Exchange Rate and Manufacturing Performance in Nigeria

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Abstract

The aim of the study was to ascertain the performance level of the Nigeria manufacturing output with variations and increase in exchange rate level in Nigeria. The study made use of four explanatory variables (exchange rate, interest rate, inflation rate and capacity utilization rate) to test for the performance of the output of the manufacturing sector in the Nigeria economy. Unit root test using the Augmented Dickey Fuller test was conducted to test for stationarity among variables employed. The Johansen Co-integration test was also employed to test for long run equilibrium relationship among the variables while the pair-wise correlation matrix was used to test for multi collinearity among variables. The study concluded that despite the deregulation of exchange rate in 1986, the manufacturing sector performance yielded little or no improvement with its contribution to the GDP still less than 10% which falls short of requirement to stimulate the general output of goods and services in the economy. This was attributed to the devaluation of the naira which led to high importation, the continuous fall in the value of the naira and infrastructural decay. The paper proffered improvement in agricultural production to reduce importation of raw materials needed for manufacturing production, appreciation of the exchange rate and infrastructural improvement.

Keyword: Exchange Rate, Foreign Exchange Market, Structural Adjustment Programme, (SAP) Manufacturing GDP

1. Introduction

The aim of every nation is to achieve economic growth and development. This can be achieved through constant growth in all sectors of the economy.

In all economies of the world, the need to give the manufacturing sector and the foreign sector attention is important if the economy is to complete developmentally. Very few countries have been able to grow and accumulate wealth without investing in their manufacturing industries, and a strong and thriving manufacturing sector usually precipitates industrialisation. The manufacturing sector is widely considered to be the ideal industry to drive Africa’s development.

A virile manufacturing sector offers prospects of a growing availability of manufactured products, increased employment, greater efficiency and improved balance of payments. Similarly modern manufacturing processes are characterised by high technological innovations, the development of managerial and entrepreneurial talents and improvements in technical skills which normally promote productivity and better living condition thereby stimulating demand for manufactured products and economic growth (Dauda 2006).

The manufacturing sector remains the major source of growth drives for the management of the Nigeria economy due to its performing role of providing employment, food and raw materials for the domestic and industrial needs. It serves as a catalyst for economic growth, diversifies the economy, reduces overdependence on foreign trade, increase self-reliance, boost the agricultural sector (as most of the raw materials needed in the sector are produced agriculturally) and helps in revenue utilization.

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In an economy that depends on international trade and with the dawn of globalisation, exchange rate becomes a key factor in determining the performance of key sectors in the economy, manufacturing sector inclusive. Exchange rate is an exogenous variable that determines the movement of other variables: macroeconomic stability and resource flow in and out of a country (Nzotta, 1999). Exchange rate is the price of a country’s currency in terms of another. Foreign exchange is one scarce resource in a developing economy. Unless the policy framework and management of this scarce resource is properly articulated in terms of its revenue generation and expenditure inflow and outflow, a country runs the risk of balance of trade or payment problems (Ohale, 2002).

The evolution of the foreign exchange market in Nigeria was brought about by a number of factors which included structural shift in production, changing pattern of international trade and institutional changes in the economy. The rise in oil prices in the 1970s contributed immensely in the evolution of foreign exchange in Nigeria. Economies of countries are linked directly or indirectly through assets or good markets. This linkage is made possible through trade and foreign exchange. The flows of exchange rate can therefore lead to output contraction and fluctuations in economic growth (Isard, 1978).

Nigeria over the years has adopted two main exchange rate regimes for the purpose of gaining internal and external balance. From 1970-1986, direct government control of fixing the exchange rate level was operated known as fixed exchange rate regime. In 1986 with the introduction of the SAP, the country adopted the flexible exchange rate regime where the market forces determine the exchange rate level. Some mild government intervention was seen in this period though, but the flexible exchange rate regime dominates this period.

A close observation of the manufacturing sector over this exchange rate regime showed that the sector has been underproductive. By 1982 there was a catastrophic collapse of the international oil market. Foreign exchange earnings declined drastically and beyond expectation. High import rate created an unprecedented foreign exchange scarcity that necessitated rationing among manufacturers. This resulted in the collapse of many industries in the face of acute shortage of raw materials, spare parts and components. The sector contribution to the GDP stood at 4.16% in 2012 which falls short of required rates when compared to rates of Austria, Thailand, Iran and South Africa which stands at 19%, 34%, 13%, and 12% respectively in 2012.

Capacity utilization rate fell from 76.6 in 1975 to 53.11 in 2012. In a survey carried out by the Manufacturing Association of Nigeria (MAN) in 2010, it recorded that of 2780 registered members, a total of 839 (30.2%) manufacturing firms closed their factories in 2009. Also in 2006, MAN annual report claimed that job loss in the sector between 1983 and January 2006 was put at 4.2 million. This is attributed to inability of manufacturing companies to cope with the challenges posed by the harsh operating environment in Nigeria which include infrastructural decay, political problems, insecurity and exchange rate fluctuations (Ehinomen & Oladipo, 2012).

With the resultant fluctuation in foreign exchange rate and the adoption of different foreign exchange rate management system in Nigeria, this study therefore tries to investigate the relationship between exchange rate and the performance of the manufacturing.

2. Literature Review

Theoretical Literature

Existing studies have produced a number of different literatures on the determination of the exchange rate.

In 1918, Swedish economist Gustav Cassel developed the purchasing power parity. The theory of the purchasing power parity states that the rate of exchange between two countries depends upon the purchasing power of their respective currencies (Krugman & Obstfeld, 2009) (Ahuja, 2013). It is based on the law of “one price” which states that in an ideally efficient market, identical goods should have only one price in the absence of trade barriers, transportation cost, duties etc (Ahuja, 2013). The PPP theory uses the long term equilibrium exchange rate of two currencies to equalize their purchasing power. If the prices of each good
are equalized between the two countries and if the goods baskets and their weights in the two countries are the same, then, then absolute PPP holds. Absolute PPP theory was first presented to deal with the price relationship of goods with the value of different currencies. The Absolute PPP theory holds in an integrated, competitive product market with the implicit assumption of a risk-neutral world, in which the goods can be traded freely without transportation costs, tariffs, export quotas, and so on. However, it is unrealistic in a real society; thus, a more general version of PPP, called the relative purchasing power parity was introduced to describe the relationship of prices with the exchange rate in different economies. Generally, relative PPP assumes that transaction costs are proportionately related to price level.

The balance of payments theory posits that the exchange rates are determined by the balance of payments. It holds that the price of foreign money in terms of domestic money is determined by the free forces of demand and supply in the foreign exchange market (Jhingan 1997). According to the theory, a deficit in the balance of payments leads to fall or depreciation in the rate of exchange, while a surplus in the balance of payments strengthens the foreign exchange reserves, causing an appreciation in the price of home currency in terms of foreign currency. A deficit balance of payments of a country implies that demand for foreign exchange is exceeding its supply, thus, the price of foreign money in terms of domestic currency must rise, i.e., the exchange rate of domestic currency must fall. On the other hand, a surplus in the balance of payments of the country implies a greater demand for home currency in a foreign country than the available supply. As a result, the price of home currency in terms of foreign money rises, i.e., the rate of exchange improves.

According to the balance of payments theory, the demand for foreign exchange arises from the "debit" items in the balance of payments, whereas, the supply of foreign exchange arises from the "credit" items. Since the theory assumes that the demand for and supply of foreign currency are determined by the position of the balance of payments, it implies that supply and demand are determined mainly by factors that are independent of variations in the rate of exchange or the monetary policy. Given the demand-supply schedules, their intersection determines the equilibrium exchange rate of a currency (Jhingan 1997).

As early as the period of the gold standard, monetary policymakers found that exchange rates were influenced by changes in monetary policy. The interest rate parity theory was developed by Keynes in 1923, to link the exchange rate to interest rate. The theory suggests that for there to be no arbitrage opportunities, two assets in two different countries should have similar interest rates, as long as the risk for each is the same. The basis for this is parity is also the law of one price, in that the purchase of one investment asset in one country should yield the same return as the exact same asset in another country; otherwise exchange rate would have to adjust to make up for the difference.

The International Fischer Effect theory suggests that the exchange rate between two countries should change by an amount similar to the difference between their nominal interest rates. If the nominal interest rate in one country is lower than another, the currency of the country with the lower nominal rate should appreciate against the higher rate country by the same amount.

The real interest rate differential theory posited that countries with higher real interest rates will see their currencies appreciate against countries with lower interest rates. The reason for this is that investors around the world will move their money to countries with higher real rates to earn higher returns, which bids up the exchange rate of the higher real rate currency.

The Asset Market Model theory looks at the inflow of money by foreign investors into a country for purchases of assets such as stocks, bonds and other financial instruments. If a country experiences large inflows of investors, its currency price increases as domestic currency needs to be purchased by the foreign investors. The Capital account of the balance of trade is considered in this theory. The model is gaining acceptance as it has been observed that the capital account is beginning to outpace the current account as international money flow increases.
Conceptual Framework

- Exchange Rate Management in Nigeria
  - Exchange Rate Management in the Pre SAP era 1970-1986
    
    Before the establishment of the CBN in 1958 and the enactment of the Exchange Control Act of 1962, the private sector earned foreign exchange in Nigeria and commercial banks abroad held the balance and acted as an agent for local exporters. Before 1973, Nigeria’s exchange rate was in consonance with the IMF per value of fixed exchange system. It was pegged to the British Pound Sterling before and after the establishment of the CBN. In 1972, following the breakdown of the IMF par value system, the Naira was pegged to a basket of 12 currencies comprising of her major trading partners at a fixed exchange rate regime. This was aimed at equilibrating the Balance of Payment, preserving the value of external reserves and maintaining a stable exchange rate. The regime induced an overvaluation of the naira and was supported by exchange control regulations that engendered significant distortions in the economy. This gave vent to massive importation of finished goods with the adverse consequences for domestic production, balance of payments position and the nation’s external reserves level. Moreover, the period was bedevilled by sharp practices perpetrated by dealers and end-users of foreign exchange. The policy encouraged heavy reliance on import which led to BOP problem and depletion of external reserves. This was not helped by the collapse of oil price in the World market in 1982. The increasing demand for foreign exchange and the inability to evolve an appropriate mechanism for foreign exchange allocation with the goal of internal balance led to the abandonment of this policy (Obadan 2006).
  
  - Exchange rate Management in the since SAP era 1986-2012
    
    Under the SAP, the exchange rate strategy was to float the Naira and establish an institutional framework for its trading in a market determined environment (Obadan 2006). Following the failure of the fixed exchange rate system to induce internal balance, a market determined exchange rate was established and exchange rate policy objectives were pursued within the institutional framework of the Second-Tier Foreign Exchange Market (SFEM). The exchange rate was to be freely determined by forces of demand and supply, while the CBN determines the supplies of the foreign exchange weekly (CBN 2006). The introduction of the SFEM was followed by depreciation of the Naira to ensure the efficient allocation of resources. It was envisaged that the depreciation of Naira will increase low sourcing of raw materials and increase manufacturing output while discouraging demand for import (Nnana 2002), (Adamgbe 2006), (Bakare 2014).

    The SFEM which comprised of first tier and second tier exchange rate was merged into a unified Foreign Exchange Market (FEM) in 1987 with all transaction guided by market forces. In 1988, an autonomous foreign exchange market was established between authorized dealers to complement the FEM. This gave rise to the opportunities for banks to trade among themselves in privately sourced foreign exchange at their own independent price. In 1989, the Autonomous market merged with the official market to form the Inter-bank Foreign Exchange Market (IFEM) with the rationale of finding a realistic exchange rate for the Naira which would help moderate activities, enhance export earning and allow for an efficient allocation of foreign exchange resources. The Bureau de Change was introduced in the same year to increase access to small users of foreign exchange in a less formal manner and integrate the informal market to the formal market. It ended in 1990 and was reintroduced in 1999. The Dutch Auction System (DAS) was introduced 1990 and 2002. DAS tried to close the widening gaps between the parallel and official exchange rate and the high demand for foreign exchange. This system was introduced to prevent extremely high bid rate which led to depreciation of the Naira. Fixed exchange rate system was reintroduced in 1994 and the Naira was pegged at N22 to $1. It was abandoned in 1995 in favour of a guided deregulation of the FEM, necessitating the introduction of the Autonomous Foreign Exchange Market (AFEM) which later changed into a daily two way quote inter-bank Foreign Exchange Market (IFEM) in 1999 to aid in the diversification of the supply of foreign exchange in the economy by encouraging the funding of the inter-bank operations from privately-earned foreign exchange. In 2006, the Wholesale Dutch Auction System (WDAS) was
introduced to deepen the foreign exchange market in order to evolve a realistic exchange rate of the Naira (Bakare 2014).

The Nigeria exchange rate management after 1986 can be said to be “managed float” in which the CBN embarked on delicate balancing act of controlling volume and price.

- The Nigeria Manufacturing Sector

The performance of the Nigerian manufacturing sector since independence has been unimpressive. The scenario is a mixture of initial mild growth and subsequent decline. The manufacturing sector in the 1960s and 1970s was one of the fast growing sectors in Nigeria. Its average annual growth rate between 1962 to 1973 was 12%. Its capacity utilisation rate was as high as 76.6 and 73.3 in 1975 and 1983 respectively. This was helped by well articulated development projects and policies and high foreign earnings from oil. Like many other African countries, Nigeria’s early independence years had seen an industrial strategy that relied heavily on import substitution. At first this had appeared to work relatively well, with the share of manufacturing to GDP increasing from 2 per cent in 1957 to 7 per cent in 1967 (Ehinomen & Oladipo 2012).

The massive oil revenues meant that this strategy could be intensified; consequently the 1970s witnessed huge investments in state-owned enterprises. While this implied rapid expansion of the industrial sector, subsequent returns on investment projects were typically much below expectations. The import substitution strategy turned out to be unsuccessful in generating growth in incomes and jobs. The oil price boom in the 1970s also led to the stagnation of the agricultural sector, mainly due to the neglect of the sector as foreign earnings from oil hit a high 90%. As a result exports of cash crops like palm oil, peanuts and cotton declined rapidly.

With the slump in oil price in the early 1980s, the manufacturing sector performance began to decline. Its contribution to GDP fell from 11.2% in 1982 to 7.98% in 1986, capacity utilisation rate fell from 70.1 to 38.8 between 1980 to 1986 (CBN 2012). The introduction of the SFEM improved the sector with capacity utilisation rate rising to 42.4% in 1988 and manufacturing contribution to GDP rose to 8.65% in 1988 with an increased growth rate put at 11.7% (CBN 2012). These growths still remained relatively small in terms of its share of the labour force employed and the sector’s contribution to GDP and Manufacturing value added (MVA). MVA per capita provides an indication of the size of the manufacturing sector relative to the size of the population, while MVA per GDP indicates the size of the manufacturing sector relative to the economy. MVA per Capita was put at below $100 which was low in comparison to Mauritius, South Africa and Namibia with MVA per Capita rates of $1000, $900 and $500. MVA per GDP for Nigeria was about 3% while Mauritius, South Africa and Namibia had about 16%, 15% and 12% respectively (UNIDO 2012). A survey done by the Manufacturers Association of Nigeria (MAN) in 2009, recorded that 219 firms closed, worsening the country’s plight and increasing the unemployment rate which stands at 24%. The Nigeria manufacturing sector contribution to GDP have been in one figure not climbing above 10% since 1980 except in 1982 when its contribution was 11.21%. Its contribution to GDP in 2012 was 4.16% and stands at 6.8% in July 2014 (Business Day 2014). Though an improvement, the sector can do more with the country’s natural endowment, large labour force and being rated as the 26th largest economy in the world by the Global Competitive index out of 144 nations.

The factor responsible for the decline according to the Manufacturers Association of Nigeria (2009) were seen as power outage, infrastructural decay, continuous fall in the value of the Naira, lack of technological know-how, corruption and embezzlement, policy inconsistency, multiple taxation and over importation of goods and services.

Empirical Literature

Several studies have examined the relationship between exchange rate and macroeconomic performance. Ubok-Udom (1999) examined the relationship between exchange rate variations and the growth of domestic output in the Nigerian economy over a 25 year period (1971-1995). The explanatory variable (exchange rate variation, dummy variable capturing currency depreciation) all had negative signs in all the estimated equations. He posited that the rate of growth of total GDP and non oil GDP tends to decline
or rise with nominal Naira/US dollar exchange rate and thus the Nigerian economy apparently requires exchange rate appreciation for its growth. Accam (1997) reviews the effect of exchange rate instability on macroeconomic performance. Interested in investment and trade, the survey, showed that an unstable macroeconomic environment constitutes one of the major impediments to investment in many LDCs.

Mustapha and Fabumi (1990), Esezobor (2004) and Levi (1990) identified specific factors that influence exchange rate in the short and long run as interest rate differentials, speculation, monetary authority intervention, hedging, demand and supply, exchange controls and regulation and political and general economic climates.

Ukoha (2000) also investigated the determinants of capacity utilization in the Nigerian manufacturing industry between 1970 and 1998. His study showed that the exchange rate, government expenditure on manufacturing and per capita real income had positive effects on manufacturing capacity utilization. However, inflation and loans and advances to manufacturing were found to have negative effect. Improving capacity utilization in the Nigerian manufacturing sector will enhance growth of the sector which will subsequently result in industrial development in Nigeria was his conclusion.

3. Methodology

In order to understand the influence of exchange rate on the manufacturing output of Nigeria economy, we specify a model which tries to capture the relationship between both variable.

- **Specification and Expectations**

  The model is specified as

  \[ MGDP = f(EXR, INT, INF, CUR) \]

  Where,
  
  MGDP = Manufacturing GDP  
  EXR= Foreign Exchange Rate  
  INT= Interest Rate  
  INF= Inflation Rate  
  CUR= Capacity Utilization Rate

  Thus,

  \[ MGDP = \beta_0 + \beta_1 EXR + \beta_2 INT + \beta_3 INF + \beta_4 CUR + \mu \]

  \[ \beta_0 > 0, \beta_1 < 0, \beta_2 < 0, \beta_3 > 0, \beta_4 > 0 \]

- **Exchange Rate:**

  There should exist a negative relationship between MGDP and EXR. As exchange rate falls (i.e. as the price of dollar rises and the naira falls), manufacturing output falls. This is so because the naira loses value and depreciates and more naira would be needed to import required raw materials by the sector to produce goods and services.

- **Interest Rate:**

  A negative relationship is expected. As interest rate on loanable funds increases, manufacturers are discouraged from borrowing. Thus, their output declines.

- **Inflation Rate**

  This tries to capture the effect of increase in price level on the manufacturing sector. When there is inflation (general price level increase), outputs are bound to increase to meet up the increased demand by consumers. Thus positive relationship is expected to exist between inflation and manufacturing output.
• **Capacity Utilization Rate**

Capacity Utilization Rate is a metric which shows the rate at which probable output levels are being met or used. A positive relationship is expected. An increase in CUR will increase manufacturing output.

The study covers the period 1975 – 2012 and is guided by the following hypothesis

H₀: There exist no significant relationship between the output of the Nigeria manufacturing sector and foreign exchange rate.

To estimate our results, we would employ the ordinary least square method of estimation to test the modelled variables. The order of integration to ascertain the number of times a variable will be differentiated to arrive at stationary results using the Augmented Dickey-Fuller (ADF) tests would be employed to test the stationarity of variables for estimation so as to avoid spurious regression while to determine the number of co-integrating vector, the Johansen procedure shall be employed (Onuchuku, 1999).

4. **Analysis of Result**

\[
\text{MGDP} = 4.172761 - 0.002527\text{EXR} - 0.002933\text{INT} + 1.64\times10^{-6}\text{INF} + 0.004050\text{CUR}
\]

(Prob) \( t = 0.0000 \quad 0.0000 \quad 0.0024 \quad 0.9990 \quad 0.0279 \)

Durbin Watson Stat = 1.591287

F Stat= 22.98475

Prob(F-statistic) = 0.000000

• **Testing for Stationarity**

In order to avoid spurious regression, it became imperative to ensure the parameters are estimated using stationary time series data. Adopting the Augmented Dickey Fuller (ADF) test, the outcome of the time series data showed that all were stationary at first differencing at 5% level. See table below

<table>
<thead>
<tr>
<th></th>
<th>T-Statistic</th>
<th>Critical Value 1%</th>
<th>Critical Value 5%</th>
<th>Critical Value 10%</th>
<th>Prob.</th>
<th>Order of Integration</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(LMGDP)</td>
<td>-6.129044</td>
<td>-3.6289</td>
<td>-2.9472</td>
<td>-2.6118</td>
<td>0.000002</td>
<td>I(1)</td>
</tr>
<tr>
<td>D(EXR)</td>
<td>-3.452382</td>
<td>-3.6289</td>
<td>-2.9472</td>
<td>-2.6118</td>
<td>0.000010</td>
<td>I(1)</td>
</tr>
<tr>
<td>D(INT)</td>
<td>-7.013365</td>
<td>-3.6289</td>
<td>-2.9472</td>
<td>-2.6118</td>
<td>0.000000</td>
<td>I(1)</td>
</tr>
<tr>
<td>D(INF)</td>
<td>-5.867654</td>
<td>-3.6289</td>
<td>-2.9472</td>
<td>-2.6118</td>
<td>0.000002</td>
<td>I(1)</td>
</tr>
<tr>
<td>D(CUR)</td>
<td>-3.093493</td>
<td>-3.6289</td>
<td>-2.9472</td>
<td>-2.6118</td>
<td>0.005327</td>
<td>I(1)</td>
</tr>
</tbody>
</table>

• **Co-integration Analysis**

The Johansen co-integration analysis was used to determine if there exists a long-run equilibrium relationship among variables under study. It revealed that 2 variables are co-integrated at 5% critical value. The likelihood ratio of 102.5823 and 51.18414 are greater than the critical value of 68.52, 47.21. We therefore reject the null hypothesis and conclude that there exist at least one co-integrating relationship and as such, a long run equilibrium exists among the variables.
Table 2: Results of Cointegration Analysis

Date: 11/24/14   Time: 07:19
Sample: 1975 2012
Included observations: 36

Test assumption: Linear deterministic trend in the data

Series: LMGDP EXR INT INF CUR
Lags interval: 1 to 1

<table>
<thead>
<tr>
<th>Eigenvalue</th>
<th>Likelihood Ratio</th>
<th>5 Percent Critical Value</th>
<th>1 Percent Critical Value</th>
<th>Hypothesized No. of CE(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.760146</td>
<td>102.5823</td>
<td>68.52</td>
<td>76.07</td>
<td>None **</td>
</tr>
<tr>
<td>0.507820</td>
<td>47.21</td>
<td>54.46</td>
<td>At most 1 *</td>
<td></td>
</tr>
<tr>
<td>0.425672</td>
<td>29.68</td>
<td>35.65</td>
<td>At most 2</td>
<td></td>
</tr>
<tr>
<td>0.146337</td>
<td>15.41</td>
<td>20.04</td>
<td>At most 3</td>
<td></td>
</tr>
<tr>
<td>9.80E-05</td>
<td>3.76</td>
<td>6.65</td>
<td>At most 4</td>
<td></td>
</tr>
</tbody>
</table>

*(**) denotes rejection of the hypothesis at 5%(1%) significance level
L.R. test indicates 3 co integrating equation(s) at 5% significance level

Table 3: Correlation Matrix

<table>
<thead>
<tr>
<th></th>
<th>LMGDP</th>
<th>EXR</th>
<th>INT</th>
<th>INF</th>
<th>CUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMGDP</td>
<td>1.000000</td>
<td>0.785253</td>
<td>0.583666</td>
<td>-0.129496</td>
<td>-0.336210</td>
</tr>
<tr>
<td>EXR</td>
<td>0.785253</td>
<td>1.000000</td>
<td>0.423372</td>
<td>-0.304962</td>
<td>0.004094</td>
</tr>
<tr>
<td>INT</td>
<td>0.583666</td>
<td>0.423372</td>
<td>1.000000</td>
<td>0.220048</td>
<td>-0.613966</td>
</tr>
<tr>
<td>INF</td>
<td>-0.129496</td>
<td>-0.304962</td>
<td>0.220048</td>
<td>1.000000</td>
<td>-0.274596</td>
</tr>
<tr>
<td>CUR</td>
<td>-0.336210</td>
<td>0.004094</td>
<td>-0.613966</td>
<td>-0.274596</td>
<td>1.000000</td>
</tr>
</tbody>
</table>

There was no multi collinearity seen as the pair-wise correlation coefficient between two regression was not in the excess of 0.9.

The adjusted $R^2$ which takes into account the degree of freedom when new regressors are introduced shows that 70% variation in output of the manufacturing sector is determined by the explanatory variable. The t tests are all significant except that of inflation rate.

All parameters conform to apriori expectations except inflation rate. The Durbin Watson value of 1.59 tends to 2 and shows a minimal serial autocorrelation while the probability of the F statistics (Prob(F-statistic) is 0.00000 which is less than 0.05% level. Thus we conclude that the entire regression is fit.

5. Conclusion

The aim of the study was to ascertain the performance level of the Nigeria manufacturing output with variations and increase in exchange rate level in the economy. The study revealed that the explanatory variables all conform to a priori expectation. The study also showed that there exist a causal relationship between manufacturing output and exchange rate. Despite the deregulation of exchange rate in 1986, the manufacturing sector performance yielded little or no improvement. This was attributed to the devaluation of the Naira at that time, which led to high importations of foreign technology and machineries, raw material being unaffordable. This was not helped by the continuous fall in the value of the naira to the dollar making importation more expensive and output produced expensive too. Based on the study, the following recommendations were made:

- An appreciation of the exchange rate is required so as to counter the effect of over spending in the international market.
Local production of raw materials should be encouraged so as to reduce the high rate of importation of foreign inputs required by manufacturing companies to produce.

Efforts should be geared toward improvement in the agricultural production of the country as most raw materials needed by the manufacturing sector are agricultural based.

Infrastructural decay should be addressed. The epileptic power supply, bad roads, water etc. should be addressed so as to boost the sector’s output.

High lending rate scares investors. The monetary authority should thus, grant loans at little interest rate to investors willing to go into small and medium scale enterprises, as these are primary instruments of manufacturing and employment.

References


