

Trade policies and industrial sector performance in Nigeria 1970 - 2019**Obaji, Samuel Itumo**

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Abstract

The study conducted an empirical investigation on the trade policies and industrial sector performance in Nigeria from 1970 to 2019. This research became necessary due to growth and decay in industrial sector despite various trade policies adopted to enhance the performance of the sector. To obtain the empirical results, various trade policy variables were utilized as explanatory variables. Multiple regression analysis was adopted in the study in which Auto Regressive Distributed Lag (ARDL) model was the major method of analysis. The ARDL bound test was employed to examine the short-run and long-run relationship between the variables under consideration. The ARDL bound test results indicated existence of a long-run relationship among the variables. The results also revealed that custom and excise duty has negative and significant impact on industrial output (IQ) in the short-run but in the long-run it has positive and insignificant influence on industrial performance. The results further indicated that non-oil export has negative and significant influence on the industrial output (IQ) in the short-run as well as in the long-run. And also interest rate has negative and insignificant impact on industrial output both in the short-run and in the long-run. However, the results revealed that trade openness has positive and significant influence on the industrial output growth in the short-run and in the long-run. Also, oil export has positive and significant influence on the growth of industrial output in the short-run and in the long-run. The result further shows that exchange rate has positive and insignificant impact on industrial growth in the short-run and in the long-run. These results imply that any policy instrument that raises custom and excise duty, nonoil export which was used as a proxy for export diversification and interest rate by 1% will lead to a decrease in industrial performance by 52%, 26% and 41% respectively in the short-run while, in the long-run a 1% increase in custom and excise duty will lead to 45% increase and a 1% increase in nonoil export and interest rate leads to 34% and 55% decrease in IQ respectively. It also implies that any trade policy that relies on the use of trade openness, oil export and exchange rate a 1% increase could lead to 36%, 39% and 7% increase in industrial output growth in the short-run and 48%, 52% and 9% increase respectively in the long-run. The study made some recommendations which includes; that government should be cautious when using custom and excise duty in promoting industrial growth as it is observed that any form of tax has distortionary and adverse effect on industrial output performance and therefore, government needs to set her tax to the limit where it will not distort the incentive for investment.. Government should open up her economy for a higher level of free trade to access the inherent benefit of trade to improve the industrial sector.

Key word: Trade policies, industrial sector performance, Nigeria.

Background to the Study

For every economies of the world develop or still developing, progression from income stage seen to be low to a higher income stage depends much on successful trade at domestic, regional and global markets. Trade helps individual and countries to exploit more on the area where they have comparative advantages, thereby encouraging people and nations to specialize in the production of goods and services that they can produce more outputs at the lowest opportunity cost. It helps to increase competition and lowers a domestic and world price that will benefit the consumers by increasing the purchasing power of their earned income. Trade implies that more will be employed across the entire economy (Bela, 2019). According to the World Bank report (2018), trade is important in reducing poverty around the world as nations that implement free trade policies in her international trade tends to grow and develop faster, innovate, increase their productive capacity and pay greater income along with greater opportunities for their people to grow and develop.

With time trade policy or policies are devised by each nation to guide and direct her trade relation within or with other nations. For instance, the objective of Nigeria's trade policy in accordance with Sobho and Lawal (2011) was to encourage more productivity and efficient distribution of goods and services to satisfy the domestic and international market, for the achievement of accelerated economic growth and development. Therefore, Trade Policies may be defined as the rules that guide the exchange of goods and services between buyers and sellers within a nation or between one nation and another nation. By trade policy one is referring to the laid standards, goals, rules and regulations that govern trade relations within and between countries. The policies are peculiar to each nation and are formulated by policy makers of each nation. A country's trade policy target includes taxes or duties imposed on import and exports, inspection, regulation, tariffs and quota (John 2002). According to Inye (2007), the instruments of trade policy such as, the tariff, exchange rate, trade diversification etc are designed in a way that will allow a certain level of protection for domestic industries.

Trade policies are measures using taxes, subsidies, import and export regulations etc to achieve a given outcome. According to Jean-Baptist cited in International Encyclopedia (2015) the notion of trade policy is a trans-disciplinary object that has received a considerable attention amongst different fields of life. Its conceptualization changes according to theoretical development in each of the nurturing disciplines.

Trade policies play many significant roles towards industrial and economic development process that has attracted a great attention from various economic scholars. Many growth theorists and Econometricians have actually developed an important hypothesis on the important role which trade can play in attracting growth across countries. For instance, Smith and Ricardo as cited in Bhatia (2005) contends that by taking a comparative advantage by specializing in production of a given goods or services a country can produce massively the goods they have least opportunity cost and still obtain those ones they cannot produce through trade. In this case, Heckscher and Ohlin rather focused their attention on the use of abundant factor endowment in production to gain through comparative advantage. Balogun (2016) further stated that nations develops their model of industrialization strategies that relies much on the use of trade policies as a means of attaining desired industrial, economic growth and development.

Empirical Review

Many studies have indicated that there is a strong positive impact of trade on economic growth across developed and developing markets. But specifically very little is known about the simultaneous effect of Trade Policy instruments on industrial growth in many parts of the world. Most of the studies in the area focused on the nexus between trade and growth (Geda&Seid, (2015), Goff & Singh, (2014), Were, (2015), Zohonogo, 2014). The empirical evidence from the mentioned researchers shows that there are significant correlation between trade, investment and economic growth at individual country levels. Yet most of the studies do not focus on industrial performance. Even those that focused on industrial output performance produced diverging result.

In line with the two opposing views, Nishimizu and Robinson (2012) attempted to verify the two positions by studying the impact of different Trade Regimes on sector by sector Total Factor Productivity (TFP) growth using Quantitative Framework as a way of evaluating the Neoclassical Theory of trade. The studies were conducted around Korea, Turkey and Yugoslavia with Japan as the corporate in trade matters. The study used descriptive statistics and the result revealed that Trade Regime in the form of substitution has negative relation with Total Factor Productivity. The result from investigation conducted within the purview of Inter-Industry Difference in TFP growth at the two digit level, led them to conclude that a substantial portion of the variation in TFP growth are explained by output growth allocated to output

expansion and input substitution in Korea, Turkey and Yugoslavia was due to their implementation of Free Trade Policy.

Saibu (2011) investigated the effectiveness of Trade Deregulation Policy shock on Sectoral and aggregate output growth using Vector Autoregressive (VAR) Model in the estimation to determine the effectiveness of the policy. The result revealed that implementation of trade openness policy has a negative impact on both Sectoral and Aggregate Output. The result also revealed that Monetary Policy Shock has a significant positive effect on manufacturing subsector, service sector and other industrial sectors.

Indeed, Igbaekemen (2014), result from the study of the impact of Inter-Trade on different industries revealed that the contribution of such intra industry trade in all trades is significant. Thus, as a direct consequence of the increase in international linkage among national product markets, the fields of international trade and industrial organization, which had hitherto evolved separately, started integrating?

Akinyotu (2011) also investigated the relationship between Trade Openness and economic growth using African countries and some East Asian countries. The panel data analysis of the sample of 51 countries drawn from the area between 1980 and 2002 was conducted. The result indicates that only 11 rich and highly trade dependent countries have higher real growth associated with a higher degree of Trade Liberalization Policy. A time series studies conducted on the bases of individual countries revealed that majority of the countries experienced a positive long-run relationship between Trade Liberalization and Growth within the period of the study. Earlier Joffrey (2008) in his empirical studies attempted to clarify a number of issues related to Trade Openness and growth effect debate in consideration of the number of sector specialization indicators and sought to find whether there is link between liberalization and growth using both cross-sectional and panel data technique. The result revealed that both of them have significant link.

The theoretical foundation of the study of the impact of custom and excise duties on economic growth like other forms of tax revolve mainly around endogenous growth model's proposition that government spending and tax policies can have a long-run growth effect. The endogenous growth theory advocates the stimulation of level of growth rate of per capita output through economic policies such as tax policies. Taxes could alter economic policy decisions regarding the attemptsto indigenize the relationship between economic growth and fiscal policies. Some growth theorists like the endogenous growth theory of Barro (1990), King &Rebelo (1990) and

Lucas (1990) believed that economic growth is determined within the system but also argue that the tax policy does not have an impact on economic growth and welfare overtime. Zipfel & Heinrich (2012) in similar reasoning noted that custom and excise duties could be distorting if they are not made in such a way as to affect investment decision favourably. In this case, Dejong and Ripoll (2015) investigated the relationship between custom duties revenue and economic growth rates using cross sectional data from 60 countries from the period of 1975-2000 with the emphasis on potential contingency level of economic development. The estimated result using ordinary least squares OLS fixed estimation technique and a Generalized Method moment (GMM) approach revealed that there is a negative and significant relationship between custom duties and economic growth among developed rich countries, while it has positive and significant relationship amongst poor countries of the world. Also, Bouet and Roy (2012) examined the effect of trade protection policy and tax invasion in Kenya, Mauritius and Nigeria and their findings revealed that increased taxes like tariff, custom and excise duties tend to create disincentive to pay taxes resulting in low revenue instead of increased revenue.

Similarly, Bakare (2013), investigated the effect of value added tax VAT on output growth in Nigeria. The study used ordinary least square technique in the estimation of the data obtained. The empirical result revealed that there is a positive and significant relationship between VAT and industrial output growth in Nigeria within the period studied. It was further revealed that past value of value added tax VAT could be used to predict future behavior of industrial output growth in Nigeria. The implication of such finding is that VAT has the potential to influence economic diversification policy which could reduce over dependency on oil revenue. Also Ebiringa and Eme (2012) earlier conducted empirical investigation to find the impact of various taxes on industrial growth in Nigerian economy from the period of 1985 to 2011. The result shows that custom and excise duties has a relationship with industrial output growth and as well to gross domestic product.

Feder (2015), Canada, Harchaoui, Tarkhani and Yuen (2005), studied the effect of exchange rate on manufacturing investment decision and manufacturing sector output in 22 Canadian manufacturing industries for the period of 1981-1997. Their empirical result indicates that the overall effect of exchange rate on the overall investment in manufacturing and the output of the sector is statistically insignificant. A further investigation shows that non-uniform investment decision affects the exchange rate movement in three dimensions which are; first, it is worthy to differentiate between environments that have low and high exchange rate

volatility. Though changes in output demand and exchange rate depreciation may have a positive effect on the overall investment when the exchange rate volatility is low, however, the stimulating effect becomes considerably smaller as the volatility increases. Secondly, the result in total investments is mainly due to movements in other machinery and equipment and not to investment in information technology and structures. Thirdly, investment in industries with low markup ratio is more likely to be affected by the exchange rate volatility.

Megda, Hakan and Nergiz (2006) as cited in Nnamocha, Obioma, Igwemma and Nwoko (2017), earlier conducted an empirical study on the effect of exchange rate fluctuation on economic activities of Turkey. The result revealed that an anticipated appreciation of the exchange rate current value and lagged values has a negative effect on the output growth in Turkey. Also an anticipated appreciation in exchange rate does not significantly explain real output growth. However, their result indicated that lagged unanticipated depreciation has a positive effect on output growth. Unexpected depreciation increases the cost of imported inputs leading to reduced output supply

Tomola, Adebisi & Olawle (2012), investigated the link between bank lending, economic growth and manufacturing sector in Nigeria using co integration and error correction model (VECM) technique. The result shows that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria within the period under review. Nnamdi (2007), evaluated the relationship between deposit structure, lending rates and risk asset created in Nigeria and found a significant multiple correlations between risk assets and a combination of the independent variables savings deposit, time deposit, demand deposits and lending rate. Rasheed (2010), investigated the impact of interest rate and other macroeconomic factors on the manufacturing sector performance in Nigeria using a time series data from 1970 to 2002. The study used error correction model and co integration approach in the analysis of the data obtained. The result shows that interest rate spread and government deficit financing have negative impact on the growth of the manufacturing sub sector but trade liberalization policies promoted the sector growth within the period of study.

Model Specification

$$IQ = \beta_0 + \beta_1CED + \beta_2TOP + \beta_3NOE + \beta_4OEX + \beta_5EXR + \beta_6INTR + \beta_7DMY + U_t \dots \dots \dots 5$$

Where;

IQ = Industrial Output Growth.

CED = Custom and Excise Duty Earnings.

TOP = Trade Openness (the ratio of Export plus Import / GDP).

NOE = Non-oil Export (Used as proxy for Export promotion and Diversification Policy Outcome).

OEX = Oil export (export earnings from refined and unrefined crude oil)

EXR = Exchange Rate

INTR = Interest Rate

DMY = Dummy variable (used to test for structural change)

DMY= 0 for period of higher level of trade protection policy and 1 for the of higher level liberalization policy.

Ut = white noise

β_0 = constant

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$ and β_7 are the parameters to be estimated from the equation.

Results

Table 5: ARDL Short-run Form Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(CED)	-0.163428	0.144595	-1.130246	0.2661
D(CED(-1))	0.129493	0.100109	1.293510	0.2043
D(CED(-2))	-0.519678	0.112501	-4.619317	0.0001
D(TOP)	0.359155	0.173852	2.065862	0.0463
D(NOE)	-0.255128	0.096453	-2.645111	0.0121
D(OEX)	0.386963	0.099020	3.907925	0.0004
D(EXR)	0.067881	0.076918	0.882509	0.3835
D(INTR)	-0.407047	1.799358	-0.226218	0.8223
D(DMY)	-5.845985	11.224861	-0.520807	0.6058
ECM	-0.737891	0.094541	-7.805025	0.0000

$$\text{Cointeq} = \text{IQ} - (0.4522*\text{CED} + 0.4867*\text{TOP} - 0.3458*\text{NOE} + 0.5244*\text{OEX} + 0.0920*\text{EXR} - 0.5516*\text{INTR} - 7.9226*\text{DMY} + 1.5640)$$

Source; Author's Computation 2021 from E-view 9.

The Table 5 portrays the short-run test in which the coefficients of the economic variables used in the research were tested. From the estimated result it is observed that CED in the short-run the coefficient is -0.163428 and the P-value is 0.2661 which is greater than the 0.05% critical value indicating negative and insignificant contribution to industrial output growth. It implies that a 1% increase in custom and excise duties leads to a 16.3% decrease in the industrial sector

in the short-run. Trade openness TOP in the short-run has estimated coefficient of 0.359155 and P-value 0.0463 which is less than the 0.05% critical value indicating that it has a positive and significant contribution to industrial output growth in the short-run. The TOP result implies that a 1% increase in the degree of trade openness leads to 36% increase in industrial sector performance in the short-run. It is equally observed from the estimated result that non-oil export NOE estimated short-run coefficient is -0.255128 with a P-value 0.0121 which is less than the 0.05% critical value showing that it has negative and significant impact on industrial output growth it implies that a 1% change in diversification will lead to a 26% decline in industrial sector performance in the short-run. It is observed from the estimated result that oil export OEX has positive and significant influence on industrial output in the short-run given its estimated coefficient 0.386963, T-statistic 3.907925 and the P-value 0.0004 which is less than the 0.05% critical value. The result implies that a 1% increase in oil export leads to 39% increase in industrial sector performance in the short-run. However, it is observed that the estimated coefficient of exchange rate EXR is 0.067881 with a P-value 0.3835 which is greater than the 0.05% critical value showing that it has a positive and insignificant impact or contribution to industrial output. It implies that a 1% change in exchange rate leads to a 7% rise in industrial sector performance. The result indicated that interest rate INTR has a negative and insignificant contribution to industrial sector output in the short-run given its estimated coefficient -0.407047 and P-value 0.8223 which is less than the 0.05% critical value. The result implies that in the short-run a 1% change in interest rate leads to 82% decreases in industrial sector performance within the period under review. . It is equally observed from the estimated result that the dummy variable DMY used to verify whether these variables are subject to structural change has a negative coefficient -5.845985 and the P-value 0.6058 which is greater than the 0.05% critical value. The result indicates insignificant impact in the short-run which indicates absence of structural break in the short-run.

The ECM value -0.737891, t-statistic -7.805025 and its P-value 0.0000 indicates that the speed of adjustment from short-run deviation to long-run equilibrium relation is 74% annually. That is the disequilibrium between the short-run and long-run is corrected 74% annually. Also it is observed from result that the ECM estimated value is negative, fractional and statistically significant showing that the required conditions as deserved by econometric techniques are fulfilled.

Table 6: ARDL Long-run Coefficient Test Result.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CED	0.452230	0.402003	1.124942	0.2683
TOP	0.486731	0.240179	2.026535	0.0504
NOE	-0.345753	0.134403	-2.572512	0.0145
OEX	0.524417	0.153130	3.424661	0.0016
EXR	0.091993	0.106431	0.864341	0.3933
INTR	-0.551635	2.450642	-0.225098	0.8232
DMY	-7.922555	15.154898	-0.522772	0.6044
C	1.563980	12.631395	0.123817	0.9022

Source: Researcher’s computation 2021 using E-view 9.0

The Table 6: shows the result of ARDL long-run coefficients test of variable under investigation. It shows that CED has a positive and insignificant contribution to industrial performance IQ in the long-run as seen from the long-run coefficient 0.452230 with the calculated p-value 0.2683 which is greater than the tabulated 0.05% critical value. It implies that in the long-run a 1% change in CED leads to 45% change in the industrial sector performance. It is observed that NOE has negative and significant impact on industrial output in the long-run given its coefficient value -0.345753 and the p-value 0.0145 which is less than the 0.05% critical value. The result shows that a 1% change in economic diversification leads to 35% decrease in industrial sector performance. It is equally observed that INTR and DMY has negative but insignificant impact on industrial output given their coefficient values -0.551635, -7.922555 and p-values 0.82232 and 0.6044 which are greater than 0.05% critical value respectively. However, it is observed that trade openness TOP has a positive and significant impact on industrial output given its coefficient 0.486731, t-statistics 2.02653 and P-values 0.050 which is within the threshold. It implies that a 1% change in the degree of trade openness leads to a 49% rise in industrial sector performance. Also, it is observed that oil export OEX has positive and significant impact on industrial output given their coefficient 0.524417 and P-values 0.0016 which is less than the 0.05% critical value. The result indicates that a 1% change in OEX leads to 52% increase in industrial sector performance within the period of this study. The long-run result shows that exchange rate EXR has positive and insignificant impact on industrial sector performance given its coefficient value 0.091993 and its p-value 0.3983 which is greater than the 0.05% critical value. The result coefficient of EXR indicates that a

1% change in exchange rate leads to a 9% rise in industrial sector performance within the period of this study.

Conclusion

In conclusion, if the recommendations made as they are based on the research findings and the problems raised are implemented properly it will go a long way in enhancing industrial performance in Nigeria. Also the research outcome if properly studied and utilized by policy makers it will help them to come up with more innovative economic ideas that will act as a guide in formulating economic policies that will address some problems in our trade relations and as well improve industrial growth and development.

However, the outcome of this research is not final rather it provides an avenue for further investigation. Future researchers are therefore enjoined to contribute in increasing peoples knowledge through further research in areas they may have doubts.

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