Globalization and the Industrial Sector Performance: The Nigeria Experience

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ABSTRACT: *Globalization is said to be a hallmark for modern economic growth and development. Since 1970, the volume of world trade has grown by around 7% yearly. The Nigerian industrial sector after experiencing boom in the first two decades after Nigeria's independence, has suffered from low productivity afterwards. Therefore, this study examined the impact of globalization on Nigeria industrial sector performance from 1986 - 2017. The study utilized secondary data from the Central Bank Statistical Bulletin (CBN), and National Bureau of Statistics (NBS). The data were analyzed using Ordinary Least Squares (OLS), Error Correction Model, ADF Unit root test, Johansen Co-integration test, Cholesky variance decomposition test. The findings of this study show that "free-trade" which came as a result of globalization has a not impacted Nigeria industrial output enough to trigger economic growth and also, that Nigeria depends so much on imported products which have made the industrial sector weak and unable to compete with her foreign counterparts. The study also revealed that globalization has led to the stagnation of Nigeria's Manufacturing index. This implies that the cost of globalization for Nigeria have outweighed its benefits, hence; the study concluded that globalization has done more harm than good to Nigerian economy. The study recommends that Nigeria should put in place an industrial policy which should create enabling business environment within the country by providing incentives to manufacturers, ensuring regular and uninterrupted power supply as well as promoting agriculture.*

KEYWORDS: globalization, industrial sector performance, Nigeria economy, economic policy. industrialization
JEL classification: F60, L16, O14,

INTRODUCTION

The process of globalization has been going on for decades, but it has considerably accelerated since the end of the Soviet Union in 1991 (Axford, 2013). UNIDO (2015) described

globalization as a concept and process involved in the interaction and integration between people, companies, economies and governments of different nations. Obadan (2009) connoted that globalization is a powerful aspect of the new world system and it represents one of the most influential forces in determining the future course of the planet. However, according to World Bank (2016) report, globalization has manifold dimensions; economic, political, security, environmental, health, social, cultural, and other factors that are very instrumental in developing the world economy linkage.

Beglaryan (2011) emphasized that globalization has significant impact on all economies of the world, with manifold effects especially on their production of goods and services, employment of labour and affects investment both in physical and human capital perspective resulting in the diffusion of technology, ensuring efficiency, productivity and competitiveness from one nation to other. According to Cohen & Kharas (2018) the elements of globalization include trans-border capital, labour, management, news, images, and data flows. Tehranian (2008) described the main engine of globalization as the Trans-national Corporations (TNCs), Intergovernmental Organizations (TMOs), Intergovernmental Organizations (IGOs), Non-governmental Organizations (NGOs), and Alternative Government Organizations (AGOs). In the vein Ogboru (2012) connoted that globalization results to uneven distribution of benefits and losses on economic growth of emerging economies and that the Nigeria's situation is not quite different.

However, globalization and industrial performance are two interrelated concepts, this is because the industrial sector is the fulcrum of Nigeria economy and it needs globalization to connect and export her locally produced goods to the other countries abroad (Schwab, 2018). As perceived by Todaro (2010), industrial sector is one of the most reliable means of raising the country's standard of living because the process encourages growth of large scale machine production (i.e mechanization) and the factory system. Ojo & Ololade (2014) defined it as a process of setting-up such organization, especially by the introduction of manufacturing industry in countries and regions where people are engaged mostly in agricultural activities. He further stated that a country's industrial sector could be said to be performing well when the following issues are given proper attention; first is to find out whether industries should be large or small scaled, second is the choice of technique - whether capital or labour intensive, third issue considers who should be responsible for the industrialization effort - whether expatriate or indigenes, while the fourth issue is the choice of an appropriate strategy. Ojo & Ololade noted that besides these aforementioned issues, one other consideration is the contribution of the manufacturing industries to the Gross Domestic Product (GDP).

Ekpo (2014) emphasized that despite all the efforts of the government to kick-start and sustain rapid industrialization in Nigeria; attainment of required level of industrialization that can produce the much needed dynamic change in the economic structure of Nigeria with attendant substantial benefits trickling down to the people has remained an up-hill-task. For over four decades now, economic indicators of level of industrialization in Nigeria are unimpressive. Nigeria's industrial sector has been characterized by high import content of industrial inputs, dwindling capacity utilization, high cost of production, low value added, declining output growth, low employment generation and inadequate linkages with other sectors of the economy (Felix & Emmanuel 2015).

The annual growth rate of industrial sector as a percentage of GDP is marginal compared to what is obtained in many countries, even countries like Singapore, Malaysia, Indonesia and South Korea which were at the same level of development with Nigeria in the 1960s and the early 1970s (Ogbu 2012). The contribution of manufacturing to GDP has been declining instead of increasing. The Central Bank of Nigeria CBN (2018) lamented that Nigeria's industrialization is still at rudimentary level because the share of manufacturing sub-sector output in GDP which was 76.6% in 1975 reduced to 38.3 % in 1985 and 32.4% in 1998 and its downward trend has continued. The industrial production index has been on declining state, in 1987 it was 17.95%, in 1988 it reduced further to 14.5% while in 1990 it was 6.3%, and in 1991,1992 and 1993 it was 4.5%, -1.9% and -5.0% respectively. This justifies the reason for the investigation of the contribution of globalization to our industrial sector performance (Usman, 2011). Therefore, the question of interest extends beyond the impact of globalization on the performance of Nigeria Industrial sector alone, it also dwells on whether industrial output, degree of openness, total savings, net foreign capital flow, inflation rate, exchange rate stimulates economic growth in Nigeria?

The lagging problem that is embedded with Nigeria industrial sector is that of low capacity utilization, this is more evident in the manufacturing sector (World Economic Forum (WEF), 2018). The current rapid and unprecedented wave of globalization instilled a renewed hope and greater expectation that the economic woes of the African countries would be obliterated within the short run because of the tremendous increase in prosperity that globalization has brought to many nations (Ifionu & Omojefe 2013). Nevertheless, the problem aggravated the more and became more obvious especially the case of Nigerian economy, whereby globalization instead of improving the existing situation, it consolidated the existing international division of labour which confines Nigeria to a role of supplier of raw materials and commodities, consumer of manufactured goods from developed countries (Desai, Raj & Homi 2017). This had led to the elimination of Nigeria from the role of defining her economic development path (Nwaolisa, Kasie & Egbunike 2013). The ability of the government to regulate the economy was further eroded due to the adoption of open market system through globalization. McKenzie & David (2017) rightly noted that despite the economic globalization policies introduced in Nigeria as dictated by IMF, World Bank and World Trade Organization (WTO), the utilization capacity of the industrial sector especially the plastic firms in Nigeria today is still low. This is the lasting effects of the rapid and unparalleled wave of globalization that the country experienced in the early 80's and late 90's and we are still experiencing same, today (Ebong, Udoh, & Obafemi, 2014).

Khor (2010) stated that globalization favours one side of the world called 'stronger countries' more than the other side of the world called 'weaker countries'. Nigeria has found herself to be among this 'weaker countries'. He emphasized that globalization is what the third world (developing) countries have for several centuries called "colonization". However, the malfunctioning of industrial sector in a country is widely seen as a major handicap in improving a country's economy and it's pushing many governments to encourage or enforce industrialization through globalization (Anyanwu, Offor, Adesope & Ibekwe, 2013).

Admittedly, one of the problems bedeviling the Nigeria economy is that of output quality inconsistency from its industrial sector of the economy, this is why Canning, David, Sangeeta

Raja, and Abdo (2015) noted that the decay in the manufacturing sector is the result of diverse factors that conspire to render many industries comatose in most African countries especially Nigeria. The Nigerian Textile Manufacturers Association (NTMA) (2009) reported the closure of about 28 textile companies in Nigeria between 1985 and 2009. It is pertinent to note that the impact of globalization on the industrial sector performance have not helped to boost the Nigerian economy, available data show that the bulk of national income was from exports of primary agricultural products in the 1st and 2nd decades following Nigerian Independence and that the share of agriculture in Gross Domestic Product (GDP) was about 63% and about 80% of export earnings of the country came from agriculture before Nigeria adopted globalization (Amakom 2012). Current statistics show that the level of industrial activities in the country is lower. The major factor bedeviling globalization and industrial sector performance is lack of fund to acquire the best technological equipment's, inadequate power supply, lack of manpower and proper technical know-how/skills, lack of adequate training of workers, limitations in handling material recycling, lack of pollution control equipment, inadequate choice of technology and poor environmental management system. The negligence of these technologies has caused havoc to the business environment in Nigeria (Ajudua & Okonkwo 2014).

The agricultural sector contributed 32% to GDP in 2001, this declined to 20.85% in 2017 despite the initiation of several agricultural policies/projects and programmes to enhance agricultural productivity in Nigeria; the establishment of River Basins and Rural Development Authorities, the Agricultural Development Programmes (ADP), over 20 Agricultural Research Institutes, Operation Feed the Nation (OFN), Green Revolution, presidential initiatives in 2004-2005, prominent among which was the cassava projects, the 7-Point Agenda with emphasis on Food security, and the Agricultural Transformation Agenda of the Goodluck jonathan Admistration. Despite all the aforementioned policies and programmes, the performance of the Agricultural sector in Nigeria is abysmal in terms of product contribution, factor contribution, market contribution and foreign exchange contribution as well as rising value of food import (Ehigiamusoe, 2012).

The above statistics has proved that in the face of globalization the industrial sector has continued to face more output downturn when compared to the era before globalization. Going forward the recent administration enforced the use of local materials by encouraging import substitution industrialization.

However, the tightening of imports led to reduction in raw materials for industries forcing many local industries to operate below capacity, reduction of workers and in some cases business closure. In view of the mentioned problems, this paper outlines the following research questions, does globalization promote economic growth in Nigeria? Does it have significant long run relationship with industrial sector performance? And what is the impact of globalization on the industrial sector output in Nigeria?

THE LITERATURE

The theories of international trade began with the work of Adam Smith and provide support for the economic globalization construct. Smith (1776) in his book The Wealth of Nations set

forward the idea of a nation trading with a foreign country for the commodities which could be produced cheaper in the foreign country. For Smith, payment for these goods would be supported with goods produced more efficiently and less expensively in the home country. Thus it doesn't in itself provide the theoretical support required for the economic globalization construct. Therefore, the more recent work of Aluko (2008) and Adenikinju (2013) is referenced for a more generalized international trade theory. Aluko expanded the basic Ricardian theory of comparative advantage to model either 2-country, many commodity cases, or a many-country, 2 commodity case. But it wasn't until Adenikinju (2013) work that the model was extended to include intermediate inputs and trade. Acs (2014) extended this later version of Ricardian theory to allow for the inclusion of trade costs in international trade. These later models accommodated trade in intermediate inputs; trade costs provide necessary support for the economic globalization construct. Andre (1972) theory of the development of the underdevelopment warned the underdeveloped countries to be cautious in welcoming globalization ignorantly to avoid losing out instead of gaining. He emphasized that globalization when misguided could be detrimental to the underdeveloped and some developing economy's industrial sector output.

Dreher (2016) posits that the concept of globalization is in three dimensions which is economic, social and political. This study is concerned with the economic dimension of globalization. According to Jelilov, Gylych, Onder and Evren (2016), the process of globalization can be specified by referring to different forms of change or industrialization linked to economic processes or activities that influence industrial output. He also noted that globalization deals with the establishment of more efficient technology use in the industrial sector production process. However, the challenges for developing countries making efforts to transit to developed countries are greater today than ever before. Globalization, with its power to reach across national boundaries and into the smallest communities, carries with it the transformative power of new markets and new technology. At the same time, globalization brings with it new ideas and lifestyles that can conflict with traditional industrial norms and values if not well utilized. And while the economic benefits are potentially enormous, the actual course of globalization has not been without its critics who charge that, to date, the gains have been very unevenly distributed, generating a new set of problems associated with rising inequality and social polarization. Regardless of how the globalization debate is resolved, it is clear that as broad global forces transform the world in which the next generation will live and work, the choices that today's developing countries make will facilitate or constrain the success of their economy. Omoyibo and Ajayi (2011) succinctly stated that the process of globalization has been connected to industrialization and in recent times, led to increased international competition and in world trade which should open up for more customer niche for indigenous industrial product.

As highlighted in Uwatt (2008), Nigeria is regarded to have the largest economy in Africa. Unfortunately, in the last four decades there has been little or no progress realized in improving the industrial sector performance in Nigeria despite the massive efforts made through the numerous programs established for that purpose. The gain from the adoption of globalization in Nigeria economy is still questionable. This is because globalization is supposed to open up the economy to the outside world and influence sales of locally made goods thereby improving both Nigeria industrial sector production and strengthening our exchange rate. Admittedly the

Nigerian economy was basically agrarian during the first two decades following Nigeria independence. The relative share of agriculture including livestock forestry and fishing in the GDP, which was 65.6% in 1960/1961 declined sharply to about 32% per annum in the 1990s. The sector constitutes the source of employment and livelihood for about three-quarters of the population. Up till the early 1980s Nigeria has reasonably amount of foreign reserve with insignificant record of foreign debt. Its currency, the Naira, was competing strongly with other foreign currencies by mid 1980s; the economy started declining as foreign reserves becomes almost exhausted. Also foreign debt started accumulating at an alarming rate while the Naira lost its value relative to other currencies (Jhinghan 2008).

Globalization has various usages and ideological applications irrespective of the on-going controversy and a measure of ambiguity in its use as stressed by Aina (2016), globalization often depicts the transformation of the industrial sector. Globalizations as documented by Gondwe (2011) have enriched the world scientifically, culturally and to have benefited a large number of people economically. Nigeria economy is yet to benefit maximally from the adoption of globalization since 1986. Despite Gondwe observing that the increasing and unparalleled wave of globalization have led to much better products, much lower costs, enormous increase in productivity and great improvement in global quality of life and welfare. Todaro and Smith (2011) is also of the opinion that the concept of comparative advantage that globalization is supposed to be accosted with have not been fully felt in the Nigeria industrial sector output.

Scholarly work about globalization suggests that there is no single theory or definition on globalization. It has become a multidisciplinary, multidimensional phenomenon in the academic discourses of 21st century. In this scenario, this paper has made an attempt to summarize major theoretical perspectives of globalization in order to understand it from wider but simplistic means. World culture theory of globalization was developed by Frank Lechner and it focuses on the way in which countries become conscious of the basics and meaning of globalization linking the world as a single place through industrial activities. This theory is often referred to as the neo-institutionalist theory of global isomorphism. According to Adenikinju, (2013) World culture theory is notable to in current debates because of its contribution towards a vast majority of industries in countries that adopted globalization. Dreher (2016) noted that the fundamental concern of globalisation regarding world culture theory has to do with comparative scholars participating in the industrial reformation of the globalized countries. This will lead to industrial output if well harnessed and proper polices is put in place. Martell (2010) clearly pointed out the importance of world culture theory to both globalisation and industrial sector performance by his methodological insights underlying epistemic stand point of Japanese economy, which he emphasized, can be attributed greatly to the influence of globalisation. Overall, this paper illuminates and hitherto acknowledges that globalisation plays important role in influencing industrialization via the world culture theory.

Some scholars notably Held, McGrew, Goldblatt, and Perraton, (2011), Holton (2015), and Martel (2010) posits that Heckscher–Ohlin theory builds on David Ricardo's theory of comparative advantage by predicting patterns of commerce and production based on the factor endowments of a trading region. The model essentially says that countries will export products that use their abundant and cheap factor(s) of production and import products that use

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the countries' scarce factor(s). This theory ultimately supports differences in labour productivity using different "technologies". Heckscher and Ohlin did not require production technology to vary between countries, and emphasizes that there should be identical production technology to boast industrial output. The theory considered a single factor of production and would not have been able to produce comparative advantage without technological differences between countries (Edward & McChesney, 2014).

According to Kankwenda (2014) the theory compensates for the uneven geographic distribution of industrial productive resources noting that exchange of commodities internationally is therefore indirect factor arbitrage, transferring the services of otherwise immobile factors of production from locations where these factors are abundant to locations where they are scarce. Under some circumstances, this indirect arbitrage can completely eliminate factor-price differences. Perhaps the most important implication of the Heckscher-Ohlin theory is that the option to sell factor services externally transforms a local market for factor services into a global market. As a result, the derived demand for inputs becomes much more elastic and also more similar across countries. This supports the course of the study since the study is focused on identifying the impact of globalization on the industrial output in Nigeria (Jaja 2010).

Empirical review
Empirically, exact study on globalization and industrial sector performance is scanty but numerous studies are closely related to this, they include; Parisa and Hashem (2014) in Egypt, Samimi and Jenatabadi (2014) and Chang and Lee (2010) in Austria and Korea, Gourdon (2011) in Argentina, Oyvat, (2011) in Turkey, Gu and Dong (2011), Sun and Heshmati (2010) in China and Jafari (2011) in Japan. Among the factors that were discovered about globalization and economic growth includes; it improves income and total factor productivity as in Argentina, domestic investment demand and relative price of export as in Egypt, and GDP per capita and access to international trade finance in Turkey. Empirical studies on the effect of globalization on Nigeria economic growth most times reveal negative impact while that of Korea, China, Cyprus, and Argentina reveal a positive impact on their economic growth. For instance, Hassan (2013) contends that globalization has only provided opportunity to the developed countries to exploit Nigeria through use of their comparative advantage to increase their share in trades between Nigeria and the world. On the other hand, Goyal (2006) hints that globalization develops the developed countries and under-develops the underdeveloped countries.

Ifionu et al., (2013), Nwaolisa et al., (2013) and Oke et al., (2012) indicated the negative and declining impact of globalization to Nigeria's economic growth. Canning, et al., (2015) lamented the Nigerian industrial sector quality inconsistency as a factor that has made it the contribution of globalization not visible. Ajudua et al., (2014) claimed that the share of agriculture to Nigeria Gross Domestic Product (GDP) was higher in the first two decades before globalization was adopted. However, Amakom et al., (2012) was in agreement with the submission of Ajudua and Canning above. This study is part of the series of studies in globalization going on in developing countries to provide clue to contending issues and fill some research gap.

Numerous studies exist in conformity with this research examining the effect of globalization and industrial sector performance of the Nigerian economy. This study however reviews the various studies that relates to the effect of globalization and the industrial sector performance of the Nigerian Economy from 1986 to 2017. Oke and Adeusi (2012) in their study showed that there is a long run relationship among the variables. The results of the short run error correction model revealed that industrial sector performance in lieu of globalization reduced economic development in Nigeria during the period. Ifionu et al., (2013) empirically took a study on globalization and diffusion of economic indicators and their study revealed that globalization has negative effect on the Nigeria industrial sector performance both in the short run and in the long run. The study found that globalization has positive but insignificant effect on economic growth in Nigeria. Nwaolisa et al., (2013) in their study proved that there is no causal empirical relationship between globalization and economic growth in Nigeria. Oke (2012) showed in his study that globalization and the Nigerian industrial sector have empirical positive effect on the development of Nigeria economy in the short run but negative effect on the sector in the long run. Victor, Kenechukwu and Richard (2013) study showed that globalization has positive relationship with industrial sector development in Nigeria.

Tade (2008) noted that it's very crucial for a country to fully utilize its factor endowment and to depend less on foreign, finished goods or raw material for its economic growth, development and sustainability. Miller & Upadhyay (2015) lamented the neglect and mal-administration on the part of successive military and civilian government coupled with corruption and indiscriminate policy reversal has all conspired to render the manufacturing sector comatose. He insisted that the production sector is in crisis as its average contribution to the Nation's Gross Domestic Product over the past few years has not gone below 5%. Olayiwola & Ogundiran (2014) pointed out that government after government have failed to pursue policies that could create a vibrant rail sector with the result that the impact of the manufacturing sector has steady declined over the years and it contributes to national growth and development has been disapprovingly low.

Todaro (2010) is of the view that poor and inefficient electricity supply hinders industrialization process. Tuoyo (2008) established the existence of a positive relationship between electricity consumption and economic development. Ekpo (2009) elaborated on the folly of running a generator economy and its diverse effect on investment. Aigbokan (2009) argued in this paper that fixing the energy sector is tantamount to shifting the country's economy. Adenikiinju (2013) provided a strong argument to support the importance of power supply. The poor nature of electricity supply in Nigeria, his argument has imposed a significant cost on the industrial sector of the economy. This result corroborates the survey of the Manufacturer Association of Nigeria (MAN) 2005. In that survey, MAN indicated that the cost of generating power constitutes more than 36% of production.

However, this study contributes to the current debate but differs from the previous studies by using a fairly large period of time (1986 - 2017) in analyzing the effect of globalization on industrial sector performance in Nigeria. In addition to an extended period of time used, this study also adopted recent modern estimation techniques such as Johansen Co-integration test, ADF Unit Root test, Variance Decomposition test in it analysis.

METHODOLOGY

The study adapted and modified Emmanuel and Osmond (2014) framework and employed econometric techniques using the OLS method to estimate the relationship between globalization and economic growth for the period 1986 – 2017. The model used in the study is specified as: INO = f (DOP, TSV, FCF, INF, EXR). Where, INO represent the industrial output, DOP represents the degree of openness, TSV represents total savings, FCF represents net foreign capital flow, INF represents inflation rate and EXR represents exchange rate.

The representation of the econometric form of the model is summarized as a functional relationship below:

INO = f (DOP, TSV, FCF, INF, EXR) Stating the relationship mathematically, we get.

$INO = \beta_0 + \beta_1 DOP + \beta_2 TSV + \beta_3 FCF + \beta_4 INF + \beta_5 EXR > 0$

Where; β_0 is the constant intercept which shows the level of INO, when the explanatory variables DOP, TSV, FCF, INF and EXR are zero. Industrial output (INO) is the dependent variable in this study and dependent on DOP, TSV, FCF, INF and EXR. This means that DOP, TSV, FCF, INF and EXR are the independent variables and therefore determine the behaviour of the INO.

Stating the relationship in an econometric model, it becomes;

$INO = \beta_0 + DOP + TSV + FCF + INF + EXR + Ui$

From the infusion, it becomes an econometric model. Ui is the stochastic error term or disturbance variable. It takes care of other variable that influence the dependent variable (INO) not stated in the model. It therefore has the following assumptions guiding its behaviour, they include; assumption of zero mean, assumption of correct aggregation, assumption of randomness, assumption of homoscedasticity and assumption on normality (Koutsoyiannis, 2003).

RESULTS

This commenced with the ADF Unit root test and this is followed by the Johansen co-integration test, diagnostic checks, and the variance decomposition test concludes the estimation.

Summary of OLS results

Dependent Variable: LNINO				
Method: Least Squares				
Sample: 1986-2017				
Variable	Coefficient	Std.Error	t-Statistic	Prob.
DOP	-1.341122	0.504019	-2.660856	0.0132
INF	-0.003495	0.004475	-0.780959	0.4419
LNFCF	0.043411	0.076234	0.569447	0.5739
LNTSV	0.578004	0.076307	7.574701	0.0000
LNEXR	0.397473	0.085123	4.669415	0.0001
C	5.902511	0.668209	8.833332	0.0000

Source: Author's Computation using e-view software version 10.0

$R^2 = 0.977$

Adjusted $R^2 = 0.973$

Prob(F-statistics) 0.000000

Degree of Openness shows a negative relationship with coefficient value of (-1.341), but it is statistically significant in explaining changes to industrial output. This in turn reduces the performance of domestic industries within the economy thereby leading to reduction in exportation of goods and services, and as such, a 1% change in degree of openness will lead to a fall of (1.341%) fall in industrial output. Inflation rate result shows that inflation rate shows a negative and insignificant relationship with economic growth. This conforms to theoretical postulations because people would desire to invest rather than save during high inflationary periods. As a result, a 1% increase in the rate of inflation will lead to 0.003 decreases in the level of economic growth. Foreign capital Inflow shows a positive but insignificant relationship to industrial output. This implies that although foreign capital inflow contributes positively to industrial output, but it is not significant to cause any major transformation to the performance of the industrial sector. Thus, a 1% change in foreign capital flow will lead to 0.04% increase in industrial production the flow of capital from abroad contributes more to the domestic economy when there is favourable rate of exchange that will engender increase in profit in the economy.

Total Savings shows a positive and significant relationship to industrial output. This implies a 1% change in total savings will lead to 0.57% increase in industrial output. Harrod (1939) and Domar, (1946) provided a logical reason that growth of an economy is engendered by high level of capital accumulation (savings). Exchange rate shows a positive and significant relationship to industrial output. This implies that a 1% change in exchange rate will lead to 0.39% increase in industrial output.

Summary of ADF unit root test result

Variables	ADF Test Statistics	Mackinnon Critical Values			Order of Integration	Phillip-Peron Test Statistics	Prob*	Order of Integration	Remark
		1%	5%	10%					
DOP	-8.895885	-4.273	-3.557	-3.212	I (1)	-8.880062	0.0000	I (1)	Stationary
EXR	-4.964784	-4.273	-3.557	-3.212	I (1)	-4.964343	0.0018	I (1)	Stationary
FCF	-11.31293	-4.273	-3.557	-3.212	I (1)	-12.68491	0.0000	I (1)	Stationary
INF	-5.436902	-4.284	-3.562	-3.215	I (1)	-10.61478	0.0000	I (1)	Stationary
TSV	3.190627	-3.737	-2.991	-2.635	I (1)	-3.630777	0.0428	I (1)	Stationary
INO	4.252669	-4.309	-3.574	-3.221	I (1)	-15.81117	0.0000	I (1)	Stationary

Source: Author's computation using e-view software version 10.0

The result of the ADF unit root test indicates that all the variables were originally non-stationary but became stationary after the first difference was taken. This thus permits us to proceeds to the next stage which is the co-integration test.

The Johansen methodology which has the advantage over other co-integration techniques was used to test for the long-run relationship among the variables. A key advantage is that it allows for more than one co-integrating equation. The result of the Johansen co-integration test is shown in the table 4.1.3 below

Johansen Co-integration test (unrestricted Co-Integration Rank Test)

Hypothesized No. of CE(s)	Eigen-value	Trace Statistics	0.05 Critical value	Prob. (**)
None*	0.788654	117.3899	95.75366	0.0007
At most 1*	0.726735	73.87069	69.81889	0.0229
At most 2	0.49563	37.54589	47.85613	0.3222
At most 3	0.330654	18.38123	29.79707	0.5381
At most 4	0.159347	7.140505	15.49471	0.5614
At most 5	0.078214	2.280369	3.841466	0.1310
Unrestricted Co-integration Rank Test (Maximum Eigen Value)				
Hypothesized No. of CE(s)	Eigen-value	Trace Statistics	0.05 Critical value	Prob. (**)
None*	0.788654	43.51920	40.07757	0.0197
At most 1*	0.726735	36.32480	33.87687	0.0250
At most 2	0.495634	19.16466	27.58434	0.4019
At most 3	0.330654	11.24072	21.13162	0.6233
At most 4	0.159347	4.860136	14.26460	0.7594
At most 5	0.078214	2.280369	3.841466	0.1310

Source: Author's Computation using e-view software version 10.0

From the trace statistics, a long-run relationship exists between the variables. This is because the prob. (value) for the two co-integrating equations is less than 0.05. The same holds using the Maximum-Eigen value, which implies that there exist one co-integrating equation and there exist a long-run relationship between the variables being specified. The result from both the trace statistics and Max-Eigen statistics indicates two co-integrating equations. This result suggests a long run relationship among the variables.

Variance Decomposition results

Variance Decomposition of LNINO:

Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	0.209467	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
2	0.260233	71.25419	0.031886	0.580375	0.217083	8.509568	19.40690
3	0.310370	50.79209	11.00712	0.530977	5.817509	6.183101	25.66921
4	0.356823	41.72354	13.72022	1.487883	5.135639	7.786841	30.14588
5	0.391666	35.06441	11.73859	1.342530	7.533223	7.292901	37.02834
6	0.420863	30.99485	10.39168	1.433039	9.959657	6.750224	40.47055
7	0.448313	27.80311	9.188673	2.208189	10.96919	6.471014	43.35982
8	0.472842	25.15254	8.363278	2.883227	11.17528	5.896826	46.52885
9	0.493893	23.15693	7.705361	3.456102	11.12260	5.406898	49.15211
10	0.512712	21.62316	7.150109	4.150596	10.77717	5.023922	51.27504

Variance Decomposition of DOP:

Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	0.129394	0.408114	99.59189	0.000000	0.000000	0.000000	0.000000
2	0.134857	0.779985	93.59608	3.704515	0.308652	0.121461	1.489311
3	0.154202	0.685503	85.00935	11.27444	0.366943	0.859531	1.804229
4	0.162369	1.392833	79.64236	12.71146	0.867845	3.014489	2.371016
5	0.167948	2.536703	75.39100	12.42691	2.623864	4.762386	2.259135
6	0.170402	3.285901	73.49254	12.08544	3.449766	5.352249	2.334097
7	0.171774	3.566605	72.94425	11.98225	3.599843	5.290012	2.617039
8	0.173619	3.664344	72.32476	12.13977	3.557627	5.392976	2.920527
9	0.175765	3.683818	70.93465	12.33607	3.854160	6.001844	3.189458
10	0.177981	3.692109	69.21240	12.39831	4.647721	6.781720	3.267736

Variance Decomposition of INF:

Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	11.09646	0.069057	12.11458	87.81636	0.000000	0.000000	0.000000
2	14.81418	7.228907	27.69502	56.02648	0.043924	6.454171	2.551501
3	16.96816	11.87513	23.63486	42.79500	6.307709	11.53304	3.854269
4	18.01576	13.16343	22.87445	38.16451	8.424196	11.63231	5.741106
5	18.41732	12.98433	23.91736	36.88443	8.446950	11.13090	6.636033
6	18.90240	12.47262	24.56568	36.26372	8.164055	11.17726	7.356666
7	19.43058	11.89935	23.89537	35.45660	8.400298	12.27940	8.068986
8	19.88966	11.49902	22.81380	34.55114	9.476073	13.43041	8.229566
9	20.23909	11.24012	22.32007	33.61757	10.65664	14.05492	8.110688
10	20.48258	11.10210	22.57539	32.83855	11.38876	14.16915	7.926048

Variance Decomposition of LNFCF:

Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	0.956008	5.741900	4.133979	8.508718	81.61540	0.000000	0.000000
2	1.031732	6.932446	3.632534	7.364116	71.88075	9.890846	0.299314
3	1.087862	8.319918	4.723545	8.638556	67.06542	8.907130	2.345433
4	1.108384	9.072395	4.565120	8.373263	65.53626	8.687188	3.765775
5	1.145382	9.805993	4.277707	9.509046	61.60554	8.210905	6.590808
6	1.179161	9.570196	4.805869	9.966855	58.21548	7.980454	9.461149
7	1.200680	9.354205	4.651467	10.03943	56.20769	8.618148	11.12906
8	1.219312	9.395474	4.660980	10.38696	54.79668	8.755714	12.00420
9	1.232456	9.363049	4.800513	10.43198	53.86552	8.808255	12.73069
10	1.240341	9.361467	5.145817	10.33506	53.28032	8.816799	13.06053

Variance Decomposition of LNTSV:

Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	0.140607	0.005942	25.51850	0.000439	1.890323	72.58480	0.000000
2	0.217029	6.882374	16.91566	0.112757	22.46688	53.46136	0.160964
3	0.303753	10.30353	20.64001	0.786698	33.05652	34.98175	0.231493
4	0.363864	13.73710	23.51723	0.972171	33.43502	27.67571	0.662768
5	0.407485	16.90987	26.33564	0.991179	31.57689	22.81916	1.367255
6	0.435299	18.22712	26.46486	1.195448	31.06142	20.15541	2.895736
7	0.455572	18.16168	25.74739	1.689540	30.60199	18.51604	5.283355
8	0.473167	17.62971	24.58607	2.129618	30.07247	17.24855	8.333582
9	0.489074	16.90593	23.28177	2.460554	29.63324	16.22031	11.49818
10	0.504545	16.06445	21.94158	2.737253	29.27131	15.35122	14.63418

Variance Decomposition of LNEXR:						
Period	S.E.	LNINO	DOP	INF	LNFCF	LNTSV	LNEXR
1	0.326549	8.459797	0.351918	7.104203	0.098512	0.000332	83.98524
2	0.478590	11.12413	1.031389	6.993686	0.391765	3.817165	76.64186
3	0.590815	14.04487	1.850867	11.31481	0.263532	3.185522	69.34040
4	0.664134	13.45459	1.494237	13.60464	0.636899	3.101722	67.70792
5	0.706524	12.53462	1.617320	13.25178	0.745418	4.103346	67.74752
6	0.734907	12.31866	2.880335	12.96204	0.831964	4.282838	66.72417
7	0.755929	12.20050	4.292182	12.59035	0.811096	4.088060	66.01781
8	0.769921	12.09968	5.255609	12.18780	0.811411	3.942164	65.70334
9	0.781347	12.01523	6.001437	11.84288	1.000646	3.909384	65.23042
10	0.791056	11.91835	6.271077	11.56812	1.358301	4.014604	64.86955

Source: Aurthur's Computation using e-view software version 10.0

The result indicates that industrial output in the short-run explained about 100 percent of changes in itself in the first period which reduced to 21 percent in the last period. Shocks to industrial output explained 0 percent of changes in the degree of openness in the first period which increased to 7 percent in the last period. Shocks to industrial output explained 0 percent of changes in inflation in the first period. This increased to 4 percent in the last period. Shocks to industrial output explained 0 percent of changes in foreign capital flow in the first period. This increased to 10 percent in the last period. Shocks to industrial output explained 0 percent of changes in total savings in the first period. This increased to 5 percent in the last period. Shocks to industrial output explained 0 percent of changes in exchange rate in the first period which increased to 51 percent in the last period.

Shocks to degree of openness explained 0.4 percent of changes to industrial output in the first period. This increased to 3.6 percent in the last period. Shocks to inflation rate explained 12.1 percent of changes in degree of openness in the first period. This increased to 22.5 percent in the last period. Shocks to foreign capital flow explained about 8.5 percent of changes in inflation rate in the first period. This increased to 10.3 percent in the last period. Shocks to total savings explained 1.89 percent to changes in foreign capital flow in the first period. This increased to 29.2 percent in the last period. Shocks to exchange rate explained 0 percent in total savings in the first period. This increased to 64.8 percent in the last period.

Diagnostic Checks results

JARQUE-BERA			
Jarque-Bera	0.585	Probability	0.746
BREUSCH-GODFREY SERIAL CORRELATION LM TEST			
F-Statistics	3.199	Probability	0.0586
WHITE HETEROSCEDASTICITY TEST			
F-Statistics	0.264	Probability	0.9281

Source: Aurthur's Computation using e-view software version 10.0

The Jarque-Bera normality test result indicates that the residuals are normally distributed. The result of the Breusch-Godfrey serial correlation LM test indicates that the residuals are not

serially correlated. The white heteroscedasticity test indicates that the residuals are homoscedastic.

From the study results, the constant term is 5.902511, this is the intercept of the regression line indicating the value of Industrial output (IO) if other variables in the equation are held constant. However, the degree of openness which defines the relative openness shows a negative relationship with coefficient value of (-1.341) and is statistically significant in explaining changes to industrial output. This reduces the performance of domestic industries within the economy thereby leading to reduction in exportation; hence, a 1% change in degree of openness will lead to a fall of (1.341%) in industrial output.

Inflation rate shows that a negative and insignificant relationship with economic growth with coefficient value of (-0.003); hence, a 1% increase in the rate of inflation will lead to 0.003 decreases in the level of economic growth. Foreign capital Inflow shows a positive but insignificant relationship to industrial output with coefficient (0.434); thus, a 1% change in foreign capital flow will lead to 0.04% increase in industrial production.

Total Savings shows a positive and significant relationship to industrial output with coefficient value of (0.578); this implies that a 1% change in total savings will lead to 0.57% increase in industrial output. Harrod (1939) and Domar, (1946) provided a logical reason that growth of an economy is engendered by high level of capital accumulation (savings). Exchange rate shows a positive and significant relationship to industrial output with coefficient of (0.397); this implies that a 1% change in exchange rate will lead to 0.39% increase in industrial output. Drawing from the above analysis, we reject Ho and accept H_1 and conclude that globalization has positive and significant relationship with Nigerian industrial sector performance but it does not impact the industrial output positively. From the review of related literature in Section II and the results obtained from the data presented in Section IV, it is evident that globalization has adversely affected Nigeria's industrial sector performance and her ambition to industrialize. This has led to the stagnation of the country's manufacturing index over the years and the incessant closure of firms, especially those in the textile, tyre and manufacturing industries. This explains why the degree of openness which defines the relative openness of the economy to the external sector showed a negative relationship with coefficient value of (-1.341).

CONCLUSION AND POLICY RECOMMENDATION

The findings of this study have shown that the Nigerian economy depends so much on importation and oil revenue which has adversely affected the industrial sector performance. This is because most of the manufacturing firms has shutdown thereby affecting the growth of the manufacturing sub-sector negatively. The study concludes that there is urgent need for Nigeria to reduce her dependence on imported products, support local manufacturers to increase local production that will be sufficient for local consumption and exportation.

Therefore, in order to make the country experience the gain from globalization, the study recommends that the Nigeria Government should embark on import substitution strategies, fight corruption through proper border monitoring, revamp the industrial sector (manufacturing

firms) provide infrastructural facilities and encourage the establishment of small scale enterprises via the easy accessibility to credit facilities from the financial institutions. Also, Nigeria government should drastically improve her industrial policy by putting in place a policy that is both achievable and beneficial to the country. This policy should be an export-promotion one that will encourage the production of exportable products so that Nigeria can have a favourable balance of payment. This can be done through a sincere review of the present policy by the National Planning Commission, the Nigerian Economic Summit Group while corroborating with Manufacturers Association of Nigeria (MAN), the National Association of Nigerian Exporters (ANE), and National Association of Small Scale Industrialists (NASSI).

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