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ECONOMIC GLOBALIZATION AND PERFORMANCE OF THE MANUFACTURING SECTOR IN NIGERIA

IBEINMO FRIDAY COOKEY
Department of Economics, Faculty of Social Sciences
Rivers State University, Nkpolu-Orowurokwo, Port Harcourt, Rivers State, Nigeria
ibeinmo.cookey@ust.edu.ng

VICTOR AKIDI
Department of Economics, Faculty of Social Sciences
Rivers State University, Nkpolu-Orowurokwo, Port Harcourt, Rivers State, Nigeria
victor.akidi@ust.edu.ng

&

KIIKPOYE OBUDU
Department of Economics, Faculty of Social Sciences
Rivers State University, Nkpolu-Orowurokwo, Port Harcourt, Rivers State, Nigeria
kiikpoye.obudu@rsu.edu.ng

Abstract

This study determines the effect of economic globalization fundamentals on Nigeria's manufacturing sector performance. Manufacturing sector's healthiness is indicated as manufacturing sector gross domestic product, with economic globalization captured as trade openness, foreign direct investment, official development assistance and foreign exchange rate. The study is analyzed using time series data of 1985 to 2023, sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and World Development Indicator of World Bank. The Autoregressive Distributed Lag (ARDL) procedure for model estimation was utilized, and the outcomes showed that trade openness, foreign direct investment and official development assistance exerted favorable and substantial effects on manufacturing sector gross domestic product in Nigeria while foreign exchange rate exhibited negatively significant effect. Thus, necessitating the conclusion that economic globalization is key for enhancing manufacturing sector's performance in Nigeria. Hence, suggesting among others that government and policy makers in the country should formulate and implement policies that strengthens favourable openness, ease the business environment for real foreign investments inflow with development assistance for creating domestic production drivers, as these actions will promote investments and prop up production in the manufacturing sector.

Keywords: Economic Globalization Indicators, Manufacturing Sector, Nigeria, Autoregressive Distributed Lag.

Introduction

Technology, infrastructure and production are typically key starting points for contemporary economic growth and development. And deductively, manufacturing is a fundamental component of economic expansion. This secondary real component of an economy has usually been characterized and acknowledged as a vital driving force behind the progress and development of many emerging economies. The sector is essential for the advancement of the contemporary global economy. As a subset of the industrial sector, the manufacturing transforms raw materials, water, electricity, and other energy sources into secondary goods by the application of various production variables such as labour, land, and capital.

There are several facets of developed economies that revolve on the manufacturing sector. It serves as a means of enhancing productivity through import replacement and export expansion, generating foreign exchange earning capacity, and increasing employment and per capita income, which in turn generates distinctive consumption patterns. Furthermore, the manufacturing sector generates investment capital at a higher pace than any other sector of the economy, thereby fostering more extensive and efficient connections between various sectors (Anyanwu, Kalu & Alexanda, 2015).

Nevertheless, globalisation and international trade activities are substantially associated with the workings and performance of the manufacturing sector. Academics and economic growth experts continue to engage in extensive research and vigorous debate regarding globalisation. Advocates of globalisation argue that the phenomenon fosters the expansion of the global economy when the appropriate combination of technical and macroeconomic policy environments is in place. Consequently, economic globalisation has been widely acclaimed as a critical factor in the advancement of economic growth and development over the years. In recent years, the integration of the world economy has reached an unprecedented level, surpassing the pre-World War I apogee, primarily due to the progressive globalisation of trade and finance (Lall, Jaumotte, Papageorgiou & Topalova, 2017).

In addition, the world economy has made substantial strides due to the augmented international competitiveness that has resulted from the new phase of globalisation. Since the first half of 2009, the global economy has maintained a robust expansion, with growth exceeding 5 percent (IMF, 2012). Maduka, Madichie, and Eze (2017) asserted that in the context of the new phase of globalisation, no nation desires to be excluded from the distribution of the benefits that result from trade, foreign investment, and financial integration (international capital flows). Additionally, George-Anokwuru (2018) observed that economic globalisation can provide societies with a competitive advantage by providing them with access to new raw materials and markets, likewise by reducing operating costs.

Multinational corporations have the ability to manufacture, purchase, and sell products on a global scale. A country has the ability to produce auto parts in multiple developing countries, transport the parts to another country for assembly, and subsequently sell the completed vehicles to any nation. Technology is a substantial factor in the process of globalisation. Information technology advancements and the dissemination of information across borders have heightened awareness of investment opportunities and economic trends. Globalisation advocates contend that it enables developing nations to surpass industrialised nations by means of

augmented manufacturing, diversification, economic expansion, and improvements in living standards, which in turn stimulate economic development (George-Anokwuru, 2018).

Furthermore, Maduka, Madichie, and Eze (2017) observed that economic globalisation has had a substantial favourable outcome on Nigeria's economic growth in the long term. Consequently, it is reasonable to assume that Nigeria has benefited from globalisation by way of improved trade, investment, and financial flows. Odebode and Aras (2019) assert that economic globalisation can have numerous advantageous effects on the manufacturing sector, comprising a rise in its competitiveness, growth, and overall development.

In particular, economic globalisation grants manufacturers access to a more extensive array of international markets. This broader market access enables companies to diversify their customer base and decline their reliance on a single domestic market. Sales volumes and revenue may rise as a result of expanded market opportunities. As well, economic globalisation allows manufacturers to achieve economies of scale by manufacturing products in larger quantities. Reduced average production costs are frequently the results of larger production lines, which renders products more competitive and affordable in the global marketplace (Odebode & Aras, 2019).

Furthermore, Agu, Onah, and Okoroafor (2022) claimed that manufacturers can capitalise on economic globalisation to concentrate on their primary competencies and areas of comparative advantage. This enables the specialisation of the production of products and services in areas where a country or company has a competitive advantage, resulting in an improvement in the performance of the manufacturing sector, likewise augmented efficiency and innovation

Statement of the Problem

One prime example of how a country might lose focus on important industry due to policy inconsistencies and diversions brought about by the oil boom is Nigeria's history of industrial growth and manufacturing output. For example, the nearly complete neglect of agriculture in Nigeria has deprived numerous manufacturers and industries of their primary source of raw materials. Low industrialisation and economic growth have been the consequence of the absence of locally sourced inputs. The manufacturing sector in Nigeria has continued to encounter variety of challenges. Several of these challenges comprise inadequacy of capital for production investment, difficulty in obtaining financial assistance from banking institutions, undeveloped infrastructure that hinders development of firms to take off, asymmetric information regarding the business climate, complex bureaucratic procedures for business establishment, and high cost of doing business.

Furthermore, inability of numerous manufacturing firms to raise funds for development continues to impede their efforts to expand, modernise, and grow at a rapid pace. However, demand for capital is on the rise, and profit margins are being compressed by variety of factors as high interest rates, augmented competition, rising wages, and high operating costs. As a result, the Nigerian manufacturing sector experiences subpar performance.

Although economic globalisation can generate new market opportunities and enhance efficiency, it also poses obstacles that have detrimental implication on the

manufacturing sector and domestic industries. For example, Nigerian manufacturers frequently encounter fierce competition from low-cost producers in other countries. The Nigerian market may be inundated with imported products, particularly those manufactured in countries with reduced labour and production costs, which can make it difficult for local manufacturers to compete.

Additionally, numerous Nigerian manufacturers depend on imported basic materials and intermediate products to facilitate their production processes. Disruptions in the global supply chain or changes in exchange rates may cause rise in manufacturing costs and widen supply chain vulnerabilities. Furthermore, inadequate transportation and energy infrastructure are some primary factors impeding the manufacturing sector's efficiency. The competitiveness of local manufacturers in the global market can be adversely affected by delays in the transportation of products, high logistics costs, and unreliable energy supply.

Finally, currency exchange rate variations may influence the cost of imported inputs, likewise the worldwide competitiveness of Nigerian industrial goods. The manufacturing sector in Nigeria may experience decline in performance as a result of abrupt fluctuations in exchange rates, which can result in augmented production costs and reduced profit margins. Therefore, based on the identified issues and gaps this study endeavoured to investigate the impact of economic globalisation on the performance of the Nigerian manufacturing sector from 1985 to 2023.

Objectives of the Study

In specific focus, this study examined the effects of:

i. Trade openness on manufacturing sector Gross Domestic Product in Nigeria.
ii. Foreign direct investment on manufacturing sector Gross Domestic Product in Nigeria.
iii. Official development assistance on manufacturing sector Gross Domestic Product in Nigeria.
iv. Foreign exchange rate on manufacturing sector Gross Domestic Product in Nigeria.

Literature Review

Theoretical Framework

Neoclassical Growth Theory and Theory of Production comprise the theories utilised in this investigation. These theories served as the theoretical foundations for this investigation.

Neoclassical Growth Theory

The Neoclassical Growth Theory of Robert Solow. Congruent with the notion, output is a function of both capital and labour. A production function is defined as Y=AR(L, K), where Y stands for output, K for capital stock, L for labour, and A for technology that is decided from outside sources. Given that international commerce and globalisation are based on the mobility of capital and workers. This model is relevant to the study of economic growth and globalisation. The variations in total factor productivity in terms of labour, capital, and technical advances in economic growth between developed and developing countries are driven by technology, which is an external variable. These changes define the importance of globalisation. Because of technological obsolescence, emerging nations like Nigeria have neglected their industrial sectors, which has led to a departure from globalization's benefits (Egberi & Samuel, 2017).

Theory of Production

Practical studies on production efficiency often use this theory as a starting point for analysis. The idea revolves on the production function, which states that there is clearly defined link between a vector of production inputs and a vector of optimal producible outputs. A change in total factor productivity is defined by historical studies as a rise or decline in output level that takes input levels into account, or a vertical shift in the production function (Nelson, 1991). The "residual" and other terms describing factor productivity have emerged as a result. Some studies have tried to define productivity transformation as incorporating new technologies, shifting employee demographics, increasing spending on human capital, shifting resources from low- to high-productivity tasks, and taking utilisation of scale of economies. "Productivity change is both the source and the result of the development of dynamic forces functioning in an economy - technological advancement, accumulation of human and physical capitals, business and institutional structures," argues Nadiri (1970).

The general problem of productivity is murky, but there are solid and well-defined theoretical frameworks supporting the topic of trade policy and productivity development. The x-efficiency argument exemplifies one such theoretical framework. Nishimizu and Robinson (1993) state that development economists often state that trade protection lowers industrial sector efficiency, and that this is due to a number of factors. Due to the lack of foreign competition in markets with entry barriers, local manufacturers are able to enjoy monopolistic power and excessive profits.

As a result, these businesses may not be able to maximise outputs from their input bundles (also known as "x-efficiency") or even reach the minimum efficient size (also known as "scale efficiency"). More liberalisation and opening up to foreign competition turn this situation on its head. The presence of domestic competitors triggers an unspoken "challenge response" process that compels domestic companies to embrace new technology in an effort to decline x-inefficiency and, more broadly, costs. Both the rise of exports and the liberalisation of imports are beneficial, in congruent with this reasoning. A strategy of boosting imports may reduce demand for homegrown products, but it boosts efficiency by increasing competition.

Empirical Literature

In their study, Shido-Ikwu, Dankumo, Pius and Fazing (2023) utilised the ARDL method to assess the correlation between international trade and Nigeria's economic development from 1991 to 2019. Both the short- and long run estimates show that export trade had direct and substantial effects on Nigeria's GDP growth throughout the research period, whereas import trade, FDI, and the exchange rate all had an unfavourable and negligible effect. Over the time frame, foreign commerce did not substantially affect the development of Nigeria's economy.

From 1986–2019, Cookey (2023) studied the Nigerian economy's manufacturing sector growth in connection to globalisation. The variables have stable long-run connection, as shown from the bound co-integration test. Overall, economic globalisation, trade openness, and exchange rate fluctuations all have unfavourable and substantial impacts on manufacturing output growth in the long

term, as per the ARDL model's estimate. Over the time frame considered, FDI had a favourable but negligible outcome on the growth of Nigeria's manufacturing sector.

Ayanda (2021) analysed the effect of foreign trade of commodities on South Africa's GDP growth empirically. All of the categories of imported commodities had a negligible effect on GDP growth in the third quarter from the regression analysis. The variables found favourable and substantial when we examine the effect of exports are the export of plastic items, cars and vehicle components, and automobiles. Exported in huge quantities with little value addition are the unfavourable export commodities. Another factor that reduces the effect of certain commodities on GDP is the makeup of the HS code grouping.

In their 2022 study, Agu, Onah, and Okoroafor appraised how globalisation affected Nigeria's manufacturing industry. utilising data collected from KOF Swiss Economic Institute and World Bank Development Indicators (WDI) covering the period 1991 to 2020, the study utilised the ARDL and ECM to estimate and analyse the long- and short-run impacts of globalisation on manufacturing value added in Nigeria. While the model's projected correlation between globalisation and Nigeria's manufacturing value added is not statistically substantial, it does show favourable correlation in the short and long term.

From 1980 to 2018, Falaye and Babatunde (2021) analysed the impact of foreign trade on GDP growth in Nigeria. They utilised temporal data on variables that were thought to be important indicators of economic development and international trade to estimate the impact of international trade on Gross Domestic Product (GDP) utilising the OLS approach. The study's upshots demonstrate that trade in export substantially affects economic development in Nigeria. Moreover, the research demonstrates that, over the time frame considered, import trade had no discernible outcome on Nigeria's GDP development.

Researchers Imandojemu, Akinlosotu, and Aina (2021) appraised how globalisation affected the economy of Nigeria. Appraising the functional connection between the dependent and independent variables by utilising the OLS approach, the 2019 CBN Statistical Bulletin sourced secondary yearly data were employed. The upshots showed that foreign debt had an inverse link with gross domestic product per capita (GDPPC), but the balance of trade and exchange rate had direct correlations with GDPPC.

In their study, Duru, Okafor, Bartholomew, Adikwu, and Njoku (2020) appraised data from 1991 to 2018 to determine how international trade affected Nigeria's GDP growth. The study used the ARDL Bounds approach for the goal of co-integration. The upshots demonstrated that commerce with other countries contributes to Nigeria's economic development. This proved that the late 1980s and early 1990s international organisations' brilliant plan to liberalise trade with emerging nations was true.

Moreover, Odebode and Aras (2019) investigated the effect of globalisation on Nigeria's industrial production, and the upshots demonstrated one-way causal correlation between real GDP and foreign trade. The upshots show that transport and manufacturing production were very sensitive to the external shocks caused by globalisation from 2010Q1 to 2018Q4, as measured utilising structural vector autoregressive (SVAR) methods. The research found that changes in the exchange rate had a detrimental effect on manufacturing production, suggesting that the

exchange rate is crucial to Nigeria's manufacturing sector. The industrial sector was favourably and considerably impacted by exchange rate changes, while transportation, financial integration, and globalisation were all favourably impacted.

George-Anokwuru (2018) appraised the manufacturing sector's performance in Nigeria from 1991 to 2016 and how economic globalisation affected it. The correlation between FDI, imports, exports, and GDP was the focus of this research. For the duration of the investigation, the researchers utilised the limits co-integration test and the ARDL test, which stands for Short and Long Run Dynamics ARDL. The model's short- and long run outputs showed that import has an unfavourable correlation with GDP and a substantial effect on growth, whereas export has a favourable and substantial effect on GDP, both in the short- and long-term, suggesting that export boosted GDP growth in Nigeria's economy by 10.98%. Researchers discovered that FDI had an unfavourable effect on GDP.

In their 2017 study, Maduka, Madichie, and Eze investigated how globalisation affected GDP growth in Nigeria utilising state-of-the-art econometric methods comprising co-integration and ECM within the context of the ARDL model. Trade openness, financial integration, and FDI had favourable effects on Nigeria's economic development, as palpable from the research, which utilised annualised secondary annual data from 1970 to 2015.

Research Gap

Reviewing the relevant and related literature on economic globalisation, international trade, and the performance of Nigeria's manufacturing sector yielded the old adage that globalisation impacts growth in the economy. This is mostly associated with unending empirical research in economics literature over the effect of the subject matter on various broad economic fundamentals. But as far as the researcher is aware, there has been very little research into how economic globalisation has affected Nigeria's manufacturing sector, and such researches yielded mixed upshots, no clear consensus. Possible explanations for the discrepancies in research upshots comprise difference in data collection approaches, different time periods studied, and different definitions or measurements of economic globalisation indicators. Furthermore, this study intends to fill a research vacuum as none of the previous empirical investigations extended their coverage to 2023. This research set out to fill that knowledge vacuum by analysing the impact of economic globalisation on Nigeria's manufacturing sector's performance from 1985 to 2023, over 39 years duration.

Methodology

There are two primary justifications for utilising an ex-post facto research strategy in this investigation. To begin, the macroeconomic variables utilised are in the form of secondary data, which comprises previously calculated and published values. The World Bank's World Development Indicator (WDI) and the CBN Statistical Bulletin provided the secondary data (temporal data) utilised in this research. Comprised in the data set are information spanning 39 years, from 1985 all the way up to 2023.

Model Specification

Using a multiple regression model, we can see how economic globalisation affects the manufacturing sector's performance, which is the dependent variable. The details of this model are as follows:

Functional Model

One way to express the model is as follows, which demonstrates the linear functional correlation:

$MGDP = f(TON, FDI, ODA, FER)$ (1)

Mathematical Model

Therefore, the model may be stated as follows in an effort to demonstrate the linear mathematical correlation:

$MGDP = \alpha_0 + \alpha_1[TON] + \alpha_2[FDI] + \alpha_3[ODA] + \alpha_4[FER]$ (2)

Econometric Model

The incorporation of the stochastic or error factor (εt) into our econometric model will result in the following transformations:

$MGDP = \alpha_0 + \alpha_1[TON] + \alpha_2[FDI] + \alpha_3[ODA] + \alpha_4[FER] + \varepsilon_t$ (3)

Variables Explanation and A Priori Expectation

Manufacturing Sector GDP (Dependent Variable): Manufacturing Sector GDP is the total money value of all real outputs and services made by the manufacturing sector of a country during a specific time period, usually one year.

Trade Openness: Trade openness as independent variable is the extent to which a nation facilitates the movement of products and services across its borders and engages in international trade. How much a country's economy relies on the trading of products, services, and money with others across the world is what this metric attempt to quantify. In theory, GDP in the manufacturing sector should rise as a function of trade openness. The mathematical expression for this is $\alpha_1 > 0$.

Foreign Direct Investment: FDI as independent variable is the investment made by an individual, corporation, or government from one country into business interests located in another country. FDI should boost GDP in the manufacturing sector, at least in theory. The mathematical statement for this is: $\alpha_2 > 0$.

Official Development Assistance: Serving as independent variable, this is the money that governments provide to developing nations to help with their economy, social services, and overall welfare. This money usually comes via official development agencies or international organisations. ODA should boost GDP in the industrial sector, at least in theory. The mathematical expression for this is: $\alpha_3 > 0$.

Foreign Exchange Rate: This is the currency exchange rate between one country and another employed as independent variable. There would likely be an unfavourable outcome on GDP from the manufacturing sector due to exchange rate. The mathematical expression for this is: $\alpha_4 < 0$.

Data Analysis Technique

In this research, the Pesaran and Shin's (1999) ARDL technique is adopted. The mixed integration of the variables of orders zero and one provided the basis for the ARDL. As a foundation for estimating the long- and short-run dynamic correlation between the dependent and independent variables, the ARDL is ideal for small sample size and addresses the issue of endogeneity by allowing for the inclusion of lags of both endogenous and exogenous variables.

The long-run and short term ARDL model is expressed in the following form:

$$\Delta\ln(MGDP_t) = \alpha_0 + \alpha_{1i}\Delta\ln(MGDP_{t-1}) + \alpha_{2i}\Delta\ln(TON_{t-1}) + \alpha_{3i}\Delta\ln(FDI_{t-1}) + \alpha_{4i}\Delta\ln(ODA_{t-1}) + \alpha_{5i}\Delta\ln(FER_{t-1}) + \sum_{t=1}^{p}\beta_{1i}\Delta 1n(MGDP_{t-1}) + \sum_{t=1}^{q}\beta_{2i}\Delta In(TON_{t-1}) + \sum_{t=1}^{q}\beta_{3i}\Delta 1n(FDI_{t-1}) + \sum_{t=1}^{P}\beta_{4i}\Delta In(ODA_{t-1}) + \sum_{t=1}^{P}\beta_{5i}\Delta In(FER_{t-1}) + \delta ECM + \varepsilon_t \quad (4)$$

Where: MGDP = Manufacturing Sector Gross Domestic Product, TON = Trade openness, FDI = Foreign direct investment, ODA = Official development assistance, FER = Foreign exchange rate, α_0 = Constant variable in the model, α_1 - α_5 = Long run Co-efficient, β_1 - β_5 = Short run Co-efficient, Δ = Difference operator, ε_t = Disturbance or error term

Analyses Results and Discussion

Table 1: Descriptive Statistics

	MGDP	TON	FDI	ODA	FER
Mean	6944.038	31.17684	1558.623	1521.624	133.6205
Median	6802.665	32.51000	253.3050	304.7000	123.4000
Max.	9323.750	55.02100	6591.530	11431.96	645.1900
Min.	4737.230	7.521000	0.430000	66.68000	0.890000
Std. Dev.	1253.930	10.23691	1938.735	2232.342	137.6393
Skewness	0.187597	-0.179347	0.994463	2.686142	1.647053
Kurtosis	2.323057	2.904790	2.829972	11.63345	6.344084
Jarque-Bera	0.948450	0.218067	6.309164	163.7134	34.88722
Probability	0.622367	0.896701	0.042656	0.000000	0.000000
Sum	263873.4	1184.720	59227.66	57821.71	5077.580
Sum Sq. Dev.	58176555	3877.391	1.39E+08	1.84E+08	700949.0
Observations	**38**	**38**	**38**	**38**	**38**

Source: *Computed by the Author (2025), E-views 12.0*

Table 1 above illustrates the descriptive statistics of the Manufacturing Sector GDP (MGDP), trade openness (TONNE), foreign direct investment (FDI), official development assistance (ODA), and foreign exchange rate (FER) in Nigeria from 1985 to 2023. The Manufacturing Sector GDP (MGDP) in Nigeria has a mean average of 6944.038 in the period 1985–2023, with a max. value of 9323.75 and a min. value of 4737.23 per annum, as illustrated in the table. The Jarque-Bera value of 0.948 suggests that the MGDP is normally distributed. The mean average of trade openness (TONNE) in Nigeria from 1985 to 2023 was 31.177, with a max. value of 55.021 and a min. value of 7.52 per annum, as illustrated in the table. The Jarque-Bera value of 0.218 suggests that trade openness (TONNE) is normally distributed. Further, the mean value of FDI was 1558.623, with a max. value of 6591.53 and a min. value of 0.43. Nevertheless, the Jarque-Bera value of 6.309 suggests that FDI is not distributed normally. In addition, the mean value of ODA was 1521.62, with max. and min. values of 11431.96 and 66.68, respectively. Nevertheless, the Jarque-Bera value of 163.71 suggests that traditional distribution of ODA is not the case. Finally, the FER was statistically normal, with a mean value of 133.62 and max. and min.

values of 645.19 and 0.89, respectively. Its Jarque-Bera value of 34.887 further supports this conclusion.

Unit Root Test

The upshots of the unit root test are presented in table 2 below:

Table 2: Augmented Dickey-Fuller (ADF) Test Upshots

	At Levels		At 1st Difference			
Variables	**ADF**	**Mackinnon Critical Value @ 5%**	**ADF**	**Mackinnon Critical Value @ 5%**	**Decisions**	**Orders**
LOG(MGDP)	-0.749670	-2.933158	-5.279878	-2.935001	Stationary at First Difference	I(1)
LOG(TON)	0.797658	-2.933158	-7.384285	-2.935001	Stationary at First Difference	I(1)
LOG(FDI)	-0.596935	-2.935001	-5.080042	-2.936942	Stationary at First Difference	I(1)
LOG(ODA)	-0.936789	-2.933158	-4.650950	-2.935001	Stationary at First Difference	I(1)
LOG(FER)	-5.317819	-2.935001	-	-	Stationary at Level	I(0)

Source: *Computed by the Author (2025), E-views 12.0*

Table 2 displays the aggregated upshots of the ADF Unit root tests individually performed on each of the model variables. FER reached stability at level, in congruent with the upshots of the unit root test. For one thing, the 5% level of significance for the test statistic value of the FER is higher than the Mackinnon critical value. What this means is that the FER was stationary at order zero, or I(0), which is a substantial finding. FDI, ODA, trade openness (TONNE), agricultural sector GDP (MGDP), and manufacturing sector GDP (MGDP) all reached stability after initial differencing. This is due to the fact that, at the 5% level of significance at first difference, their test statistic values are above the Mackinnon critical values. It follows that FDI, ODA, trade openness (TONNE), and Manufacturing Sector GDP (MGDP) are all interdependent up to the first order [i.e., I(1)]. The utilisation of ARDL was necessary for the estimate of the long run connection among the variables and the ECM since the variables had to achieve mixed stationarity, which means they were stationary at order zero and one.

ARDL Bound Co-integration Test

Table 3: ARDL Bounds Co-integration Test

Significance	I(0) Bound	I(1) Bound
10%	2.2	3.09
5%	2.56	3.49
2.5%	2.88	3.87
1%	3.29	4.37

Computed F-statistic: $F_{(MGDP)}$[TON FDI ODA, FER] = 5.643331
Unrestricted intercept and no trend for K = 4.

Source: *Computed by the Author (2025), E-views 12.0*

As seen in Table 3, the ARDL Bounds correlation test yielded relevant output. In congruent with Table 4.3, there is a correlation between the performance of the Manufacturing Sector GDP and trade openness, foreign direct investment, official

development assistance, and foreign exchange rate. This highlights the importance of considering the long run. In particular, 5.643331 is the calculated F-statistic value; FMGDP(TON FDI ODA, FER). The upper limit critical values at the 10%, 5%, 2.5%, and 1% significance levels are 3.09, 3.49, and 4.37, respectively, and the calculated F-statistic value of 5.643331) is higher than these values. This proves that there is co-integration among GDP in the manufacturing sector, trade openness, FDI, ODA, and exchange rate, and it also rejects the null hypothesis that there is no co-integration.

Table 4: Estimated Long-Run Co-efficient of ARDL

Dependent Variable = LOG(MGDP)				
	Long-Run Upshots			
Variable	Co-efficient	Std. Error	t-Statistic	Prob.*
LOG(TON)	0.409398	0.188286	2.174343	0.0372
LOG(FDI)	0.446744	0.091067	4.905649	0.0001
LOG(ODA)	0.504991	0.074783	6.752778	0.0000
LOG(FER)	-0.044954	0.018421	-2.440368	0.0246
C	7.529450	0.119251	63.13935	0.0000
	Short-Run Upshots			
DLOG(MGDP(-1))	0.279125	0.109186	2.556416	0.0193
DLOG(MGDP(-2))	0.155583	0.107769	1.443665	0.1651
LOG(TON)	0.307999	0.100487	3.065077	0.0064
DLOG(FDI)	0.020783	0.081238	0.255823	0.8008
DLOG(FDI(-1))	0.416283	0.103673	4.015343	0.0007
DLOG(ODA)	0.109067	0.076147	1.432321	0.1683
DLOG(ODA(-1))	0.370542	0.104137	3.558233	0.0021
DLOG(FER)	-0.033958	0.013517	-2.512190	0.0212
DLOG(FER(-1))	-0.033723	0.013365	-2.523349	0.0207
CointEq(-1)*	-0.796117	0.121732	-6.539917	0.0000
R^2 = 0.764827; Adjusted R^2 = 0.637442; Durbin-Watson stat = 2.567405				

Source: *Computed by the Author (2025), E-views 12.0*

Interpretation of Long-Run ARDL Model Upshots

Trade Openness and Manufacturing Sector Gross Domestic Product (MGDP)

In Table 4, displayed are the ARDL model's long run outputs. The upshots demonstrated a favourable and statistically substantial correlation between trade openness and the GDP of Nigeria's manufacturing sector. The favourable co-efficient value of trade openness (0.409398) and its probability-value (0.0372), which is less than 0.05, provide support for this. In other words, the manufacturing sector's GDP will rise by 0.409398 points in the long run for every one-unit openness of trade. In addition, the ARDL model's short-run estimations showed a favourable and statistically substantial association between trade openness and Nigeria's manufacturing sector GDP. The fact that trade openness has a favourable co-efficient value (0.307999) and a probability-value (0.0064) that is less than 0.05 at lag one is proof of this. It follows that, in the near term, one-unit openness of trade will result in a 0.307999-unit rise in manufacturing sector GDP.

Foreign Direct Investment and Manufacturing Sector Gross Domestic Product (MGDP)

In addition, the ARDL model's long-run estimations showed that FDI

substantially boosts Nigeria's manufacturing sector GDP in the long run. The favourable co-efficient value of FDI (0.446744) and the probability-value (0.0001), which is less than 0.05, provide proof of this. This means that in the long term, the Manufacturing Sector GDP will rise by 0.446744 for every unit rise in FDI". Additionally, the ARDL model's short-run estimations showed that FDI had a favourable and statistically substantial influence on Nigeria's manufacturing sector GDP in the short-term. Lag one evidence for this is the favourable co-efficient value of FDI (0.416283) and the probability-value (0.0007), which is smaller than 0.05. So, in the near term, a one unit rise in FDI will result in a 0.416283 rise in GDP in the manufacturing sector.

Official Development Assistance (ODA) and Manufacturing Sector Gross Domestic Product (MGDP)

Additionally, the ARDL model's long-run estimations showed that ODA had a strong favourable association with Nigeria's manufacturing sector GDP in the long-run. ODA has a favourable co-efficient value of 0.504991 and a probability-value of 0.0000, which is less than 0.05, indicating this. It follows that, over time, the Manufacturing Sector's GDP will rise by 0.504991 for every unit rise in development assistance. In addition, the ARDL model's short-run estimations showed that ODI has a favourable and statistically substantial link with Nigeria's manufacturing sector GDP in the short-term. The favourable co-efficient value (0.370542) and probability-value (0.0021) of official development support, which is less than 0.05 at lag one, provide proof of this. This means that in the near term, there will be a 0.370542 rise in the Manufacturing Sector GDP for every unit rise in ODA.

Foreign Exchange Rate (FER) and Manufacturing Sector Gross Domestic Product (MGDP)

Further, the ARDL model's long-run estimations showed that the FER had a strong inverse correlation with Nigeria's manufacturing sector GDP over the long-term. The fact that the FER has an unfavourable co-efficient value (-0.044954) and a probability-value (0.0000) that is less than 0.05 proves this. This means that GDP in the manufacturing sector will fall by 0.044954 points in the long run for every one unit appreciation in the exchange rate. an unfavourable impact of the FER on Nigeria's manufacturing sector GDP is evident in the short-run estimates of the ARDL model. The ODA co-efficient value is unfavourable (-0.033958) and the probability-value is less than 0.05 (0.0212), indicating this. This means that in the near term, the Manufacturing Sector GDP will decline by 0.033958 for every unit appreciation in the FER.

Interpretation of CointEq(-1) Result

Also tabulated in Table 5 are the outcomes of the short run dynamic co-efficient linked to the long run correlations as derived from the ECM. There is congruence between the indications of the long run connection and those of the short run dynamic exchanges. With a probability-value of 0.0000 and an estimated error correction co-efficient of -0.796117. this prompted the conclusion that the system recovers from shocks quite quickly, and its sign is accurate. That means that in this year, almost 80% of the disequilibria caused by the shock last year revert to the long run equilibrium.

Interpretation of Adjusted R-Squared (Adj. R^2) Value

Table 4 displays the upshots of the short-run estimates of the ARDL model. The estimated model is well-fitting with an Adjusted R-squared value of 0.637442. This means that the specified variables—trade openness, FDI, ODA, and FER—explain about 64% (R-squared) of the variation in Manufacturing Sector GDP, while other variables and factors outside the model account for the remaining 36%.

Interpretation of Durbin-Watson Statistic Value

Finally, the Durbin-Watson statistic of 2.567405 is greater than 2, which suggests that serial autocorrelation is not present.

Table 5: Post-Estimation Tests Upshots

Test	Null Hypothesis	Test Type	F-stat.	Prob.
Normality Test	**H_0:** Normal distribution exists	Jarque-Bera Test	5.485415	0.064396
Serial correlation Test	**H_0:** Serial correlation does not exist	Breusch-Godfrey LM Test	2.375937	0.1091
Heteroscedasticity Test	**H_0:** Homoscedasticity exists	Breusch-Pagan-Godfrey	1.125116	0.3996
Functional form Test	**H_0:** Model is stable	Ramsey RESET	0.366481	0.5525

Source: *Computed by the Author (2025), E-views 12.0*

The model is normally distributed, as evidenced by the Jarque Bera (Normality) test result in Table 5. The Breusch-Godfrey Serial Correlation LM test upshots indicate that the model does not have a serial correlation issue. Additionally, the Breusch-Pagan-Godfrey heteroskedasticity test result indicates that pertinent variables were not excluded. Furthermore, the model is properly defined according to the Ramsey RESET test result. This provides further evidence that the functional form of the model is correct. Therefore, the estimated results are deemed reliable and suitable for policy recommendation.

Discussion of Results

The study has empirically determined the impact of economic globalisation on the performance of the manufacturing sector in Nigeria. Initially, the Manufacturing Sector GDP in Nigeria is substantially and favourably impacted by trade openness. This finding is consistent with the upshots of Agu, Nnaemeka, and Nneka (2016), who asserted that trade openness is one of the economic globalisation indicators that substantially and favourably influences the growth of the Nigerian manufacturing sector. Additionally, the Manufacturing Sector GDP in Nigeria is substantially and favourably impacted by FDI. Agu, Onah, and Okoroafor (2022) also found that FDI has a substantial outcome on economic growth, which is consistent with this discovery. Additionally, the GDP of the Manufacturing sector in Nigeria is favourably and substantially influenced by ODA. Consequently, it is possible to infer that the manufacturing sector in Nigeria is substantially and favourably impacted by ODA. This outcome is consistent with Cookey's (2023) assertion that the manufacturing sector in Nigeria has experienced substantial improvements as a result of ODA. Lastly, the Manufacturing Sector GDP in Nigeria is substantially and adversely affected by the FER. Consequently, it is possible to infer that the manufacturing sector in Nigeria is substantially but inversely impacted by the FER. Odebode and Aras (2019) have demonstrated that the FER has a detrimental outcome on Nigeria's manufacturing output. This discovery is in accordance with their research.

Conclusion

Utilising data for 1985 to 2023, this study has assessed the impact of economic globalisation on Nigeria's manufacturing sector. The study's results indicated that the trade openness, foreign direct investment, official development assistance and foreign exchange rate, which are economic globalisation variables, have a substantial impact on the GDP of the Nigerian manufacturing sector. The study therefore concludes that economic globalisation embodies critical factors in the enhancement and improvement of the Nigerian manufacturing sector performance.

Recommendations

Following the research outcomes, the suggested way forward of this study are:

1. The Nigerian government and policymakers should develop and execute policies that encourage more openness as this will spur diversification of the manufacturing sector, encourage the sector's competitiveness and enhance the domestic currency's exchange value with relevant support for key industries with export potential, likewise the provision of incentives for businesses to penetrate new markets.
2. In an effort to attract FDI in strategic sectors of the manufacturing industry, the Nigerian government and policymakers should establish and execute policies. This could entail the establishment of special economic zones that provide favourable conditions for foreign investors, the reduction of bureaucratic obstacles, and the provision of tax incentives.
3. A portion of ODA funds should be allocated by the government to support designated industrial development programs.

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