

Trade Openness and Economic Growth in Nigeria

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Abstract

The paper examined the effect of trade openness on economic growth of Nigeria using data from 1970 to 2016. We used secondary data obtained from world development data base (2000), World Bank and International Financial Statistics, IFS- International Monetary Fund Data Base (2010) and Central Bank of Nigeria Statistical Bulletin 2014.

Using the Augmented Dickey-Fuller (ADF) and Phillip-Peron (PP) unit root test, we discovered that all the series are non-stationary at levels. However taking the variables at first difference, results shows that all are $I(1)$ at 5% for ADF and 1% for PP level of significance except the labour input which was not stationary at first difference in ADF.

The findings from Co-integration test showed that an equilibrium relationship exists among the variables and using the Co- integration test in line with Engel and Granger (1987) which believed that there is a long-run relationship among economic variables if tested for unit root problem and since no problem is found which then conform with the claim of the study. Thus, all the coefficient were correctly signed and stationary at 5% level.

Trade openness and economic growth depicted a positive relationship but a negative relationship existed between economic growth and exchange rate but this was expected especially for a country that engaged in international trade.

Keywords: Trade Openness, Economic, Growth, Nigeria, World Bank, Central Bank

1.0 Introduction

With the enormous research that has been carried out to examine the effect of trade on the growth and development of countries, there has not been any acceptable conclusion.

Krueger's econometric analysis, using data from the individual country studies revealed that there exists a strong evidence in favour of an indirect effect of liberalization on growth, higher exports positively affected GNP growth. However, the dummy variables coefficients were not significantly in any of the regressions estimated suggesting that there is no direct effect of liberalization on economic growth. Therefore, her conclusion that trade regimes per se had no direct effect on economic growth troubled some scholars.

Balassa (1982) using data on effective rate of protection, effective export subsidies and nominal protection, he classified eleven (11) countries into four categories. He found that for the period 1960 to 1970, those countries with lower anti-export bias had experienced a faster rate of

growth of exports and he concluded that this was strong evidence favouring the hypothesis that protectionism seriously hampered export expansion. In trying to test the more controversial proposition that trade regimes affect Gross Domestic Product (GDP) growth independent of exports, he faced the traditional problem of measuring trade orientation. Instead of using dummy variables as Krueger had done he decided to use the growth rate of exports as a proxy for outward orientation. Using Spearman rank correlation coefficients on pooled data for the eleven countries, he observed that export growth and output had been positively correlated and concluded that, "the expansion of exports and the consequent growth of GDP have been the result of the incentives applied". Although, his comparative analysis was backed by individual country studies, yet it faced some limitations. This includes lack of role for real exchange rate in the explanation of export performance and the use of a highly suspicious proxy (export growth) for trade orientation. Therefore, this study examined the effect of trade openness on growth in Nigeria for the periods of 1970 to 2016.

Following the introductory aspect, the study reviews related literature in section 2 while section 3 entails the methodology used. Section 4 discusses the results and findings while section 5 presents summary and conclusion.

2.0 Literature Review

Several empirical studies have been carried out linking trade to growth for developing economies and most of the growth theories assumed a positive relationship between trade and economic growth. A favourable impact is that greater openness expands the size of market facing domestic exporters (Krueger 1988), thereby raising returns on innovation and enhancing the country's specialization in the research intensive production. This theoretical literature is not ambiguous about the direction of increased openness on the growth rate. This is because new growth theories also show that growth can be lowered by increased foreign competition or it can be increased by import protection. Competition from the increased availability of imported goods to domestic consumers also forces domestic firms to offer competitive prices, to improve production efficiency, and to innovate. Free trade also presents domestic firms the opportunity to export their products and services to other countries, stimulating domestic growth. But, while increased trade leads to higher incomes and faster growth for the economy as a whole, trade liberalization typically displaces some workers and resources in import-competing industries. While consumers are "winners" from free trade largely through lower prices and greater variety, adversely affected groups are forced into other sectors of the economy in the face of increased imports. On balance, however, existing research indicates that the net economic benefits of free trade are substantial.

Modern empirical work on trade policy and growth can be classified into two categories—large scale cross-countries studies that have investigated the experience of a group of countries with trade policy reform, and empirical studies that have investigated on the broad cross-country data, the relationship between the pace of exports expansion and aggregate economic growth. (Oladipo 1998).

Krueger and Bhagwati (1978) provide the first systematic attempt at formally classifying trade regimes. In order to evaluate the effect of trade policies, they identified five phases into the evolution of trade regimes. The first phase characterized by across the board imposition of qualitative controls, usually associated with a balance of payment crisis. In phase II, the control system becomes more complex and discriminatory, increasing the anti-export bias of the regime. Phase III is the beginning of the liberalization process and is characterized by the implementation of (nominal) devaluation and relaxation of some quantitative restrictions (QRS). During phase IV further steps towards liberalization, through the replacement of quotas by tariff are implemented. In phase V, the economy has become fully liberalized;

current account transactions are fully convertible and QRS are not used any longer. While the first two phases characterized an illiberal trade system, phase III through V represent different stages in the movement towards free trade. They found out that by mid 1960s one half of the countries in their sample had evolved from highly protectionist policies to a liberalized stage. However, Balassa (1982) argued that Krueger's result were seriously affected by an inadequate taxonomy of trade regimes. According to him, Krueger focused exclusively on quantitative restrictions and thus ignored the protective effect of tariffs. He pointed out that even in the absence of QRS, high tariffs usually introduced a strong bias against export. He thus proposed an alternative way of classifying trade regimes. This ranged from outward orientation (where the export bias stemming both from quantitative restrictions and tariffs had been eliminated) to inward orientation where the anti-export bias was the highest.

Babalola (1967) in his own study asserted that a crucial survey of economic history shows that no country has successfully developed without a recognizable growth in her foreign sector. This is because external sources of capital accumulation are more crucial to an economy than the domestic sources, most especially at the early stages of growth. With the exception of Britain and Japan, all the present advanced industrial countries depended primarily on external sector in virtually all their economic activities.

Melo and Robinson (1989) argues that countries that have more open trade policies are better able to take advantage of economics of scale, technology transfer, and other externalities that trade may provide. They focused on the dynamic effects of these benefits in explaining the differences in growth performance of countries with outward-oriented trade strategies and those of inward-oriented ones.

Also, Karunaratne (1994) opines that besides the static welfare losses, protection would undermine positive externalities and dynamic benefits of trade. Proponents of liberalization of trade are of the opinion that protection drives a wedge between domestic and international prices and misalign the exchange rate causing economy wide misallocation of resources. Protection insulates the domestic economy from the winds of competition and thus weakens the pressure to adopt best practice technology, quality control, management techniques and work techniques. Little, Scitovsky and Scott (1970) examined trade orientation and economic performance in developing economies. The study contains detailed analysis of commercial policies in developing countries and attempt to how these policies affect overall economic performance. Using cross-sectional data comprising of Argentina, Brazil, Mexico, India, Pakistan, the Philippines and Taiwan, the study provides comparative evidence on how the nature of protection of intermediate and final goods affect relative profitability to sectoral value added. According to him, restrictive protectionist policies worsen income distribution, reduce savings and capacity utilization, and lead to low growth.

Easterly (2005) and Rodrik (2006) also examine the Washington Consensus on developing countries that growth would benefit from a reduction in tariffs and other barriers to trade. But a backlash against this view now suggests that trade policies have little or no impact on growth. If "getting policies right" is wrong or infeasible, this leaves only the more tenuous objective of "getting institutions right" .

Joseph M. Nowakowski (1998) state clearly that there are costs and benefits of openness when he was examining the effect of trade on efficiency. The benefits include access to goods and services previously unavailable, or available only at unattractive high prices, enhanced value of output measured by world prices and enhanced efficiency. While the costs include structural unemployment as the economy adjusts to a new set of relative prices and some sectors decline while others grow and changes in the relative domestic values of inputs as owners of factors of production find their factors either growing or falling in value.

The new growth literature also identifies a number of avenues through which openness might affect long-run growth (Harrison and Hanson 1999).

Lionel Fontage and Mondher Mimouni(2000) state five principles why trade development matters, which are specialization, variety, increasing returns, pro-competitive effect and lastly positive externalities. Also, research carried out by Edwards (1998) shows that technological change is a positive function of both a county's openness and the gap between a country's technology level and that of the rest of the world.

Coe and Helpman (1995) discuss how recent models of economic growth imply a positive relationship between openness to trade and total factor productivity growth.

Dowrick (1994) applies the new endogenous growth theories to the question of whether more trade, especially in the presence of imperfect competition, is welfare enhancing. His econometric work on the effect of increasing openness on economic growth addresses a very pertinent issue. No one really doubts that some trade is better than autarky, or that countries with high initial trade barriers would benefit from trade liberalization. The debate centers instead on the merits of moving along the continuum between a relatively open trade regime and an even more open one. He concluded that for countries with relatively low trade barriers to begin with, greater openness brings only modest benefits, and can even be counter-productive.

Julian di Giovano and Andrei A.Levchenko (2006) examines the mechanisms through which trade openness affects output volatility using an industry-level panel database of manufacturing products and trade. The main results are threefold. First, sectors more open to international trade are more volatile. Second, trade leads to increased specialization. These two forces act to increase aggregate volatility. Third, sectors which are more open to trade are less correlated with the rest of the economy, an effect that acts to reduce overall volatility. The point estimates indicate that each of the three effects has an appreciable impact on aggregate volatility. Added together, they imply that the overall effect of trade openness is positive and economically significant. These impacts also vary a great deal with countries characteristics. They estimate that the same increase in openness raises aggregate volatility five times more in developing countries compared to developed ones and also find out that the marginal impact of openness on volatility roughly doubled over the last thirty years, implying trade exerts a large influence on volatility over time.

Recent literature has highlighted the role of both exports and FDI on economic growth. On the one hand, the export led growth (ELG) hypothesis states that exports are the main determinants of overall growth. At the heart of the ELG model are beliefs that ;

(a) The export sector generates positive externalities on non-export sectors in the economy through more efficient management and production techniques (Feder, 1983);

(b) Export expansion increases productivity by creating scale economies (Helpman and Krugman, 1985; Krugman 1997);

(c) Exports help to alleviate foreign exchange constraints and thus provide greater access to international markets (Esfahani, 1991).

Endogenous growth theory extends this analysis by emphasizing the role of exports on technological innovation and dynamic learning (Romer, 1986; Lucas, 1988; Grossman and Helpmann, 1995; Alisana and Rodrick, 1999).

Antonio Ciccone and Francisco Alcalá (2004) estimate the effect of international trade on average labor productivity at the country level. Their empirical approach relies on summary measures of trade that, they argue, are preferable on both theoretical and empirical grounds to the one conventionally used. Their estimates are highly significant and robust even when they include institutional quality and geographic factors in the empirical analysis. They also examine

the channels through which trade and institutional quality affect average labor productivity. Their finding is that trade works through labor efficiency, while institutional quality works through physical and human capital accumulation. They concluded with an exploratory analysis of the role of trade policies for average labor productivity.

Balassa (1980) predicated that the expansion of trade by the newly industrializing countries is on the pursuit of outward-oriented strategies, so as to provide appropriate incentives to exports and to allow imports from other developing countries. It would also contribute to efficient import substitution by ensuring low-cost manufacturing through international specialization and international division of the production process as this also apply to countries at lower stage of industrial development

The positive long-run effects of trade on growth arise only when trade openness is combined with an appropriate institutional framework and other good policies such as those that encourage investment allow effective conflict resolution and promote human capital accumulation. Therefore, countries below a threshold level of institutional development may be unable to reap the benefits of trade openness due to weak institutional quality, less developed financial systems and/or distorted government policy. Lederman and Maloney(1986) examine the empirical relationships between trade structure and economic growth, particularly the influence of natural resource abundance, export concentration, and intra-industry trade. They test the robustness of these relationships across proxies, control variables, and estimation techniques. They find trade variables to be important determinants of growth, especially natural resource abundance and export concentration. In contrast with much of the recent literature, natural resource abundance appears to have a positive effect on growth, whereas export concentration hampers growth, even after controlling for physical and human capital accumulation, among other factors.

Caner and Hansen (2004) investigate whether the trade's contribution to standards of living and long-run economic growth varies according to the level of economic development. The empirical evidence shows that greater trade openness has strong beneficial effects on growth and real income for the developed countries but significantly negative effects for the developing countries. The heterogeneity in the relationships of trade with growth and income suggests that greater international trade and integration may foster uneven development and hence contribute to more diverging economies. In addition, trade seems to exert its influence via the productivity channel for higher-income countries.

2.1 Empirical Evidence from Less Developed Countries (LDCs)

Empirical studies have been carried out concerning the effect of trade on low income countries. According to Feder (1982) the sources of growth of some semi-industrialized less developed countries using an analytical framework that incorporate the possibility that marginal factor productivities are not equal in the export and non-export sectors of the economy. He found that econometric analysis utilizing this framework indicates that marginal factor productivities are significantly higher in the export sector. He concluded that growth can be generated not only by increases in the aggregate levels of labour and capital but also by the reallocation of existing resources from the less efficient non-export to the higher productivity export sector.

Kayode (1986) recognized the fact that the remarkable economic performance of the newly industrialized countries (NICs) such as South Korea, Singapore, Honkong etc. has been largely due to export oriented growth of their economies. In these economies, the government together with dynamic entrepreneurs has succeeded in promoting vigorous export-led growth industrialization.

Haberler (1998) identified four key points in discussing the indirect or dynamic benefit of trade on the participating less developed countries. First, trade provide material means that are indispensable for economic development. Secondly, and more importantly, trade is the means for the acquisition of technical knowledge, managerial and entrepreneurial skills. Thirdly, is also the means for international movement of capital especially from the developed to the developing countries.

In a study carried out on Least Developed Countries, Shafeaddin (1994) observed that through the removal of the traditional bias against exports and production of manufactures, trade liberalization would lead to a diversification of production and exports in favour of manufactures. In general, high and medium liberalizers, tend to perform better than the low liberalizer, they had positive GDP, manufacture value added (MVA) and export growth and a greater degree of production and export diversification.

Also, Keshab (2008), specified four macroeconomic models and solved numerically to analyze impacts of fiscal, monetary and trade policies for a small open economy and for economies in the interdependent global economy. Simulations show how contractionary or expansionary policies influence on growth rates, output, trade-flows, exchange rates, demand for money and prices. Generally accommodative fiscal and monetary policies are better in increasing consumption and income and in reducing gaps in saving and investment and in exports and imports. While the empirical evidence on regressions based on time series and panel data for five major industrial economies quantify global interdependency among them, the analytical solutions of micro-founded dynamic general equilibrium model shows how real exchange rates are determined by parameters defining preferences, technology and trade for these economies.

3.0 Model Specification

In order to investigate the effect of trade openness on economic growth in Nigeria, this study employed the basic model of the classical which is the Solow's growth model (1956) that assumed that production function is homogeneously determined. This production function has been widely applied in the analysis of growth theory and assumes unconventional inputs based on the investigation. Thus, the approach used in this study follows that of Fosu and Magnus (2006) and the aggregate production function to be estimated is specified thus:

$$Y_t = A_t K_t^\alpha L_t^\beta \dots\dots\dots 1$$

From equation 1, Y_t represents the aggregate production of the economy (proxied by GDP) at time t; A_t, K_t and L_t also denote technical progress, capital stock and labour stock at time t, respectively. Following the Bhagwati's hypothesis, it is assumed in this study that trade openness and other factors, which are exogenously determined, all influence the behaviour of technical progress (Bhagwati, 1978; Edwards, 1998).

Consequently, technical progress A_t is therefore specified as:

$$A_t = f(DOP_t^\lambda, C_t) \dots\dots\dots 2$$

From equation 2, DOP represents Trade Openness and C denotes constant.

Putting equation 2 into 1, then we have:

$$Y_t = C_t K_t^\alpha L_t^\beta DOP_t^\lambda \dots\dots\dots 3$$

To capture the effect of trade liberalization through the introduction of structural adjustment policy in 1986 and exchange rate, we include a dummy variable D and EXR to equation 3 which becomes:

$$Y_t = C_t K_t^\alpha L_t^\beta DOP_t^\lambda EXR_t^\phi D_t^\rho \dots\dots\dots 4$$

To estimate equation 4, we take the natural logs of both sides (in small letters), which result in the following equation:

$$y_t = c_t + \alpha k_t + \beta l_t + \lambda dop_t + \phi exr_t + \rho d_t + u_t \dots\dots\dots 5$$

The equation above represents the long-run relationship between trade openness and economic growth in Nigeria. From equation 5, c = constant, $\alpha, \beta, \lambda, \phi$ and ρ are constant elasticity coefficients of output with respect to inputs (parameter estimates), y = GDP per capita (economic growth), k = gross capital formation, L = total labour force, dop = degree of openness which is defined as the ratio of export plus import to GDP, exr = exchange rate, d = dummy variable which takes the value of 0 from 1970-1985 and 1 from 1986-2016 alternatively estimated using stability test (chow break-point test). Hence, equation 5 can be written as:

$$\ln GDP = c + \alpha \ln K + \beta \ln L + \lambda \ln DOP + \phi \ln exr + \rho \ln D + u \dots \dots \dots 6$$

Thus equation 6 represents the estimated equation, which exhibits the theoretical relationship between trade openness and economic growth in Nigeria.

Data used were obtained from World Development Database (2010), WDI, World Bank. International Financial Statistics, IFS-International Monetary Fund Database, 2010 and Central Bank of Nigeria-Statistical Bulletin, 2014.

4.0 Results and Discussion

4.1 Unit Root Test

It has often been argued that macroeconomic data is characterized by a stochastic trend, and if untreated, the statistical behaviour of the estimators is influenced by such trend. The treatment, which involves differencing the data to determine the level of Cointegration, is carried out in this section using the Augmented Dickey-Fuller (ADF) and Philips-Perron (PP).

Table 4.1: Unit Root Test

Variable	Level		First Difference	
	ADF	PP	ADF	PP
Log(GDP)	-0.5248	-0.4234	-3.5422**	-4.6531*
Log(K)	-0.5302	-0.6468	-3.0391**	-3.7510*
Log(exr)	-0.2262	-0.0913	-3.5436**	-4.9239*
Log(L)	-2.4300	-2.2690	-2.4510	-4.5185*
Log(DOP)	-1.6899	-2.0658	-3.9386*	-5.7512*

Source: Authors Computation (2017)

Note that (**)* denotes rejection of null hypothesis at the (5%) 1% levels

The table above shows that all the series are non-stationary at level. Taking the variables in their first difference, results show that all are I(1) at 5% for ADF and 1% for PP level of significance except the labour input which does not stationary at first difference in ADF. For consistency, therefore, all the series were considered as I(1) and taken at their first difference in the analysis.

4.2 Cointegration Test and Vector Error Correction Model

Having established the order of integration of our series, we determine the number of long-run equilibrium relationships or cointegrating vectors among the variables. Since the variables are found to be integrated of the same order, such as I(1) as shown above, it implies that an equilibrium relationship exists among the variables. Therefore, since the main focus of the study is to assess how economic growth in the long run reacts to change in trade openness and other macroeconomic variables, we conduct a Cointegration test in line with Engle and Granger (1987) which believed that long-run relationship exist among economic variables if the residual of the result of the Ordinary Least Square is tested for unit root problem and no problem is

found; that is stationary at level using Augmented Dickey-Fuller technique. Thus, this is conformity with the claim of this study as shown below.

Table 4.2
Engle and Granger (1987) Technique of Cointegration

ADF Test Statistic	-4.866134	1% Critical Value*	-3.6171
		5% Critical Value	-2.9422
		10% Critical Value	-2.6092

*MacKinnon critical values for rejection of hypothesis of a unit root.

Dependent Variable: D(ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM(-1)	-0.959494	0.197178	-4.866134	0.0000
D(ECM(-1))	0.263151	0.159597	1.648852	0.1084
C	-0.007463	0.023204	-0.321613	0.7497
R-squared	0.433597	Mean dependent var	-0.002710	
Adjusted R-squared	0.400279	S.D. dependent var	0.182082	
S.E. of regression	0.141008	Akaike info criterion	-1.002402	
Sum squared resid	0.676026	Schwarz criterion	-0.871787	
Log likelihood	21.54443	F-statistic	13.01397	
Durbin-Watson stat	1.940727	Prob(F-statistic)	0.000064	

Source: Authors Computation (2017)

Table 4.3
Short-run Speed of Adjustment using VECM
Dependent Variable: D(LOG(GDP))

Variable	Coefficient	Std. Error	t-Statistic	Prob.
ECM(-1)	-0.706288	0.187401	-3.768860	0.0007
D(LOG(K))	0.645329	0.128567	5.019397	0.0000
D(LOG(L(-2)))	2.812870	1.120511	2.510346	0.0175
D(LOG(EXR))	-0.148586	0.095232	-1.560255	0.1289
D(LOG(DOP(-1)))	-0.058290	0.183138	-0.318285	0.7524
R-squared	0.486570	Mean dependent var	0.190004	
Adjusted R-squared	0.420321	S.D. dependent var	0.186317	
S.E. of regression	0.141856	Akaike info criterion	-	0.939765
Sum squared resid	0.623815	Schwarz criterion	-	0.719832
Log likelihood	21.91577	Durbin-Watson stat	1.669869	

Source: Authors Computation

The above empirical result was analyzed with the use of the two-step Engle and Granger (1987) model which suggests that any set of cointegrated time series has an error-correction representation, which reflects the short-run adjustment mechanism. The motive of the analysis

is to discover whether the short-run dynamics are influenced by the estimated long-run equilibrium condition that is the cointegrating vectors.

A crucial parameter in the estimation of the short-run dynamic model is the coefficient of the error-correction term which measures the speed of adjustment of economic growth to its equilibrium level. The estimation using two-lag specification and by incorporating the error term (ecm), yield the result above. The results show that the parameter of the error-correction terms in the model is statistically significant and correctly signed. This confirms that economic growth in Nigeria has an automatic adjustment mechanism and that the economy responds to deviations from equilibrium in a balancing manner. The value of -0.7063 for the coefficient of error correction term suggests that the Nigerian economy will converge towards its long-run equilibrium level in a moderate speed after the fluctuation in trade openness, exchange rate, labour and capital inputs. Eliminating, for instance, 95% of a fluctuation in trade openness, exchange rate, labour and capital inputs would take a little less than one years or precisely 2.937 quarters.

Table 4.4
Empirical Analysis of Ordinary Least Square

Model:

$$\ln GDP = c + \alpha \ln K + \beta \ln L + \lambda \ln DOP + \phi \ln exr + \rho \ln D + u.$$

Dependent Variable: LOG(GDP)

Variable	Coefficie nt	Std. Error	t-Statistic	Prob.
C	-8.039967	1.460031	-5.506711	0.0000
LOG(DOP)	-0.439275	0.177895	-2.469292	0.0189
LOG(K)	0.771416	0.075122	10.26880	0.0000
LOG(L)	2.697776	0.453325	5.951091	0.0000
EXR	-0.001785	0.001268	-1.408523	0.1683
DUM	-0.068912	0.120129	-0.573653	0.5701
R-squared	0.996241	Mean dependent var	12.68966	
Adjusted R-squared	0.995672	S.D. dependent var	2.422271	
S.E. of regression	0.159361	Akaike info criterion	-	0.694647
Sum squared resid	0.838069	Schwarz criterion	-	0.438714
Log likelihood	19.54561	F-statistic	1749.273	
Durbin-Watson stat	1.436702	Prob(F-statistic)	0.000000	

Source: Authors Computation (2017)

4.5 Interpretation of Regression Results

The estimated model:

$$GDP = -8.0400 + 0.7714K + 2.6978L - 0.4393DOP - 0.0018exr - 0.0689D$$

In the estimated regression result as shown above, the explanatory power of the result was able to measure almost 99.57 percent total variation of the dependent variable i.e. Adjusted $R^2 = 99.57\%$. This shows that the model has high goodness of fit. The F-statistic is statistically significant at 1% level indicating the model equation is correctly specified and statistically significant. The Durbin-Watson d^* statistic is moderate (i.e. 1.44), this shows that the model equation has no serial autocorrelation problem.

The coefficient of the trade openness was wrongly signed but statistically significant at 5% level. The negative relationship exhibited by the coefficient of trade openness indicated

inelastic and a unit increase in trade openness would lead to 0.4393 decreases in economic growth in Nigeria. This shows that trade openness is not blessing to Nigeria but curse. The coefficient of capital and labour were positively signed and statistically significant at 1% level. This showed that an increase in both variables would immensely increase economic growth in Nigeria. The coefficient of exchange rate was negatively signed but insignificant. This implied that the appreciation in Nigerian currency is favourable to the economy. The coefficient of dummy variable was negatively signed and statistically insignificant, indicating that trade liberalization in Nigeria had not contributed meaningful to the economy.

5.0 Summary and Conclusion

The research work encompasses the relationship that exists between trade openness and economic growth in Nigeria between 1970 and 2016. This study analyzed the trend and pattern of GDP and fluctuations in degree of openness (DOP). The study reviewed various literatures on GDP and trade openness in Nigeria and also the theoretical aspect underpinning the relationship that existed between trade openness and economic growth.

The study employed time-series data which was analyzed using both the descriptive and econometric techniques. Using the unit root test, the results showed that all the variables employed were stationary at their first difference at 5% level of significance for ADF and 1% for PP except the labor input that was not stationary at its 1st difference in ADF, so, for consistency, all the series were considered to be stationary at 1st difference.

Also, the hypothesis that there is no significant relationship between trade openness and economic growth cannot be safely accepted implying that there is a non-directional causal relationship between trade and economic growth.

The findings from Co-integration test showed that an equilibrium relationship exists among the variables and using the Co-integration test in line with Engel and Granger (1987) which believed that there is a long-run relationship among economic variables if tested for unit root problem and since no problem is found which then conform with the claim of the study. Thus, all the coefficient were correctly signed and stationary at 5% level.

Trade openness and economic growth depicted a positive relationship but a negative relationship existed between economic growth and exchange rate but this was expected especially for a country that engaged in international trade.

All these findings were consistent with findings of researchers who found trade openness to be positively affecting growth in Nigeria.

5.1 Conclusion

This study has been able to established the effect of trade openness on economic growth in Nigeria and that a country will grow faster if she trades with other countries as it can have a transfer effect on the lives of the citizens which then translate to development. Exports, imports, and also trade policies have contributed to economic growth. This result is in agreement with Caner and Hansen (2004) who found positive relationship between trade openness and economic growth and development. However, the study of Easterly (2005) and Rodrik (2006) which suggest that trade policies have little or no impact on growth was not in support of our findings.

From our findings therefore, for an economy to grow, trade cannot be dispensed with as an instrument of growth and thus trade policies that can ensure increased openness that can then stimulate long-run growth should be formulated. Thus, the study recommended that Government should formulate policies that will liberalized trade and should be administered with caution so as not to discourage local production and exploitation and exploration of resources that will improve revenue earning capacity of Nigeria which would hasten growth and development.

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APPENDIX 1

Year	EXR	GDP	L	K	EXP	IMP	DOP
1970	0.7143	8,962	52	1,328	753	1,005	0.196162
1971	0.6955	10,375	53	1,942	1,124	1,414	0.244627
1972	0.6579	11,035	54	2,327	1,210	1,302	0.227639
1973	0.6579	12,252	56	2,746	1,950	1,881	0.312684
1974	0.6299	19,604	57	3,327	4,936	2,856	0.39747
1975	0.6159	22,945	59	5,789	4,208	5,239	0.411724
1976	0.6265	28,611	61	9,005	5,212	6,844	0.421376
1977	0.6466	33,585	63	9,513	8,353	7,564	0.473932
1978	0.606	36,053	65	9,926	7,049	8,567	0.43314
1979	0.5957	42,912	66	9,476	10,649	8,180	0.438782
1980	0.5464	50,270	68	10,683	14,767	9,650	0.485717
1981	0.61	50,751	70	11,815	11,434	13,490	0.491104
1982	0.6729	51,953	72	10,392	8,491	11,591	0.386542
1983	0.7241	57,144	74	8,425	7,779	10,016	0.311406
1984	0.7649	63,608	76	6,059	9,446	8,239	0.278031
1985	0.8938	72,355	78	6,489	11,648	9,001	0.285385
1986	2.0206	73,062	81	10,982	12,490	14,976	0.375927
1987	4.0179	108,885	83	17,401	31,152	26,863	0.53281
1988	4.5367	145,243	85	26,154	33,583	31,992	0.451485
1989	7.3916	224,797	88	39,847	73,496	56,550	0.578504
1990	8.0378	260,637	91	38,404	113,197	75,088	0.722403
1991	9.9095	328,115	93	76,865	122,114	102,817	0.685525
1992	17.2984	620,077	96	135,198	261,913	251,137	0.827397
1993	22.0511	967,280	98	225,250	455,794	485,574	0.973211
1994	21.8861	1,237,122	101	242,906	516,569	504,273	0.825175
1995	21.8861	1,977,737	104	323,137	875,895	834,297	0.864722
1996	21.8861	2,823,932	107	400,270	1,359,582	775,023	0.755898
1997	21.8861	2,939,651	109	512,843	1,321,418	1,109,741	0.827023
1998	21.886	2,828,656	112	682,052	948,307	1,076,785	0.71592
1999	92.3428	3,211,150	115	750,844	1,184,838	1,320,829	0.780302
2000	100.8016	4,676,394	118	947,555	2,537,758	1,505,808	0.864676
2001	111.701	5,339,063	120	1,286,197	2,310,724	1,735,356	0.757826
2002	126.2577	5,632,308	123	1,477,286	2,302,169	2,344,857	0.825066
2003	134.0378	7,532,915	126	1,797,520	3,746,500	3,127,126	0.912479
2004	132.3704	9,575,039	129	2,141,269	5,228,367	3,583,343	0.920279
2005	130.6016	12,989,628	132	2,709,729	6,901,732	4,575,603	0.883577
2006	128.2796	8,932,473	127.5	2,031,451	4,544,692	3,407,732	0.890283
2007	125.8331	9,757,514	128.625	2,169,992	5,105,323	3,673,451	0.899694
2008	118.5669	10,313,663	129.2813	2,263,110	5,445,028	3,810,032	0.897359
2009	158.1016	11,589,668	131.4	2,839,429	5,841,392	3,285,612	0.799312
2010	151.5116	13,402,473	137.8	2,771,441	4,934,652	3,657,392	0.641203
2011	158.0751	10,757,514	130.425	2,249,572	5,745,633	4,241,471	0.928021
2012	158.2959	12,613,623	129.4313	2,423,390	4,345,128	3,842,338	0.649448
2013	158.0516	12,128,928	128.1	2,989,769	5,504,701	3,345,323	0.730680
2014	184.5796	11,032,403	126.4	2,941,432	6,144,409	4,101,491	0.929126
2015	197.0731	11,357,854	131.745	2,869,072	5,984,243	4,222,160	0.899014

2016 199.3179 10,173,904 134.2813 2,443,120 5,482,188 3,952,172 0.927299

Source: Authors Compilation (2017)