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# IMPACT OF TRADE LIBERALIZATION ON MANUFACTURING OUTPUT IN NIGERIA (1980 – 2016)

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**Abstract**

This research work focused on the impact of trade liberalization on the manufacturing sector of the Nigerian economy for the period 1980 to 2016. Trade liberalization deals with increasing breakdown of barriers and integration of the World market into a global economy. The inability of the manufacturing sector in Nigeria to grow beyond its present state despite the positive effects of globalization in the world economy is a very serious case for study. The research made use of secondary data from CBN statistical bulletin and the Error Correction Model approach was used to analyze the data. The model formulated used the manufacturing sector output as the dependent variable while trade openness, exchange rate, volume of exports/imports and balance of payment were the independent variables. The findings from the ECM analyses show that the short run effect of trade openness, exports and balance of payment have negative relationships with manufacturing output while the short run effects of exchange rate and imports exerts positive relationship with manufacturing output with only imports and exports being significant. The implications of these findings is that trade liberalization has not significantly improved the growth of Nigerian manufacturing sector. One major way of improving on Nigeria's trade liberalization policies is through promotion of policies that encourage local productions in order to enhance exports and as well open Nigeria's economy to foreign trade.

**Keywords: Trade Liberalization, Manufacturing Output, Error Correction Model, Trade Openness**

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**Background to the Study**

Countries trade with each other because trading typically makes a country better off in terms of development. Trade liberalization involves removing barriers to trade between different countries and encouraging free trade. These barriers to trade which trade liberalization aims to remove include: reducing tariff, reducing/eliminating quotas, reducing non-tariff barriers etc. Nigeria has experimented with two distinct trade regimes, namely restricted or controlled trade regime and the open trade regime (Kareem, 2010). The philosophy of controlled trade regime embodies a regimen that features both direct and indirect instruments of control in the conduct of foreign trade and payment.

Prior to the discovery of oil in commercial quantity in Nigeria, agricultural sectors has been the main goal post driving the Nigerian economy, providing food and employment for the populace; raw materials for the industrial sector and generating the bulk of the government revenue and foreign exchange earnings with a positive effect on other sectors. However, the oil boom of the 1970s transformed Nigeria from a relatively prosperous agrarian economy to a major exporter of petroleum products. The discovery of the oil industry led to a rapid expansion of urban biased activities, consequently agricultural development was almost entirely neglected by policy makers and the sector entered a relative decline (Ileso, 2000). In early 1980s, there was a slump in the price of petroleum products and this greatly affected the Nation's GDP and export earnings.

In a bid to diversify the economic base of the country away from oil, Nigerian government, under different administrations, embarked on various strategies aimed at boosting economic growth and reducing poverty. Notable ones among these policies were the Green Revolution of 1980, Import Substitution Industrialization Strategy (ISI) which aimed at domestic production of imported goods, Export Promotion Strategy that encouraged export and a host of others. However, the term "trade liberalization" became pronounced through the adoption of the IMF Structural Adjustment Programme (SAP) in 1986 which its primary aim was to restructure and diversify the productive base of the Nigerian economy (Oyejide, 2003). In addition, SAP was introduced to reduce the nation's over reliance on crude oil, due to the collapse in oil price in the world market, with greater emphasis on the non oil and tradable sector of agriculture. After the

introduction of SAP, several policies have been implemented by the country to reduce barriers to trade and open the economy to international environment.

For example, the Manufactures-in-Bond Scheme (MBS) designed to import duty free raw material inputs and other intermediate products for export. Also the Export Expansion Grant Scheme (EEG) aimed at the stimulation of export oriented activities capable of leading to significant growth of the non-oil export sector. Other government efforts towards promotion of manufacturing output include: the establishment of defunct National Economic Reconstruction Fund (NERFUND), removal of value added tax on industrial machinery, establishment of fast track procedure at the ports for bona fide manufacturers, etc (Onuoha, 2009). To fully take advantage of the opportunities and concessions available in international trade relations at bilateral, multilateral, regional or continental levels, Nigeria participates actively in the Economic Community of West African States (ECOWAS), African Union (AU), Cotonou Agreement, the African Growth and Opportunity Act (AGOA) as well as World Trade Organization (WTO)

Despite the introduction of these liberalization policies, the manufacturing sector has not contributed significantly to GDP, especially when compared with their performance in the late 80s which is less than 10% of total GDP (CBN, 2016). In addition, a critical look at the performance of the non oil sectors such as the agricultural and manufacturing sectors revealed that the performance of the two sectors with regards to their contribution to gross domestic product (GDP) has been fluctuating (CBN, 2003). This then raise concern on whether the country has actually benefited from trade liberalization especially when considering the country's manufacturing sector's performance.

The major aim of this study is to examine the impact of trade liberalization on the manufacturing sector in Nigeria with particular emphasis on manufacturing sector's output.

The rest of the paper is divided into five sections. Following the introduction in Section 1 is Section 2, where a brief summary of the theoretical and empirical issues on the relationship between trade liberalization and manufacturing sector's growth is provided. The discussion of

methodology is contained in Section 3. Section 4 provides the empirical results and discussion, while section 5 contains the concluding remarks and recommendations.

## STATEMENT OF THE PROBLEM

The World Bank report (2002) stresses that inability of many countries in sub-Saharan Africa (of which Nigeria is among) to efficiently utilize the gains from trade, contributes to their economic predicament. The report further emphasizes that the manufacturing sector of these countries should serve as the medium through which the benefits from trade is transformed to all-round economic development. In the face of the oil boom period of the 1980s, Nigeria's openness to trade decreased to 27% and further decrease was witnessed in 1985 and 1986 to 25% and 23% respectively. Recently, in 2013 till present, trade openness has been on a downward slide to less than 30%.

Although the government has tried to boost the manufacturing sector in Nigeria through promotion of locally made products and SMEs financing, the low capacity of the Nigeria manufacturing sector in the processing of raw materials still remains a serious challenge. The manufacturing sector currently lacks the capacity to cater for the over 100million people in Nigeria (Lavalle, 2005) and this has led to the over-dependence on imports to complement local productions. Also, Nigeria has witnessed a balance of payment deficit from 1980 through 2015 with few surplus in balance of payment witnessed in1984, 1997, 2000 and 2015. This is a major problem considering the fact that Nigeria's trade liberalization policies aims at improving her exports above imports. But the reverse is the case as we have witnessed more imported goods and services than exported goods. This makes Nigeria a net consumer rather than a producer. Whether this has a negative or positive effect on the manufacturing sector in Nigeria remains the focus of this research work.

Furthermore, another problem facing the growth of the manufacturing sector is the fluctuations in exchange rate which has hampered the trade liberalization drive of the government. Foreign exchange is needed to facilitate exports and this has proved to be difficult in recent times owing to the floating exchange rate policy of the CBN which has made its availability very scarce.

The Nigerian manufacturing sector is faced with weak institutions that affect the performance of trade. Such institutions such as the Chamber of commerce, Manufacturers Association, SMEs associations etc. are easily eroded by government and elite powers who grant Foreign exchange to their co-horts in order to source for raw materials abroad. This leaves the local manufacturers at the difficulty of accessing foreign exchange at higher costs in order to remain in business thus increasing their cost of production and endangering their business survival. This has proven to be a stumbling block towards achieving the full potentials of the manufacturing sector in Nigeria. It is the objective of this research work to examine the nature of relationship that exist between the manufacturing sector's output and trade liberalization indices with a view to providing solutions to this endemic problem facing the sector.

In the light of the problems identified above, this research work is saddled with the main objective of knowing the impact trade liberalization have had on the growth of the manufacturing sector in Nigeria in addition to other specific objectives. We ask the question of whether there is a positive or negative relationship between trade openness, Exchange rate, volume of exports/imports, Balance of payment and manufacturing sector's output in Nigeria?

This study centers on trade liberalization and how it has affected the manufacturing sector. The delimitation is on the manufacturing sector and not the totality of the Nigerian economy. The sector index used is the output of the manufacturing sector. The trade liberalization indices studied include Trade openness, Exchange rate, Exports, Imports and Balance of payment. A functional linear model will be formulated between these Trade liberalization indices and manufacturing sector's output for the period covering 1980 to 2016.

## LITERATURE REVIEW

### Concept of Trade Liberalization:

Since the introduction of trade liberalization, the performance of the manufacturing sector with regards to its contribution to the Gross Domestic product (GDP) has been fluctuating (CBN, 2003). This has been the major concern of different economic policy makers within and outside the country. In view of these, and in order to achieve an accelerated pace of industrialization

capable of producing and sustaining the nation's manufacturing needs, several industrial policies has been implemented, few of which includes:

- The industrial policy of 1988
- The Nigerian Export processing zone Decree No. 34 of 1991
- The foreign Exchange (monitoring and miscellaneous provision) Decree No. 17 of 1995
- The Nigerian Enterprise promotion Decree of 1989
- In 2000, the Nigerian industrial Development Bank (NBCI), Nigerian Bank for Commerce and Industry (NBCI) and the National Economic Reconstruction Fund (NERFUND) was merged to form the new Bank of Industry (BOI), to facilitate adequate supply of funds to the manufacturing sector (Olorunshola, 2002). The performance of the manufacturing sector in Nigeria cannot be over-emphasized, some of the roles performed by the manufacturing sector include: the provision of employment opportunities, reduction in importation and savings in foreign exchange, the diversification of the economy, an enlarged market for agricultural products, increase export earning, increase government revenue, a higher standard of living, and training of indigenous manpower.
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Trade liberalization deals with the increasing breakdown of barriers and the increasing integration of the World market (Fafowora, 2000). In the works of Derossa, (2000), trade liberalization was referred to as the increasing international integration of international market for goods, tradable service and financial assets. In the real sense, it is also referred to the increasing integration of markets for major inputs to production, not only mobile physical capital but also labour in its various forms: basic labour, skilled labour and other professional services. Trade liberalization offers countries access to the global market which affords people greater opportunity to tap more and larger market around the World, giving them access to more capital flow, technology, cheaper import and larger export markets. It equally exposes countries to new ideas, products, and economies of scale in production and makes them gain efficiency in utilization of production resources (Adenikinju and Chete, 2003). However, a more integrated World economies is prone to some adverse consequences equally as it relates to financial management, environmental degradation and pace of development. Also, trade liberalization opens an economy to some financial crisis (UNEP, 2001). Amos, (2000), viewed adverse effect of trade liberalization on the rate of inflation, when he said that lowering tariffs and relaxation of

quantitative restriction can lead to expansionary fiscal and monetary policies knowing the goals of expansionary fiscal reform is to reduce budget deficit, the concomitant effect which is the rapid growth of money supply which will inevitably boost price inflation in an economy. Jerome and Adenikinju (1995), opined that Nigeria's non-oil export go mainly to West European Economic Community Countries, and more so, new markets are merging in Asia and other parts of the World especially in Sub-Sahara Africa. Also, in their comparative analysis of the performance of manufactured export between Nigeria and selected countries in Asia and Africa, they analyzed that manufactured export in Korea and Hong Kong accounted for 94% and 96% respectively, while that of Nigeria was 1% of the total GDP as at 1990. According to World Bank (2000), the Egyptian government responded to trade liberalization with impressive economic reform program that include, fiscal tightening that reduced the marginal tax rate and government budget deficit. Monetary reform adopted in Egypt also included re-controlling of interest rate, devaluation and unification of exchange rate, reducing growth of money supply and liberalizing capital account. Privatization was also introduced and thus foreign investors reacted quickly to this opportunity. In 1995, the total foreign Direct Investment (FDI) was $400 million USD followed by $800 million USD in 1996 and around $1.2 billion USD in 1997. In the case of Nigeria, the net foreign Direct Investment was $588 million USD in 1990 and $897 million USD in 1992, then to $1.96 billion USD in 1995 and $1.53 billion USD in 1997, (Global Development Finance, 1999). Despite the reform in Egypt, and Nigeria, these countries are yet to take full advantage of the trade given their market size and border countries like Israel, Tunisia, Niger, Chad and others. Trade liberalization is thus, a multidimensional concept and may be viewed as the forging of multiplicity of linkages and interconnectedness between States and the societies which make up the modern World called the global village. It is also a process by which occurrences, decision and activities in one part of the World come to have significance consequence on individual and communities in quite distant part of the globe.

**The Impacts of Trade Liberalization on the Nigerian Economy**

Anyanwu et al (1997), referred to the manufacturing sector as a sub-set of the industrial sector. According to Chenery and Stout (1996), pointed out that the impact of trade liberalization on the manufacturing sector deals with the enlarging the size of the market and the scope of specialization in the manufacturing sector, it also makes a greater use of machinery, encourages

inventions and innovations, raise labour productivity, lower costs and leads to economic development. Colander, (2001), stress that, the impact of trade on the manufacturing in Nigeria also leads to the importation of foreign capital and instill new ideas, technical know-how, skills, managerial talents and entrepreneurship. Usman (2000), pointed out that the impact of trade liberalization on the manufacturing sector can be seen on how it has improved the agricultural sub-sector in the country through the provision of adequate farm input such as improved seeds, fertilizer, tractors for cultivation etc. for the supply of raw materials to the manufacturing industries. Usman (2000), also stress that the impact of trade liberalization on the manufacturing sector as fostering healthy competition and checking inefficient monopolies. Healthy competition is essential for the development of the export sector of such economies and for checking inefficient exploitative monopolies that are usually established on the grounds of infant industry protection.

**Performance and Contribution of the Manufacturing Sub-Sector in Nigeria**

The manufacturing sub-sector in Nigeria has had a mixed performance over the years, owing to the fluctuations in its contribution to the country's Gross Domestic product (GDP). In 1960, manufacturing share of the Nigeria's GDP was 4.8% rising to 6.9% in 1965, and to 7.2% in 1970, the manufacturing sector' contribution to the GDP stood at 8.3% and started declining in 1993 form 7.2% to 6.0% in 2000 (CBN, 2003). Also, manufacturing sub-sector capacity utilization fell from 75% in 1980 to 42.7% in 1986 and to 39.0% in 1990. By 1992, the sector capacity utilization rose to 40.4% and in 1995 collapsed to 29.3%. In the same vein, growth rate of manufacturing rose from 23.6% in 1965 to 77% in 1975. But falling drastically to only 6.6% in 1980,The only rise that exceeded 10% since then was recorded at 20.5% growth rate in 1985 (CBN, 2000). By 1993, it has fallen to 4.2% in 1994, it was recorded 5%. In general, the industrial sector as a whole grew by 5.2% in 1980 to 1986 period, and also fell to 1.02% in 1996 to 0.72% in 1997 (CBN, 2000).

The prospect of the manufacturing sector in Nigeria in providing sustainable economic development given abundance and varied resources endowment can support mass production both for local and export market there by diversifying the economy from over reliance on oil earnings (Osagie, 2004). Developing the Nigeria industrial/manufacturing sector required a

concerted effort of government and the private sector to create an environment that would encourage investment, primarily by Nigerians as a firm basis for attracting and sustaining foreign investments in the sector. A fully developed industrial sector would provide a firm basis for sustainable economic development (BPE, 2003). Ewing (1990), asserted that industrial development is bound to be frustrated unless there is a simultaneous progress on several fronts such as; science and technology, education, energy and transportation.

Following the heavy reliance of the economy on the crude oil, the manufacturing sector witnessed a persistent decline. In fact, from 1999 it moves upwards reaching its peak of 60 percent in 2003. The development might have been induced by the civilian administration that took over from the military in May 1999 and its economic reform measures that attempts to put the manufacturing sector in a right path and make it export oriented. The low contribution of the manufacturing sector to gross domestic product (GDP) suggests that trade liberalization policy is yet to stimulate the sector to make meaningful impact on the economic development of Nigeria. The Manufacturing sector represented 6.55% of total Real GDP in year 2010. It grew by 7.79% of real GDP in year 2011 and in 2012 reached a value of 7.79%. However, growth was highest in 2013, at 9.03% of real GDP, a value that had never been recorded in decades. This observed phenomenon could be ascribed to low productivity growth in the manufacturing sector.

**Theoretical Frame work**

This section examines some theories that explain and have a link with investment portfolios in an economy. Here the Harrod-Domar growth theory and the Comparative advantage theory will be of great impetus, (Tidero, 2003).

**Harrod-Domar Theory:** Harrod-Domar (1957), posits that, every economy must save a certain proportion of it national income (NI), if only to replace worn out or impaired capital goods. However, in order to grow, new investments representing net additions to the capital stock are necessary. This can be algebraically stated, thus: S=SY Where: S=Savings Y=National Income And I=ΔK Where: I=Net Investment ΔK=change in capital stock While, the Marxian Orthodox Scheme (1939), capital accumulation enjoys a glorified esteem, since it is considered as the only practical approach to the attainment of a true "Socialist State". Thus, it is impossible to

conceptualize capitalism without the foundation of its survival of capital accumulation, (Tidero, 2003) Also, the Keynesian (1960), model analyzed the critical element in a well-functioning economy is "Competition" and provided that it is maintained, the competitive equilibrium is attain by the free market generates economic efficiency in the parathion sense. The government should then disown it enterprise, the government should free competition to exist, so has to achieve both allocation and productive efficiency for steady growth, (Thigan, 1997). Basically, the neglect of the agricultural sector as a major component of the manufacturing sub-sector in Nigeria as a result of the oil boom in 1973, has denied many manufacturers and industrialists their primary sources of raw materials and this absence of locally sourced input resulted in high cost of production. However, the introduction of trade liberalization in Nigeria was aimed at increasing product quality and increase expenditure on research and development that will enhance competition in production.

**Theory of Comparative advantage:** The theory of comparative advantage developed by David Ricardo in 1817 prescribed that, given the assumption of perfect competition and full employment of resources, countries can reap welfare gains by specializing in the production of those goods with the lowest opportunity cost and trading the surplus of production over domestic demand, provided the international exchange rate of commodities lie between domestic opportunity cost ratios. These are essentially static gains that arise from allocation of resources from one sector to another so as to increase specialization, based on comparative advantage. The static gains from trade stem from the fact that countries are differently endowed with resources and because of this opportunity cost of producing products vary from country to country. The neo classical trade theory postulate that trade is beneficial to all trading partners. However, as argued by Kazungu (2009), the doctrine of comparative advantage does not guarantee equitable distribution of the gains from trade. The gains from trade depend on exchange rate between trading nations, terms of trade, and on whether the full employment of resources is maintained as economic resources are reallocated as countries specialize. In extreme situation, one country may become absolutely worse off if the real resource gains from trade are offset by a decline in the terms of trade.

**Empirical Review**

Ogu, Aniebo and Elekwa (2016) studied the role of trade liberalization in the growth of manufacturing output in Nigeria, focusing on the short to medium term period while not ignoring the very important long term on which most studies have focused. Data used include manufacturing output, trade openness, real GDP per capita, real exchange rate, interest rate, electricity generation, exports, inflation rate and bank credit to manufacturing sector. Trade liberalization was found to hurt manufacturing output in the short run although it showed a real potential to boost it in the long term. An overhaul of competition policy was recommended with a view to establishing Neutral Status in manufacturing export trade.

Umoru and Eborieme (2013) in their study of trade Liberalization and Industrial Growth in Nigeria Adopted the human capital model of endogenous growth with modifications for trade liberalization within the Nigerian context. The error correction model [ECM] findings revealed that there is a positive and significant correlation between trade liberalization and industrial growth in Nigeria, structural deregulation had positive impact industrial growth in Nigeria, Nigerian industries are labour intensive, industrial production responded negatively and insignificantly to capital formation in Nigeria, industrial growth is cumulative and self-sustaining in Nigeria. The result however does not provide evidence of significance of structural deregulation over the period of short-run analysis. Their result suggests the need for government to embark on comprehensive implementation of trade liberalization policies in order to accelerate and sustain industrial growth in Nigeria. However, they opined that implementation of trade liberalization polices should be done with a delay caution.

Ashamu and Abiola (2014) investigated the impact of International trade on Nigerian Manufacturing sector growth. They employed the cointegration and error- correction modeling techniques to explore the long-run dynamic relationship between some proxies of international trade on one hand, and Nigeria's manufacturing sector growth on the other. Their study showed that there is a long-run relationship between the two. Also, they found that despite the positive relationship between, exports imports and the Nigerian manufacturing sector's growth, both exports and imports do not have significant impact on the Nigerian manufacturing sector's growth. Their findings further revealed that Nigeria's manufacturing sector has not been

benefiting from trade liberalization as the coefficient of trade openness is negative. Their policy recommendation is that both export promotion and import substitution policies of the government should be made more vibrant in terms of implementation while making the country more investment friendly .

On the international front, Manni and Afzal (2012) examined the effect of trade liberalization on economic growth, export, import and inflation in developing countries with a case study of Bangladesh economy between 1980 and 2010. Using ordinary least square technique, the study found that gross domestic product (GDP) is highly influenced by trade liberalization which further suggests that greater openness has had a favourable effect on economic development in the country. Similarly, Mkubwa, Mtengwa and Babiker (2014) analyzed the effect of trade liberalization on economic growth in Tanzania between 1970 and 2010. The authors divided the study period into a closed economy period of 1970 – 1985 and a open economy period of 1986 – 2010. The method of ordinary least square was adopted to estimate the regression for the two periods. Findings from the study indicates that trade openness has a positive and significant impact on economic growth for the two periods in Tanzania.

Mouelhi (2007) examined the impact of trade liberalization on the manufacturing sector using the generalized method of moments, and found that reduction in levels of tariffs and non-tariff barriers had no effect on manufacturing growth.

Thus even on the part of those who studied the effect of liberalization on manufacturing performance, differing results have been recorded; some probably important determinants also remained unaccounted for. Equally important, attention has not been focused adequately on the short to medium term, bearing in mind the country's economic track record of failure to implement or carry through long term economic policies. In any case, action belongs to the short term even if its effect is to be fully effective in the long term.

## RESEARCH METHODOLOGY

This study is designed to be a Quantitative research. Also, the causal research design is adopted in this research since we are ascertaining the nature of relationship that exists between the

dependent variable (manufacturing output) and the independent variables (trade liberalization indices). The study depended on the use of secondary data collected from the Central Bank of Nigeria (CBN) statistical Bulletin of December 2016. The data are subjected to econometric analysis using the Error Correction Model technique.

**Model Specification**

The model formulated for the purpose of assessing the impact of trade liberalization on the Nigerian manufacturing sector's growth follows the works of Ogu, Aniebo & Elekwa (2016) and Umoru & Eborieme (2013). Their model is a modified form of that used by Lucas (1988). In Lucas's model the index of trade liberalization only includes real exports and trade openness but in our model, imports, exports, balance of payment and the exchange rate are added so as to complete the major variables of international trade. The functional form of the model is stated thus:

MANOPT = F(TRAOP, EXCHR, IMPT, EXPT, BOP)

The above model can be stated in a multiple linear equation as follows:

$MANOPT = \beta_0 + \beta_1 TRAOP + \beta_2 EXCHR + \beta_3 IMPT + \beta_4 EXPT + \beta_5 BOP + U$

Where:

| | | |
|---|---|---|
| MANOPT | = | Manufacturing sector's output measured in N billion |
| TRAOP | = | Trade openness |
| EXCHR | = | Exchange rate (USD – Naira) |
| IMPT | = | Total Imports (N billion) |
| Exports | = | Total Exports (N billion) |
| BOP | = | Balance of payment |
| $\beta_0 - \beta_5$ | = | Parameters to be estimated |
| U | = | Stochastic error term |

Prior to the model estimation, we employ the Augmented Dickey Fuller Unit Root Test in order to determine the order of integration of the time series data. Co integration test is run to know whether a long run relationship exists among the variables; the individual T-test and F-test are used to test for the individual and joint significance of the variables based on the ordinary least Squares (OLS) techniques. The robustness of the model is gauged using the adjusted R-square.

Finally, the model is tested for autocorrelation using the Durbin Watson statistic. These tests are done with the aid of a computer software; the E-views9 software.

**Results and Findings**

We begin the analysis of data with the test for stationarity of the variables. This is carried out using the Augmented Dickey Fuller Unit root test and the result is shown below:

**Table 1: Augmented Dickey Fuller Unit Root Test**

| **Variable** | | **ADF test statistic @ level** | **ADF test statistic @ Ist Difference** | **Order of Integration** |
|---|---|---|---|---|
| MANOPT | | 2.572384 | 4.665295 | I(1) |
| TRAOP | | -2.172782 | -8.234486 | I(1) |
| EXCHR | | 0.524769 | -5.563701 | I(1) |
| IMPT | | 1.571916 | -5.043407 | I(1) |
| EXPT | | -1.514796 | -3.200078 | I(1) |
| BOP | | -2.606188 | -6.860906 | I(1) |
| Critical values | 1% | -3.626 | -3.632 | |
| | 5% | -2.960 | -2.948 | |
| | 10% | -2.611 | -2.612 | |

Source: Extract from Eviews9 Output

The unit root test above shows that all the variables are stationary at first difference i.e. they are integrated of order I(1). This means that the statistical properties of the variables at first difference are constant and do not change over time. Pesaran (2001) stated that when variables are I(1), then the Error correction model can be used to estimate the short run dynamics of the model. In the case of our model, since they are I(1) series, we further test for cointegration and estimate the ECM result.

**Table 2: Johansen Cointegration Test Result**

| Unrestricted Cointegration Rank Test (Trace) | | | | |
|---|---|---|---|---|
| | | | | |
| Hypothesized | | Trace | 0.05 | |
| No. of CE(s) | Eigenvalue | Statistic | Critical Value | Prob.** |

| | | | | |
|---|---|---|---|---|
| None * | 0.906604 | 151.4650 | 95.75366 | 0.0000 |
| At most 1 | 0.511641 | 68.48325 | 69.81889 | 0.0636 |
| At most 2 | 0.403289 | 43.39857 | 47.85613 | 0.1232 |
| At most 3 | 0.365130 | 25.32729 | 29.79707 | 0.1501 |
| At most 4 | 0.234887 | 9.425585 | 15.49471 | 0.3275 |
| At most 5 | 0.001570 | 0.054986 | 3.841466 | 0.8146 |
| Trace test indicates 1 cointegrating eqn(s) at the 0.05 level | | | | |

Source: Extract from Eviews9 Output

The Johansen Cointegration test above shows that there is at least one cointegrating equation in the model. This assertion upholds the long run relationship that exists among the variables. What this means is that trade liberalization indices used in the model have a long run effect or impact on the manufacturing sector in Nigeria. Since this has been confirmed, we determine the short run dynamics of the model as well as the rate at which the trade liberalization indices can influence the manufacturing sector towards achieving a long term growth.

**Table 3: Error Correction Model (ECM) Result**

| Included observations: 33 after adjustments | | | | |
|---|---|---|---|---|
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
| C | 789.2802 | 508.1998 | 1.553090 | 0.1325 |
| TRAOP | -17.50665 | 9.764665 | -1.792858 | 0.0846 |
| EXCHR | 7.876067 | 4.232885 | 1.860686 | 0.0741 |
| IMPT | 0.736850 | 0.095591 | 7.708360 | 0.0000 |
| EXPT | -0.177135 | 0.057215 | -3.095972 | 0.0047 |
| BOP | -0.003861 | 0.008034 | -0.480655 | 0.6348 |
| ECM(-1) | 0.002404 | 0.007907 | 0.304037 | 0.7635 |
| R-squared | 0.945590 | Mean dependent var | | 2107.947 |
| Adjusted R-squared | 0.933034 | S.D. dependent var | | 2781.519 |
| F-statistic | 75.30960 | | | |

| | | | |
|---|---|---|---|
| Durbin Watson | 1.866995 | | |

Source: Extract from Eviews9 Output

The ECM estimates above shows that the short run coefficients of Exchange rate and Imports are positive. This means that for every unit increase in exchange rate or volume of imports, manufacturing sector's output also increases by 7.876 and 0.737 units respectively. This represents a direct linear relationship.

On the other hand, Trade openness, Exports and Balance of payment have negative short run coefficients decreasing manufacturing output by 17.507, 0.177 and 0.002 units respectively. This represents an indirect linear relationship.

The negative coefficient of trade openness is attributed to the low ratio of total trade to GDP recorded by Nigeria over the years. Muouelhi (2007) posits that the degree to which developing countries are open to globalization is shrinking to the negative perception of the developing nations and at the same time infrastructural decay coupled with internal restiveness are major contributors to decreasing trade openness in developing countries. Also, Nigeria has recorded more imports than exports based on the available data from CBN which has drastically affected the country's balance of payment towards deficit.

The Error Correction Model intercept at one period lag is 0.0024. This means that the rate at which the model returns to equilibrium in the long run is 0.24% estimated annually. This further means that the system corrects its previous period disequilibrium at a speed of 0.24% annually.

The intercept of the model is estimated at 789.28 which represent the amount of increase in manufacturing sector's output given that the explanatory variables used here are held constant at zero.

The adjusted R-square is used to gauge how well the variables fit the model. The adjusted R is 0.933 which is approximately 93%. This means that the explanatory variables – Trade openness, Exchange rate, imports, exports and Balance of payment accounts for about 93% of the variations in Manufacturing sector's output.

The individual significance of the variables are tested using the t-statistic values which are tabulated for ease of comprehension as shown below

**Table 4: Individual Test of Significance**

| Variable | t-statistic | t-table ($t_{0.025,28}$) | Decision Rule |
|---|---|---|---|
| TRAOP | -1.792858 | 2.048 | Accept Null Hypothesis |
| EXCHR | 1.860686 | 2.048 | Accept Null Hypothesis |
| IMPT | 7.708360 | 2.048 | Reject Null Hypothesis |
| EXPT | -3.095972 | 2.048 | Reject Null Hypothesis |
| BOP | -0.480655 | 2.048 | Accept Null Hypothesis |

Source: Extract from Eviews9 output

The individual test carried out above shows that Imports and Exports are both significant at 5% level. This is because their t-statistic is greater than the t-table value at 5% level hence the rejection of their respective null hypotheses. Also, Trade Openness, Exchange rate and Balance of payment are not statistically significant since their respective t-statistic is less than the t-table value at 5% level; this led to the acceptance of their respective null hypotheses.

Finally, The Durbin Watson statistic is 1.8669; going by the rule of thumb, since the DW value tends towards 2 than to 0, we conclude that there is no autocorrelation in the model hence the error term for one year does not affect the value of the successive years.

**Implications of the research to the Manufacturing Sector in Nigeria**

1. The main trade liberalization index used in the model which is trade openness has negative and insignificant relationship with manufacturing output in Nigeria. What this implies is that the manufacturing sector of the Nigerian economy has not improved significantly in terms of foreign trade hence the reason for the failure of the liberalization policies over the years. This according to Muouelhi (2007) amounts to decreasing impact of the manufacturing sector to the overall growth of the economy.

2. Nigeria's exchange rate and imports has a positive relationship with manufacturing sector's output. That is to say that the manufacturing sector thrives mainly on imports and in the same vein the sector benefits from exchange rate regimes over the period of study.

3. Exports and balance of payment show negative relationships with manufacturing output. This is an indication that the difference between Nigeria's exports and imports is negative showing that the country imports more than it exports. This is further buttressed by the negative export growth in relation to the manufacturing sector output.

4. Only imports and exports have significant impact on manufacturing sector's output for the period under study.

5. The long run speed of adjustment of the model is 0.24% estimated annually. This means that at an annual growth rate of 0.24%, trade liberalization indices returns the manufacturing sector's output to equilibrium.

**Conclusion and Recommendations**

The manufacturing sector in Nigeria might not have gained as expected from the openness of the economy. The exchange rate as another trade liberalization variable has been shown to have positive impact on the manufacturing sector of the Nigerian economy. Notwithstanding, currency depreciation has been shown to have the tendency of improving the growth of key sectors in Nigeria. Furthermore, the manufacturing exports has not performed as expected showing a negative coefficient, this is due to the negative effect of trade liberalization on the sector which has left the sector to be import dependent rather than export oriented. This is also evident in the negative balance of payment which has a negative coefficient. Summarily, trade liberalization has not improved the growth of Nigerian manufacturing sector significantly. Ultimately, the result has shown that Nigeria has not adequately benefited from her trade openness and trade liberalization policies.

Given the findings and conclusions drawn there-from, the following recommendations are very necessary

1. Government should embark on programmes and policies to promote local production and discourage importation of certain essential products for trade to have the desired impact on the performance of the manufacturing sector and promote economic growth in Nigeria.

2. Trade openness has been shown not to have significant impact on growth of the manufacturing sector in Nigeria. Therefore, Nigeria should work on improving her trade openness by way of totally removing the barriers to trade and providing the essential requirements needed for businesses to thrive.

3. Naira depreciation may likely encourage export but discourage import. This has also been shown to have significant positive effect on the key sectors of any economy.

4. The excessive import of goods that can be produced locally might be a reason why Nigerian manufacturing sector has not gained from her trade liberalization policies.

Consequently, the nature of import in Nigeria should not be consumables but capital goods that cannot be produced locally.

**References**


- Adenikinju, A. F., & Chete, L. N. (2002). Market Structure and Trade Liberalization in
- Nigeria. African Economic Research Consortium (AERC) Research Paper, African Economics Research Centre, Nairobi. Vol. 1126.

- Adenikinju, F. A., & Olofin, O. (2000). Economic Policy and Manufacturing Sector
- Performance in Africa. The Nigerian Journal of Economic and Social Studies, 42(1), 1-22.

- Anyanwu, L. et al (1997). The structure of Economy. Joanee Educational, Onitsha.

- Ashamu, S. O. and Abiola, J. O. (2014) Exploration of the impact of international trade on
- the growth of nigeria's manufacturing sector: 1975-2010, Journal of Business Administration and Management Sciences Research Vol. 3(1), pp. 006-011

- Chenery and Stout (1996) Comparative analysis of industrial growth presented to the 5th
    - world congress of national economic association, Tokyo, August/Sept. 1977

- Central Bank of Nigeria (CBN). (2000)(2003)(2012). Statistical Bulletin. Abuja: CBN.

- Cheng, W. (2015). Regional Variation in Trade Liberalization Outcomes: Evidence from
- Chinese Manufacturing Industry. Universite de Geneve. Retrieved from https://www.unige.ch/degit/files/9614/3956/8258/Cheng.pdf

- CIMA. (2010). The Global Manufacturing Sector: Current Issues. CIMA Sector Report.

- Egbulonu, K. G. (2005) Basic Econometric Methods, Peace Publishers, Owerri

- ILO. (2001). The liberalisation and employment: Working paper on the Social Dimension of
    - Globalisation. Second Item on Agenda. Geneva: International Labour Organisation.

- Jerome, A and Adenikinju, A (1995). Trade policies and the promotion of manufactured
- Exports in Nigeria. Proceeding of Nigeria Economic Society Annual Conference. (1995), Ibadan Koutoyiannis, A. (2003), Theory of Econometrics. Palgrave publishers, LondonOlorunshola, M. (2003). "Economic Basic Features of Nigeria

- Kareem, F. O. (2010). Trade flows and employment outcomes in Nigeria. Working Paper,
    - University of Ibadan.

- Kazungu, K. (2009) 'Trade Liberalization and the Structure of Production
- inTanzania'Unpublished PhD thesis, University of Glasgo, Faculty of Law, business and Social Science, Department of Economics.

- Manni, U. H and Ibne Afzal, M. N., (2012) 'Effect of Trade Liberalization on Economic
- Growth of Developing Countries: A Case of Bangladesh Economy' Journal of Business, Economics and Finance, Universiti Brunei Darussalam: Brunei. 1(2).

- Mkubwa, M.M., Mtengwa, A. M, and Babiker, A. B (2014) 'The Impact of Trade
- Liberalization on Economic Growth in Tanzania'. International Journal of Academic Research in Business and Social Sciences, 4(5).

- Muouelhi, R. B. (2007). The Impact of Trade Liberalization on Tunisian Manufacturing:
    - Structure, Performance and Employment. Region et Development No. 25.

- Ogu, C., Aniebo, C., and Elekwa, P. (2016) Does Trade Liberalisation Hurt Nigeria's
- Manufacturing Sector? International Journal of Economics and Finance; Vol. 8, No. 6;

- Onuoha, M. (2009). Industrial Development, Electricity Crisis and Economic Performance in
    - Nigeria. European Journal of Economic, Finance Administrative Sciences, 18.

- Oyejide, T. A. (2003), "Trade Reform for Economic Growth and Poverty Reduction" World Bank Development Outreach

- Umoru, D. and Eborieme, M. (2013) Trade Liberalization and Industrial Growth in Nigeria,
- Journal of Poverty, Investment and Development - An Open Access International Journal Vol.1

- World Bank Annual Report 2002, 2003 and 2016