ISSN: 1682-3915

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# Deregulation of Foreign Exchange Market and its Effect on Industrial Produce in Nigeria

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Abstract: The problem of the effect of high regulation in the Foreign exchange market which in advertently have a determining factor on the performance of business organizations is an issue of concern most especially in industries in Nigeria. Data on variables which are relevant to this study like industrial produce, exchange rate, and inflation rate, labour force per time, capital stock and political regulations/instability were gathered from secondary source like the Central Bank of Nigeria statistical bulletin. The data were analyzed using the ordinary least square econometric technique and the result showed that while both labour and capital are positively significant in explaining industrial produce, inflation was negatively significant in explaining it. This study, thus recommended amongst others that the educational sector should be prioritized by the government in order to have a strong labour force and also long term funds should be provided for the growth of the manufacturing sector.

Key words: Deregulation, Foreign exchange, manufacturing sector, Foreign exchange market, Nigeria

#### INTRODUCTION

The efficient and effective regulation of a system always leads to the outstanding success of that system, and as it is popularly said that only those that comply with regulations become regulators, Nigeria in the past years has been involved in different regulation strategies. Also, failure of a policy usually leads to the implementation of a new policy which usually entails 'adjustment of previous policies (Gbosi, 2005). For example the economic stabilization measures involving stringent exchange and trade controls, introduced in April 1982, proved rather ineffective. More stringent measures introduced in 1983 and 1984 and retained in 1985 accomplished very little.

The evolution of the Foreign exchange markets in Nigeria up to its present state was influenced by a number of factors which include the changing pattern of international trade, institutional changes and structural shift in production. Before the establishment of the Central Bank of Nigeria (CBN) and the enactment of the Exchange Control Act of 1962, Foreign exchange was earned by the private sector and held in balance abroad by commercial banks which acted as the agents for local exporters. During this period, agricultural exports contributed the bulk of Foreign exchange receipts. The fact that the Nigerian pound was tied to British pounds, with easy convertibility, delayed the development of an active Foreign exchange market. However, with the

establishment of the Central Bank of Nigeria and subsequent centralization of Foreign exchange authority in the bank, the need to develop a Foreign exchange market distinct from those in the major international centres became paramount.

The displacement of Agricultural exports by crude oil exporters in the early 1970s as the Nation's major Foreign exchange earner, owing to the sharp rise in petroleum prices, enhanced official Foreign exchange receipts. Thus, most economic agents had to patronise the CBN for Foreign exchange allocation to pay international transactions. The Foreign exchange market experienced a boom during the period and to avoid shortage, the management of the Foreign exchange resources came under sharper focus. During the period, 1962-1986, otherwise known as the Pre-SFEM period, the Central Bank of Nigeria (CBN) was the sole custodian of Foreign exchange (Forex). All receipts of forex meant for this country was channelled through the CBN and remittances of Foreign exchanges were made by the CBN in respect of authorized dealers who carried out the instruction of their customers in respect of Foreign exchange transactions. The Exchange Control Act 1962 vested in the monetary authorities the power to approve all applications for Foreign exchange in respect of all import transactions and invisible trade transactions.

The policies pursued led to structural changes which left the national economy with substantial price distortions and even more vulnerable to external shocks.

First, the economy became heavily dependent on crude oil. By the beginning of 1980s, the oil sector had come to account for 22% of the GDP, 81% of the government revenue and 96% of export earnings. Second, the competitiveness of the agricultural sector-the major source of GDP and of export earnings before the oil boom was eroded by the effect of an appreciating Naira, inadequate pricing policy and rural urban migration. And Nigerians therefore progressively became major food importer.

This development had a negative effect on manu facturing output. Manufacturing output helped immensely by the reformed Foreign exchange allocation system moved up quite rapidly from the low levels before 1986. The range of import duties was recorded to be between the range of 10 and 60% which can be described as irrational tariff structure designed to logically put local industries out of business or cause manufacturers to be unproductive.

Since, the adoption of exchange rate deregulation policy in Nigeria, the exchange rate which is the price of domestic currency in terms of Foreign currency, has become so volatile (Akpan, 2008). This fluctuation was partially noticed between 1962 and 1973 when the dollar was devalued by 10% and in order to maintain the existing Naira/dollar rate, the Naira too was also devalued by the same percentage. Before then, the stability of the exchange rate was guaranteed and changes in money supply did not constitute a major macroeconomic problem. This was so because the rate was fixed but was being varied by the central bank as deemed fit as indicated in control Act enacted on Central Bank in 1962. According to Ogun (2004), the main objectives of the Act were the centralization of Foreign exchange, rational allocation of Foreign exchange and achievement of internal and external balances.

In 1986, when the Naira was floated on the 2nd tier Foreign exchange market (SFEM) during the Structural Adjustment Programme (SAP), the trend in exchange rate rose sharply. Further fluctuation of the exchange rate continued in 1993 until when the Naira eventually stabilized at 21 Naira per US dollar. The exchange rate under the pro-rata basis was officially pegged at N21.996 to cushion the effects of high demand and the instability in the market. The major element of the deregulation was the re-introduction of the Autonomous Market for Foreign Exchange (AFEM) for transactions in privately sourced Foreign exchange at market-determined rates. In the AFEM, the banks were made the principal dealers. A subsidized and pegged official exchange rate of \$1.00 = N22 was reserved for public sector transactions of non-commercialized agencies including debt service payment and National Priority Projects. In 2007, the official exchange rate of Naira to the Dollar as at April is \$1 = N127.00

From the above analysis, it is clear that exchange rate management in Nigeria has gone through so many phases, all in an attempt to ensure stability for the naira in the Foreign exchange market. The question here is that in spite of the success of other countries in the implementation of these deregulation policies, the Nigerian economy hasn't experienced such success, why is that?

Literature review: Foreign exchange refers to the revenue earned by a country in convertible currencies from exports of goods and services (Obaseki, 2001). It should be noted that the Nigeria's principal source of Foreign exchange earnings is from the export of crude oil. Other sources of Foreign exchange flows include non-oil exports, capital importation, Foreign investment flows, service income, other invisible items such as external borrowings and Foreign aids. Obaseki (2001) and Obansa *et al.* (2013) and many others have argued that the recent economic crises in Nigeria have been attributed to the misappropriation of money from the oil boom in the 70s.

After the oil boom in the 1970s, Nigeria's official Foreign exchange reserves also experience an unprecedented growth when its figure stood at about US\$10 billion. Effort was made by the authorities during the period to use the huge oil revenue in massive reconstruction of the economy and some identifiable progress was made in the areas of social and economic infrastructure. At this period, Nigeria solely relied on the exportation of oil and importation of goods and services to and from other Nations. Suddenly was the collapse of world oil market in the mid-1981 and this was the beginning of economic crises in Nigeria.

Since 1982, the Nigerian economy experienced various decline in external reserves when compared to end of December, 1981 figure, which itself, recorded a staggering shortfall. For example, the external reserve as at December, 1982 amounted to US\$1.5 billion (Olukole, 2002). The exchange rate as at that time was N0.6702 to 1US Dollar. The external reserve as at December, 1983 totaled US\$1.2 billion and the exchange rate was at N0.7486 to 1 US Dollar. Also the external reserve figure as at December, 1984 was US\$1.4 billion while the exchange rate as at that time was N0.8083 to 1 US Dollar. Things were not better still for the economy when it recorded a reserve of US\$1.6 billion as at the end of 1985.

**Theoretical Foundation of Exchange Rate Policy:** The main models of exchange rate determination are the traditional flow model, the portfolio balance model and monetary model.

The traditional flow model relies on equilibrium in the Foreign exchange market as the determining factor of the appropriate exchange rate. The intersection between the demand for and supply of Foreign exchange or the market clearing equilibrium rate is regarded as the pure or market exchange rate (Azeez *et al.*, 2012). The point of intersection is derived from the so called "Marshallian Scissors" which are the demand and supply schedules.

The traditional flows model does not relegate the importance of money but it concentrate on forces behind the demand and supply schedule of Foreign exchange. It posited that the exchange rate or the strength of a nation's currency is influenced by relative price, interest rates and real income.

The portfolio balance model relies heavily on the asset or portfolio market. It holds that the portfolio equilibrium position of wealth holders in each country simultaneously determines the exchange and interest rates. The shift in the allocation of wealth between the domestic money base, domestic public bonds and net Foreign bonds denominated in Foreign currency influences the equilibrium exchange rate. Movements in domestic interest rates and fiscal operations of government to the extent that they induce movements in net Foreign assets holding, influence movement in the equilibrium exchange rate.

Accurate forecasts based on this model are therefore difficult because domestic and Foreign assets are not perfect substitutes as their rate of returns differs significantly. Furthermore while some countries are net Foreign debtors, others are net Foreign creditors. The model would therefore, be inadequate for explaining the entire variation in the exchange rate off a currency. The monetary approach to exchange rate determination is the most elegant and perhaps the most complete of all the models of exchange rate. The monetary approach is complete because it did not only emphasize the primary role of money but recognized the role of real sector as a contributory factor in exchange rate determination (Obansa et al., 2013).

The monetary model is based on three major legs or tripod. In the first instance, it asserts that the equilibrium exchange rate depends on the stock equilibrium condition in each country's money market. The monetary equilibrium condition states that the price level adjusts instantaneously to equate the value of nominal money stock to desire or real demand for money. The demand for money itself is a function or real income and nominal interest rates.

The movement in the monetary equilibrium is comparatively analyzed with that of a trading partner. An

increase in the money stock would induce the depreciation of the domestic exchange ate vis-a-vis trading partners' currencies while a decrease will lead to the opposite response, all things being equal.

Problems with the nigerian exchange rate system: A critical requirement for a freely floating exchange rate regime is the absence of any form of economic rigidity. The Nigerian economy is characterized by structural rigidities and bottlenecks. Most of our exports and imports are characterized by inelasticity either on the demand or supply side or both. Restraint on the free flow of goods and services by our trading partners. The guidelines of the CBN on the purchase of Foreign currency are often cumbersome, causing some frustrated potential Foreign exchange users to patronize the parallel market.

There is always a gap between supply and demand for Foreign exchange. The Nigerian economy is import dependent. Thus, pressure on Foreign exchange demand will inevitably create the alternative market, hence different rates. Non-oil export is under-reported and proceeds are hardly repatriated into the country, thus compounding the supply rigidity.

# The profitability of the industrial/manufacturing sector:

In absolute terms, almost all categories of industries experienced increased profit. For example, from a sample of 360 manufacturing industries in Nigeria, food and beverages had its overall total profit level increased from N40.3 million in 1983 to N85.2 million in 1987. This figure moved up to N145.3 million in 1990 and N172.4 million in 1991. The same pattern was observed from other subgroups such as paper and paper products, leather products and shoes as well as textile and clothing. However, when the massive depreciation of the Naira during the adjustment is taken into consideration, the actual profit level for all categories of industry fell drastically. When compared with 1985 adjusted values, all categories of industry showed a significant decrease. In general, it was found that negative relationships existed between the profit levels of the manufacturing industries and the movement of the exchange rate (Oviemuno, 2007). The higher the rate of exchange rate depreciation, the lower the rate of profit and vice versa. This tends to demonstrate that the exchange rate constitutes a major component of the manufacturing industries' production process.

# Constraints to manufacturing production in nigeria: Many factors determine the production of manufacturing products such as domestic credit, Foreign exchange, raw

materials, labour, machinery and equipment among others. For most enterprises in the sub-sector, by far the most binding constraint to production is lack of finance (Oviemuno, 2007). Most financial institutions discriminate against manufacturing industries in their lending policy. This was due to the long-term type of loans required by most manufacturing industries. Financial institutions prefer giving out credits for quick yielding services projects. Given this constraint, most firms had to rely on other sources of finance.

The situation was not better during the period of reforms: though firms had better access to credit, they could not afford it because of the high lending rate resulting from the liberalization of interest rates. Those that managed to obtain credit at prevailing rates incurred high production costs, which they could not pass on fully to consumers in the form of higher prices because of the weak demand and an inflow of competing imports. Most firms experienced a financial squeeze. While evidence of financial constraints implies the existence of imperfections in financial markets which warrant attention by the government, there are, however, some enterprises in the economy to which it would be imprudent for any financial intermediary to lend.

Moreover, given the raw materials import dependent nature of most manufacturing industries in Nigeria, the massive depreciation of the Naira seriously affected the cost of imported raw materials which were parts of the cost of production (Okunola, 2006). Foreign exchange is required to purchase imported raw materials to finance production. The decrease in Foreign exchange earnings resulted from export sales. The reduced price of oil on the international markets and low export sales seriously constrained the accessibility of firms to Foreign exchange and thus their ability to purchase raw materials. This directly affected the levels of production, capacity utilization and of employment in the sub-sector.

Another important constraint is the poor state of international facilities in the country. Many infrastructural facilities established at the time of the oil boom in the 1970s to facilitate manufacturing activities had deteriorated even before the introduction of the adjustment programme. Most of them only provided epileptic services to the entrepreneurs, roads and communication, water and electricity supplies were inadequate. The introduction of the reforms involving the privatization of some of these agencies has only led to the increased cost of these services, affecting the production costs of the manufacturing industries significantly and thus the unit price of goods.

Other constraints include; the ability to procure spare parts, machinery and equipment and also regulatory constraints which include; bureaucratic procedures, tax regulations and labour regulations. At the early stage, the colonialist designed our financial system, implemented policies and controls which later crumbled because we were not the originator and that was the main reason why several controls and administrative controls have failed and brought about no result to show for it. The financial system of Nigeria has been bureaucratically designed to be totally profit making and not nation building. Therefore, to revitalize the industrial/manufacturing sub-sector, these constraints must be effectively tackled.

#### MATERIALS AND METHODS

Model specification: The variables needed to examine the effect of exchange deregulation on industrial output are industrial produce, exchange rate, inflation rate, labour force per time, capital stock and political regulations/instability. Data for each variable will be sourced from the CBN statistical bulletin and the data will be analyzed using the Ordinary least Squares econometric approach. This study will be guided by classical production theory which is:

$$Q=F(K, L)$$
 (1)

Where:

Q = Output

K = CapitalL = Labour

Adapting Eq. 1:

$$IQ_{t} = \alpha 0 + \alpha 1L + \alpha 2K + \alpha 3EXR +$$

$$\alpha 4INF + \alpha 5DUM + Ut$$
(2)

Where:

 $\alpha_0$  = The intercept

 $\alpha_{1.5}$  = The various slope coefficients

Ut = The error term

After linearising Eq. 1, we then introduce one dummy variable to capture the industrial production output in intercept and slopes, respectively. Equation 1 then becomes the following:

$$\begin{aligned} \text{LOG IQ}_{t} = & \alpha_{0} + \text{LOG } \alpha_{1} \text{L} + \text{LOG } \alpha_{2} \text{K} + \\ & \text{LOG } \alpha_{3} \text{EXR} + \alpha_{4} \text{INF} + \alpha_{5} \text{DUM} + \text{Ut} \end{aligned} \tag{3}$$

IQ = F(L, K, EXR, INF, DUM)

Where:

IO = Industrial output

L = Labour

K = Capital

EXR = Exchange Rate

INF = Inflation rate

PI = Political Instability (Dummy variable)

## A priori expectations

**Labour:** Labour is expected to have a positive relationship with industrial output. This means that increase in Labour will yield high productivity in the economy:

### $\delta LOG (IQ)/\delta LOG (L) > 0$

**Capital:** This variable is expected to have a positive relationship with manufacturing output. This is because increase in the total capital of any investment will boost the production of the business in large scale:

$$\delta LOG (IQ)/\delta LOG (K) > 0$$

**Inflation rate:** This variable is expected to have a negative relationship with industrial produce. This is because if prices of goods and services increase, demand of industrial produce will reduce and industries will be left with the option of adjusting to the demand of the people in the long run (Gbosi, 2005):

$$\delta$$
LOG (IQ)/ $\delta$ LOG (INF) <0

**Exchange rate:** This variable is expected to have also a positive relationship with agricultural output. Reason is that the more liberalized the economy or trade the better for agricultural output:

$$\delta$$
LOG (IQ)/ $\delta$ LOG (EXR) >0

**Dummy variable:** The dummy variable is actually related to the political factor that affects negatively industrial productivity through various unstable policies and unhealthy bureaucracies in government. This variable is "dummy" because it cannot be actually valued numerically:

δLOG (IQ)/DUM <0

**Summary of a priori expectations:**  $\alpha_1 > 0$ ,  $\alpha_2 > 0$ ,  $\alpha_3 > 0$ ,  $\alpha_4 < 0$ ,  $\alpha_5 < 0$ .

## RESULTS AND DISCUSSION

**Data analysis and interpretation:** From the result shown in Table 1, the R<sup>2</sup> show a result of 0.807325, meaning that the five independent variables together explained about 80% of the systematic variation of the dependent variable which is a reasonable fit. The result also shows the Durbin Watson statistics to be very perfect (i.e., 2.049246) and also revealed that the regression.

Table 1: Ordinary least square regression result

Variables	Coefficient	SE	t-statistic	Prob.
C	45.04657	4.920712	9.548472	0.0000
LK	0.071403	0.427422	0.126454	0.0238
LL	2.514684	0.744224	2.709694	0.0438
LEXR	-4.666957	1.006135	-3.644596	1.2643
CPI	-4.351575	1.317791	-3.302173	0.0080
DUM	3.624938	1.214651	2.435648	1.3267
$\mathbb{R}^2$	0.807325	-	-	-
Adjusted R <sup>2</sup>	0.792364	-	=	-
S.E. of regression	0.739089	-	-	-
Sum squared resid	2.483211	-	-	-
Log likelihood	8.353794	-	-	-
F-statistic	15.27544	-	-	-
Prob. (F-statistic)	0.000298	-	-	-
Mean dependent var	10.78283	-	-	-
S.D. dependent var	1.176362	-	-	
Akaike info criterion	1.635721	-	-	-
Schwarz criterion	2.131959	-	-	-
Hannan-Quinn criter	1.823317	-	-	-
Durbin-Watson stat	2.049246	-	-	-

Dependent variable: LIQ; Method: Least Squares; Sample: 1970 2013; Included observations: 43

is free from the problem of autocorrelation. Also, the F-statistics of 15.27544 shows that all the independent variables are jointly significant in explaining the dependent variable.

Testing for the individual significance of each variable on the dependent variable, we use the t-Statistics which should have 10% significant level, therefore, we see that the first variable capital stock (K) shows a positive significant relationship with Industrial products, just as specified in the a priori statement and it also explains the theory of production that capital boost production.

The variable L which signifies labour reveals that there is a positive and significant relationship between labour and manufacturing/industrial output. This conforms to a priori specification. In other words therefore, a percentage increase in labour will yield to unit increase in industrial output.

CPI which represents inflation depicts a negative significant variable in explaining Industrial output thus conforming to a priori specification. The negative correlation can be explained by the impact inflation plays on production of goods and services. When inflation is high, productivity reduces at the short run. This continually really affects the production of goods and services of Manufacturers in the system. More so, people tend to import factors of production from oversea at a cheaper price and yet sell high to the local market. All these explain the negativism in the sign of CPI (Inflation) in the case of Nigeria contrary to stated theory.

For Exchange Rate (EXR), it is negatively insignificant in explaining Industrial output. The negative

Years   MO	Table 1: Data	for the regression analysi	is				
1971   27.6	Years	MQ	EXR	CPI	K (millions)	L	DUM
1972   29.7	1970	24.1	0.7143	10.8	49,942.00	N/A	0
1973   36.7   0.6579   13.6   72.330.00   N/A   0     1974   35.5   0.6299   15.4   94.380.00   N/A   0     1975   43.9   0.6159   20.7   105.365.00   N/A   0     1976   54.1   0.6265   25.6   115.688.00   N/A   0     1977   57.5   0.6466   29.6   114.052.00   N/A   0     1978   65.8   0.606   34.5   175.072.00   N/A   0     1979   97.3   0.5957   38.5   191.614.00   N/A   0     1980   102.4   0.5464   42.3   416.380.00   N/A   0     1981   117.3   0.61   51.2   420.180.00   N/A   0     1982   128.6   0.6729   55.1   421.829.00   47.557   0     1984   83.4   0.7649   94.8   520.969.00   3.891   0     1984   83.4   0.7649   94.8   520.969.00   3.891   0     1985   100   0.8938   100   \$52.880.00   2.256   0     1986   78.2   2.0206   105.4   658.387.00   2.526   0     1987   130.8   40.179   116.1   695.746.00   5.163   0     1988   135.2   4.5367   181.2   798.599.00   2.787   0     1989   154.3   7.3916   272.7   1.188.016.00   4.152   0     1990   162.9   8.0378   293.2   1.566.705.00   2.903   0     1991   178.1   9.9095   330.9   1.987.324.00   3.088   1     1993   145.5   22.0511   751.9   3.012.511.00   3.330   1     1994   144.2   2.1861   180.7   3.985.00   2.136   1     1995   136.3   21.8861   268.3   39.625.438.00   2.136   1     1997   138.5   21.8861   268.3   39.625.438.00   2.136   1     1999   137.7   92.6934   355.6   39.847.508.00   1.033   1     1999   137.7   12.8861   268.3   39.625.438.00   2.136   1     1997   138.5   21.8861   268.3   39.625.438.00   1.168   1     1999   137.7   12.8861   268.3   39.847.508.00   1.033   1     1999   137.7   13.3004   6318.3   91.812.15.2   0     2000   138.2   102.1052   3590.5   39.847.508.00   1.037   1     2001   147.3   13.5044   6318.3   91.812.15.2   0     2005   177.4   148.9017   902.2   10.277.7   13.839.0   1.0673   1     2006   153.1   12.8616   701.44   96.366.89.00   1.0327   1     2007   146.4   12.5331   770.1   99.542.89.00   1.037   1     2008   166.5   118.6616   8970.2   10.277.59.00   10.132   1     2009   177.4   148.9017   902.3	1971	27.6	0.6955	12.5	47,710.00	N/A	0
1974   35.5	1972	29.7	0.6579	12.9	74,372.00	N/A	0
1975         43.9         0.6159         20.7         105,365.00         N/A         0           1976         54.1         0.6265         25.6         115,688.00         N/A         0           1977         57.5         0.6466         29.6         144,052.00         N/A         0           1979         97.3         0.5957         38.5         191,614.00         N/A         0           1980         102.4         0.5464         42.3         416,380.00         N/A         0           1981         117.3         0.61         51.2         420,180.00         N/A         0           1982         128.6         0.6729         55.1         421,829.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         \$82,488.00         2,284         0           1986         78.2         2.0206         105.4         658,387.00         2,526         0           1987         13.0.8         4.0179	1973	36.7	0.6579	13.6	72,330.00	N/A	0
1976	1974		0.6299	15.4	94,380.00	N/A	0
1977         57.5         0.6466         29.6         144,052.00         N/A         0           1978         65.8         0.606         34.5         175,072.00         N/A         0           1979         97.3         0.5957         38.5         191,614.00         N/A         0           1980         102.4         0.5464         42.3         416,380.00         N/A         0           1981         117.3         0.61         51.2         420,180.00         N/A         0           1982         128.6         0.6729         55.1         421,829.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         582,488.00         2,284         0           1986         78.2         2.0206         105.4         658,387.00         2,284         0           1987         13.0.8         4.0179         116.1         695,746.00         5,163         0           1987         13.0.8         4.0179	1975		0.6159	20.7	105,365.00	N/A	0
1978         65.8         0.606         34.5         175,072.00         N/A         0           1979         97.3         0.5957         38.5         191,614.00         N/A         0           1980         102.4         0.5464         42.3         416,380.00         N/A         0           1981         117.3         0.61         51.2         420,180.00         N/A         0           1982         128.6         0.6729         55.1         421,820.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         582,488.00         2,284         0           1986         78.2         2.006         105.4         658,387.00         2,526         0           1987         130.8         4.0179         116.1         695,746.00         5,163         0           1987         130.8         4.0179         116.1         695,746.00         4,152         0           1989         1.54.3         7,3916	1976	54.1	0.6265	25.6	115,688.00	N/A	0
1979   97.3   0.5957   38.5   191,614.00   N/A   0     1980   102.4   0.5464   42.3   416,380.00   N/A   0     1981   117.3   0.61   51.2   420,180.00   N/A   0     1982   128.6   0.6729   55.1   421,829.00   47,557   0     1983   94.8   0.7241   67.9   599,395.00   7,394   0     1984   83.4   0.7649   94.8   520,969.00   3,891   0     1985   100   0.8938   100   582,488.00   2,284   0     1986   78.2   2.0206   105.4   688,387.00   2,526   0     1987   130.8   4.0179   116.1   695,746.00   5,163   0     1988   135.2   4.5367   181.2   798,599.00   2,787   0     1989   154.3   7.3916   272.7   1,188,016.00   4,152   0     1990   162.9   8.0378   293.2   1,566,705.00   2,903   0     1991   178.1   9.9095   33.09   1,987,324.00   3,088   1     1992   182.7   17,2984   478.9   2,121,648.00   995   1     1993   144.2   21,8861   1180.7   3,985,010.00   867   1     1994   144.2   21,8861   2040.4   25,366,894.00   1,168   1     1995   136.3   21,8861   2638.1   39,976,006.00   2,111   1     1997   138.5   21,8861   2638.1   39,976,006.00   2,111   1     1998   137.7   92,6934   3357.6   39,847,508.00   1,033   1     1999   137.7   11,9433   4268.1   39,847,508.00   1,033   1     1990   146.3   12,09702   4897.2   47,818,810.00   1,947   1     2000   138.2   102,1052   3590.5   39,847,508.00   1,033   1     2001   147.3   132,1470   6512,1   95,723,653.90   0,458   1     2007   161.4   125,8331   7790.1   99,542,897.00   10,327   1     2008   169.5   118,5661   8970.2   102,374,569.00   10,327   1     2009   177.4   14,89017   90,223   104,789,400   10,673   1     2001   192.5   150,2980   9142.4   109,231,713.10   11,286   1     2001   192.5   150,2980   9142.4   109,231,713.10   11,286   1     2001   293.4   19,08329   9346.7   102,037,555   15,349   1	1977		0.6466	29.6	144,052.00	N/A	0
1980         102.4         0.5464         42.3         416,380.00         N/A         0           1981         117.3         0.61         51.2         420,180.00         N/A         0           1982         128.6         0.6729         55.1         421,829.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         582,488.00         2,224         0           1986         78.2         2.0206         105.4         658,387.00         2,526         0           1987         130.8         4.0179         116.1         695,746.00         5,163         0           1988         135.2         4.5367         181.2         798,599.00         2,787         0           1989         154.3         7,3916         272.7         1,188,016.00         4,152         0           1990         162.9         8.0378         293.2         1,566,705.00         2,903         0           1991         178.1			0.606	34.5	175,072.00	N/A	0
1981         117.3         0.61         51.2         420,180.00         N/A         0           1982         128.6         0.6729         55.1         421,829.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         582,488.00         2,224         0           1986         78.2         2.0206         105.4         658,387.00         2,526         0           1987         130.8         4.0179         116.1         695,746.00         5,163         0           1988         135.2         4.5367         181.2         798,599.00         2,787         0           1989         154.3         7,3916         272.7         1,188,016.00         4,152         0           1990         162.9         8.0378         293.2         1,566,705.00         2,903         0           1991         178.1         9.9095         330.9         1,987,324.00         3,088         1           1992         182.7	1979	97.3	0.5957	38.5	191,614.00	N/A	0
1982         128.6         0.6729         55.1         421,829.00         47,557         0           1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,969.00         3,891         0           1985         100         0.8938         100         582,488.00         2,284         0           1986         78.2         2,0206         105.4         658,387.00         2,526         0           1987         130.8         4,0179         116.1         695,746.00         5,163         0           1988         135.2         4,5367         181.2         798,599.00         2,787         0           1989         154.3         7,3916         272.7         1,188,016.00         4,152         0           1990         162.9         8,0378         293.2         1,566,705.00         2,903         0           1991         178.1         9,9095         330.9         1,987,324.00         3,088         1           1992         182.7         17.2984         478,9         2,121,648.00         99.5         1           1993         145.5	1980	102.4	0.5464	42.3	416,380.00	N/A	0
1983         94.8         0.7241         67.9         509,395.00         7,394         0           1984         83.4         0.7649         94.8         520,960.00         3,891         0           1985         100         0.8938         100         \$82,488.00         2,284         0           1986         78.2         2.0206         105.4         658,387.00         2,526         0           1987         130.8         4.0179         116.1         695,746.00         5,163         0           1988         135.2         4.5367         181.2         798,599.00         2,787         0           1989         154.3         7.3916         272.7         1,186,016.00         4,152         0           1990         162.9         8.0378         293.2         1,566,705.00         2,903         0           1991         178.1         9,9095         330.9         1,987,324.00         3,088         1           1992         182.7         17.2984         478.9         2,121,648.00         995         1           1993         145.5         22.0511         751.9         3,012,511.00         1,330         1           1994         144.2 <td>1981</td> <td>117.3</td> <td>0.61</td> <td>51.2</td> <td>420,180.00</td> <td>N/A</td> <td>0</td>	1981	117.3	0.61	51.2	420,180.00	N/A	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1982	128.6	0.6729	55.1	421,829.00	47,557	0
1985         100         0.8938         100         582,488.00         2,284         0           1986         78.2         2.0206         105.4         658,387.00         2,526         0           1987         130.8         4.0179         116.1         695,746.00         5,163         0           1988         135.2         4.5367         181.2         798,599.00         2,787         0           1989         154.3         7.3916         272.7         1,188,016.00         4,152         0           1990         162.9         8.0378         293.2         1,566,705.00         2,903         0           1991         178.1         9.9095         330.9         1,987,324.00         3,088         1           1992         182.7         17.2984         478.9         2,121,648.00         995         1           1993         145.5         220511         751.9         3,012,511.00         1,330         1           1994         144.2         21.8861         1180.7         3,985,010.00         867         1           1995         136.3         21.8861         263.1         39,076,006.00         2,111         1           1997	1983	94.8	0.7241	67.9	509,395.00	7,394	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1984	83.4	0.7649	94.8	520,969.00	3,891	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1985	100	0.8938	100	582,488.00	2,284	0
$\begin{array}{c} 1988 & 135.2 & 4.5367 & 181.2 & 799,599.00 & 2,787 & 0 \\ 1989 & 154.3 & 7.3916 & 272.7 & 1,188,016.00 & 4,152 & 0 \\ 1990 & 162.9 & 8.0378 & 293.2 & 1,566,705.00 & 2,903 & 0 \\ 1991 & 178.1 & 9.9095 & 330.9 & 1,987,324.00 & 3,088 & 1 \\ 1992 & 182.7 & 17.2984 & 478.9 & 2,121,648.00 & 995 & 1 \\ 1993 & 145.5 & 22.0511 & 751.9 & 3,012,511.00 & 1,330 & 1 \\ 1994 & 144.2 & 21.8861 & 1180.7 & 3,985,010.00 & 867 & 1 \\ 1995 & 136.3 & 21.8861 & 2040.4 & 25,366,894.00 & 1,168 & 1 \\ 1996 & 138.7 & 21.8861 & 2638.1 & 39,076,006.00 & 2,111 & 1 \\ 1997 & 138.5 & 21.8861 & 2863.3 & 39,625,438.00 & 2,136 & 1 \\ 1998 & 133.1 & 21.8861 & 3149.2 & 39,738,023.00 & 1,367 & 1 \\ 1999 & 137.7 & 92.6934 & 3357.6 & 39,847,508.00 & 1,686 & 1 \\ 2000 & 138.2 & 102.1052 & 3590.5 & 39,847,508.00 & 1,947 & 1 \\ 2002 & 146.3 & 120.9702 & 4897.2 & 47,818,810.00 & 1,491 & 1 \\ 2003 & 147.1 & 129.3565 & 5493.3 & 76,510,096.00 & 2,662 & 1 \\ 2004 & 145.7 & 133.5004 & 6318.3 & 91,812,115.20 & 12,623 & 1 \\ 2005 & 147.3 & 132.1470 & 6512.1 & 95,723,653.00 & 9,257 & 1 \\ 2006 & 153.1 & 128.6516 & 7014.4 & 96,356,389.10 & 9,458 & 1 \\ 2007 & 161.4 & 125.8331 & 7790.1 & 99,542,897.00 & 10,1327 & 1 \\ 2009 & 177.4 & 148.9017 & 902.3 & 104.789,436.20 & 10,673 & 1 \\ 2010 & 192.5 & 150.2980 & 9142.4 & 109,231,713.10 & 11,286 & 1 \\ 2011 & 230.1 & 170.3245 & 9260.1 & 113,453,926.47 & 13,839 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346.7 & 120,263,795.52 & 15,349 & 1 \\ 2012 & 293.4 & 190.8329 & 9346$	1986	78.2	2.0206	105.4	658,387.00	2,526	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1987	130.8	4.0179	116.1	695,746.00	5,163	0
1990         162.9         8.0378         293.2         1,566,705.00         2,903         0           1991         178.1         9.9095         330.9         1,987,324.00         3,088         1           1992         182.7         17.2984         478.9         2,121,648.00         995         1           1993         145.5         22.0511         751.9         3,012,511.00         1,330         1           1994         144.2         21.8861         1180.7         3,985,010.00         867         1           1995         136.3         21.8861         2040.4         25,366,894.00         1,168         1           1996         138.7         21.8861         263.1         39,076,006.00         2,111         1           1997         138.5         21.8861         2863.3         39,625,438.00         2,136         1           1998         133.1         21.8861         3149.2         39,738,023.00         1,367         1           1999         137.7         92.6934         3357.6         39,847,508.00         1,686         1           2000         138.2         102.1052         3590.5         39,847,508.00         1,033         1	1988	135.2	4.5367	181.2	798,599.00	2,787	0
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1989	154.3	7.3916	272.7	1,188,016.00	4,152	0
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1990	162.9	8.0378	293.2	1,566,705.00	2,903	0
$\begin{array}{c} 1993 \\ 1994 \\ 144.2 \\ 21.8861 \\ 1995 \\ 136.3 \\ 21.8861 \\ 2040.4 \\ 25,366,894.00 \\ 25,366,894.00 \\ 1,168 \\ 1\\ 1996 \\ 138.7 \\ 21.8861 \\ 2638.1 \\ 39,076,006.00 \\ 2,111 \\ 1\\ 1997 \\ 138.5 \\ 21.8861 \\ 2863.3 \\ 39,625,438.00 \\ 2,136 \\ 1\\ 1998 \\ 133.1 \\ 21.8861 \\ 21.8861 \\ 2863.3 \\ 39,625,438.00 \\ 2,136 \\ 1\\ 1999 \\ 137.7 \\ 92.6934 \\ 3357.6 \\ 39,847,508.00 \\ 1,686 \\ 1\\ 2000 \\ 138.2 \\ 102.1052 \\ 3590.5 \\ 39,847,508.00 \\ 1,033 \\ 1\\ 2001 \\ 137.7 \\ 111.9433 \\ 4268.1 \\ 39,849,008.00 \\ 1,947 \\ 1\\ 2002 \\ 146.3 \\ 120.9702 \\ 4897.2 \\ 47,818,810.00 \\ 1,491 \\ 1\\ 2003 \\ 147.1 \\ 129.3565 \\ 5493.3 \\ 76,510,096.00 \\ 2,662 \\ 1\\ 2004 \\ 145.7 \\ 133.5004 \\ 6318.3 \\ 91,812,115.20 \\ 12,623 \\ 1\\ 2005 \\ 147.3 \\ 132.1470 \\ 6512.1 \\ 95,723,653.00 \\ 9,257 \\ 1\\ 2006 \\ 153.1 \\ 128.6516 \\ 7014.4 \\ 96,356,389.10 \\ 94,58 \\ 1\\ 2007 \\ 161.4 \\ 125.8331 \\ 7790.1 \\ 99,542,897.00 \\ 10,132 \\ 1\\ 2008 \\ 169.5 \\ 118.5661 \\ 8970.2 \\ 102.374,569.00 \\ 10,673 \\ 1\\ 2009 \\ 177.4 \\ 148.9017 \\ 9022.3 \\ 104,789,436.20 \\ 10,673 \\ 1\\ 2010 \\ 192.5 \\ 150.2980 \\ 9142.4 \\ 109,231,713.10 \\ 11,286 \\ 1\\ 2011 \\ 230.1 \\ 170.3245 \\ 9260.1 \\ 113,453,926.47 \\ 13,839 \\ 1\\ 2012 \\ 293.4 \\ 190.8329 \\ 9346.7 \\ 120,263,795.52 \\ 15,349 \\ 1\\ 15,349 \\ 1\\ 1$	1991	178.1	9.9095	330.9	1,987,324.00	3,088	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1992	182.7	17.2984	478.9	2,121,648.00	995	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1993	145.5	22.0511	751.9	3,012,511.00	1,330	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1994	144.2	21.8861	1180.7	3,985,010.00	867	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1995		21.8861	2040.4	25,366,894.00	1,168	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1996	138.7	21.8861	2638.1	39,076,006.00	2,111	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1997	138.5	21.8861	2863.3	39,625,438.00	2,136	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	1998	133.1	21.8861	3149.2	39,738,023.00	1,367	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	1999	137.7	92.6934	3357.6	39,847,508.00	1,686	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2000	138.2	102.1052	3590.5	39,847,508.00	1,033	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2001	137.7	111.9433	4268.1	39,849,008.00	1,947	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2002	146.3	120.9702	4897.2	47,818,810.00	1,491	1
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	2003	147.1	129.3565	5493.3	76,510,096.00	2,662	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2004		133.5004		91,812,115.20	12,623	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2005	147.3	132.1470	6512.1	95,723,653.00	9,257	1
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	2006	153.1	128.6516	7014.4	96,356,389.10	9,458	1
2009     177.4     148.9017     9022.3     104,789,436.20     10,673     1       2010     192.5     150.2980     9142.4     109,231,713.10     11,286     1       2011     230.1     170.3245     9260.1     113,453,926.47     13,839     1       2012     293.4     190.8329     9346.7     120,263,795.52     15,349     1	2007	161.4	125.8331	7790.1	99,542,897.00	10,132	1
2010     192.5     150.2980     9142.4     109.231,713.10     11,286     1       2011     230.1     170.3245     9260.1     113,453,926.47     13,839     1       2012     293.4     190.8329     9346.7     120,263,795.52     15,349     1							1
2011     230.1     170.3245     9260.1     113,453,926.47     13,839     1       2012     293.4     190.8329     9346.7     120,263,795.52     15,349     1	2009	177.4	148.9017	9022.3	104,789,436.20	10,673	1
2011     230.1     170.3245     9260.1     113,453,926.47     13,839     1       2012     293.4     190.8329     9346.7     120,263,795.52     15,349     1	2010	192.5	150.2980	9142.4	109,231,713.10	11,286	1
	2011	230.1	170.3245	9260.1		13,839	1
<u>2013</u> <u>358.5</u> <u>200.3215</u> <u>9643.6</u> <u>123,824,509.53</u> <u>16,862</u> <u>1</u>	2012	293.4	190.8329	9346.7	120,263,795.52	15,349	1
	2013	358.5	200.3215	9643.6	123,824,509.53	16,862	1

NB: MQ (Manufacturing output); K (Capital stock involving the combination of ordinary stock and preference stock of capital of Nigerian industries); L (This is the number of employment declared); DUM (this is political instability and deregulation policy from 1986 till date); EXR (exchange rate in Dollars); CPI (inflation over the years in index form); N/A (Not Available); Central Bank of Nigeria Statistical Bulletin (2014)

correlation, negating the a priori expectation, may be due to the state of naira fallen in the Foreign exchange market. The insignificant relationship may be due to the fact that there is over-dependence on imports whether the exchange rate rises or falls.

DUMMY Variable gave a positive correlation which conforms to the a priori specification in section three. This means that deregulation is a factor that provokes increase in industrial output. Nevertheless, dummy variable proved insignificant in estimation Table 2.

# CONCLUSION

**Empirical findings:** We can then conclude by saying that the major determinant of manufacturing output in the Nigerian economy is labour, capital and inflation. While an increase in labour and capital would provoke an

increase in manufacturing output, a rise in inflation will have an adverse effect on industrial output. The effect of exchange rate deregulation was express as a function of labour, capital stock, inflation rate, exchange rate and political instability/deregulation policy.

# RECOMMENDATIONS

In other to bring about an improvement in the situation of the economy with growth in the economy, a major factor or determinant of the level and growth of the economy is industrial breakthrough. This is clearly confirmed by the LDCs high importation of industrial goods which translates to Foreign trade income to industrious nations. This has been the ability of rich nations to sustain high rates of economic growth without inflation. It follows that under present international

economic relationships; LDC export performance is directly related to the growth and price stability of developed-country economies. The lessons of the past 40yrs have revealed to developing nations that no economic models could; there is need to make every effort to reduce their individual and joint economic vulnerabilities. One method of achieving this goal is to pursue policies of greater collective self-reliance within the context of mutual economic cooperation.

Though not denying their interdependence with developed nations and their need for growing export markets, many developing countries now realize that in the absence of major reforms of the international economic order, a concerted effort at reducing their current economic dependence and vulnerability is essential to any successful development strategy. This study now recommends the following:

- The issue of education should be addressed in order to prepare the labour force for employment. This follows the saying that "a hungry man is hungry for only a day but an illiterate man is hungry for life"
- Industries need long term funds, hence specialized banks like finance houses that give long term loans should be enhanced by the government in order for them to perform their function
- Microfinance banks should be enhanced to perform their functions of supplying micro funds to small business owners in order to enhance productivity
- The government through its various agencies like the central bank of Nigeria should ensure monetary policies that would curtail high inflation rate
- The government should also encourage exportation of goods and services by ensuring the growth of local production of goods and services

## SUGGESTION

The adoption of Ordinary Least Square (OLS) method used in showing the relationship between effects of

deregulation of exchange rate on industrial produce were analyzed through a model interrelating manufacturing output and labour, capital stock, inflation, exchange rate and political instability/deregulation policy. In the case of further studies extensive work can be done on capital utilization in the manufacturing sector as an agent for nation building. The study will need to focus on determining the most efficient and effective way of utilizing resources available for businesses to improve maximum productivity. (Case study being manufacturing companies in Nigeria).

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