THE MACROECONOMY AND TRADE LIBERALIZATION IN NIGERIA

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ABSTRACT

This study examined trade liberalization and macro-economic performance in Nigeria. The study made use of ordinary least square (OLS) for analysis using data from pen worth table (PWT) for the period of 1980-2016. The variables used in the analysis are (TOP) trade openness, (UNE) unemployment rate, (GDP) gross domestic product, (XR) exchange rate and (RINT) real interest rate. The result obtained indicates that Trade openness has an inconclusive relationship with the macroeconomic indicators in Nigeria. The implication is that GDP, RINT and UNE were negatively and positively related to Trade openness during the period of review respectively, going against the prior expectation. Hence the study recommends review of the degree of its trade liberalization by keeping trade openness rate below or at ceiling level in order to ensure an improved macro-economic performance in Nigeria.

KEYWORDS: Economic growth, Macro Economics, Gross domestic product, exchange rate, real interest rate.

INTRODUCTION

Trade has acted as an important engine of growth for countries at different stages of development not only by contributing to a more efficient allocation of resources within countries but also by transmitting growth from one part of the world to another.

Foreign/international trade plays a vital role in restricting economic and social attributes of countries around the world (Akeem, 2011). According to Azeez, B.A et al (2014), "Foreign trade allows for exchange of goods and services cum foster healthy relations among countries irrespective of their level of economic development". A nation not participating in foreign trade is at risk of a slow pace of economic development due to the cogent fact that a country cannot be fully endowed with all the resources essential to be utilized for sustainable economic development. It enables nation to sell their domestically produce goods to other countries of the world (Adewuyi, 2002).

Trade liberalization to Anowor O.F. et al (2013), is the process of reducing or removing restrictions on international trade which may include the reduction or removal of tariff, abolition or enlargement of import quotas, abolition of multiple exchange permits for imports or allocation of foreign exchange. Economist, generally see the concept of trade openness or trade liberalization as the integration among the nations of the world, it is likened to openness of the world economy where nations link together to the extent and financial activities (Igudia, 2014). Economic analysis informs that openness to trade, flow of factors, ideas and information stimulates economic and political progress (Aboagye, 2006, Reich, 1998). Thus, openness to trade can be said to be the platform of globalization while trade, finance, investment and entrepreneurs constitute the heart (Obadan, 2004 Uwatt, 2004).

Ijeoma (2014) opined that one way trade contributes to an increase in economic output is through comparative advantages which create more value with the same resources. Competition typically stimulates real cost reduction and the more competitive situation that prevails after liberalization, the more handwork to reduce real cost than would be under the umbrella of protection. Politically, trade liberalization brings about the inter-dependence of nations and encourages prospects for world peace. Akim (2014) puts it that "Trade liberalization provides incentives for firms to compete, to innovate and to search for new opportunities and markets and firms in protected industries are less likely to innovate or seek new markets".

Trade liberalization is a key economic reform policy and institutional change adopted by Nigeria in 1986 to stimulate its exports (Afaba and Njogo, 2012). These authors are of the view that openness of trade are policy measures that emphasize production and trade along the line dictated by a country's comparative advantage such as export promotion and export diversification, reduction and elimination of imports tariff and the adoption of market-determined exchange rates, some of the aims

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of the structural adjustment program adopted in 1986 were diversification of the structure of exports, diversification of the structure of production reduction in the over-dependence on imports, and reduction in the over dependence on petroleum exports.

According to Effiom, L. et al (2011), "The corner stone of the SAP reduced policy was the opening up of domestic economies to face increased competition in order to make efficiency in resource use, removal of wastages, elimination of persistent misalignment in the external and domestic sectors and a general redirection of the economy to the economy to the part of recovery and growth. Trade liberalization is one of the most controversial policies in international economics and finance (Olaifa, F.G. et al 2013). Olaifa, Subair and Biala, noting however that the earliest form of liberalizing trade prior to the structural adjustment program (SAP) was the import substitution polices in the 1970's. This policy did not record much success as a result of an unconducive macroeconomic environment. To them, "The adoption of SAP in 1986 brought about the emergence of trade liberalization which was accompanied by the elimination of foreign exchange control to reflect economic realities, removal of price control and disbandment of commodities board. The policy trust of SAP in Nigeria was to create an environment conducive to enhance increased capital inflows, transfers, adoption of appropriate technologies and increase the share of trade revenues to government as another means of reducing the total reliance of the economy on crude oil revenue.

Statistical figure released by the national bureau of statistic shows Nigeria's international trade more than doubled in the 2003-2013 period with exports rising to nearly U.S $50 billion and imports to nearly U.S $34 billion. The study takes further steps to analyze the impact of trade liberalization on Nigerian's economy. Using macroeconomic indicators to analyze the impact of trade openness, these indicators are economic statistics which are released periodically by government agencies and private organization. These indicators provide insight into the economic performance of a particular country or region.

Macroeconomics is a branch of economics, dealing with the performance, structure, behavior and decision making of an economy as a whole. This includes regional, national and global economies. It deals with the study of aggregated indicators such as GDP, unemployment rate, national income, price indices and interrelations among the different sectors of the economy to better understand how the whole economy functions.

Regarding developing countries or economies, the question of the relationship between trade openness and unemployment has been explored with mixed results. In their study of Malaysia, Nanthakumar eta al (2011) find that an increase in the trade balance had negative Granger non-causality effects on the rigidity of unemployment dynamics. This implies that trade liberalization is

able to increase aggregate productivity in various sectors. Consequently, economic performance and efficiency raise the rate of labour utilization. In Alawin's (2013) study of the trade balance and UNR in Jordan, using quarterly data for the 2000-2013 periods, his major finding is the absence of a long-term relationship between the two factors. His results reveal that in the short-term, a trade balance deficit leads to unemployment and vice versa. Kim and Sun (2009) find that indicators of trade openness significantly plays a role in labour market chumming in most industries affected by the North American free trade agreement (NAFTA) such as the automobile, chemicals and apparel sectors. This result buttress the argument that trade openness promotes export and ushers in restructuring by some firms, often resulting in the decline of labour use in some sectors and its increase in others.

Ogunkola et al (2006) evaluated the impact of the Nigeria's trade and investment policy reforms and reported the following findings. Trade and policy reforms do not have significant effects on aggregate output growth. The growth of instruments, imports and foreign direct investment in the service sector significantly affect service output while trade policy reform contributes significantly and positively to service export and import growth. However, with Nigerian's large market for all categories of goods and services, trade openness (an important attributes of globalization) is expected to help bring an infuse of business that will assist in reducing the high UNR.

According to new growth theory, openness reduce inflation through its positive influence on output, mainly in increase efficiency, better allocation of resources, improved capacity utilization and increased foreign investment (Jin, 2000). A continuous and persistent increase in the general level of prices (inflation) has in several times been characterized by an upsetting impact on economic growth well-being, since it causes the cost of living to rise and the value of investments to fall (Greenidge and Dacosta, 2009). Inflation which is an important factor for consideration in policy decision making can negatively affects economic development and also creates insecurity in the economy. The behavior of inflation dynamics is a longstanding issue in economics. Imported inflation arises from international trade where inflation is transmitted from one country to the other, particularly, during periods of rising price all over the world (Ayanwu, 1992).

As stated by Afzal, eta al (2013), two different theoretical views exist as the effect of openness on inflation. Openness shows down the rate of inflation according to spill over hypothesis while according to the cost push hypothesis; openness causes a faster rate of inflation. Opening the economy not only improves the trade but it also helps to control the inflation. Bowdler et al (2005) propose two mechanisms through which openness may restrict inflation volatility. The first relates to the collection of Seigniorage while the second mechanisms relates to the set of markets in which countries participate. They argued that the extent to which governments choose to resolve transitory deficits

through temporary changes in Seigniorage, as opposed to changes in spending or other tax rates, will affect the volatility of the growth rate of the money supply and hence, the volatility of inflation and also that trade can support industrialization through provision of access to larger markets. However, the effects of trade openness or inflation remain uncertain.

An important question at the crossroads of macro-development and international economics is whether and how openness to trade affects macroeconomic volatility. A widely held new in academic and policy discussions which can be traced back at least to Newbery and Stiglitz (1984), is that openness to international trade leads to higher GDP volatility. The origins of this view are rooted in a large class of theories of international trade predicting that openness to trade increase specialization. Because specialization (or lack of diversification) in production tends to increase a country's exposure to shocks specific to the sectors (or range of products) in which the country specializes, it is generally inferred that trade increases more volatility. This view seems present in policy circles, where trade openness is often perceived as posing a trade-off between the first and second moment (i.e. trade causes higher productivity at the cost of higher volatility).

Advocates of liberalization believe that policy reforms so far has improved economic growth and performance significantly while critics argue that the total withdrawal of restrictions on several matters have had negative effects on future growth and performances of the economy. They are also of the view that liberalization has worsened inequalities across and within the countries, environmental degradation and vulnerability of the poor nations have increased and that developed countries have established dominance over developing countries culminating in neo-colonization. Thus, it is pertinent to find out if trade liberalization has had positive or negative impact on Nigeria's economic performance.

The growth of the industrial sector in Nigeria in the 1970's was the outcome of a policy of import substitution (Ayoninde & Olayinka, 2012), such policy harmed export party through the increasingly over valuation of the domestic currency, partly through the encouragement of low return investments by preferential credit policies. Exposure to world prices generated a process of competitive selection in which some firms could not survive because they owe their existence largely to previously sheltered markets or subsidized input supplies.

The steady rise in the UNR from 1970 to date is caused by the huge number of school dropouts and an increase in job seekers every year with very few trained to opt for self-employment. This situation is also a result of the low savings rate that does not generate sufficient levels of investment and economic activity to lure unemployed workers. Furthermore, the 2007-2008 economic crises further increase the UNR, already in double digits since 200l. This case is reflected by the adverse

consequences of the global financial crisis in terms of massive job losses and labour supply exceeding demand. Inflation which is an important factor for consideration in policy decision making has negatively affect economic development and also creates insecurity in the economy. The behavior of inflation dynamics is a longstanding issue in economics. Imported inflation is transmitted from one country to the other particularly, during periods of rising price all over the world (Anyanwu, 1992). The impact of the policy shocks of 1986 and the rise of 2007-2008 have had significant effects on the trend in this variable. The government's efforts to tackle this macroeconomic problem are yet to achieve desirable result as unemployment and inflation rises with the hope that openness of trade can lead to an improvement in the performance of the variables.

RESEARCH QUESTIONS

This study will find answers to the following questions

What is the impact of GDP on trade openness on Nigerian's?

What is the impact of real interest rate on Nigeria's trade openness?

To what extent does unemployment rate have an effect on Nigeria's trade openness?

What effect does exchange rate have on trade openness in Nigeria?

RESEARCH HYPOTHESIS

This study attempts to test the following hypothesis;

Ho: GDP has no significant impact on Nigeria's trade liberalization.

H1: GDP has a significant impact on Nigeria`s trade liberalization.

Ho: Real interest rate has no significant impact on trade openness in Nigeria.

H1: Real interest rate has a significant impact on trade openness in Nigeria.

Ho: Unemployment rate has no significant effect on trade openness in Nigeria.

H1: unemployment rate has a significant effect on trade openness in Nigeria.

Ho: Exchange rate has no significant effect on trade openness in Nigeria.

H1: Exchange rate has a significant effect on trade openness in Nigeria.

TRADE AND IMPORTED INFLATION

Imports of intermediate inputs represent a factor of economic growth but they can also de-stabilize domestic economies through price changes and/or competitive pressures on domestic producers of competing products. In general, imports compare with domestic production an influence the way domestic resources are used in stimulating efficiency gain. In brief, trade is another channel of transmission of domestic and external shocks leading to real price effects.

How much of import price changes are neglected in higher domestic costs depend on the share of imported input in total production costs, the way important inputs are priced, and the tightness of the

link between import prices and exchange rates. The tighter the link between import prices and exchange Rtes. The tighter the link between import prices and exchange rates, the greater the dependence of exchange rate volatility on the movements of import prices. The later is particularly important for countries which depend on commodity trade.

TRADE LIBERALIZATION AND ECONOMIC GROWTH

Economies of the world have become so international that it has become apparently difficult if not impossible for any economy to function in isolation (Kalu, E.U et al 2016). Trade liberalization according to the protagonists is economic integration for global output expansion, in that, with market liberalization, investment funds can move unimplemented form industrialized countries to developing countries where they are most needed (Anowor, O.F. et al, 2013). Macro-economic conditions and performance are affected by trade in different ways. Exports are a component of aggregate demand and are therefore a factor in economic growth. For example, Prassad and Gable (1997) show that the exports of Deco countries serve as a catalyst Of aggregate demand and are therefore, a factor in economic growth. For example, prasseid and Gable (1997) show that the exports of DECO countries served as a catalyst in all economic recoveries, and this positive effect was further correlated with the degree of the economy's openness to international trade. While antagonist argue that trade liberalization is a conscious effort by the western world to deliberately force some of their economic policies that may not be favorable to the receiving economy with the aim perpetually contributing to the under development of the less developed countries. It is seen as another form of post-colonialism strategy which does not promote self-reliance, self-determination and indigenization (Ojo, 2005). They also argued that the success of most developed nations is through protectionism and subsides and not because of free trade (Ha-Joon, 2007). It is on this point of view that trade liberalization is defined as integration toward unified economic system dominated by supra-national countries and institutions that are not accountant to democratic processes or national governments (Richard, 2000). In addition, further reasons for the changing perception of liberalization are thus, the lack of tangible benefits to meet developing countries from opening their economies, despite the well published claims of export and income gains which antagonists argue that it is even lesser than economic losses and social disorder rapid trade liberalization has caused many developing countries; they also argue that trade liberalization has led to growing inequalities of wealth, technology, decreasing opportunities both in home and the international community, and the perception that environmental, social and cultural problems have been worsened by the workings of free trade economy (Aja, 1998). According to CIE (2009), trade liberalization will result to increased import competition, which will encourage domestic producers to pursue productivity gains, either through the use of better

technology and business practices or through innovation and/or quicker adoption of new ideas. On the contrary, depending on the structure of the economy and such things as the responsiveness of the demand for a country's exports to changes in price, the imposition of tariffs and other import restrictions with a view to promoting a favorable balance of trade will lead initially to a fall in imports and an improvement in the trade balance. For a given savings and investment behaving this will lead to a rise in demand for the country's currency relative to its supply and hence an appreciation of the exchange rate. However, the higher the exchange rate will reduce the demand for the country's currency relative to its supply and hence an appreciation of the exchange rate. However, the higher exchange rate will reduce the demand for the country's exports and restores some of the imports. depending on the relative responsiveness of exports and imports to price has compounded this as tariff protection thus hold the highly productive export industries back while having a smaller effect on the less productive sectors that are being protected.

REASONS FOR EXPORT AND IMPORT TRADE

Foreign trade has been regarded as an engine of growth and foreign investment (Adewinyi, 2002). Also, similar to trade openness, the relationship between foreign direct investment (FDI) and economic growth has been a topical issue for several decades. Policy maker in a large number of countries are engaged in creating all kinds of incentives (e.g. export processing zones and tax incentive) to attract FDI, because it is assumed to positively affect economic development.

In Nigeria, foreign trade helps in no small measures to accelerate economic growth. It has helped in the importation of machineries such as tractors, ploughs, industrial plants and equipments. Ozumba and Chigbu (2013), points that the interest to promote non-oil exports was borne out of not just its huge potential for foreign exchange earnings but also for its employment generation and poverty reduction capability through the extensive backward linkages it offers as well as the desire to diversify the country's production base. Export and import trades are known as international trade. Thus, the rationale for international trade includes:

❖ Increase in Output: The emergence of international trade has contributed to increased productivity world-wide.

❖ Exchange of Technology: International trade creates the opportunity for transfers of technical knowhow and cross fertilization of ideas among nations.

❖ Promotes World Peace: With international trade, tribalism, religious and societal inhibitions are fast admonishing; giving way to more peaceful interaction and adaptation between all class of people in different parts of the universe.

❖ Efficient Allocation of Resources: World resources are more effectively channeled to more productive ventures by participating countries. It encourages each country to specialize in the production of those goods and services for which its resources are mostly suited.

❖ Leads to Market Expansion: Through expanded marks, international trade enables the benefits of large scale production to be enjoyed by participating countries. This economy of large scale production lowers cost of production as well as the general price level.

❖ Improve Standard of Living: Different types of products are provided through foreign trade. Products that cannot be produced in a particular country can be traded, thereby increasing the variety of goods and services that are available for human use.

❖ To Earn Foreign Exchange: This is the most important reason why countries engage in foreign trade, in order to earn foreign exchange from the sales of their goods and services, increasing their foreign reserve thereby creating a favorable local currency appreciation as well as put the demand for its goods and services on a high rate thus outing the country at a favorable balance of payment position (Orji, 2007).

According to Orji (2007), ownership advantages are the firm's specific assets, international experience and the ability to develop either low-cost or differentiated products within the contacts of its value chain. The vocational advantages of a particular market are a combination of market potential and investment risk. Internationalization advantages are the benefits of retaining a core competence within the company and threading it through the value chain rather than obtain to license, outsource, or sell it. In their contribution, Afaha and Aiyelabola (2012) see export as helping to increase foreign exchange earnings, improve balance of payment position, create employment and development of export oriented industries in the manufacturing sector and improve government revenue through taxes, levies and tariffs. To these authors "These benefits will eventually transform into better living condition for the nationals of the exporting economy since foreign exchange derived would contribute to meeting their needs for some essential goods and services (2012).

TRADE AND MACROECONOMICS (SOME INSTITUTIVE EXPLANATIONS)

Trade and macroeconomic variables do not operate in a vacuum, they are strongly inter-related and inter-dependent. Before explaining the linkages, it may be useful to provide a few instinctive explanations of these linkages. Broadly speaking, the linkages are of two kinds, first macroeconomic variables, such as GDP, employment, price level, aggregate investment and consumption (hence saving) is affected by trade. Trade affects macroeconomics performance in terms of the dynamics of the economy growth, its stability and distribution.

Imports maybe used as inputs in production and therefore, directly affect the level of output and indirectly demand for labour and thus employment. Imports of good reflect choices of consumers and hence their decisions to spend their incomes or to save. In addition, imports compete with domestic production and may displace domestic firms form the market. As a result, domestically produced output will be affected and so will income and employment-adversely, if domestic firms are unable to compete or positively, if they become more competitive. Exports which constitute a component of aggregate demand, stimulate growth of domestic output and hence income and employment by expanding market for domestic firms, exports create conditions for production costs to fall as firm benefit from economic growth.

Trade is also sensitive to changes in macroeconomics policies. For example, an expansion in monetary or fiscal policy will increase aggregate spending which includes spending on imports and influence the allocation of resources between tradable and non-tradable. Macroeconomic policies also affect the conditions in financial markets and thus the incentives for capital flows to move in and out of the country. This, in turn, is a determining factor of the amount of external resources available for financing current account deficits.

The empirical literature for Nigeria has not differed significantly from mainstream debate. However, Ogunkola eta al (2006) is an exception. The paper evaluates the effects of trade and investment policy reform on macro-economic performance in Nigeria using ordinary least square and full information maximum likelihood estimator. The results reveal that trade and investment policy reforms do not have a significant impact on aggregate output growth. Also, average import tariff was found to be a significant determinant of export growth. In other words, the sign of the growth elasticity of average import tariff was negative, suggesting that higher duties lower export growth.

Anaujo and Flaig (2016) explore three possible policy reforms to strengthen Brazil's integration into the global trade: a reduction in import tariffs, less local content requirements and a full zero-rating of exports in indirect taxes. The simulation analysis was carried out using the organization for economic cooperation and development (DECO) multi-region trade cat model and the results indicate significant scope for trade policy reforms to strengthen industrial development and export competitiveness. Semancokova (2016) finds that trade openness has a positive effect on macroeconomic as a major source of growth in Brazil.

The study of Akims (2014) focused on Nigeria's participation in the ECOWAS trade liberalization scheme and the potential gains that may accrue the country opening up to trade in the West African Sub region. Employing a deductive approach the paper posit that Nigerian stands a chance of benefiting through such gains as improved wages of benefiting through such gains as improved wages

and employment, increased technology progress and economic growth with Nigeria remaining committed to the implementation of the common external tariff. She heads toward jointly taking advantage of the opportunities of trade liberalization.

Focusing on trade liberalization as it affects Pakistan, Ali and Abdullah (2015) in their study examined he relationship and impact of openness of trade on the economic growth of Pakistan. The VECM and Johanson multivariate approach where adopted to find out the short and long run estimates. The results of the study showed a short-term positive relationship between trade openness and GDP growth of the country. The long-run result state a negative impact of trade liberalization on the economic growth of Pakistan. Export oriented trade policies and quality conflict management institution were the policy recommendations made by the study.

In another dimension, Muhammed and Jian (2016) studied the association between openness and growth of selected Muslim countries using random and fixed effect model (PG & FE). The findings from Pedron: Co-integartion test indicated a long-run relationship among variables which was absent in Kao cointegration test. The result of RG and FE model shows that openness has significant and positive effect on growth, in addition, foreign direct investment, inflation and human capital and also affecting growth in Muslim countries. Shuaib, S.A "et al" (2016) critically analyzed the effect of financial openness on economic growth in Nigeria. The research time frame ranges from the period of pre-structural adjustment programme. Structural adjustment programe and post-structural adjustment programme. The ordinary least square (OLS) method was used to estimate the model. The results revealed that trade openness (Topen) and inflation rate (INF) is significant factors jointly influencing the growth rate of Nigeria economy. Amongst others, this study recommends that national monetary authority should effectively regulate and monitor the liquidity level in the financial sector via money in circular and credit disbursed to the private sector in order to foster real sustainable growth.

Shuaibu (2016) relies on an integrated CGE micro simulation model to assess the poverty effect of liberalization trade in Nigeria. The author finds that trade liberalization had poverty-reducing effects albeit marginally in rural and urban areas. A major limitation of these studies is the focus on assessing distribution issues while ignoring microeconomic effects.

MODEL SPECIFICATION

The model employed in the study is a linear regression model which is in form of

TOP = (Xi) ------------------------------ (I)

Where; TOP = Trade openness

X = Set of chosen explanatory variables

The chosen variables are reflected in the model

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$Y = bo + b_1x_1 + b_2x_2 + b_3x_3 + b4x4 + \mu$

$TOP = F (UNE, GDP, XR, RINT)$ ----------------- (II)

Where; TOP = Trade openness (trade liberalization)

UNE = Unemployment Rate

GDP = Gross Domestic Product

XR = Exchange Rate

RINT = Real Interest Rate

Rewriting the above model in linear form;

$TOP = Bo + b_l UNE + b_2 GDP + B_3 XR + B4RINT + \mu$ ------------------------ (III)

Where

TOP = Trade openness

b_o = Constant or Intercept

$b_l + b_2 + B_3 + B_4$ = Coefficient or parameter

μ = Stochastic error term

UNE = Unemployment Rate

GDP = Gross Domestic Product

XR = Exchange Rate

RINT = Real Interest Rate

$Y = bo + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + \mu$ --(iv)

Where

Y = Trade Openness

X_i = Unemployment rate

X_2 = Gross domestic product

X_3 = Exchange rate

X_4 = Real interest rate

ANSWERING OF THE RESEARCH QUESTIONS

The research question was answered using the co-efficient of the independent variables.

TEST OF HYPOTHESIS

The hypothesis was tested using t-statistic. The decision rule is to reject the null hypothesis if the probability (t-stat) is less than 0.05, otherwise accept the null hypothesis when probability (t-test) is greater than 0.05.

METHOD OF DATA ANALYSIS

The model was estimated by the use of ordinary Vast Square (OLS) techniques of the classical linear regression model. The choice of this technique is justified by the blue properties of its estimators. E-view computer statistical package was used in the estimation of the parameters of the model.

Diagnostic test of the model were carried out using the coefficient of multi determination analysis of variance and Durbin Watson statistics. The results are stated in table .1. below:

Table 1: Diagnostic Test Result For Hypothesis One

Test Statistic	Value
R^2	0.984451
Adjusted R^2	0.982508
F-Statistics	506.5141
Prob (F-statistics)	0.0000000
D.W	1.533477

Source: Regression Result (see Appendix)

EXPLANATORY POWER OF THE MODEL

R^2, the coefficient of multiple determinations was used to test the explanatory power of the model and goodness of fit. From the result adjusted for degree of freedom is 0.984451 (table 4.1). This indicates that 98% of systematic variations in the dependent variable are explained by change in the independent variable in the model.

OVERALL SIGNIFICANCE OF THE MODEL

To test the overall significance of the regression, analysis of variance (ANOVA) is 506.5141 and prob (F-Statistics) is 0.000000. Testing the null hypothesis that the coefficients are equal to zero at 5% level of significance, we reject the null hypothesis since the prob (F-Stat) is less than 0.05 in each case. We therefore conclude that the independent variables have significance impact on the dependent variable in the model.

AUTO CORRELATION

Durbin Watson statistic was used to test for the presence of autocorrelation.

Decision Rule: If a computed value of Durbin Watson (d) is less than the lower limit (dl), therefore evidence of positive first order serial correlation, if it is greater than the upper limit (du) there is no evidence of positive first order serial correlation but if it lies between the lower and upper limits, it is inconclusive. In table 4.1, the Durbin Watson (d) statistics is 1.533477, therefore, since the d value lies

between the dl and du (ie) 1.193 and 1.730 respectively, it shows that the first order serial correlation is inconclusive.

MULTICOLINEARITY TEST

This is one of the assumptions that must hold before applying OLS estimation. The multicolinearity test is calculated to ascertain the degree of relationship that exists between the degree of relationship that exists between the dependent and independent variables. The decision rule that guides the test is stated as follows: If the correlation matrix shows a variable that has above 0.8 then there is multicolinearity in the model. However, from the result in the appendix, it was discovered that there is evidence of multicolineariity in the model though not a severe problem.

COINTEGRATION TEST

Johanson Co-integration Test

TABLE 2

Eigen Value	Likelihood	5% Critical Value	10% Critical Value	Hypothesized
0.638917	82.47211	68.52	76.07	None
0.524074	46.811945	47.21	54.46	At most 1
0.26668979	20..83211	29.68	33.65	At most 2
0.207611	9.8666277	15.41	20.04	At most 3
0.048000	1.721664	3.76	6.65	At most 4

* (**) denotes rejection of the hypothesis at 5% (1%)

Significance level L.R test indicates 1 co integrating equation (s) at 5% significance level.

Looking at the likelihood ratios as compared to the critical value at 0.05, the hypothesis of co integrating or the existence of the most one co integrating vector was rejected. The result shows that there are one co- integrating equations (vectors) in the set of normalized co- integrated vectors. This means that there is long run relationships between the variables.

(ECM) ERROR CORRELATION MODEL

This is an estimation which is used to obtain the short-term estimate of the variables. The error correction mechanism (ECM), was used to obtain the short-term estimate.

TABLE 3: Short Run Estimates Result

Variables	Coefficient	t-probability
ECM (-1)	-0.0496695	0.0419

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From the result in table 4.3 above, since the coefficient of ECM (-1) which is 0.000049695 is negative, we say that there is convergence and also the probability 0.049695 is significant at 0.05 level of significance.

UNIT ROOT TEST/STATIONARITY TEST

The unit of Stationarity of the variables under consideration, it is concluded based on the following decision rule. If the absolute value of the Philip Perron test is greater than the critical value, either at the 1%, 5% or 10% level of significance at the order zero, one or two, we conclude that the variables under consideration are stationary, otherwise they are not. For the variable under consideration the following values were obtained.

Table 4: Philip Perron (PP) Unit Root Test Results

Variables	Level	1st difference	2nd difference	Order of intg.
TOP	-1.356736	-6.645756*	-14.52090*	1(1)
UNE	-0.795011	-4.996608*	-9.194369*	1(1)
GDP	1.518161	-5.088969*	-11.56994*	
XR	-1.638502	-5.315099*	-11.22548*	1(1)
RINT	-1.255551080	-5.795097*	-12.07543*	
				1(1)
				1(1)
Critical Value				
1%	-4.2324	-4.2412	-4.2505	
5%	-3.5386	-3.5426	-3.5468	
10%	-3.2009	-3.2032	-3.2056	

 * (**) (***) signify significance at 1%, 5% & 10% respectively.

Source: Authors Analysis, 2018

The result in table 4 shows that all the variable where stationary at first difference, since the absolute value of the Philip Perron (PP) unit root test was greater than 5% chosen critical value.

ANSWERING OF RESEARCH QUESTIONS

The research questions were answered using the coefficient of the independent variables. The regression results are displayed in table 5

Table 5: Regression Result

Variables	Coefficient	Std. Error	t- statistic	Prob
UNE	0.404530	0.916954	0.441167	0.6621
GDP	-5.00E-07	1.84E-06	-0.271144	0.7880
XR	0.273961	0.129114	2.121854	0.417
RINT	0.913471	0.036637	24.93303	0.0000
C	0.490638	24.69042	0.0119822	0.9843

Source: Author's Analysis

The result of the regression can be summarized in equation form as follows;

TOP=0.490638 + 0.404530UNE − 5.00-07GDP + 0.273961XR + 0.913471RINT

S.E = (24.69042) (0.916954) (1.84E-06) (0.129114) (0.036637)

 t = (0.019872) (0.441167) (-0271144) (2.121851) (2.493303)

RESEARCH QUESTIONS

i. . What is the impact of GDP on trade openness in Nigeria?

From the regression result stated above (table .4) the macro economic variables GDP has a negative impact which is shown by the negative coefficient. This means that when there is increase in openness of trade reduction in tariff or import duties, GDP tends to reduce (i.e.) -5.00E-07.

ii. What is the impact of real interest rate on Nigerian's trade openness?

Based on the regression output stated above, (table .8) the RINT has a positive impact on TOP (i.e.) 0.913471.

iii. To what extent does unemployment rate have an effect on Nigerian's trade openness?

From the regression result stated in (table .5) above, the unemployment has a positive relationship with trade openness. This can be seen in the positive coefficient which is 0.404530.

iv. What effect does exchange rate have on trade openness?

Exchange rate has a positive effect on trade openness. This can be seen in table .4 where the coefficient of exchange rate is seen to be 0.2773961.

TEST OF HYPOTHESIS

The hypothesis was tested using the t-probability.

Decision Rule: If the t-probability is greater than the 5% critical value we accept the null hypothesis otherwise, we reject the null hypothesis when significant Prob is less than 0.05.

Ho: GDP has no significant impact on Nigerian's trade openness.

From the table 5, since the t-probability (0.7880) is greater than critical value of 5%, we accept the null hypothesis. This follows that GDP has no significant impact on TOP In Nigeria.

Ho: RINT has no significant impact on trade openness in Nigeria.

From table 5, since the t-probability (0.0000) is less than 0.05 critical value, we reject the null hypothesis and conclude that RINT has a significant impact on trade openness in Nigeria.

Ho: Unemployment has no significant effect on trade openness in Nigeria.

From table 5 since the t-probability (0.6621) is greater than the 5% critical value. We therefore accept the null hypothesis and conclude that UNE has no significant effect on TOP in Nigeria.

Ho: Exchange rate has no significant effect on openness in Nigeria.

From the table 5 above, the t-probability which 0.0417 is less than 0.05 critical value, we reject the null hypothesis and conclude that exchange rate has a significant effect on TOP in Nigeria.

CONCLUSION

The importance of trading at the international market has necessitated the adoption of trade liberalization by most of the economies around the globe which is aimed at easing flow of goods and services between trading countries. The degree of trade liberalization have been argued to determine the level of exchange activities that is export and import which has a long way to determine the balance of trade of the countries involved. Nigeria not left out has also adopted trade liberalization and trade liberalization since 1986 with the aim of seeing its exportation rise. This work was prompted by the need to understand the response of some macro-economic variables to trade tariff liberalization policy in Nigeria. This is particularly important in view of the government revenue, diversification and the need to meet its multilateral trade obligations.

A quantitative finding suggests that the impact differs based on the particular macro-economic variables used. Macro-economic variables such as GDP is negatively related to TOP which means that or suggest that import duties cuts dampen productivity and this may be due to the constrained domestic production due to the influx of similar imported products, while other variables such as UNE, RINT and XR are positively related to TOP. These variables such as UNE, GDP and RINT in this work do not conform with what Oruta (2015) POINTS "To increase the level of employment, some scholars have argued that the flow of goods and services (Trade flows) covered propel employment generation, especially in developing countries. Painta and Virareli (2006) cited in Oruta (2015) stated further that growth in employment has a feedback on economic growth, such that an increase in income would expand domestic demand, which in turn will lead to sustainable GDP growth and reducing markets.

RECOMMENDATIONS

The following recommendations were;

❖ Government must review the degree of its trade liberalization by keeping trade openness rate below or at certain level in order to ensure an improved macro-economic performance.

❖ Government should checkmate the reduction of import duties in order to get conclusive answer whether or not trade liberalization has a positive impact or effect on economic growth and stability.

❖ Government should check the inflation dynamics so as to avoid imported inflation which are often transmitted from one country to the other, particularly during periods of rising price all over the world.

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