

TRADE OPENNESS, MANUFACTURING SECTOR CAPACITY UTILIZATION AND ECONOMIC GROWTH IN NIGERIA

Walter Okwudili Ugwuoke and Samuel Ngbede Ehoda

Department of Economics, Federal University of Lafia, Lafia, Nasarawa State, Nigeria

Correspondence: E-mail: ugwuokemartins@yahoo.com; samgbodehody@gmail.com

Received: 29 June 2026

Accepted for publication: 15 July 2026

Published: 01 August 2026

ABSTRACT

This study titled trade openness, manufacturing sector capacity utilization and economic growth in Nigeria, aimed at ascertaining the effects of trade openness, manufacturing sector capacity utilization on economic growth in Nigeria for the period 1986 to 2020. Annual secondary data on Real Gross Domestic Product which is the dependent variable, independent variables such as trade openness, manufacturing sector capacity utilization, total natural resource rents, and exchange rate were sourced from the Central Bank of Nigeria statistical bulletin, while external reserves was sourced from the world bank development indicators publication, and data on gross fixed capital formation was sourced from World Bank Statistical publication spanning from 1986 through to 2020. The Autoregressive Distributed Lag Model (ARDL) approach was employed in the analysis of the data. The findings from the study suggest the existence of long run relationship between trade openness, manufacturing sector capacity utilization and economic growth, also, that trade openness has a negative and significant effect on economic growth in Nigeria. Hence, it can be concluded from this research that Nigeria is yet to benefit from trade openness within the period under review. It is recommended that the Nigerian government should as a matter of urgency make efforts to source for available markets and engage in the local production and export of processed or semi-finished essential commodities by way of diversifying her production and export base from crude oil.

Key Words: Trade Openness; Manufacturing Sector Capacity Utilization; Economic Growth

1.0 INTRODUCTION

Studies by Otiti (2005) and Sachs and Warner (1995) posit that open economies enjoy faster growth, while firms that experience faster growth are the ones that have already entered the export market. Trade openness is said to raise imports and exports of goods and services and improves domestic technology. Hence, the production process is more effective, thereby increasing productivity. At the beginning of the last decade especially between 2011 and 2013, the nation's economy recorded high GDP growth rates which led to the expansion of the overall size of the economy and reduction in trade deficits supported by increase in exports (World Bank, 2018). This period of economic prosperity coincided with the period in which the maximum average index of trade openness was highest at 53.28% in 2011, with a large percentage of trade component dominated by oil exports which contributes over 80% of Nigeria's revenue (CBN, 2020). The nation has effectively managed her oil wealth, building on the giant step she took during the period of 2004-2009 to establish the excess crude account fiscal reserve which succeeded in shielding the country's economy from the sharp swings in global oil prices during that period (World Bank, 2018). This sharp swing in global oil prices has the capacity to create uncertainty in the

outputs of the manufacturing sector and also to the energy management sectors in the process industries such as the oil and gas industries, while also destabilizing the effectiveness of the government's fiscal management of crude oil revenue (Gylych *et al.*, 2020).

Oil price volatility continues to influence Nigeria's growth performances. Between 2000 and 2014, Nigeria's gross domestic product (GDP) grew at an average of 7% per year. Following the oil price collapse in 2014-2016, combined with negative production shocks, GDP growth rate dropped to 2.7% in 2015. In 2016 during the first recession in 25 years, the economy contracted by 1.6%, growth averaged 1.9 per cent in 2018, with domestic demand constrained by stagnating private consumption (World Bank, 2018). The drop in oil prices led to government revenue falling by 8% in 2019, thus leaving the government with little fiscal resources to stimulate the economy to growth by way of government spending, which resulted in decrease in production output (World Bank, 2020). GDP from oil shrank by 14.4% because of the decline in global oil prices and non-oil GDP contracted by 0.2% because of low agricultural productivity for exports as a result of insecurity and reduced government expenditure in general (CBN, 2020). With overall low production output and

inadequate foreign exchange, inflation rose from a single digit 9.5 percent in 2015 to 18.5 percent, foreign exchange reserve fell from \$32 billion in 2015 to \$25 billion, this affected the manufacturing sector as there was difficulty in getting access to foreign exchange to obtain manufacturing inputs (World Bank, 2020). With the potentials inherent in Nigeria's manufacturing sector, expectations are that it should boost employment and increase its share of contribution to GDP thus leading to development, but it appears it has not materialized as seen from statistical trend. The sector's capacity utilization trend reveals that, in 1986 the sector only utilized 38.8% of its fully installed capacity, 29% in 1975, 60% in 2015 and 55.5% in 2019 (World Bank, 2019). This can be seen to have reflected in the contribution of the sector to GDP growth, as it has been seen to be on a decline over time as indicated by statistics from the World Bank (2019), the sector contributed 20.93% of GDP in 1994, 12% in 2003 and 11.52% in 2019. This trend shows the condition of the manufacturing sector in Nigeria. Although the government has tried to boost the manufacturing sector in Nigeria in order to harness increased gains from trade openness through promotion of locally made products and SMEs financing, the low capacity of the Nigeria manufacturing sector in the processing of raw materials still remains a serious challenge. The manufacturing sector currently lacks the capacity to cater for the teeming population and this has led to the over-dependence on imports to complement local productions (Adeyemi and Olufemi, 2016).

In view of the minimal attention given to domestic production coupled with the undiversified nature of export in Nigeria, rapid fluctuations in global oil prices, a lot of doubts have been expressed by many as to whether the country will benefit from her policy of trade openness with regards to economic growth, with the rate of growth of the economy being lower than the projected value of 4.5% in 2020 (WTO, 2020). Hence, this study is carried out to ascertain the effects of trade openness, manufacturing sector capacity utilization on economic growth in Nigeria.

2.0 LITERATURE REVIEW AND THEORETICAL LITERATURE

2.1 Conceptual Clarification

The concept of trade openness is often interchangeably referred to as trade liberalization, free trade or globalization. It defines a situation without tariff barriers or with a reduction of tariff and non-tariff barriers imposed on the inflow and outflow of goods and services (Pugel and Lindert, 2000). For the purpose of this study, Trade openness will be seen as the removal of trade policies made by the government that distorts the working of the free flow of goods and services among trading countries. Todaro (1981) sees economic growth as a steady process of increasing the productive capacity of the economy and hence, of increasing national income. For the purpose of this research, economic growth will be defined as an increase in the output of a country's goods and services as a result of participating in productive activities.

2.2 Theoretical Literature

2.2.1 Comparative Cost Advantage Theory

This theory was propounded by Ricardo (1817) when he first published his book on the Principles of Political Economy and Taxation. The theory posits that; a country should concentrate on producing that commodity in which it has the least comparative cost of production. It is based on the assumptions that there are only two commodities to be exchanged between two countries, there is full employment of resources in both countries, transport costs are absent, labour is the only factor of production, labour is perfectly mobile, production is governed by constant returns to scale, there is no intervention by the government in the economic system, perfect competition exists both in the commodity and factor markets and factors supplies, techniques of production and tastes and preferences are given and constant.

2.2.2 Endogenous Growth Model (New Growth Theory)

This growth model is associated with Solow (1957). Solow's model seeks to explain the growth rate of aggregated output from various components, mainly the growth of factor supplies such as labour, capital and the factor for technological progress representing growth in Total Factor Productivity. As postulated by the new growth model, technological change constitutes the major part of economic growth. The new growth theorists have argued that technological change was not exogenous, as assumed in Solow's model, and that it was driven by interaction of economic factors within the economy. Under endogenous growth model, growth reflects the contribution to productivity from structural and governance reforms on the one hand, to the adoption of new technology on the other. Trade is seen as affecting long-run growth through its impact on technological change. It therefore, hold that trade provides access to imported products, which embody the new technology.

Empirical Literature

Abinabo and Abubakar (2023) empirically analysed the relationship between trade openness and economic growth in Nigeria from 1990 to 2021. They adopted descriptive statistics; Augmented Dickey Fuller (ADF) unit root test for stationarity, Johansen Cointegration test for long run relationship. The result showed that trade openness has positive and statistically significant impact on economic growth in Nigeria; and that import has a negative significant impact on economic growth in Nigeria. It was concluded that Nigerian economy has benefited from other countries therefore; the country should open the borders for foreign goods to come into the country. It was recommended that government should encourage external trade and open the borders, but with caution to avoid dumping of some irrelevant goods to the country.

Emrah, *et al.* (2019) studied on trade openness and economic growth in Turkey: A rolling frequency domain analysis, evaluated the time-varying Granger-causal relationships between trade openness and economic growth covering the period 1950-2014. In analyzing their model which incorporate variables like GDP as dependent variable, index of trade

openness, capital stock, labour, government expenditure and terms of trade, they employed the rolling version of Breitung and Candelon's frequency domain Granger-causality test in order to identify the changes in the nature of the causal relationships overtime. The results showed a bi-directional causal link between trade openness and economic growth. It was however recommended that; the Turkish government should make and implement policies towards increasing exports as it provides foreign exchange.

Afolabi and Laseinde (2019) employed the ARDL methodology to ascertain the impact of manufacturing sector capacity utilization on economic growth in Nigeria between the period of 1981 and 2016. The granger causality analysis was carried out to ascertain the direction of causality amongst the variables. The results showed that manufacturing sector capacity utilization positively impacted on economic growth, while the granger causality results indicated a unidirectional causal relationship between economic growth and manufacturing sector capacity utilization. It was recommended that that efforts should be intensified in by government to promote socio-economic infrastructural, macroeconomic and institutional framework to provide an environment that is favorable for external and domestic institutions to interact in order to utilize mobilized funds towards a productive manufacturing sector.

Elijah and Musa (2019) examined the dynamic impact of trade openness on economic growth in Nigeria covering the period 1980 to 2016. In the evaluation of their model which included variables such as RGDP, index of trade openness, import and export, the Johansen cointegration and VECM approach were employed. The result of their analysis revealed that trade openness negatively impacted on Nigeria's economic growth in both the long run and short run. It was recommended that; the government needs to increase and sustain its present efforts to diversify the economy in order to achieve growth led exports. Malefane and Odhiambo (2018) evaluated the impact of trade openness on economic growth in South Africa between the time periods of 1970 to 2014. They employed the Auto regressive Distributed Lag (ARDL) model to evaluate their model. The study found out based on long run results that, trade openness positively impacted on economic growth and negative in the short run in South Africa. It was recommended that; policies that support foreign trade should be promoted as they are relevant to economic growth in the South African economy.

Mangir *et al.* (2017) carried out an empirical analysis of the relationship between trade openness and economic growth in Niger from 1970 to 2015. Employing the Johansen cointegration approach and Vector Error Correction (VEC) technique for analysis, it was revealed that trade openness impacted positively in a significant way on economic growth in Niger. It was also discovered by the use of the Granger causality test that bidirectional causation exists between the variables trade openness and GDP. Their work recommended that the government should continue to increase the

infrastructure in order to reduce the trade costs and to attract and facilitate the foreign investment in the country.

Ominyi and Ehoda (2017) investigated the relationship between foreign trade and economic growth in Nigeria covering the period 1970-2013. They employed the Johansson Co-integration procedure in analyzing the model which comprised of variables such as RGDP as dependent variable, import, export, exchange rate, balance of trade, and index of trade openness as independent variables. It was discovered that trade openness impacted negatively on economic growth, while foreign trade contributed positively to economic growth. The study recommended that trade policies in Nigeria need to be reviewed to encourage gains from trade and foster economic growth.

3.0 METHODOLOGY

3.1 Nature and Sources of Data

This study used secondary data, obtained from various sources. The data for Real Gross Domestic Product (RGDP), trade openness (TOP), exchange rate (EXR), Total Natural Resource Rents (TNRR), manufacturing sector capacity utilization (MSCU) were sourced from the Central Bank of Nigeria Statistical Bulletin. External Reserves (ER) was sourced from the world bank development indicators publication, while data on gross fixed capital formation (GFCF) was sourced from World Bank Statistical publication, spanning from 1986 through to 2020.

3.2 Model Specification

The specification of the model is aided by the endogenous growth theory and empirical studies as discovered from the literature. In this work, the model built by Mangir, *et al.*, (2017) who investigated empirically the relationship between trade openness and economic growth in Nigeria.

The specification of the model in functional form was expressed as;

$$RGDP = f(TOP, ER, TNRR, EXR, GFCF, MSCU) \dots\dots\dots (1)$$

Where;

RGDP=Real Gross Domestic Product (Proxy for economic growth) measured in billions of Naira

TOP = Index of Trade Openness: measured in percentage of $[(IMP+EXP)/GDP]$, ER = External Reserves measured in millions of dollars, TNRR = Total Natural Resources Rents (Proxy for Natural Resources Endowment) measured in percentage of GDP, GFCF= Gross Fixed Capital Formation (measured in percentage of GDP), MSCU = Manufacturing Sector Capacity Utilization (measured in percentages), EXR = Exchange rate (measured by One dollar to Naira ratio), μ = Error Term

Specifically, to achieve uniformity and reduce the effect of outliers in the series;

Expressing explicitly, this translates into

$$\begin{aligned} \ln RGDP_t &= \beta_0 + \beta_1 TOP_t + \beta_2 \ln ER_t + \beta_3 \ln TNRR_t + \beta_4 EXR_t \\ &+ \beta_5 \ln GFCF_t + \beta_6 MSCU_t \\ &+ \varepsilon_t \dots\dots\dots (2) \end{aligned}$$

$\beta_0 - \beta_6$ = Coefficients of the explanatory variables.

ε_t = Error term

The quantitative representation of the a priori expectation is as stated below;

$$\beta_1 > 0; \beta_2 > 0; \beta_3 > 0; \beta_4 > 0; \beta_5 > 0; \beta_6 > 0$$

The quantitative representation of the a priori expectation was deduced from economic theory. It is expected that the coefficients $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$, and β_6 should have a positive relationship with economic growth in Nigeria, which means that increase these variables should lead to output growth (Solow, 1957).

3.3 Method of Data Analysis

Suitably, Autoregressive Distributive Lag (ARDL) model estimation technique was employed to achieve the objectives of this study. The choice of this technique was necessitated by the fact that ARDL allows for both the static and dynamic effects of the explanatory variables on the dependent variable. Secondly, ARDL framework offers a technique for checking the existence of a long run relationship between variables and that is referred to as bound test.

3.4 Estimation Technique

3.5.1 Pre-estimation analysis

Descriptive statistics, trend analysis and unit root test using the Augmented Dickey Fuller Test (ADF) to ascertain the stationary properties of the time series will be presented as pre-estimation analysis to examine the pattern and behavior of data for the variables incorporated in the model.

3.5.2 Unit Root test

The Unit root test was carried out to confirm the order of integration of the series of the variables involved in a model using the Augmented Dickey Fuller (ADF) method.

4.0 RESULT AND DISCUSSION

4.1.1 Stationarity test; Unit root test

The following results obtained is shown in Table 1 below.

Table 1: Outcome of the Unit Root Test
ADF Statistics of Variables

Variables	At levels	First difference	Order of Integration
RGDP	-4.084959		1(0)
Prob	0.0163		
5% CV	-3.568379		
TOP	-3.619363		1(0)
Prob	0.0429		
5% CV	-3.548490		
TNRR	-4.094165		1(0)
Prob	0.0146		
5% CV	-3.548490		
MSCU	-2.077002	-6.313929	1(1)
Prob	0.5396	0.0000	
5% CV	-3.548490	-3.552973	
ER	-3.139807	-4.769834	1(1)

Prob	0.1141	0.0030	
5% CV	-3.552973	-3.557759	
EXR	-0.279000	-4.222988	1(1)
Prob	0.9881	0.0110	
5% CV	-3.548490	-3.552973	
GFCF	-0.215721	-5.092763	1(1)
Prob	0.9900	0.0013	
5% CV	-3.548490	-3.552973	

Source: Author's computation using E-views 10. Note: CV=Critical Value

From the unit root test, it was discovered that the variables Real gross domestic product (RGDP), total natural resources rent (TNRR), and Trade openness (TOP) integrated of order 1(0) (i.e at levels). While manufacturing sector capacity utilization (MSCU), external reserves (ER) and gross fixed capital formation (GFCF) was found to be stationary and integrated after first differencing at order 1(1). The above result reveals a mixed order of integration of purely I(0) and I(1). This difference in order of integration of the variables connote that there may be long run relationship between and among the variables.

4.1.2 ARDL bound test

Given that, the result obtained from the unit root test showed that all the variables employed for this study were not stationary at the same order of integration, but rather a combination of I(1) and I(0) series. It is therefore pertinent to conduct ARDL Bound test in order to ascertain the existence of long run cointegration of the variables.

Table 3: Result of Cointegration Test (Bound Test Approach) on Trade openness, manufacturing sector capacity utilization and economic growth in Nigeria

ARDL Bound Test	F-statistic	Critical Value @ 5%
	8.334344	
	Lower Bound I(0)	Upper Bound I(1)
	2.45	3.61

Source: Author's computation from E-views 10

As shown in Table 3, the ARDL bound test reveals the F-statistics value 8.334344 with critical value bound of the lower and upper bound to be 2.45 and 3.61 respectively at 5% level of significance. Since the F-statistics value exceeds the critical upper bound revealing the existence of a long run relationship, we reject the H_0 : No long-run relationship exists. Therefore, the confirmation of a long run relationship among the variables in the model is followed by the estimation of both long run and short run parameters, through the application of ARDL model.

4.2. Analysis of Results

4.2.1. ARDL long-run analysis

Table 4: ARDL Long Run Estimates for LogRGDP, TOP, LogER, TNRR, EXR, GFCF, MSCU

Variable	Coefficient t	Std. Error	t-Statistic	Prob.
TOP	-0.002315	0.001057	-2.189414	0.0413
LOGER	0.066962	0.024445	2.739285	0.0130

TNRR	0.002555	0.002269	1.126024	0.2742
EXR	0.000157	0.000291	0.540303	0.5953
GFCF	-0.027883	0.002025	-13.765840	0.0000
MSCU	0.010230	0.002253	4.540824	0.0002
C	10.374461	0.258141	40.189082	0.0000

Source: Author's computation from E-views 10 output

The findings as shown by the regression estimates clearly aligns with previous studies (Elijah and Musa, 2019; Ominyi and Ehoda, 2017) who revealed that trade openness has a negative impact on economic growth. This literally means that the wider the nation opens its economy to foreign trade, the lesser will be the growth of the Nigeria economy. This negative relationship between trade openness and economic growth can be attributed to the growing level of Nigeria's trade imbalances resulting from the nation's overreliance on imports that have seen the nation's increasing volume of imports of consumer goods and refined petroleum products, coupled with an undiversified export base with crude oil exports as the major source of revenue which have been affected by crashing prices in recent times. In addition, it could be due to the increasing over reliance on manufactured imports thereby affecting the economy negatively. The above findings contrast with those obtained by some authors (Abinabo, 2023; Emrah, *et al.*, 2019; Malefane and Odhiambo, 2018; Afolabi and Laseinde, 2019; Mangir, *et al.*, 2017).

Manufacturing sector capacity utilization (MSCU) revealed a significant positive relationship with economic growth. This could be attributed to the general improvement recorded in the macroeconomy and stability in the foreign exchange market (Forex) sustained within the period under review. This finding aligns with that of Afolabi and Laseinde (2019) whose work revealed a positive impact of manufacturing sector capacity utilization on economic growth. From the estimated long run results to ascertain the relationship between gross fixed capital formation and economic growth in Nigeria, the result revealed a significant negative relationship. The findings for the relationship between total natural resources rent (which is proxy for natural resources endowment) and economic growth in Nigeria revealed an insignificant positive relationship with economic growth. External reserves Log (ER) was also found to exert a significant negative effect on economic growth; this finding violates the *a priori*. Lastly, the coefficient of the constant term C which is 10.374461 shows that if other variables are held constant, the value of RGDP in Nigeria will significantly increase by 1037 percent.

4.2.2. ARDL Short-run analysis

Table 5: ARDL Error Correction Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
----------	-------------	------------	-------------	-------

D(GFCF)	-0.002406	0.000564	-4.269902	0.0004
D(GFCF(-1))	0.006830	0.000703	9.720315	0.0000
D(EXR)	-0.000623	9.07E-05	-6.866933	0.0000
D(EXR(-1))	0.000187	0.000103	1.814967	0.0853
D(LOGER)	-0.011871	0.003667	-3.236940	0.0043
D(LOGER(-1))	-0.020723	0.003528	-5.874696	0.0000
CointEq(-1)* ECM	-0.262682	0.009233	-28.45116	0.0000

R-squared 0.943701

Adjusted R-squared 0.930708

Durbin-Watson stat 2.622856

Source: Author's computation from E-view 10 output

Table 5 reveals that the error correction term is well specified and it is also statistically significant at 5 per cent level of significance. The statistical fitness of the model is confirmed by the R^2 value which reveals that the independent variables included in the model explained 94 per cent of variability in economic growth, whereas the other 6 percent is explained by the error term. The coefficient of the ECM in the estimation is -0.26. The negative sign is an indication of the existence of a long-run equilibrium relationship between trade openness and the variables that influence it short-run movement which were used in the model. This means that 26 per cent of the error is corrected in each time period. However, the moderate speed of adjustment implies that it will take relatively long time to correct all errors/deviations and reposition the economy back to equilibrium. The adjusted R^2 shows that about 93 per cent of total variation in economic growth is determined by changes in the explanatory variables. The rate of convergence approximately 1 year going by the error correction value is of much practical use in policy analysis and in decision making.

5.0 CONCLUSION AND RECOMMENDATIONS

Conclusion

The major findings of this study affirms that Nigeria is yet to reap the benefits of its borders been opened to foreign trade and external economic interactions, but rather suffering from it as trade openness. It was also affirmed by the study that manufacturing sector capacity utilization and total natural resource rent spurs economic growth. Based on the findings of this study, it is therefore concluded that trade openness has a significant effect on economic growth in Nigeria, manufacturing sector capacity utilization has a significant effect on economic growth in Nigeria and there is a causal link between trade openness and economic growth in Nigeria.

Recommendations

In consonance with the findings and conclusion of this study, the following outlined recommendations are considered necessary:

The Nigerian government should engage in the local production and export of processed or semi-finished essential commodities by way of diversifying her production and export base from crude oil.

Policies that act as stimulants of importation of capital goods and new advanced technologies must be formulated in order to fully utilize and maximize the manufacturing sector capacity, while also developing and enhancing added growth in industrial value which spurs growth in the economy

The government should as a matter of urgency fast tract the facilitation of the existing export expansion grants by the Nigerian exports promotion council, coupled with making and implementation of policies to upscale a diversified manufactured production to cater for the demands of the domestic and international markets.

REFERENCES

- Abinabo, P. and Abubakar, A. (2023). Trade openness and economic growth in Nigeria. *Nigerian Journal of Management Sciences*, 24 (2), 217 – 228.
- Adeyemi, P. A., and Olufemi, O. B. (2016). The determinants of capacity utilization in the Nigerian manufacturing sector. *Journal of Sustainable and Economic Development*, 7(5), 20-31.
- Afolabi, A., and Laseinde, O. T. (2019). Manufacturing sector performance and economic growth in Nigeria. *Journal of Physics: Conference Series* 1378 032067, 1-6. DOI:10.1088/1742-6596/1378/3/032067
- Elijah, S. and Musa, A. B. (2019,2018). Dynamic impact of trade openness on economic growth in Nigeria. *International Journal of Engineering and Advanced Technology*, 8(5c), 609-616.
- Emrah, I. C., Erdal, A., and Turhan, K. (2019). Trade openness and economic growth in Turkey: A rolling frequency domain analysis. *Economies*, 7(14), 1-16.
- Central Bank of Nigeria, (2020). *Central bank of Nigeria annual statistical bulletin*, Volume 31.
- Gylych, J., Jbrin, A. A., Celik, B., and Isik, A. (2020). The effect of oil price fluctuation on the economy of Nigeria. *Internal Journal of Energy Economics and Policy*, 10(5), 461-468
- Heckscher, E. F., and Ohlin, B. (1933). *Interregional and international trade*, Cambridge: Harvard University Press.
- Malefane, M. R. and Odhiambo, N. M. (2018). Impact of trade openness on economic growth: Empirical evidence from South Africa. *International Economics*, 71(4), 387-416.
- Mangir, F., Acet, H. and Baoua, M. M. A. (2017). *An empirical analysis of the relationship between trade openness and economic growth in Niger*. Conference Proceedings of EconWorld, Paris, France.
- Ominyi, S. O. and Ehoda, S. N. (2017). Foreign trade and economic growth in Nigeria. *Polac International Journal of Economics and Management Science*, 3(1), 118-135.
- Otiti, A. G. (2005). *Financial trade and development in developing countries*, Abuja. CBN Bullion
- Pugel, T. A. and Lindert, P. H. (2000). *International economics*. (11th Ed.). London, England: McGraw-Hill.
- Sachs, J. D. and Warner, A. (1995). Natural resource abundance and economic growth. *Research Gate Article Publication*, (January), 1-40.
- Solow, R. (1957). Technical change and aggregate production function. *The review of economics and statistics*, 39(3), 312-320.
- Todaro, M. P. (1981). *Economic development in the third world*. London, England: Longman, London.
- WTO, (2020). *Global economic prospects and the world developing countries: Making trade work for the world's poor*. Washington, D.C.
- World Bank Group, (2019). *Nigeria economic update 2019; Jumpstarting inclusive growth-Unlocking the productive potential of Nigeria's people and resource endowments*. Washinhgton, D.C
- World Bank, (2013). *Nigeria Economic Report 2013*. Washington, D.C
- World Bank, (2018). *World development report: Development and climate change*. Washington, D.C.
- World Bank, (2020). *Global economic prospects and the world developing countries: Making trade work for the world's poor*. Washington, D.C.