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Trade and Trade Policy: A Comparative Study of Nigeria and Indonesia

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Abstract:
This paper compares how trade policies impact on trade patterns and structures, and how trade impacts economic growth in Nigeria and Indonesia. The study uses the standard measures of trade openness. Import plus export, as well as total imports and total exports separately, as proxies for trade policies and trade respectively, and includes real exchange rate to complete the explanatory variables. The dependent variable is the growth rate of real Gross Domestic Product. The study uses Vector Error Correction Model for annual data set extracted from the World Bank's World Development Indicators spanning from 1981 to 2014. Findings from this study show that total imports and total exports positively and significantly impact economic growth in both countries but that these impacts are stronger in Indonesia than Nigeria. This might have been because Indonesia trade policies are more growth enhancing than that of Nigeria. Trade openness negatively and significantly impact on economic growth in both countries, and this may be attributed to the detrimental effects of trade openness on developing countries. Real exchange rates impact significantly on economic growth in Indonesia but not Nigeria and this is attributed to difference in foreign exchange policies in both countries. Indonesia has a more flexible exchange regime than Nigeria. This study therefore recommends that policy makers in Nigeria can learn some lessons from Indonesia in respect of how to improve trade volumes and effective management of exchange rate to spur economic growth.

Keywords: Trade openness, Trade policies, Nigeria, Indonesia, Economic growth

1. Introduction

Foreign trade, also known as international trade, can be very important to economic growth of nations. It expands the market for products, foster healthy competition among nations, checks inefficient monopolies, raises productivity and transforms the traditional and subsistence economies into modern and industrial economies. Foreign trade also instills new ideas and skills and leads to importation of capital, managerial talents, technical know-how and entrepreneurship. It is also an important source of integration to global economy by developing countries (Rodrik, 2005).

But foreign trade can also be detrimental to nations and leads to a fall in economic growth rate, reduction in standard of living and increase in poverty and inequality. It can also lead to economic dependence rather than interdependence of nations and therefore limits the bargaining power of dependent nations. In this instance, foreign trade makes the dependent nations vulnerable to the economic policies of more powerful foreign partners and therefore limits their ability to manipulate and exploit important macroeconomic variables such as savings, investments, commodity prices and employment levels to their advantage since such efforts are frustrated by external policies beyond the control of dependent nations (Krueger, 1983; Harrison, 1996).

It is because the benefits of foreign trade are not guaranteed that both rich and poor nations, small and big nations, strong and weak nations, developed and underdeveloped nations, conquered and conqueror nations as well as colonies and colonial masters pay great attention to international trade. They are interested in the structure, direction and value of their international trade because these can have profound impact on their economic growth, standard of living, level of poverty, employment level and distribution of income. Each country wants to derive the maximum benefit (and at the minimum cost) from participation in international trade.

Indonesia and Nigeria are two countries spatially separated by thousands of kilometers. They are both rich in crude petroleum and have been structured by similar historical economic conditions. In 1970, the gross domestic product (GDP), per capita was USD 90 and USD 123.5 for Indonesia and Nigeria respectively (World Bank, 2014). The main exports of both countries up to the advent of the oil boom in 1970s were agriculture raw materials. By 2015, Indonesia has grown to be the largest economy in South East Asia, while Nigeria has become the largest African economy. By the same year, the income level, the structure of their economies and pattern of trade of the two countries had changed from how they were in the 1970s. Indonesia with a per capita of USD 3346 has become wealthier than Nigeria with per capita income of USD 2640.3 (World Bank, 2014). Indonesia economy had become more diversified in terms of production, imports and exports. Nigeria had not diversified from primary production. The different growth pattern of these two countries raises some important questions, what are the roles of trade structure and trade policy in these two countries? What lessons can Nigeria learn from Indonesia? What trade strategies can drive economic growth in Nigeria?

This study therefore examines the relationship between trade and trade policy and the growth of the economies of Indonesia and Nigeria. It identifies the obstacles between trade and growth in Nigeria by comparing trade data in both countries over a period of

thirty-five years between 1980 and 2014. The period is sufficiently long to enable us to assess how changes in the structure of the economy have been affected by the trade policies. The period coincides with several changes in both Nigerian and Indonesian trade policies.

The study is organized into six sections. What follows this introduction is section two, which compares the economy and trade structures of the two countries. Section three explains the basic concepts and reviews theoretical and empirical literature. Section four explains the data source, the model and the methods of data analysis. Section five presents and discusses the results, while section six concludes and makes recommendations.

2. Economy and Trade Structures in Nigeria and Indonesia: A Comparative Analysis

A comparison of the structure of the economies of the two nations reveals much difference. While the share of manufacturing value added in Nigeria was 9.75 per cent in 2014, it was 21.56 in Indonesia. Also, industry's share of value added in Indonesia is 42.9 per cent, but it was 20.67 in Nigeria. Agriculture share of the GDP in Nigeria and Indonesia was 20.24 and 13.72 per cent respectively in 2014. (see Tables 1 and 2). This reveals the extent to which the economies have become different and diverse. Theoretically, primary production will proportionately grow less in its contribution to the GDP as an economy develops. In 2014, the export base of Indonesia had become much more diversified to include mineral fuels and lubricants (34.99%), manufacturers (27.55%) and food items (20.81%) (Table 3). In the same year, the top exports in Nigeria were crude petroleum and petroleum gas (93.37%) as shown in Table 4. Thus, Nigeria export has not diversified from primary production. This reveals that Nigeria is still a developing country, exporting primary products.

Years/sectors	Agriculture	Industry	Manufacture	Services
1989	21.66%	38.35%	19.74%	40%
1999	19.61	43.36%	25.99%	37.03%
2009	15.29%	47.65%	26.36	37.06%
2014	13.72%	42.95%	21.56%	43.33%

Table 1: Sectoral Value added share as percentage of Indonesia GDP
Source: World Development Indicator. World Bank (2014)

Years/sectors	Agriculture	Industry	Manufacture	services
1989	32.16	43.6	5.75	24.25
1999	35.13	37.86	4.73	26.84
2009	37.05	34.21	2.47	28.74
2014	20.24	20.67	9.75	59.1

Table 2: Sectoral Value added share as percentage of Nigeria GDP
Source: World Development Indicators. World Bank (2014)

With regards to imports, the structure is such that both countries seem to be similar with import of manufactured being 46.80 per cent of total imports in Indonesia in 2014 and 47.4 per cent in Nigeria in the same year. However, import of minerals fuels and lubricants was 25.54 per cent for Indonesia and 15.3 per cent for Nigeria in the same year. Imports of food items were as high as 17.8 per cent of total imports in Nigeria in 2014 compared to 9.84 per cent for Indonesia in 2014 (See Tables 5 and 6)

YEARS	Agricultural raw materials	Food items	Ores and metals	Mineral fuels, lubricants and other related materials	Manufactures
1979	18.33	9.6	3.73	65.2	2.88
1989	9.27	12.03	6.51	40.23	31.94
1999	3.77	11.83	4.7	22.97	54.44
2009	4.53	17.30	9.17	28.42	40.58
2014	11.34	20.81	5.27	34.99	27.58

Table 3: Indonesia export by major commodity groups (SITC)
Source: World Development Indicator. World Bank (2014)

YEARS	Agricultural raw materials	Food items	Ores and metals	Mineral fuels, lubricants and other related materials	Manufactures
1979	0.457	3.58	0.185	95.1	0.3
1989	…	…	…	…	…
1999	0.13	0.32	0.01	98.94	0.6
2009	1.14	4.53	0.198	90.36	3.59
2014	0.8	1.8	0.5	93.2	3.6

Table 4: Nigeria export by major commodity groups (SITC)
Source: World Development Indicator. World Bank (2014)

YEARS	Agricultural raw materials	Food items	Ores and metals	Mineral fuels, lubricants and other related materials	Manufactures
1979	3.66	16	2.63	11.1	66.22
1989	5.42	7.6	4.41	7.72	74.53
1999	7.11	15.7	3.5	15.7	57.84
2009	2.8	8.92	3.06	19.81	65.33
2014	8.03	9.84	9.81	25.54	46.79

Table 5: Indonesia import by major commodity groups (SITC)
Source: World Development Indicator. World Bank (2014)

YEARS	Agricultural raw materials	Food items	Ores and metals	Mineral fuels, lubricants and other related materials	Manufactures
1979	1.14	16.85	2.35	2.29	77.37
1989	…	…	…	…	…
1999	1.46	27.02	2.63	1.82	66.56
2009	1	11.8	1.8	1.02	83.61
2014	8.6	17.8	9.3	15.3	47.4

Table 6: Nigeria import by major commodity groups (SITC)
Source: World Development Indicator. World Bank (2014)

YEARS	GDP growth rate	BOT(US$M)	Trade share as % of GDP
1979	7.32	556	53.12
1989	7.46	1108	45.69
1999	0.86	4097	62.94
2009	4.63	10628	45.51
2014	5.02	27513	48.2

Table 7: Trade share of Indonesia GDP, GDP growth rate, and Balance of Trade
Source: World Development Indicator. World Bank (2014)

YEARS	GDP growth rate	Bot (US$ mil)	Trade share as % of GDP
1979	6.8	2719	43.88
1989	6.5	6681	60.39
1999	2.8	4266	55.85
2009	9	-450	61.8
2014	6.3	56346	30.2

Table 8: Trade share of Nigeria GDP, GDP growth rate and Balance of Trade
Source: World Development Indicator. World Bank. (2014)

Nigeria is more import dependent than Indonesia even though both countries are rich in crude petroleum and gas. Nigeria has become very dependent on foreign inputs for domestic production and has become a net importer of refined petroleum products. Nigeria's main export is principally primary product, crude petroleum, whose prices are volatile. Also, an analysis of three key variables, economic growth rate, balance of trade and trade as share of national output shows that Indonesia also out-performed Nigeria in all the three indices. (see tables 7 and 8)

3.1. The Concepts
Trade, the exchange of goods and services, can be referred to as foreign trade when the exchange crosses a national boundary otherwise it is home trade. Trade policy, the set of rules, regulations and practices that guides, controls and influences the flow of goods and services in foreign trade. Certain government ministries, agencies and departments coordinate the formulation, design and implementation of trade policies in Nigeria and Indonesia.
Trade openness is a multidimensional concept which refers to the extent to which countries allow free trade, free movement of capital and financial services (Evans, 2007). It is much wider than trade liberalization which measures the extent to which the degree of protectionism policies has been reduced or removed. Openness to trade has been a significant and positive impact on growth of many nations via increased investment (Evans, 2007), but not all nations.
Export promotion is government effort to expand the volume of country's exports through export incentives to promote a greater level of economic activities in export industries so as to generate more foreign exchange and improve the current account of balance of payment (Todaro, 1996). Export promotion schemes can be in the form of public subsidies, exchanges rates devaluation, special credit lines, exports guarantee, tax rebates and free trade zones. It is a complimentary developments strategy. Exportation of certain items may be prohibited for the purposes of food security, value added considerations, preservations of cultural heritage and protection of the environment.

Import substitution is a trade protectionist policy measured by a change in the ratio of imports to total product availability and refers to the elimination of importation of certain category of manufactured product that can be produced locally and thus allow for their domestic production. This policy is expected to bring about structural changes in the economy by creating demand-supply gaps and thus encourages investments in the non-traditional sector.

Inward and outwards oriented developments are different growth strategies. While inward strategy supports the import substitution policy by focusing on building, improving and development of domestic industries, outward orientation focuses on increasing international trade by reducing trade barriers, removing subsidies to domestic industries and encouraging foreign direct investments.

3.2. Review of Theoretical Literature

The mercantilist theory of international trade favours export above imports, protectionism above liberalization, and sees trade as a zero-sum activity in which a nation's gain must be at the expense of other nations, as there cannot be simultaneous benefits to all participants. To the mercantilist, trade must be controlled, regulated and restricted. It is criticized because it is static: wealth is fixed, trade balance is a short run phenomenon which can be eradicated especially if other nations retaliate.

All other theories of international trade (save the mercantilist theory above) starting from the theory of absolute advantage (Adam Smith, 1776), to the theory of comparative advantage (Ricardo, 1817), Hecksher-Ohlin theory (Hecksher, 1919. Ohlin, 1933), product life cycle theory (Vernon R, 1966), new trade theory (1970), and the national competitive advantage (Porter M., 1990) argue in support of trade between nations. They differ from each other in respect of different emphasis being placed on basic factors (natural resources, climate, location demography), advanced factors in the areas of (communication, infrastructure, sophisticated and skilled labour, research facilities), demand conditions, supporting industries, and firm strategy, structure and rivalry.

The early theories on growth propounded by (Adam Smith, 1776, Ricardo, 1817), Malthus (1820) and Mills (1820) collectively called the classical theories of economic growth pointed out that economy will grow until it reaches a stationary state where there will be diminishing returns to factors of production. The underlying assumptions regarding the political, economic, social and other institution are not applicable to developing countries.

The first generation of growth models after the World War 2, the Rostow Stages model and the Harrold-Domar model are generally referred to as the linear growth models. They viewed the process of economic growth as a sequence of historical stages and focused on the utility of massive injections of capital to achieve rapid economic growth. These models pointed out that the constraints impeding economic growth in developing countries are mostly internal which negatively affect the rate of savings and investments. As the linear growth models are based on the erroneous focus on the symptoms of an ailing economy, the injection of foreign aid and investment are not enough to grow a developing economy.

The structuralist theory focuses on the structural transformation of underdeveloped countries so as to achieve self-sustained economic growth (Lewis, 1954; Chenery, 1960). This may only be achieved by eliminating reliance on foreign demand for primary exports as the backbone fueling economic growth. Economic growth must be fueled through an expansion of internal industrial sector, the engine of economic growth. Evidence show that implementation of related policies had promoted poverty in many developing countries (World Bank, 2000). International dependence theory of growth argues that under development exists because of the dominance of developed countries over developing countries (Cohen, 1973). Developing countries should therefore end the dependence by breaking up their relationships with developed nations (Ferraro, 2000). The negative impact of the policy of autarky rendered these two theories out of favour.

The neo-classical counter revolution growth theory argues that underdevelopment is caused by issues arising from heavy state intervention (Meier, 2000). An earlier trend of neo classical free market thoughts, called the traditional neo classical growth theory (Solow, 1956), argues that freer markets, dismantling of government regulations and ownership are expected to accelerate economic efficiency and economic growth. But free markets in developing countries have failed to stimulate economic growth (World Bank, 2000).

The new growth theory (or endogenous growth theory) which emerged in the 1990s emphasizes that economic growth emerges from increasing returns to the use of knowledge rather that labour and capital (Romer, 1986; Lucas, 1988; Aghion and Howit, 1992). It is being criticized for overlooking the importance of social and institutional structures (Skott and Auerbach, 1995). Another contemporary theory of growth is the theory of coordination failure. It rests on the idea that the market may fail to achieve coordination among complimentary activities (Holt, 2000; Glavan, 2008). It has been criticized on account of its emphasis on the role of the government.

3.3. Review of Empirical Literature

Extensive investigations have been conducted to provide evidence on the nexus between trade, trade policy and economic growth. These investigations have used different methods of analysis and different estimation techniques and expectedly, the results are different. Many of the empirical results have supported the thesis that foreign trade does stimulate economic growth, although some others have reached different conclusions.

Trade liberalization encourages investment, increases competitions and production on scale. It also reduces the incentives for rent-seeking activities that are dominant under trade restriction and help in the diffusion of new ideas and the promotion of innovation. (Krueger and Berg, 2003; Grossman and Helpman, 1991; Lucas, 1998). On the other hand, trade liberation may stunt economic growth, increases the level of poverty and widening inequality by only benefiting the richest quintile of the society while worsening the conditions of the poorest quintile (Krueger, 1983; Harrisson, 1996; Edward, 1997).

Goff and Singh (2004) examines the impact of trade liberalization on poverty reduction in Sub-Saharan African countries over 1981-

2010. After allowing for country specific characteristics the study finds that trade openness lower poverty level and increases economic growth rates where financial sectors are deep, education attainments are high and institutions are well developed. The study also shows that trade liberalizations may widen inequality but at the same time reduces poverty if it can increase the income threshold for all income levels of the economy. Also, Krueger, (1983) showed that for developing countries to benefit from trade openness there is the need to concentrate on the production of labour intensive goods and services for exports. Goldberg and Pavenik, (2003) showed that when local firms cannot compete with cheap foreign goods they may likely lay off workers who then turn to the informal sector to earn a living.

Another dimension to this argument is that trade liberalizations may increase the demand for high skill labour in a country with low skill intensity and this may stunt economic growth and increase the poverty rate at least until and if the economy improves its skill intensity level (Winter et al, 2004). The basic explanation here is that trade openness will only enhances economic growth if it can be supported with other complementary policies, like human capital development, promotion of investment and reduction in social conflicts.

Studies that supported the economic growth enhancing tendency of trade openness are numerous. Dollar and Kraay, (2001) established that trade openness spurs economic growth for a large sample of developed and developing countries, while, Agenor (2004) also finds that trade openness drives economy growth after a particular threshold has been passed, providing a U-shaped relationship between trade openness and economic growth. Also, Haltiwager (2011) confirms that trade openness promotes economic growth in a sample of rich and poor countries but that this relationship depends on the quality of economic institutions in these countries. Azeez, Dada and Aluko (2014), using time series approach and ordinary least squares estimation technique from 2000 to 2012, reported that import and export both have made positive impact on economic growth in Nigeria. They also a found that trade openness had a negative effect on economic growth. Adeleye, Adetoye and Adewuyi. (2015) used the error correction model to study the impact of international trade on growth in Nigeria. They reported that the impacts of balance of trade, imports and balance of payment are insignificant attributing this to the monoculture nature of the economic structure of Nigeria. Adesuyi and Adeloye (2013) also found that oil imports had no significant relationship with economic growth. Arodoye and Iyoha (2014), using the vector autoregressive (VAR) technique, revealed that exchange rate and export influence the economic growth. Nageri, Ajayi, Hammedat and Abina (2013), using secondary time series data that spanned from 1975 to 2012 observed that trade openness does not have a positive impact on economic growth whereas Ude and Agodi (2015) found that trade openness has a positive impact on economic growth for Nigeria.

3.4. The Experience of Indonesia and Nigeria

3.4.1. Indonesia
Under the 'New Order' (1969-1989) introduced after the War of Independence, Indonesia had four five year of National Development Plans known as *Replita*. They were aimed at attaining self-sufficiency in food production, expansion of agriculture, promoting industrialization through import substitution and the protection of domestic markets. The revenue from crude oil which was the major export in 1970s was used to stimulate the growth of agriculture and manufacturing. The Third National Development Plan (1979-1984), characterized by increased trade protection and development of the manufacturing sector, alter the economic structure of Indonesia (see table 1). Crude oil which accounted for 65.2 per cent of total exports in 1979 reduced to 34.99 per cent in 2014 and manufactured export grew from 2.88 per cent of total exports to 27.58 between 1979 and 2014. Imports of food items decreased from 16 per cent to 9.84 within the same period. Table 1 revealed that Indonesia economy became much, more diversified in 2014 than in 1979. Arianto and Sjamsu (2015) reveal that foreign value added in exports has declined from 30 per cent in 2005 to 19 per cent in 2011, signifying that the import measures introduced discriminated against imports which imply that the country's trade policies have been inward oriented.

3.4.2. Nigeria
In the 1970s, crude oil exports after overtaking agriculture became the major source of foreign exchange earnings accounting for 95.1 per cent of total earnings. The situation has been much the same in 2014 as crude oil exports contribute 93.1 per cent of export revenue. This is in sharp contrast to the Indonesia case where export of crude oil has reduced significantly to 34.99 per cent of total exports within the same period. Import substitution strategy for industrialization which was experimented up to 1986 led to a shift of resources from the agro-industry sector to the urban sector in the case of Nigeria. The failure of this industrialization strategy brought about the Structural Adjustment Program (SAP) which emphasized trade liberalization, right pricing, export promotion, investment promotion and financial sector liberalization failed to diversify the economy which became overtly dependent on importation of finished products, intermediate products for industries and food imports. The SAP was also implemented in Indonesia at about the same period as Nigeria. The economy of Nigeria did not become diversified whereas the economy of Indonesia became more diversified and less dependent on foreign inputs for her domestic production. In Nigeria, imports of food, ores and metals and minerals fuels and lubricants increased significantly from 1.14 to 2.35 and 2.29 per cent in 1979 to 8.6, 9.3 and 15.3 per cent in 2014 (see Table 5). Imports of manufactured, however, decreased from 77.3 per cent to 47.4 per cent within the same period. Trade share of the GDP increased from 43.12 to 48.2 per cent (see table 7).

4. Data and Methodology
The standard framework for analyzing the determinants of economic growth is the standard Solow model (1956), which extended the

neoclassical production function.
$Y = f(K, L)$
Where $Y = output, K = capital$ and $L = Labour$
This paper employs a version of this standard growth regression model which incorporates trade variables following previous studies (see Busse and Koniger, 2012; Were, 2015).

$y_{gi} = \propto + \delta trade_i + \alpha^i X_i + \varepsilon_i$

Where y_{gi} is the average GDP growth rate for country i, $trade_i$ is the trade openness measure for country i, X_i is a vector of conditional or control variables and ε_i is error term

This study also adopted the most commonly used measures of trade in the empirical literature, that is trade openness (exports plus imports.) as well as total exports and total imports as separate variables. Another variable included in this is real exchange rate. The secondary data for this study therefore included the following variables, real gross domestic products ($RGDP$), total imports ($TIMP$), total exports ($TEXP$), real exchange rate ($REXC$) and trade openness ($TOPEN$).

The values of these variables are obtained from World Bank's World Development Indicators for the sake of uniformity and for easy comparison. The time series data cover a period of thirty-five years from 1980-2014.

The model captures the impacts of two aspects of trade, foreign trade components (imports and exports) and trade policy (trade openness, real exchange rate) on growth in Nigeria and Indonesia. The model represents the structural relationship between economic growth, trade and trade policy.

The model is captured in log form for easy interpretation in terms of the degree of responsiveness of the growth variable to changes in other variables.

$RGDP = \alpha_0 + \alpha_1 TIMP + \alpha_2 TEXP + \alpha_3 TOPEN + \alpha_4 REXC + u_t \dots\dots (1)$
$Where\ RGDP = Real\ Gross\ Domestic\ Product$
$TEXP = Total\ Export$
$TOPEN = Degree\ of\ Trade\ Openness$
$TIMP = Total\ Imports$
$REXC = Real\ Exchange\ of\ Local\ Currency\ to\ the\ US\ Doll\ \subset rs$
$\mu = Stochastic\ Error\ Term$
$\alpha_0, \alpha_1, \alpha_2, \alpha_3, \alpha_4\ are\ constants.$

5. Data Analysis and Discussion of Results: Nigeria
This study employs the Augmented Dickey Fuller (ADF) unit root test of stationarity for the variables in both Indonesia and Nigeria. The result of these tests presented in table 8 for Nigeria indicates that all the variables are integrated of order one, I (1). Johansen co integration test result for Nigeria is contained in table 9 and the parsimonious model is shown in table 10.

	Level		First difference		
Variables	Without drift and trend	With drift	Without drift and trend	With drift	Order of Integration
RGDP	2.72	1.81	-3.81*	-4.72*	I (1)
TEXP	0.62	-0.61	-6.41*	-4.44*	I (1)
TIMP	0.87	-0.00	-4.92*	-4.92*	I (1)
REXC	-0.63	-1.9	-4.37*	-4.33*	I (1)
TOPEN	-0.70	-1.41	-4.51*	-4.47*	I (1)
Critical Value at 1%	-2.63	-3.64	-2.63	-3.65	
Critical Value at 5%	-1.95	-2.95	-1.95	-2.95	
Critical Value at 10%	-1.61	-2.61	-1.61	-2.62	

Table 9: Augmented Dickey Fuller Test Unit Root Test of variables for Nigeria
*, **, ***, represent statistical significance at 10%, 5%, 1% levels respectively
Source: Authors' Computation

 The arsimonious error correction model shows that the equilibrating error term is -0.78, which implies that 78 per cent of the deviation from the long run is corrected within one year. That is, the speed of adjustment back to equilibrium is 78 per cent which is reasonably fast. A unit change in TOPEN will lead to 0.87 decrease in RGDP is stronger that it lagged value which is -0.05. Only 3-period lag of TOPEN show a positive impact even though all the TOPEN values are significant. Current period REXC is insignificant and was not therefore included in the model. The long-run model also show identical results

Table 10: Parsimonious Short Run Dynamic form for Nigeria
Dependent variable: D (LOGRGDP)
Sample: 1980 2014
Included observation: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGTEXP(-1))	0.040477	0.015353	2.636409	0.0173
D(LOGREXC(-1))	-0.014623	0.005538	-2.640645	0.0172
D(LOGTOPEN(-1))	-0.050010	0.018503	-2.702765	0.0151
D(LOGREXC(-2))	0.015887	0.005721	2.777140	0.0129
D(LOGTEXP(-3))	-0.057742	0.015927	-3.625457	0.0021
D(LOGTOPEN(-3))	0.073398	0.018388	3.991534	0.0009
D(LOGTEXP(-4))	0.021331	0.004852	4.396361	0.0004
D(LOGREXC(-4))	0.016243	0.005659	2.870408	0.0106
D(LOGTEXP)	0.583847	0.022074	26.44900	0.0000
D(LOGTIMP)	0.290906	0.012298	23.65519	0.0000
D(LOGTOPEN)	-0.868060	0.031885	-27.22472	0.0000
C	0.002284	0.001137	2.008946	0.0607
ECT(-1)	-0.780021	0.125337	-6.223393	0.0000

Table 10
Source: Authors' computation

REXC (-1) has negative impact of -0.1 on RGDP while REXC (-3) and REXC (-4) have positive effect on RGDP, but their impacts are quite low because of their slope coefficients. TEXP has positive impact on RGDP (0.58) which is higher than the impact of TIMP (0.29) on RGDP, even though it is also positive.

The F-statistic is highly significant, the computed test probability being less than 5 per cent, indicating that the explanatory variables are jointly significant in affecting the real gross domestic product RGDP in Nigeria. The R-square, coefficient of determination, which measures the goodness of fit of the model shows that 98.7 per cent of variation in the RGDP is explained by changes in the explanatory variables.

Table 11 shows the results of the diagnostic tests. The model's residual are serially uncorrelated (as shown by the Breusch-Godfrey serial correlation lm test), is correctly specified (as shown by Ramsey model specification test), and is homoscedastic (as shown by the heteroscedastic test).

	Observed R^2	χ^2 Probability
Breusch-Godfrey Serial Correlation LM test	0.29	0.87
Heteroscedasticity ARCH test	3.19	0.2
Ramsey's Model Misspecification		0.15

Table 11: Diagnostic Test Results for Nigeria
Source: Authors' Computation

The model is also shown to be normally distributed (figure 1). The cumulative sum of recursive residual (CUSUM) and the cumulated sum of squares (CUSUM sum of squares) suggest that the model is stable as the cumulative sum lie within bounds (figures 2 and 3). It is clear therefore that the models are econometrically fit and suitable for interpretation and forecasting.
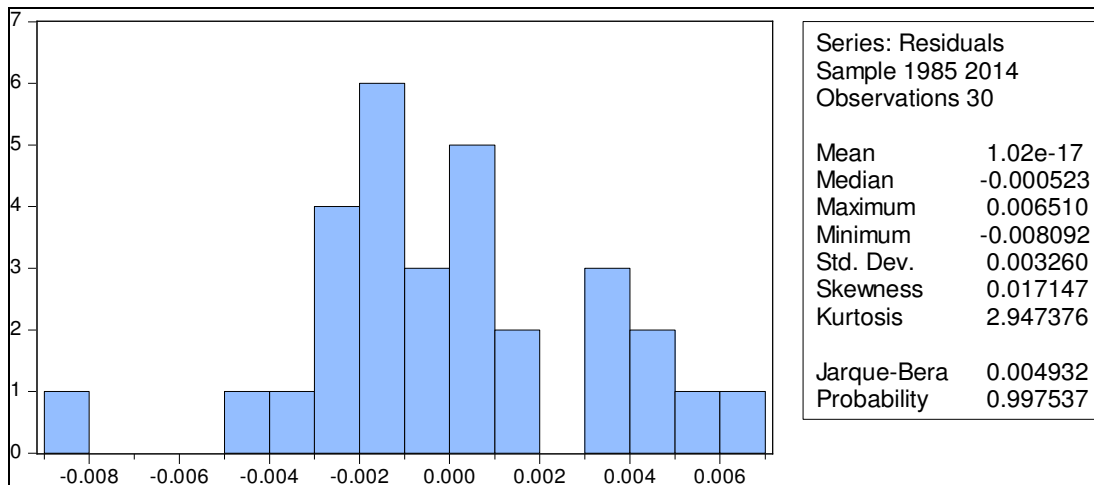

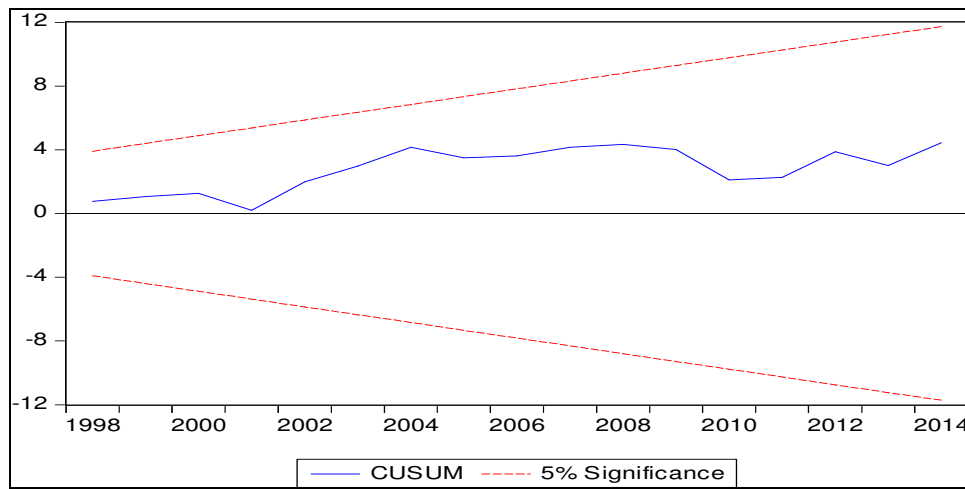*Figure 1: Normality test (Jarque-Bera) for Nigeria*
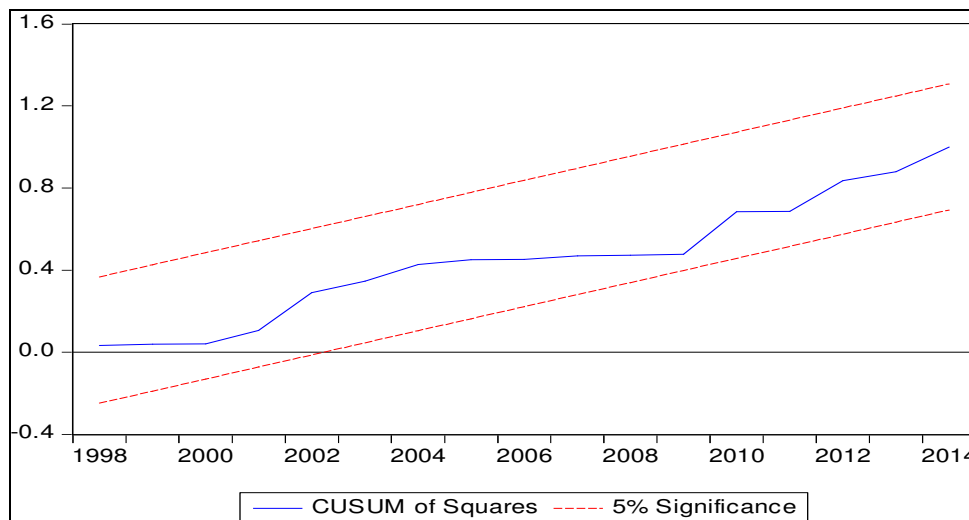
Figure 2: Model stability (CUSUM) for Nigeria

Figure 3: Model Stability (CUSUM of squares) for Nigeria

5.1. Indonesia

The result of the ADF unit root test for Indonesia in table 13 shows that all the variables are I(1). Johansen Trace and Max-Eigen tests of co-integration show that the variables are co integrated. The parsimonious model shows that TEXP has the highest impact (0.55) on RGDP. Both TIMP and REXC have positive impacts although the impact of REXC is low (0.03). TOPEN has a devastating negative impact in the long run (-1.00). Table 14 also shows that current short TEXP, TIMP and REXC affect RGDP positively. R-squared shows that the variation in RGDP is wholly explained by changes in the explanatory variables (99.8 per cent). These results were also identical on the long-run.

	Level		First difference		
Variables	Without drift and trend	With drift	Without drift and trend	With drift	Order of Integration
RGDP	7.03	-0.87	-2.70*	-4.89*	I(1)
TEXP	2.55	0.54	-4.14*	-4.73*	I(1)
TIMP	2.05	-0.05	-5.35*	-5.75*	I(1)
REXC	0.04	-1.82	-4.32*	-4.25*	I(1)
TOPEN	-0.60	-0.61	-5.76*	-5.69*	I(1)
Critical Value at 1%	-2.63	-3.64	-2.63	-3.65	
Critical Value at 5%	-1.95	-2.95	-1.95	-2.95	
Critical Value at 10%	-1.61	-2.61	-1.61	-2.62	

Table 12: Augmented Dickey Fuller Test Unit Root Test of variables for Indonesia
*,**,*** represent statistical significance at 10%, 5%, 1% levels respectively.
Source: Authors' Computation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Dependent Variable: D(LOGRGDP)				
Method: Least Squares				
Date: 07/06/16 Time: 16:09				
Sample (adjusted): 1985 2014				
Included observations: 30 after adjustments				
D(LOGTIMP(-1))	-0.022131	0.007579	-2.920007	0.0095
D(LOGREXC(-1))	-0.045083	0.016272	-2.770618	0.0131
D(LOGTOPEN(-1))	0.029147	0.011770	2.476270	0.0241
D(LOGTEXP(-3))	0.029407	0.009232	3.185332	0.0054
D(LOGTIMP(-3))	-0.011785	0.005633	-2.092079	0.0517
D(LOGTEXP(-4))	-0.025361	0.013922	-1.821673	0.0861
D(LOGTOPEN(-4))	0.021865	0.013511	1.618311	0.1240
D(LOGTEXP)	0.550049	0.013706	40.13304	0.0000
D(LOGTIMP)	0.415512	0.007616	54.55740	0.0000
D(LOGREXC)	0.018914	0.011607	1.629533	0.1216
D(LOGTOPEN)	-0.982891	0.018019	-54.54848	0.0000
C	0.001278	0.000481	2.655968	0.0166
ECT(-1)	-0.828954	0.171650	-4.829313	0.0002
R-squared	0.997043	Mean dependent var		0.022057
Adjusted R-squared	0.994955	S.D. dependent var		0.019214
S.E. of regression	0.001365	Akaike info criterion		-10.05700
Sum squared resid	3.17E-05	Schwarz criterion		-9.449810
Log likelihood	163.8549	Hannan-Quinn criter.		-9.862752
F-statistic	477.6070	Durbin-Watson stat		1.915866
Prob(F-statistic)	0.000000			

Table 13: Parsimonious Short Run dynamic equation for Indonesia
Source: Authors' Computation

	Observed R^2	χ^2 Probability
Breusch-Godfrey Serial Correlation LM test	0.02	0.98
Heteroscedasticity ARCH test	0.01	0.9
Ramsey's Model Misspecification		0.53

Table 14: Diagnostic Test Results for Indonesia
Source: Authors' Computation

The normality test (Jarque-Bera) in figure 4 reveals that the residuals are normally distributed and CUSUM in figure 5 and figure 6 of squares in Appendix 22 indicate that model is stable.
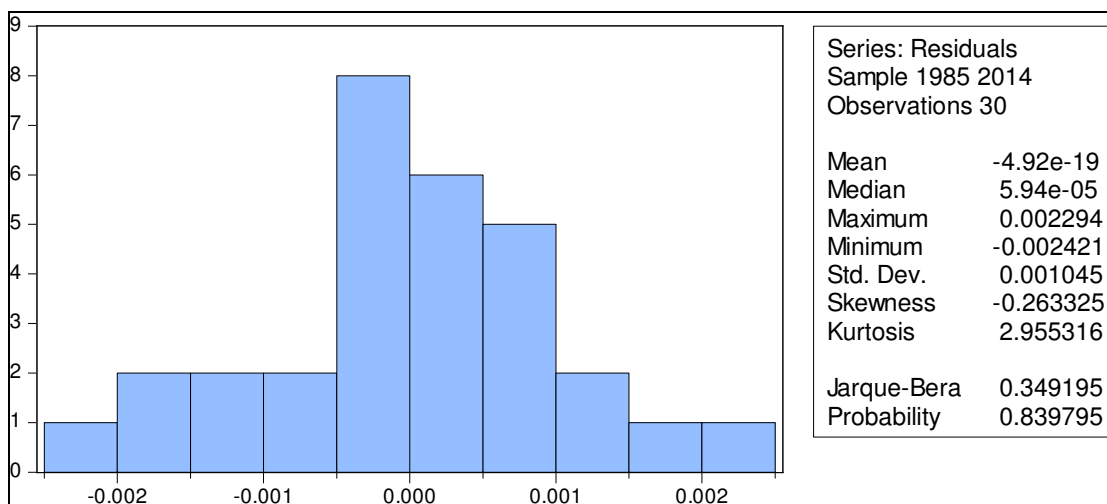

Series: Residuals	
Sample 1985 2014	
Observations 30	
Mean	-4.92e-19
Median	5.94e-05
Maximum	0.002294
Minimum	-0.002421
Std. Dev.	0.001045
Skewness	-0.263325
Kurtosis	2.955316
Jarque-Bera	0.349195
Probability	0.839795

Figure 4: Normality test (Jarque-Bera) for Indonesia
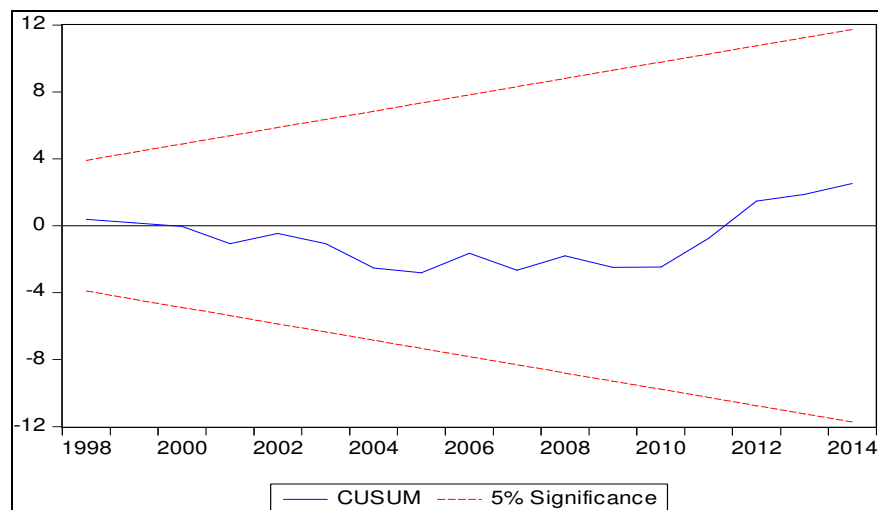*Source: Authors' Computation*

Figure 5: Model Stability (CUSUM) for Indonesia
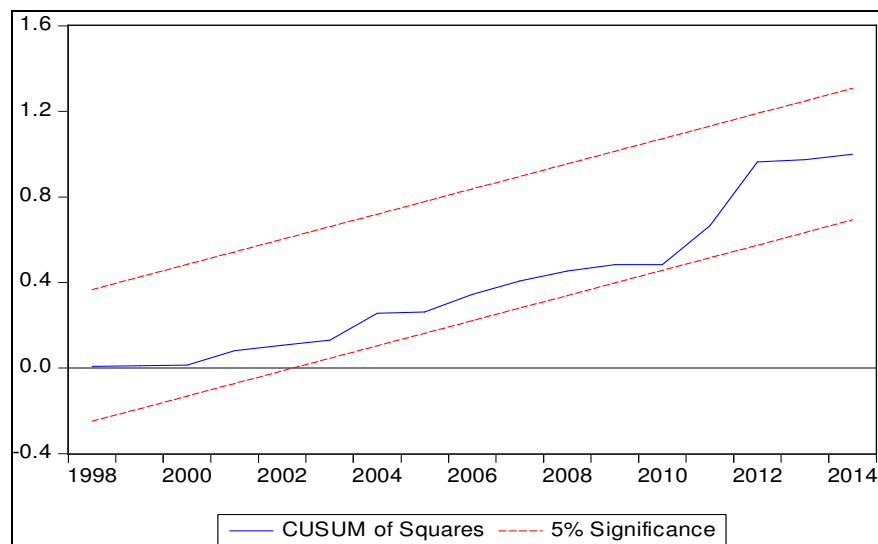*Source: Authors' computation*

Figure 6: Model Stability (CUSUM of squares) for Indonesia
Source: Authors' computation

6. Discussion

All the variables, except trade openness, impact positively on the real gross domestic product in both countries. This is probably because both countries have not been favoured by trade openness. Trade openness in the context of developing countries usually implies more imports than exports and the imports is usually characterized by goods with low industrial linkages. However, import substitution strategy for industrialization seems to have been more successful in Indonesia because it was simultaneously accompanied by the expansion and development of agricultural sector and export promotion. The Indonesian economy became more diversified and self-reliant than the Nigerian economy.

The real exchange rate is significant in explaining economic growth in Indonesia but not in Nigeria. The reason is that Indonesia implements a more flexible exchange rate policy than Nigeria.

7. Conclusion and Recommendations

Indonesian economy performed better than the Nigeria economy in terms of economic growth and diversification during the period under study, 1980-2014. Our study also reveals that in the event of any shock, the Indonesian economy will return to equilibrium faster than the Nigerian economy. This is probably because the Indonesian economy has become more diversified and hence has a higher capacity to withstand shocks, that is, the economy is more resilient.

Foreign trade promotes growth of the economies of Indonesia and Nigeria. This is manifested in both exports and imports having positive impact on their respective real gross domestic product. Indonesia has been able to reduce its dependence on crude oil exports while Nigeria has not. Indonesia has been able to diversify her economy. Nigeria has not. Indonesia exports of manufactures have become competitive in the global market. Nigeria exports have not.

Nigeria's over reliance on crude oil exports revenue affect the economy negatively as the economy is prone to fluctuations in crude oil

prices. Therefore, it is necessary for the economy to diversify away from crude oil exports into export of agricultural and manufactured products.

Self-sufficiency in food production calls for the expansion of agriculture. The major difference between the policies of Indonesia is that Indonesia pursued import substitution and export promotion simultaneously in addition to agriculture and developing manufacturing/. Nigeria is encouraged to do same.

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