LGJDX ISSN No: 1008-0562 Journal Of Liaoning Technical University Natural Science Edition

MACROECONOMIC PERFORMANCE AND MANUFACTURING OUTPUT GROWTH NEXUS IN NIGERIAN ECONOMY

Sola Oluwagbenle (Ph. D)
Department of Economics
Bamidele Olumilua University of Education, Science and Technology
Ikere-Ekiti, Ekiti State, Nigeria
Corresponding Author E-mail – oluwagbenle.sola@bouesti.edu.ng
Phone Number: +2347031545919
ORCID NO: 0000-0003-1880-3541

Ojo Rufus Olawumi (Ph. D)
Department of Economics
Bamidele Olumilua University of Education, Science and Technology
Ikere-Ekiti, Ekiti State, Nigeria
E-mail – olawumi.ojo@bouesti.edu.ng
Phone Number: +2347062306031
ORCID NO: 0000-0003-0900-8546

Olusesan Samuel AFOLABI (Ph. D)
Department of Economics
Bamidele Olumilua University of Education, Science and Technology
Ikere-Ekiti, Ekiti State, Nigeria
E-mail – afolabi.olusesan@bouesti.edu.ng
Phone Number: +2348149601961 ORCID NO 0009-0001-7579-1121

LGJDX ISSN No: 1008-0562 Journal Of Liaoning Technical University Natural Science Edition

Abstract

This research work examined the empirical relationship among macroeconomic performance, manufacturing sector output growth and economic growth in Nigeria for the periods spanning from 1981 to 2022 using Cointegration Technique and Error Correction Mechanism to ascertain the nexus. The results show that the output of the manufacturing sector contributed negatively and had an insignificant relationship with real gross domestic product growth, which was indicative of the fact that the manufacturing sector of the Nigerian economy is presently experiencing decay as a result of non-implementation of policies aimed at boosting the sector. However, the average manufacturing capacity utilization rate contributed positively and had a significant relationship with real gross domestic product growth while the exchange rate and interest rate did not contribute significantly to real gross domestic product growth, which shows a sign of macroeconomic instability. The inflation rate has positive relationship with real gross domestic product growth but, the insignificant nature of the inflation rate was indicative of the fact that the inflation in the Nigerian economy is not properly managed. In the same vein, government expenditure made a significant and positive contribution to economic growth. The study therefore, suggests that there should be an increase in government expenditure and proper management of the expenditure on manufacturing sector to ensure a stable growth in the economy. In addition, there should be a reduction in interest rate to encourage more investment in the economy which will boost the economic growth of Nigeria. There should also be moderation in exchange rate to encourage investments thereby ensuring stability in the economic growth of Nigeria and improvement in the productivity of the manufacturing sector by upgrading its technologies.

Keywords: Macroeconomic Performance, Manufacturing Output Growth, Economic Growth, Government Expenditure and Inflation Rate.

LGJDX Journal Of Liaoning Technical University Natural Science Edition
ISSN No: 1008-0562

INTRODUCTION

Macroeconomic policy and industrial sector performance are two separate phenomena in economics; one probably can complement the other. While industrial sector might be a channel to achieve macroeconomic policy objectives, macroeconomic policy, on the other hand, can set the path to develop industrial sector. In many economies, the performance of industrial sector is the gauge for assessing the effectiveness of macroeconomic policies (Dipak and Ata, 2003). In other words, industrial sector could represent appropriate outcome or target of macroeconomic policy via certain specific transmission channels which invariably fall under three major subsets of macroeconomic policy. These include monetary, fiscal and trade policies.

That industrial development is necessary for growth and development to occur is not in doubt. However, development should lead to reduction in poverty, unemployment, and income inequality. Industrial sub-sectors are to generate employment and improve economic capacity of the average citizens of the nation. In the global world, it can help bridge the wide trade gap between developed and developing countries, (Adenikinju & Olofin, 2000; Bird, 2001). A vibrant and productive industrial sector creates more linkages in the economy and promotes internal and external balances (Dipak and Ata, 2003)).

In Nigeria, since independence, industrial policies have been tagged under Import Substitution Industrialization (ISI) or Export Promotion Industrialization (EPI). Historically, to sustain the two core policy plans (ISI & EPI), Nigeria adopted duty draw-backs, tariff adjustment, embargo, interest-free credits or credit directives and exchange rate concessions. In spite of these policy thrusts, statistical facts have shown that industrial sector has contributed sub-optimally to Nigeria's Gross Domestic Product (GDP) (Ayodele and Falokun, 2003)). It is surprising to discover that while seeking policy solution to address industrial sector performance in Nigeria, some crucial aspects of macroeconomic policy instruments, (such as monetary, fiscal and trade policy instruments) are yet to be adequately employed.

LITERATURE REVIEW

Empirical Literature

There are quite a good number of studies analyzing the effects of macroeconomic policies on industrial sector performance. Several studies address the poor growth syndrome in the industrial sector and how policy can create a change. Observation made revealed that while some authors focus on industrial aggregate or manufacturing, others isolate effect of one policy instrument from another, whereas, policies are formulated concurrently to address diverse economic sectors.

We noted that while some authors focus on either fiscal or monetary policy, others are on trade policy. In other words, simultaneous or joint effects of combination of policies on industry are neither explored nor painstakingly examined in previous literature. In Nigeria, key instruments like tariff and direct government control of key macroeconomic variables such as interest rate and credits have been suggested (Adewuyi and Bankole, 2007; Nnanna *et al*., 2003). Other authors have recommended strict import substitution industrialization (ISI) and export promotion industrialization (EPI). However, these policies often do not yield optimal solution. Besides, noticeable in the previous studies is the isolation of one policy from another. This might generate bias and reduces dynamics of policy instruments (Udah and Enang, 2010).

A combination of policy instruments eliminate bias and incorporate more reliable parameter estimates. In other words, the intricacies of having suitable policy instruments co-integrating with other instruments in an optimal growth-inducing manner is often neglected in the previous studies. The use of manufacturing as the only proxy variable for industrial sector is also common in previous literature (Adenikinju and Olofin,2000); Adejugbe, 2006); Adewuyi and Bankole, 2007). Manufacturing alone might be inadequate because industry also comprises solid minerals and crude petroleum/natural gas sub-sectors. Therefore, this study uniquely focuses on the effect of macroeconomic policy instruments on each industrial subsector. It intends to derive optimum combination of policy instruments, largely under the deregulated regimes in Nigeria, with a view to address and achieve feasible industrial sub-sector growth in both short and long runs.

Few literatures have also attempted examination of mixed macroeconomic policy instruments effects on output, but these focus mainly on manufacturing sub-sector

and isolate trade policy instruments. For example, Ayodele and Falokun (2003) attempted investigation of both monetary and fiscal policies effects on industrial output. While some of them focus on manufacturing sector as proxy for industry, others center on multi-sectoral analysis. The major innovation of Enebong (2003) paper is to jointly estimate the effects of anticipated and unanticipated effects of monetary and fiscal policies on real output. These studies confirm previous author's finding asymmetric effects of macroeconomic policy on industrial sector. However, while Ajanaku study tends to reject the hypothesis that discretionary macroeconomic policies are ineffective in affecting industries output growth, Argy and Salop findings confirm similar outcome but their studies provide more analytical impact of fiscal policy instruments.

In Nigeria, several studies have also examined the effects of macroeconomic policies on the industrial sector. While most of these studies focus on the effects of policies on manufacturing sub-sectors, only few address other subsectors of industry. In addition, it appears none has examined each sub-sector in relation to macroeconomic policy-mix. Critical effects of combined macroeconomic policy instruments on each industrial sub-sector are yet to be painstakingly examined.

Ukwunna (2022) investigated the effects of macroeconomic variables on industrial productivity in Nigeria using panel data analysis. The study revealed that inflation and exchange rate have negative effects on industrial productivity. However, there is a gap in the research as the analysis did not comprehensively consider other relevant macroeconomic variables affecting productivity.

Olayinka(2015) utilized time-series analysis to examine the macroeconomic determinants of industrial productivity growth in Nigeria. The study found that physical infrastructure and government expenditure positively affect productivity. However, there is a gap in the research regarding the impact of government policies on industrial productivity.

Hoguet (2008) employed a vector error correction model to investigate the relationship between macroeconomic variables and industrial productivity in Nigeria. The study revealed that interest rate and capital accumulation significantly influence productivity. However, there is a gap in the research as the analysis did not explore the relationship between exchange rate and productivity.

Iyoha (2011) utilized Ordinary Least Squares (OLS) regression analysis to assess the influence of macroeconomic variables on industrial productivity within Nigeria. The analysis identified significant impacts of foreign direct investment and inflation on productivity. Nevertheless, the study left a notable gap concerning the role of trade openness in shaping industrial productivity. Addressing this gap by exploring the relationship between trade openness and productivity could provide a more comprehensive understanding of the factors affecting industrial performancein Nigeria.

Augustine et al (2022) applied the Cobb-Douglas production function to examine the interaction between macroeconomic variables and productivity growth within Nigeria's manufacturing sector. The research highlighted the positive effects of government policies on productivity. However, it did not address the impact of energy availability on industrial productivity, indicating a research gap.

Dagadu(2010) utilized dynamic OLS regression analysis to examine the effects of macroeconomic shocks on industrial productivity growth in Nigeria. The study concluded that such shocks adversely affect productivity. However, the study did not address the impact of exchange rate volatility on productivity, indicating a research deficiency.

Oguneye and Olusanmi (2018) applied a structural vector autoregression approach to analyze the relationship between macroeconomic policies and industrial productivity in Nigeria. The study established that interest rates and fiscal policy have significant influences on productivity. Nonetheless, the impact of human capital on industrial productivity remains unexplored, pointing to a critical gap in the research.

Odior (2013) examined the impact of the stochastic characteristics of each of the Nigerian macroeconomic variables on manufacturing sector between 1975 and 2011. The result finds that both bank credits and foreign direct investment increase the manufacturing productivity level. The impact of broad money supply was less felt. The Korean investigation by Sundararajan (2007) utilised the dynamic framework of among the debt–equity ratio of firms, interest rates, cost of capital, investment and growth between 1963 and 1981. The report shows disparate affiliations with respect to interest rate and manufacturing productivity.

The results of the investigation by Imoughele and Ismaila (2014) reveal that whereas the rate of interest and money supply (broad) were statistically

insignificant, the rates of inflation and exchange together with the external reserve were significant, and negatively related to the manufacturing sector output in both the current, and the previous year. A uni-directional causality existed between the real rate of exchange and external reserves and the manufacturing output.

METHODOLOGY

Sources of Data

The research design will be exploratory and analytical in nature. The study is based on the use of time series data. The data utilized consists of annual observations on growth (GDP) and the Manufacturing sector output. The data would be obtained from various issues of Central Bank of Nigeria statistical bulletins, Central Bank of Nigeria statement of account of annual reports and National Bureau of Statistics.

Model Specification

Undoubtedly, there are extensive research works on the role of manufacturing in the actualization of economic growth. However, there seems to be no consensus in these studies on the empirical form of the specification of a model qualifying the impact that the manufacturing sector can take or follow.

Conventionally, empirical specification of growth-oriented model often follows the Solow growth model, although subsequently modified by Mankiw et al (1992) (which is termed “Augmented Solow growth model).

Solow (1957) postulated that economic growth is as a result of the accumulation of physical capital and an expansion of the labour force in conjunction with an “exogenous” factor, technological progress, which makes physical capital and labour more productive (Dipakand Ata2003). In the simplified version presented in this study, we abstract from the household sector, an important feature of the original endogenous growth model, in order to concentrate on issues concerning industrialization.

The general endogenous production function:

$GDPPC = Aki^{\alpha} Li^{1-\alpha} K^{B}$---------- 3.1

We assume symmetry across industries for simplicity, so that each industry will use the same level of capital and labour. Then, we have the aggregate production function as:

$GDPPC = AK^{\alpha} L^{\beta}$ ---------- 3.2

Where:

GDPPC = Real GDP per capita at time t

A = Total factor productivity

K = Capital stock

L = Labour.

For the purpose of this research work, the above model will be adopted and modified and therefore be specified in the form expressed below:

$$RGDP = f(MAN, EXR, IRT, INFR, GEXP) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad 3.3$$

Where:

RGDP = Real Gross Domestic Product;

MAN = Manufacturing Sector Output;

EXR = Exchange Rate;

IRT = Interest Rate;

INFR = Inflation Rate;

GEXP = Government Expenditure;

Taking the logarithm of the equation 3.3 we have the following:

$LogRGDP = a_0 + a_1 logMAN + a_2 logEXR + a_3 logIRT + a_4 logINFR + a_5 logGEXP + U_t$ --------3.4

U_t = Error term;

Parameters = a_0, a_1, a_2, a_3, a_4, a_5.

From the specified model equation above, endogenous variable is RGDP while the exogenous variables are the manufacturing sector output, exchange rate, interest rate, inflation rate and the government expenditure.

Stationarity Test

The study conducted stationary test at 0.05 level of significance. It was observed that the P- value of the Augmented Dikkey-Fuller (ADF) and the Phillips-Peron test statistics were less than 0.05 and also, the test statistics are higher than the corresponding critical values. The chosen Schwarz Information Criterion (SIC) and the maximum lag length were set at 8 for the ADF while for the Phillips-Peron the spectral estimation method was set at default. **Table 1: The ADF Test Result**

Variable	1st Diff. Test Sta.	Critical Value @5%	P. Value	Integration Rank
RGDP	-3.603065	-2.954021	0.0111	I(1)
MAN	-2.946878	-2.615817	0.0058	I(1)
EXR	-9.605466	-2.957110	0.0000	I(1)
INT	-3.221548	-2.957110	0.0279	I(1)
INFR	-4.019270	-2.960411	0.0041	I(1)
GEXP	-4.547426	-2.954021	0.0010	I(1)

p-value < 0.05 and Test Statistics>Critical Value Source: Authors' Compilation 2025.

Table 1 above revealed that real gross domestic product (RGDP), manufacturing sector output (MAN), exchange rate (EXR), interest rate (IRT), inflation rate (INFR) and government expenditure (GEXP) were found to be stationary at their 1st Difference.

Table 2: The PP Test Results

Variable	1st Difference Test Statistics	Critical Value @5%	P. Value	Integration Rank
RGDP	-3.595685	-2.954021	0.0113	I(1)
MAN	-2.917869	-2.954021	0.0054	I(1)
EXR	-11.06103	-2.957110	0.0000	I(1)
IRT	-3.099124	-2.957110	0.0367	I(1)
INFR	-4.234801	-2.954021	0.0022	I(1)
GEXP	-4.602675	-2.954021	0.0008	I(1)

p-value < 0.05 and Test Statistics>Critical Value; thus, variable is stationary Source: Authors' Compilation 2025

The Phillips Peron test's result above shows that, real gross domestic product (RGDP), manufacturing sector output (MAN), exchange rate (EXR), interest rate (IRT), inflation rate (INFR) and government expenditure (GEXP) were all stationary at first difference.

Table 3: Co-integration Result for the BOP Model

Trace Test				**Maximum Eigenvalue Test**		
Hypothesized No of CEs	**Eigenvalue**	**Trace Stat.**	**Critical Value @0.05**	**Eigenvalue**	**Max-Eigen Stat.**	**Critical Value @0.05**
r=0	0.936016	173.4530	95.75366*	0.936016	90.72122	40.07757**
r=1	0.643073	82.73183	69.81889*	0.643073	33.99742	33.87687**
r=2	0.476507	48.73441	47.85613*	0.476507	21.35867	27.58434

r=3	0.391309	27.37574	29.79707	0.391309	16.38270	21.13162
r=4	0.203295	10.99304	15.49471	0.203295	7.499936	14.26460
r=5	0.100442	3.493104	3.841466	0.100442	3.493104	3.841466

Source: Authors' Compilation 2025

Table 3 shows that 2 co-integrating equations for Max-Eigen test @0.05 level and also indicates 3 co-integrating equations for Trace Test

The Trace Test above in table 3 indicate there are 3 co-integrating equations, also the Max-Eigen value test carried out revealed there exist 2 co-integrating equations as well. At r equals 0 and 1, both tests indicate long run relationships.

Table 4: Normalized Co-Integrating Coefficients

RGDP	MAN	EXR	IRT	INFR	GEXP
1.00000 0	0.000000	-6.369963	0.380136	1355811.	-0.464154
		(0.39864)	(0.21683)	(355562.)	(0.28086)

Source: Authors' Computation 2025

The decision rule behind the use of the Normalized co-integrating co-efficient have to be that the calculated T-stat. has to be higher than or equals to two (2). The Tstatistics is calculated by dividing the coefficients by the corresponding standard errors. The signs of the coefficients show that Exchange rate (EXR) and Government expenditure (GEXP) are positive long run significant determinants of RGDP while interest rate (IRT) and inflation rate (INFR) are negative long run significant determinants of RGDP.

Table 5: ECM Result for RGDP model

Var.	Co-eff.	Standard Error	T- Stat.	Probability
C	9.44	9.59	0.984204	0.3338

D(MAN)	0.345887	0.883857	0.391338	0.6986
D(EXR)	0.046014	0.431089	0.106740	0.9158
D(IRT)	1.960525	0.310055	6.323154	0.0000
D (INFR)	-4327781.	3769159.	-1.148209	0.2610
D(GEXP)	-0.078936	0.217378	-0.363128	0.7193
ECT(-1)	-0.580813	0.141803	-4.095902	0.0003
R-squared(R^2) *0.899346*		*f-Statistic* *Prob(f-Statistic)*	*17.19909* *0.000000*	
Adjusted R^2 *0.746533*		*DW Stat.* *0.974516*		

Source: Authors' Computation 2025

Interpretation of the Estimated Results

The multiple linear regression analysis was employed to capture the effect of some important macro-economic variables and manufacturing sector output that have been assumed to either directly or indirectly influence the economic growth in Nigeria for the period 1981 to 2022.

The result of the manufacturing output has a negative and non-significant relationship with real gross domestic product growth suggesting that it contribute negatively to real gross domestic product growth. The non-significant nature of this variable is indicative of the fact that the manufacturing sector of the Nigerian economy is presently experiencing decay as a result of non-implementation of policies aimed at boosting the sector. The average manufacturing capacity utilization rate has a positive and significant relationship with real gross domestic product suggesting that the manufacturing sector contribute positively to real gross domestic product growth. Exchange rate has a negative and non-significant relationship with real gross domestic product growth suggesting that the exchange rate policy is poorly managed. Also, it is a sign of macro-economic instability.

Interest rate has a negative and non-significant relationship with real gross domestic product growth suggesting that interest rate do not contribute to real gross domestic growth. Inflation rate has a positive and non-significant relationship with real gross domestic product growth suggesting that is not properly managed in the economy. It is a sign of macroeconomic instability. Government expenditure has a positive and significant relationship with real gross domestic product growth. The significant nature of the government expenditure variable implies that the expenditure made by the government in the Nigerian economy is fairly adequate. Nevertheless, it contributes positively to economic growth.

The Durbin Watson (DW) statistic is 0.97 and this is a sign of first-degree auto correlation. The adjusted co-efficient of determination (R^2) is 0.899 implying that approximately 90 percent of the total variation in the dependent variable is explained by the explanatory variables.

The value of the F-statistics shows that the equation has a good fit and that all the independent variables are capable of explaining the changes in the real gross domestic product (RGDP).

Conclusion

The result of the empirical tests provides useful insight to policy formulation and implementation. It indicates that the contribution of the manufacturing sector to economic growth was below the expected threshold given the gamut of industrial policies put in place since independence. This poor estimated result could be attributed to poor infrastructure especially electricity supply and nonimplementation of policies. This assertion agrees with submission of Ajanaku (2007), who argued that poor electricity supply and other factors have contributed to the dismal performance of the nation's industrial sector. The study revealed that the output of the manufacturing sector is negatively related to growth.

Therefore, it has shown that the government of the Nigerian economy has neglected the sector. It has also shown that the government must try to revive the sector and also collaborate with private individuals and investors, knowing what the sector itself has to achieve economic development and growth, due to the fact that it will assist in employment generation, stimulation of entrepreneurship, mobilizing hidden capital in the economy, provide a level class of self-employed entrepreneurs, development and utilization of local and foreign technology,

stemming rural-urban migration and encouragement of equitable distribution in income and wealth. Finally, it is important to note that the efforts made by the government to increase manufacturing sector output by increasing its expenditure on capital expenditure, must be properly managed most especially on electricity power supply to boost the productivity in the manufacturing sector in Nigeria.

Recommendations

For manufacturing to act as a catalyst for economic growth in Nigeria, the following recommendations are proposed:

1. There is need to improve the administrative, legal, and fiscal environment of the manufacturing sector.

2. Government should increase its expenditure on the manufacturing sector. Also the Anti-corruption agencies in Nigeria such as: EFCC and ICPC should be able to fight corruption to enable the appropriate use of funds by the government on the part of the economy like the manufacturing sector to ensure growth in the economy.

3.The government through its agencies should reduce the interest rate to encourage private investors and entrepreneurs to embark on investment which will enhance the economic growth of Nigeria.

4. The government through the Central Bank of Nigeria (CBN) should moderate the rate at which foreign currencies are exchanged to the Naira to enable more investments in the Nigerian economy thereby, ensuring stability in the economic growth of Nigeria.

5. The manufacturing sector needs to improve productivity through upgrading of its technologies. Technology can help to improve productivity in four major ways: better machinery that can reduce production time and costs; better methods and process controls; breakthrough into completely new ways of doing things and product designs that can improve competitive edge and reduce costs.

References

Adenikinju, A. and Alaba, O (2000), Energy use and productivity performance in the Nigerian manufacturing sector (1970-90). *Centre for econometric and allied research and department of economics;* University of Ibadan.

Adewuyi, D. and Bankole, A (2007), The African manufacturing firm: *An analysis based on firm, studies in Sub-Saharan Africa.* Taylor and Francis Ltd.

Ajakaiye, J. (1999): "Entrepreneurship Education and Training in Nigeria: Problems and Prospects in the Informal Sector", *Paper presented a National Conference on Entrepreneurship Education in Nigeria Tertiary Institutions,* Abuja, Nigeria, March 30-April 1, 1999.

Ajanaku, L.(2007). Battling with Darkness. *TELL (Special Edition),* May 21, 2007 pp.31 - 33.

Augustine, O., Saviour, S. & Ferdinand, I. (2022). Effects of selected macroeconomicvariables on stock market performance in Nigeria, *Malaysian E-Commerce Journal*(MECJ), Zibeline International Publishing, 6(2), 54-58.

Ayodele, A.I and Falokun G. (2003), The Nigerian Economy: *Structure and Pattern of Development.* JODAD Publishers.

Dagadu, S. S. (2010). The impact of stock market on economic growth in Ghana. *Journal of Business and Enterprise Development;* 1(1), 1-15.

Dipak, M. and Ata, M. (2003), The African manufacturing firm, an analysis based on firm studies in Sub-Saharan African. *Taylor and Francis Ltd.*

Enebong, A. (2003), Manufacturing Association of Nigeria (MAN): Nigeria"s imperative in the new world trade order, workshop report. *African*

Economic Research Consortium (AERC). Nairobi, Kenya and trade policy research and training (TPRTP). Department of economics, University of Ibadan.

Hoguet, K. (2008). Inflation and stock prices: A global view. *Journal of Applied Corporate Finance;* 20(4), 87-97.

Imoughele, L. E. (2014). Empirical investigation of the impact of monetary policy on manufacturing sectorperformance in Nigeria: 1989 to 2012. *International Journal of Education and Research,* 2(1), 1 – 20

Iyoha, M. A. (2011). Macroeconomic variables and stock marketreturns in Nigeria: An empirical analysis. *International Journal of Economics and Finance;* 3(3), 235-245.

Mazundar, D. and Mazaheri, A (2003), The African manufacturing firm: *An analysis based on firm, studies in Sub-Saharan Africa.* Taylor and Francis Ltd.

Odior, E.S. (2013). Macroeconomic Variables and the Productivity of the Manufacturing Sector in Nigeria: AStatic Analysis Approach. *Journal of Emerging Issues in Economics*, Finance and Banking, (1)5, 362-380

Ogunleye, E. O., &Olusanmi, M. O. (2018). Macroeconomic determinants of stock market performance in Nigeria. *Cogent Economics & Finance;* 6(1), 1522493.

Olayinka, I. M.,(2015). Effects of macroeconomic factors on stock returns in Nigeria. *International Journal of Financial Economics;* 4(2), 67-76.

Solow, R. M. (1957). Technical Change and the Aggregate Production Function, *Review of Economics and Statistics,* 39(7), pp. 312-20.

Sundararajan, V. (2007). The debt-equity ratio of firms and the effectiveness of interest rate policy. IMF StaffPapers, 34(2), 260 – 310.

Szirmai Adam (2008): Is Manufacturing still the Main Engine of Growth in Developing Countries? *UNU-WIDER of the Research Workshop on Entrepreneurship, Technological Innovation, and Development which was held in Maastricht.*

The World Bank (2012), World Bank Development Indicators.*Washington D.C.*

Udah A, andEnang B, (2010): Industrial Development, *Electricity Crisis and Economic Performance in Nigeria; European Journal of Economics, Finance and Administrative Sciences ISSN 1450-2887 18(6).*

Ukwunna J. C.,(2022). Exchange rate fluctuations and Nigeria industrial sector productivity growth. *International Journal of InnovativeFinance and Economics Research;* 10(3):80-97.

United Nations Development Programme (2011), Human Development Reports. *New York: Palgrave Macmillan.*