devaluation of naira has several implications on the manufacturing sector in Nigeria. First, they argued that, devaluing of the naira would stem imports, since the increase costs arises there and would discourage importers because the economy was heavily import dependent, the propensity to import seems to be very high in Nigeria then, thus the imports were price inelastic. Secondly, it was argued that, devaluation usually make export products cheap or less competitive in the international market, thus enhancing demand of domestic goods and services.

This argument did not take into account two important factors: the elasticity of demand for the export and the pricing pattern. As such, the persistent decrease in the exchange of foreign currency in naira could have been backed dated to the introduction of the structural adjustment programmes in 1986 and this has generated concern over the increased inflation and the reduction in the output level of the manufacturing sectors in Nigeria. This concern was derived from the experience of countries such as Mexico and Argentina where real devaluation of their domestic currencies had consistently been associated with a decline of output and increase in inflation in those countries. (Akinlo & Odusola, 2013). Currency devaluation clinches to the fiscal policy with its focal point on a calculated cutback in the value of the domestic currency to maximize gains in her trade (Udo, 2018). Okaro (2017) states that a nation experiencing the balance of payment deficits has to adopt both short and long term measures to correct the disequilibrium, and one of the measures to do that is to devalue the nation's currency that are related to other nation's currency, group of currencies or standard currency. Nigeria in 1973 cuddles her first currency devaluation at 10 percent in response to U.S. dollars, devaluation of the same year at foreign exchange reserves growth was at 773.5 percent in 1974.

Manufacturing sector refers to the secondary sector of the economy that deals with production of goods in large quantities with the help of machine, which converts the raw materials into valuable products (Nwanne, 2015). But the devaluation of the currency and high tax rate has led to the collapse of some businesses. Some of which can no longer secure their raw materials at a relatively cheap price because of the devaluation (CBN, 2010). The high cost of imported raw materials had

increased the operating cost thereby reducing the profit margin of the firms, and eventually collapsed because of high operating cost (Ishola, 2012).

Statement of the Problem

Emiefele (2019) agreed that naira devaluation would lead to hyper-inflation because when the import is higher, for a country that largely depends on importation, it would lead to increase in prices of goods. The study noted that the simple idea behind devaluation is that it will make a country's import more expensive while export will be cheaper. And in Nigeria our major export commodity that accounts for more than 80% of our income is crude oil and the crude oil price is determined in the foreign market and which we don't have a control over. Devaluing the country's currency seems to have no impact directly on the major export, and non oil exports, as Nigeria seems not be producing effectively. This means that for the industry that is import dependent, has to pay higher prices for those goods and raw materials which translated to higher inflation.

Objectives of the Study

The broad objective of the study is to examine the effect of currency devaluation on the manufacturing sector performance in Nigeria. Other specific objectives are; to examine the effect of exchange rate, evaluate the effect of inflation rate, effect of import and analyze the effect of Export on manufacturing sector performance in Nigeria.

Literature Review

Currency devaluation is a deliberate downward adjustment of the value of a country's currency relative to another country's currency or standard currency (usually the dollars). It is one of the tools of monetary policy to stabilize the economy most especially the less developed countries that are operating fixed exchange rate or semi-fixed exchange rate. Upadhyaya (1999) as cited in Ould-Mey (2013) said it consists of large one-shot devaluation, series of devaluations or a policy of gradual exchange rate devaluation. One major policy option for a country facing a persistent balance of payments deficit is devaluation of its currency (Bahmani-Oskooee 1985). In 1973, the United State of America devalued her currency by 10% after which Nigeria devalued hers for the first time by the same amount. The effect of devaluation was salutary as Nigeria's foreign exchange reserves grew by 773.5% in 1974. In November 2014, the Central Bank of Nigeria (CBN) among other things moved the bench mark interest rate that is Monetary Policy Rate from 12 to 13 percent, and increased private sector's Cash Reserve Ratio from 15 to 20 percent coupled with the devaluation of the naira by 8% (N13) from N155 to N168.

Loto (2017), refers to manufacturing sector as an avenue for increasing productivity in relation to import replacement and per-capita income which causes unrepeatable consumption pattern. Thus manufacturing industries are the key variables in an economy and motivates conversion of raw materials into finished goods. Charles (2018), posits that the manufacturing industries create employment which helps to boost agriculture and diversity the economy on the process of helping

the nation to increase its foreign earnings. It has been argued and observed that the persistent poor performance of the economy especially the manufacturing sector in Nigeria was mainly due to massive importation of finished goods, inadequate financial support and other variables which has resulted in the reduction in capital utilization and output of the manufacturing sector of the Nigerian economy (Tomola, Adebisi and Olawale, 2012).

Interest Rate

Interest is essentially a charge to the borrower for the use of an asset. Assets borrowed can include cash, consumer goods, vehicles, and property. Interest rates apply to most lending or borrowing transactions. Individuals borrow money to purchase homes, fund projects, launch or fund businesses, or pay for college tuition. Businesses take out loans to fund capital projects and expand their operations by purchasing fixed and long-term assets such as land, buildings, and machinery. Borrowed money is repaid either in a lump sum by a pre-determined date or in periodic installments. For loans, the interest rate is applied to the principal, which is the amount of the loan. A key effect of devaluation is that it makes the domestic currency cheaper relative to other currencies, making the country's exports relatively less expensive for foreigners.

Inflation Rate

Inflation is a situation of rising prices in the economy. Inflation is a sustained increase in the general price level in an economy. It can also mean an increase in the cost of living as the price of goods and services rise. The rate of inflation measures the annual percentage change in the general price level. Devaluation is likely to contribute to inflationary pressures because of higher import prices and rising demand for exports. However, the overall impact depends on the state of the economy and other factors affecting inflation. In theory, devaluation could cause inflation for three reasons; costs push inflation, demand-pull inflation and fewer incentives in long-term to cut costs.

Exchange Rate

Exchange rates are the 'external' value of a currency, the rate at which one country's currency will exchange for other country's currencies. Exchange rates are often grouped into three categories: free, variable or floating exchange rates. Free exchange rate is where the value of a currency is determined by the current demand and supply conditions for that currency. Fixed exchange rate is where the exchange rate fluctuates only within very narrow limits because of undertakings by the central bank either, to exchange a currency for gold at a fixed rate, or by its own buying and selling policy to intervene in the market to prevent the internationally agreed limits to be exceeded. Controlled or variable exchange rate is where a government lays down exchange rates for different purposes and ensures that they are maintained by physical controls over imports and exports.

Import

Imports are the goods and services that are purchased from the rest of the world by a country's residents, rather than buying domestically produced items. Imports lead to an outflow of funds from the country since import transactions involve payments to sellers residing in another country. Devaluation makes imported goods expensive for domestic consumers, and discourages the imports.

Export

Exports are goods and services that are produced domestically, but then sold to customers residing in other countries. Exports lead to an inflow of funds to the seller's country since export transactions involve selling domestic goods and services to foreign buyers. Devaluation of one country's currency can be used to increasing exports and decreasing imports. Governments devalue their currency with the aim of bringing down the prices of domestic goods and services, the ultimate goal being to increase net exports. The currency devaluation also makes purchasing from other countries more expensive, thus discouraging imports.

Empirical Review

Abiola, Rotdelmwa, Henry, Adedoyin, Adeyemi and Ogundipe (2021) carried out a study on the impact of exchange rate on output and employment in the manufacturing sector in Nigeria. The work used Structural Vector Auto regression, ECM and Canonical Co-integrating Regression to examine the shock effect, short and long-run elasticity's of exchange rate on the manufacturing sector performance in Nigeria, while employment and output were used as proxy for manufacturing sector performance. The findings showed that changes in the exchange rate were fairly elastic with output and employment both in short and long-run. However, changes in the exchange rate were insignificant with employment in the short run. The variance decomposition form the SVAR shows that forecast error shock of the exchange rate was more prolong on employment than on output. Consequently, the result of the estimation of the Impulse Response Function from the Monte Carlos shows that one standard deviation of the exchange shock adversely affected employment. The outcome of the result indicates that the Nigerian exchange rate has not improved output and employment in the manufacturing sector. Several factors may have accounted for this, although, it may be due to cost-push inflationary pressure and unfavorable competitiveness. The study suggests the need to encourage long-term supply-side policies among others to improve the situation.

Adekoya and Fagbohun (2019) carried out a study on the impact of currency devaluation on manufacturing output growth in Nigeria between 1980 and 2014.It employed Augmented Dickey Fuller for stationary test, Engel-Granger co- integration for long- run relationship, ordinary least square for long-run estimate and Granger causality test for causal relationships. The findings revealed that although all the variables were stationary at first difference, a long-run relationship existed between the variables. It further showed that all the variables except that of import exert positive effect on manufacturing output growth. The result suggests the need for currency

appreciation rather than devaluation as the sector depends heavily on the importation of equipments, machineries as well as most of its raw materials. The causality test shows that there is a unidirectional causality running from, exchange rate, import and Credit to Private Sector to manufacturing output. The study therefore concludes that both monetary and exchange rate policies in Nigeria were not successful in achieving the growth of the manufacturing sector in Nigeria as expected. Thus, there is the need for the review of the current exchange rate policy towards appreciation and a monetary policy discipline that will restore the value of the Naira.

Asinya Abdullahil, Abdul-Hamid, Chowdhury & Shahanara (2018) examined the impact of devaluation on domestic output growth and price level of Bangladesh. Exchange rate along with some other traditional factors such as investment spending, bank credit, narrow and broad money and labour force have been taken into account to evaluate the influence of exchange rate fluctuation on economic growth and price level of Bangladesh. The macroeconomic time series variables were made stationary to employ regression techniques. These series were made stationary through differencing using ADF (Augmented Dickey-Fuller) test, the time series considered in the study tested for unit roots to check their stationary. All variables are found to be stationary in level form except real GDP. That is, real GDP contains a unit root in level form. But at first difference level, real GDP becomes stationary. Consequently, all variables are used in level forms while real GDP was used at first difference level. Finally, the ordinary least square (OLS) method was employed to arrive at the regression equation for the desired coefficients. The study finds that devaluation has an expansionary effect on output level and price level and the overall result was consistent with the view that devaluation leads to inflation fostering the output growth. Therefore concluded that devaluation, which is essential to regain export competitiveness, should be handled pragmatically to uproot its adverse implication on long term economic growth of Bangladesh that might occur due to import contraction.

Theoretical Framework

The study adopted the elasticity approach. This approach is also known as Lerner and Marshall Approach. This theory was propounded by Alfred Marshall and Abba P. Lerner in 1986. According to them, devaluation of country's currency can be used to improve balance of payments deficit by price elasticity of demand and supply of imports and exports of devaluating country. They believed that if demand for export of devaluing country is less than unit, then devaluation will not reduce balancing of payments deficit. But if elasticity of exports is more than unit, devaluation will bring reduction in the balance of payments thereby raise the volume of export. On the other hand, if elasticity for import is more than one, import payment reduces than before; devaluation will lead to improve balance of payments. Their assumption is that devaluation of country's currency will encourage export and discourage import making import prices to increase, which will lead to decrease in import thereby improve country's trade and output. But if elasticity for import is less elastic, devaluation will lead to worsened trade and other things.

METHODOLOGY

The study employed *Ex-post facto* research design. The reason for choosing this design is because of the nature of the research which requires the use of past data or historical data. The variables under investigation are categorized into dependent variable (manufacturing sector performance) and a set of independent variables (exchange rate, inflation rate, interest rate, net import and net export). These variables were in line with the research objectives and the chosen estimation model.

Model Specification

Adekoya and Fagbohun (2016) used the model below:

OUTPUT = F(CPS, EXCH, INF, NIMPO, NEXPO)………1

In our econometric analysis of the effect of currency devaluation on manufacturing sector performance in Nigeria, we adopted and modified the model in equation 1 as follows to accommodate other variables.

MFSO = F(EXC, INF, INTS, NIMP and NEXP)……………2

The mathematical form of the model is:

MFSO = b_o+b_1EXCH+ b3 INTES+ b4NIMP+ b5 NEXP + μt……3

Where
MFSO = Manufacturing Sector Performance (dependent variable);
 EXCH = Exchange Rate, INF = Inflationary Rate;
 INTES = Interest Rate,
NIMP = Net Import,
 NEXP = Net Export, $\beta 0$ = intercept term;
 μt = Error term over correlation and time;
 $\beta 1 – \beta 3$ = Regression coefficient to be determined i,
t = Index of banks and annual time effect.

Based on economic theory, we expect the sign of the coefficient of inflation to be positive. This is because, economic theory believed that an increase in the supply of money will lead to inflation and stimulate economic activities, raises profit and lowers interest rate thereby making capital more accessible to manufacturing firms and hence, increase in manufacturing output.
On the other hand, the sign of the coefficient of interest rate and exchange rate are expected to be negative as there is an inverse relationship between output and the rate at which banks and non-banks financial institutions lend to private investors. Conventional economic theory shows that devaluation can generally leads to an increase in the level of output, since it can enhances production particularly in export and import competing sectors (increase competitiveness of the economy in general and manufacturing sector in particular) as such exchange rate will be negatively related to output.

Method of Data Analysis

The estimation procedure adopted in this study are the Augmented Dickey Fuller Unit root diagnostic test to ascertain the time series properties of the data used in the estimation model for prediction of the model and easy analysis. The Johansen Co-integration test was also conducted to know the long run relationship among the variables used. The Vector error correction mechanism was also employed to tie the short run fluctuation. We also employed the ordinary least square regression. The tests and estimation was carried out using econometrics-view (E-views 10). The study have four research hypotheses and the Beta coefficients of the respective independent variables results was tested at significant level of 1%, 5% and 10%. The level of standard error, sign and size of the t-statistics and the arising probability values formed the basis for decision making on the statistical significance of the results obtained for each of the research hypothesis if the t-statistics is equal or greater than 1.96 and p-value greater than 0.05. Similarly, null hypothesis were to be rejected if the t-statistics is less than 1.96 and p-value greater than 0.05

Descriptive Results

Table 1: Descriptive Statistics

	NFSO	EXCH	INF	INT	NEXPO	NIMPO
Mean	3700.433	112.0037	19.32119	13.00435	6267430	4935142
Std. Dev.	4887.584	100.1918	18.43841	4.061863	6879530	6351274
Skewness	0.0725226	0.181212	0.262009	0.076547	0.197066	0.406129
Kurtosis	3.364327	2.868888	3.023032	2.969120	2.741797	2.834416
Observations	36	36	36	36	36	36

Source: Author's Computation, 2021 (E-views 10)

The table 1 shows the selected descriptive statistical summary of the data employed in this study. With skewness of (0) and a kurtosis of (3), series are considered to be normally distributed. A normally distributed series is imperative for reliable analysis and for forecasting and policy purposes. The selected descriptive statistics of skewness and kurtosis as in the result in table 1 indicates the satisfactory fulfillment of these conditions; hence, further analysis and results with the series (the model variables) are reliable.

Model Suitability and Diagnostic Tests

These include all the pre-estimation tests conducted on the data and model to ensure that they are fit and suitable for use especially regarding the stationarity of the model variables (Unit root test), long run relationships (Bounds test of long-run relationship), and the strength of relationship (correlation matrix).

Unit Root Test for Stationarity

Stationarity is an important concept in time series analysis. It usually implies that the statistical properties of a time series (or rather the process generating it) do not change over time.

Stationarity is important because many useful analytical tools and statistical tests and models rely on it. Unit root tests can be used to determine if trending data should be first differenced or regressed. Moreover, economic and finance theory often suggests the existence of long-run equilibrium relationships among non-stationary time series variables. Hence, in order to ensure the policy forecasting reliability and suitability of the data employed in this, it was subjected to unit root diagnostic test and the summary of the result is presented below:

Table 2: unit Root Test Results

Variable	@Level	@ 1ˢᵗ Diff	Critical value	Order	Remark
NFSO	-4.416293	-	-3.544284	1(0)	Stationary
EXCH	-0634393	-4.449501	-3.548490	1(1)	Stationary
INF	-3.493155	-5.588892	-3.548490	1(1)	Stationary
INT	-3.525484	-7.085475	-3.548490	1(1)	Stationary
NEXPO	-4.885351	-	-3.544284	1(0)	Stationary
NIMPO	-0.723183	-6.212927	-3.548490	1(1)	Stationary

Source: Author's Computation, 2022 (E-views 10)

The result in table 2 above shows that initially @ level, some of the variables were not stationary, but at first and second differencing they became stationary. Hence, they are integrated of order 1(0) for manufacturing sector out (MFSO); net export (NEXPO), order 1(1) for exchange rate (EXCH), inflation rate (INF), interest rate (INT) and net import (NIMPO). The conclusion of stationarity is based on the fact that following the rule for unit root testing; the individual Augmented Dickey Fuller (ADF) test statistic of the variables became greater than the 5% critical value, which is the basis for stationarity. The implication of stationary process or series is that the model employed can be relied upon for policy analysis and decision making.

Correlation Matrix of the Variables

Table 3: Correlation Matrix Table

	NFSO	EXCH	INF	INT	NEXPO	NIMPO
NFSO	1.000000					
EXCH	0.915818	1.000000				
INF	0.266930	-0.356148	1.000000			
INT	-0.483436	0.132696	0.403577	1.000000		
NEXPO	0.846728	0.868854	-0.360702	-0.244744	1.000000	
NIMPO	-0.975318	0.908483	-0.289668	-0.135606	0.917284	1.000000

Source: Author's Computation, 2022 (E-views 10)

The table above shows the movements of the dependent variable in relation to the independent variables. The relationship is positive and the strength was highest between the manufacturing sector output (NFSO) and a combination of exchange rate (EXCH) and net exports (NEXPO)

Co-integration Test of Long Run Relationship

In multiple regression analysis, it is necessary to evaluate the long run tendency or convergence of the variables, this will show whether their characteristics will have a common or individual spread over the long run. A long run relationship in economics is very important as most economic variables such as those used in this study do not work in isolation but in connection with order variables. However, the data were not all stationary and integrated of the same order; hence the Johanson approach to cointegration test is not applicable. The suitable long run test is the Bounds test of long run relationship, the result is presented below:

Table 4: Bound Test Results

Null Hypothesis: No long-run relationships exist

Test Statistic	Values	K
f-statistic	14.88413	5
Critical Value Bounds		
Significance	10 Bound	11 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

Source: Author's Computation, 2022 (E-views 10)

As seen in table 4 above, the test statistic of the Bounds test of long run relationship indicates the presence of a long-run relationship among the variables at 5% level of significance, thereby leading to the rejection of the null hypothesis of no long-run relationship and acceptance of the alternative. There are three options for the decision criteria when using the Bounds approach to co-integration: if the F-stat is greater than the critical value for the upper bound 1(1) then we can conclude that there is long-run relationship; if the f-stat falls below the critical value for the lower bound 1(0), there is no co-integration, hence no long-run relationship; and the test is considered inconclusive if the f-stat falls between the lower bound 1(0) and the upper bound 1(1). The obtained f-stat of 14.88413 is greater than the critical value for the upper bound 1(1) at 5% level of significance (14.88413>3.79), hence it is concluded that the variables show evidence of long-run relationship.

Impact Estimation Result

This section displays estimation results of the impact of the independent variables on the dependent variable using the autoregressive distributed lay (ARDL) method; this became necessary since the data did not achieve stationary status at the same order.

Regression Result

Table 5: ARDL Estimates

Dependent Variable: MFSO

Variable	Coefficient	T-statistic	P-value
EXCH	-2.208255	-2.448955	0.0308
INF	-0.049637	-0.010905	0.9914
INT	-30.041423	-2.535901	0.0158
NEXPO	9.887106	3.049849	0.0006
NIMPO	-0.000235	3.319881	0.0025
R-Squared	0.694200		

Source: Author's Computation, 2022 (E-views 10)

Table 5 above shows the estimated coefficients of the independent variables using the autoregressive distributed lag model (ARDL). The ARDL technique is suitable for series that are not integrated of the same order as is the case with the current study. As seen, the t-statistic and the corresponding probability (p-value) are matched showing negative significant bearings of exchange rate devaluation (EXCH) and interest rate (INT) on the manufacturing sector output (MFSO).

Test of Research Hypotheses

This section of the study involves the use of relevant statistics to determine the level of probability in the trueness or falsehood of a statement, such statements includes those already mentioned in the hypotheses in the earlier sections of the study. In the operation, conclusions were made using the parameter estimates and their probability values at 5% level of significance. The decision rule is to accept the null hypothesis where the t-stat is less than 2 or the probability value of the parameter estimate is greater than 0.05.

Test of Hypothesis One

Research hypothesis one is to determined the impact of exchange rate on the manufacturing sector performance in Nigeria, stated in null form as:

H_0: Exchange rate has no significant impact on manufacturing sector output in Nigeria. In the alternative form, it is restated as:

H_A: Exchange rate has significant impact on manufacturing sector output in Nigeria.

Decision Rule: Accept H_0: if T-stat< 2 or P-value > 0.05, otherwise reject it and accept the alternative.

The estimated coefficient of exchange rate (EXCH) is -0.208255, and *p-value* of the *t-statis* 0.0308; the study thereby rejects the null hypothesis and accept the alternative, the conclusion is

that exchange rate devaluation has negative significant impact on manufacturing sector output in Nigeria. This means that when the exchange rate of the naira is devalued by a unit measure, the aggregate manufacturing sector production output (MFSO) slides by 2.208255 billion naira in terms of it contribution to the gross domestic product.

Test of Hypothesis Two

Research hypothesis two is stated in null form as:

H_0: Interest rate has no significant impact on manufacturing sector output in Nigeria. In the alternative form, it is restated as:

H_A: Interest rate has significant impact on manufacturing sector output in Nigeria.

Decision rule: Accept H_0: If T-stat<2 or P-value> 0.05, otherwise reject it and accept the alternative. The estimated coefficient of the interest rate (INT) is -30.041413 and *p-value* of 0.0158; the study hereby rejects the null hypothesis and accepts the alternative. In conclusion, the interest rate has negative significant impact on manufacturing sector output in Nigeria. Precisely when the interest rate (cost of capital) is up a unit, the aggregate manufacturing sector output will dip by 30.41 billion naira in contribution to the gross domestic product.

Test of Hypothesis Three

Research hypothesis two is stated in null form as:

H_0: Inflation rate has no significant impact on manufacturing sector output in Nigeria. In the alternative form, it is restated as:

H_A: Inflation rate has significant impact on manufacturing sector output in Nigeria.

Decision rule: Accept H_0 if T-stat<2 or P-value>0.05, otherwise reject it and accept the alternative. The estimated coefficient of the inflation rate (INT) is -0.049637 and *p-value* of 0.9914; the study hereby accepts the null hypothesis and rejects the alternative. In conclusion, the inflation rate has negative but insignificant impact on manufacturing sector output in Nigeria.

Discussion of the Results

From the hypotheses tested, the following discussions were made:

1. From the result of the analysis it was observed that the estimated coefficient of exchange rate (EXCH) is -2208255 and p-value of the t-test is 0.0308 making the study to reject the null hypothesis and accept the alternate hypothesis which shows that devaluation has negative significant effect on manufacturing sector output in Nigeria. This is in line with the result found by Osundina (2013) which state that exchange rate has significant effect on economic growth.

2. The result also showed that inflation rate has estimate coefficient of -0049637 and p-value of 0.9914. The study accepted null and rejected the alternate hypotheses. This means that inflation has a negative but significant impact on manufacturing sector output in Nigeria.
3. The results of export estimated coefficient is 9.887106 and p-value of 0.0006. This shows that it has positive significance to manufacturing sector output in Nigeria.
4. Import has estimated coefficient of -000235 and p-value of 0.0025 and has negative significant impact on manufacturing sector output in Nigeria.

Policy Implication

Devaluation is a fall in the value of currency and tends to cause inflation, higher growth and increased demand for exports, hence the results from this study confirms a positive relationship between devaluation of the naira and the growth of export activities This poses a great difficulty in financing imports of raw materials by manufacturers. This definitely will reduce the demand for imports. This fall in the value of currency and rise in the general price level has wide-ranging implication on production, distribution of wealth, and the economy as a whole. These impacts may be positive or negative depending on groups /individuals. Its impact on inflation on production will also depends on the type of inflation available. If cost-push, inflation there will be a decline in production as the increase in production cost will hamper the confidence as well as meet the budget constraints of the producer. In demand-pull inflation, they may be high changes for an increase in production. The increase in money supply will push the demand for goods and services up and will have a positive impact on the prices assuming that demand is price inelastic; a fall in the price of exports will led not only to a small rise in quantity, the value of exports may actually fall. An improvement in the current account on the balance of payments depends upon the Marshall Learner condition and the elasticity of demand for exports and imports. In a situation where the global economy for instance is facing recession, devaluation may be insufficient to boost export demand. If growth is strong, then there will be a greater increase in demand. However, in a boom, devaluation is likely to exacerbate inflation. The policy implication for devaluation plan is to also develop shock absorbers following a counter policy of neighboring countries that might also devalue their own currencies to offset the effects of their trading partner's devaluation ("beggar thy neighbor" policies).

Summary of Findings

This study focused on the impact of devaluation on the manufacturing sector performance in Nigeria, using data from 1986-2021. The unit root test showed that all variable were not stationary at level; the Bounds test following this outcome supports the presence of long run relationship among the variables. The autoregressive distributed lag model became necessary on the instance that co-integration was found among the variables after being integrated at different order 1(0) and 1(1).

The summary of the major findings of the study are:

1. Exchange rate has negative significant impact on the manufacturing sector output in Nigeria with coefficient of -1108255 and p-value of 0.0308 and the alternate hypothesis was accepted.
2. Inflation rate has negative but insignificant impact on the manufacturing sector output in Nigeria with coefficient of -0049637 and p-value of 0.9914 and the study accepted the null hypothesis.
3. Exports have positive significant impact on manufacturing sector output in Nigeria with coefficient value of 9.887106 and p-value of 0.0006.
4. Import has negative significant impact on manufacturing sect output in Nigeria with coefficient value of -000235 and p-value of 0.0025.

Conclusion

Devaluation of currency is not a bad idea to solve the economy's balance of payment problems; it has been used by other countries. Sound fiscal policy should be put in place so that the resulting effect of inflation and workers unrest in a bid to demand for higher pay could be curbed. This study identified also that diversification of export is inevitable for Nigeria to achieve economic growth in the face of devalued currency. Also, in order to reduce import dependency of Nigeria, the government should step up policy to encourage domestic industries, as they contribute marginally to the GDP.

Recommendations

Following the findings, the study makes the following recommendations:

1. There is need for the Central Bank of Nigeria to allow a market-based exchange rate window to determine exchange.
2. The interest rate should be reviewed downward especially the rate giving to manufacturers to ward of the high cost of capital.
3. Inflation rate should the checked by cutting down unnecessary expenditure of the government on non developmental activities.
4. Government should put in place rules to know the kind of products and technology that can move in the country forward since exports impact positively on manufacturing sector, and put policies in place that could help indigenous firms

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