Openness and Economic Growth in Nigeria

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Abstract
  The idea that openness is one of the most important determinants of economic growth is becoming increasingly popular among governments of less developed countries (LDCS) and Nigeria in particular. Conventional wisdom suggests that openness promotes economic growth. However, while various theoretical models predict that openness to international trade accelerates economic growth, the empirical evidence has been mixed or imprecise. The study empirically tests whether openness leads to economic growth in Nigeria. The ordinary Least Squares (OLS) technique and data from 1970 – 2008 from CBN statistical bulletin, 2008 were employed. GDP (Economic Growth) is the dependent variable, whereas degree of openness, investment, government expenditure and lagged GDP are the independent variables. The independent variables have direct impact on the economic growth respectively. The results show that, a unit increase in the degree of openness holding other variables constant, leads to about 5 percent increase in GDP; 1 percent increase in investment holding other variables constant, leads to about 18 percent increase in GDP; 1 percent increase in government expenditure given other variables, leads to about 9.7 percent increase in GDP and 1 percent increase in previous GDP given other variables, leads to about 100 percent increase in the current GDP. It also shows adjusted R^2 of 0.99. The unit root tests show that all the variables, but lagged GDP are stationary only after first difference, and the cointegration test shows that there exists long run equilibrium between economic growth, trade openness, investment, and government expenditure in Nigeria. The study reveals that openness impact significantly on economic growth in Nigeria.
Key words: Openness, Economic growth, Trade, Nigeria.

1. INTRODUCTION

Different World Development Reports (World Bank, 1987, 1991, 1999 – 2000) tried to show that outward-oriented trade policies have been more successful in promoting growth than inward trade policies. World Development Report (1987) argued that "outward-oriented countries" performed better than their "inward-oriented countries" even under unfavourable market conditions. The success stories of East-Asia countries ('East Asian Miracle') were often shown as the success of free trade and export-oriented policies.
Thus, economic policy in the last two decades had one dominating theme. As an integral element of the Structural Adjustment Package (SAP), trade openness was espoused on the argument that it enhances the welfare of consumers and reduces poverty as it offers wider platform for choice from among wider variety of quality goods and cheaper imports. There are fundamental reasons for this potential of welfare improvement. Nigeria's trade policy is at a crucial turning point. Historically, the country has had a very restrictive import regime that generated substantial transfers to domestic producers and strong anti-export bias. Nigeria, being fully integrated into the global economic system, is a member and signatory to many multilateral and regional trade agreements (such as ECOWAS, OPEC, etc.). The policy response of such economic partnership agreements on trade policy has been to remove trade barriers, reduce tariffs and embark on outward oriented trade policies which lead to economic growth. In its current policies, Nigeria identified deeper trade integration as a means to foster economic growth and alleviate poverty. Border tariffs are being reduced, trade regulations are under review, and ambitious modernization programs for customs services and port infrastructure have been launched. The envisioned reforms involve far-reaching opportunities by improving the efficiency of production and

consumptions, while requiring adjustment of domestic producers to the new, more competitive economic environment.

Nigeria's export performance has been lackluster. Unlike some other fuel producing countries, the country has not managed to diversify its economy so that petroleum continues to account for almost all merchandise exports. This dominance of fuel exports has made Nigeria highly dependent on developments in the world oil market and prevented it from taking advantage of dynamic opportunities in other sectors. Past attempts to foster non-fuel merchandise exports through export subsidies and other incentive measures have had very limited success, as many of the programs have been undermined by fraud and corruption, (Peter and Olivier, 2006).

2. Empirical Literature

Providing conclusive empirical evidence on the intuitively positive causal effect of trade on growth has been a challenging endeavour, complicated by a multiplicity of factors. Hence, some researchers are sceptical about openness having positive relationship with economic growth, few do not agree at all that openness impact on growth positively, and yet a few agree that openness leads to increase in economic growth.

Dudley and Karski (2001) investigated whether the degree of openness affect economic growth using panel regression during a period of 20 years from 1969 – 1989 for ten developing countries. Their results show that in 3 of the 10 countries, the degree of openness has a positive effect, on another 3 it has a negative effect and has no effect on the remaining 4. Kingsley *et al* (2004) investigated the impact of openness on Nigeria's long-run growth using the cointegration approach. They tested for the number of cointegrating relationship between LRGDP and LOPEN. They concluded that there is no significant relationship between openness and economic growth, and that unbridled openness could have deleterious implications for growth of local industries, the real sector (goods and services sector) and government revenue. Yanikkaya (2003) tested the relationship between trade openness and economic growth of over 100 developed and developing countries using panel data from 1970 to 1997. The results show that openness to international trade does not have a simple and straightforward relationship with economic growth. Moreover, the results further show that trade barriers were positively and, in most specifications, significantly associated with economic growth, particularly for developing countries and they were not consistent with the findings of theoretical economic growth. Chimobi (2010) investigated the causal relationship among financial development, trade openness and economic growth in Nigeria and discovered that trade openness and financial developments have causal impact on economic growth in Nigeria. Conversely, growth has causal impact on trade and financial development, implying support for growth-led trade but no support for trade-led growth. Georgios (2003) investigated the effect of trade openness and growth using two panel data set: one of 56 countries covering the period 1951 – 1998, and another of 105 countries over 1960 – 1997. The results show that the effect of trade openness on economic growth is positive, permanent, statistically significant, and economically sizable. Thus, he added that developing countries benefit more from increased openness than developed ones because technology is transferred from developed to developing economies. Gilbert (2004) investigated trade openness policy, quality of institutions and economic growth in 102 countries employing panel data in endogenous growth model. His results show that trade policy is associated to the natural openness constitute significant parameter to gain high economic growth rate. In other words, the global openness depending on the natural endowments and economic policies are good to reach high growth rate. He found that in sub-Saharan Africa, in any country where openness has no significant impact on economic growth is as a result of low institutional quality (that is corruption). Thus, openness and good governance are required for improved economic growth. Peter and Olivier (2006), investigated the impact of trade and diversification on growth in Nigeria. Their results show that in 2004, the share in GDP of imports plus exports of goods and services amounted to 86 percent in Nigeria. They found that Nigeria has enjoyed a sizable current account surplus in recent years, which according to Central Bank statistics amounted to more than 20 percent of GDP in 2004. They concluded that the impact of trade policy on productivity and investment is critical, and greater openness is generally associated with higher productivity, larger investment, and stronger growth. Prabirjit (2007) investigated the link between openness and growth using cross-country panel data analysis of a sample of 51 countries of the South (LDCs) and the North (DCs) during 1981 – 2002. In his panel data analysis, he found out that 11 rich and highly trade-dependent countries had higher real growth associated with a higher trade share. His time series study of individual country experiences shows that the majority of LDCs including the East Asian countries experienced no positive long-term relationship between openness and growth during 1961 – 2002. Extending his study to cover various regions and groups shows that only the middle income group experienced a positive long-term relationship. Rodiguez and Rodrik (1999) reported that there is little or no evidence that open trade policies contribute significantly to economic growth. Frankel and Romer (1999) estimated cross-country regression of income per person on international trade and country size by the instrumental variables method and compared the results to those obtained through the use of OLS. The point estimates suggested that the impact of trade was substantial. Their conclusion was that raising the degree of

openness by 1% increased income per capita by 1.5 to 2%. Sinha and sinha (1996) investigated the relationship between openness and economic growth: post war evidence from 124 countries and the results show that growth in openness indeed significantly positively related to the growth in real GDP for 94 out of the 124 countries.

3. METHODOLOGY AND RESULTS
The Model:
The model follows the classical linear regression model (CLRM)

$InGDP_t = F (lnINV_t, lnGOVT_t, OPEN_t, InGDP_{t-1})$ ---------------------------- (1)

$InGDP_t = \beta_o + \beta_1 lnINV_t + \beta_2 lnGovt_t + \beta_3 OPEN_t + \beta_4 InGDP_{-1} + \mu_t$ ---------------------------- (2)

where   f = function, ln = natural log

 (GDP) = Gross Domestic Product

(INV) = Investment

(Govt) = Government Expenditure

(OPEN) = Degree of Trade Openness

(GDP_{t-1}) = lagged Gross Domestic Product

β_o = intercept, β_1 to β_4 = Coefficients of the regressors , and μ_t = Stochastic error term . $\beta_1, \beta_2, \beta_3, \beta_4 > 0$

3.1 EMPIRICAL RESULTS. *table 3.1(a):*   **Dependent Variable – (lnGDP)**

Variable	Coefficient	S.E	t-statistic	Prob.
C	0.147285	0.151877	0.969761	0.3392
DLOG (INV)	0.175696	0.252452	0.695959	0.4913
D (OPEN)	0.497430	0.211875	2.347754	0.0250
DLOG (GOVT)	0.097106	0.101115	0.960353	0.3439
LOG (GDP(-1))	1.000498	0.011860	84.35905	0.0000

$R^2 = 0.99$ F = 1877.983

DW = 2.09

From the regression result above, the sign of each variable in the model conforms to it's "a priori" expectation. (INV): The coefficient of investment is about 0.18, meaning that holding other variables constant, 1percent increase in investment leads to an increase in the economic growth by about 18 percent. (OPEN): The coefficient of openness is about 0.5, meaning that holding other variables constant, a unit increase in the degree of openness leads to an increase in the level of economic growth by about 5 percent, (GOVT): The coefficient of government spending is about 0.097, meaning that given other variables, 1 percent increase in government expenditure leads to about 9.7 percent increase in the level of economic growth, GDP $_{(-1)}$: This shows that given other variables, 1 percent increase in previous GDP leads to about 100 percent increase in current GDP.

Unit Root Test

In regressing a time series variable on another time series variable(s), one might obtain a high R^2 even though there is no meaningful relationship between the variables. This situation shows the problem of spurious or nonsense regression according to Gujarati (2007). The time series variables when used in their explosive form often leads to spurious regression results which mislead policy. In order not to obtain spurious regression results, the variables were tested for stationarity employing the Augmented Dickey – Fuller (ADF) test.

Table3.1 (b)

VARIABLE	T – ADF	CRITICAL VALUE		
		1 %	5 %	CONSTANT (t-stat)
D(LOG(GDP),2)	- 4.007547	-3.6228	-2.9446	3.422631
D(LOG(INV),2)	-4.799346	-4.2324	-3.5386	3.294665
D(OPEN,1)	-6.364690	-3.6228	-2.9446	0.651814
D(LOG(GOVT),2)	-4.279683	-4.2324	-3.5386	2.168189
D(LOG(GDP_{(-1)}),2)	-3.969136	-3.6289	-2.9472	3.394559

From our analysis above, it can be obtained that at 1 % and 5 % levels of significance GDP was stationary after first difference that is, GDP ~I(1), INVESTMENT was stationary after first difference, that is, INV ~ I (1), GOVT was stationary after first difference, that is, GOVT ~ I(1),GDP_{(-1)} was stationary after first difference, that is, GDP_{(-1)} ~ I(1). OPEN was stationary after first difference that is, OPEN ~ I(1)

Cointegration Test

This test is employed to establish whether the variables have a long – term stable equilibrium relationship between them. The Engle – Granger (1987) two – step approach was used. First, the residuals are generated, then, using the ADF technique, we test for the stationarity of the generated residuals. If found stationary, then we conclude that there is cointegration.

Table 3.1 (c)

VARIABLE	t – ADF	1 % CRITICAL VALUE	5 % CRITICAL VALUE
D (RESIDUAL)	-4.363775	-2.6280	-1.9504

Since the computed t– value is greater than the t– tabulated at 1 % and 5 % levels of significance we conclude that the residual from the regression are I(O); that is, they are stationary. Hence, the model is a cointegrating regression and this regression is not spurious. The parameters are long run parameters. This result implies that there is long run equilibrium between, Growth rate in Nigeria and Investment (INV), Openness (OPEN), government spending (GOVT), and GDP of base year (GDP$_{(-1)}$) over a time.

4. Conclusion and policy implication

The study was carried out to empirically test the relationship between trade openness and economic growth in Nigeria. The research was motivated by the fact that there exists plethora of works on this topic with divergent views and findings.

Thus, following the conventional wisdom, openness has a positive relationship with economic growth; we employed econometric analysis to test this relationship in Nigeria. The data used for the study were generated from secondary document such as the Central Bank of Nigeria's statistical bulletin. The variables used were GDP (as the regressand), investment, degree of openness, government spending, lagged GDP (as regressors) respectively. The researcher adopted the OLS (ordinary Least Squares) technique in the analysis of the data collected using Eviews 3.1 econometrics software. An interesting outcome of the analysis is that openness impacts significantly on economic growth; therefore it is consistent with the orthodox perspective. The study shows that a unit increase in the degree of openness leads to about 5% increase in the level of economic growth in Nigeria. Thus, it is pertinent to state some policy implications based on the research findings.

With this study, Nigeria needs to move aggressively to address infrastructure, transport related and transaction costs. This could be achieved, possibly by creating large scale economies through pooling of resources to develop transport corridors, having common air service to distant destinations, and taking actions to strengthen capacity institutions whose activities directly impact the expansion of trade. These include increased financial allocations to departments of trade, and non-governmental agencies engaged in promoting exports, and build capacity to manage the practical aspects of the trade process such as customs facilities, procedure and regulations.

Furthermore, Nigeria has a crying need for diversification of exports if it is to escape the vicious cycle of primary commodity exports and cyclical export price collapses. This is a broad consensus that the ultimate goal of export orientation in Nigeria should be to achieve significant export diversification, through building new comparative advantages in non-traditional exports, especially in labour intensive manufactures. Trade promotion organizations should undertake, among others, the following functions: provide local firms with information and statistics on foreign trade, production and consumption of the country's exports, prices and markups, business contacts and opportunities. They should also help to identify production constraints through supply surveys, prepare market studies and product profiles; provide guidance on export financing, costing and efficient inputs procurement; and carry out training programs for the development of human resources in international trade and securing exports markets.

The continued opening of services sector will help domestic suppliers to further strengthen their competitiveness which has the potential to turn Nigeria into a net – exporter of services. Further integration at the regional and global levels provides Nigeria with an opportunity to reduce policy uncertainty and increase the predictability of its trade regime, which will tend to foster investment and trade relations.

With the study, it is deemed fit for Nigeria to identify deeper trade integration as a means to foster economic growth and alleviate poverty which is one of the targets of the millennium development goals (MDGs) and the seven point agenda of the World Bank and late president Umaru Musa Yar'Adua respectively. Border tariffs should be reduced, trade regulations should be reviewed, and ambitious trade modernization programs for customs services and port infrastructure have to be launched.

This would also give further impetus to the envisioned reforms in Nigeria which involves far – reaching changes to the trade regime that promises to create new opportunities by improving the efficiency of production and consumption, while requiring adjustment of domestic producers to the more competitive economic environment.

Hence, to achieve international competitive advantage through international trade, the institutions in Nigeria have to be reformed especially those directly or indirectly connected to trade policies such as the rule of law, property right law, copy right law, licenses and others.

These laws would give confidence to both domestic and foreign investors to invest in the economy. The political system has to be stabilized and terrorism curbed too; this is to reduce the risks and uncertainties involved in investing in the economy as this has been the major obstacle to foreign direct investment in Nigeria.

The financial sector has to be closely monitored by the Central Bank, especially commercial banks. This is to ensure stability in the interest rate since it is the cost of investment, and capital can only flow into the place it is highly rewarded according to the Mundell – Fleming model. Moreover, openness can only impact on economic growth through investment.

Furthermore, to enhance export performance, the government has to undertake systematic review of the effectiveness of the subsidy reinvestment program (SUREP). One of the major problems Nigeria experiences as a country is its overdependence on crude oil exports (Mono cultural) which contributes over 79 % of its total foreign earnings. This practice has led to the relegation of the services and agricultural sectors (the real sectors). Domestic trade policies have to be reformed by reducing anti – export bias through fully implementing the lower duty rates of ECOWAS. Nigeria should continue the privatization program and service sector liberalization to reap the benefits from openness.

Nigeria should pursue customs and port modernization agenda in order to reduce trade transaction costs. The quality of trade statistics has to be improved, including services trade, to better inform policy decisions.

Informal cross – border trade has to be monitored to better assess its extent and composition. The ECOWAS trade liberalization scheme, has to be implemented as scheduled.

In sum, if these measures are properly undertaken, Nigeria will gain competitive trade advantage over other countries, and achieve rapid economic growth through increased degree of trade openness.

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APPENDIX

THE MODEL

Dependent Variable: LOG(GDP)

Method: Least Squares

Sample(adjusted): 1971 2008

Included observations: 38 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.147285	0.151877	0.969761	0.3392
DLOG(INV)	0.175696	0.252452	0.695959	0.4913
D(OPN)	0.497430	0.211875	2.347754	0.0250
DLOG(GOVT)	0.097106	0.101115	0.960353	0.3439
LOG(GDP(-1))	1.000498	0.011860	84.35905	0.0000
R-squared	0.995626	Mean dependent var		12.77763
Adjusted R-squared	0.995096	S.D. dependent var		2.547581
S.E. of regression	0.178403	Akaike info criterion		-0.487469
Sum squared resid	1.050307	Schwarz criterion		-0.271997
Log likelihood	14.26190	F-statistic		1877.983
Durbin-Watson stat	2.098748	Prob(F-statistic)		0.000000

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