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Trade Openness and Economic Performance of ECOWAS Members - Reflections From Ghana And Nigeria.

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Abstract

Trade openness is believed to stimulate economic growth due to its influence in integrating world economies and generating better markets. The study examined the impact of trade openness on economic performance of ECOWAS Members focusing on Ghana and Nigeria (1975-2004). Data sourced from IFS and others, were analyzed employing ADF/PP stationarity, cointegration and vector error correction techniques. A unique long-run relationship between economic performance, trade openness, real government expenditure, labour force and real capital stock for both Ghana and Nigeria was established, while about 88.9% and 83.1% errors made in the previous period were found to be corrected in the current period for the respective countries. In addition, trade openness and real government expenditure impact positively the economies of Ghana and Nigeria. However, the effects were higher in the former than the latter.

Keywords: Cointegration; Economic performance; ECOWAS; Trade openness.

Introduction

Economists generally see the concept of trade openness as the integration among the nations of the world. It is likened to openness of the world economy where nations link together to the extent that they have free trade, free movement of capital and financial activities (Igudia, 2004). Economic analysis informs that openness to trade, flow of factors, ideas and information stimulate economic and political progress (Reich, 1998; Aboagye, 2006). Thus, openness to trade can be said to be the platform of

globalization while trade, finance, investment and entrepreneurs constitute the heart (Obadan, 2004; Uwatt, 2004). It also involves economic liberalization that has generated new markets for various economic actors within the global space and it has simultaneously brought about intense competition among them.

The inability of developing countries to fully embrace trade openness in their economic and developmental process is making them to participate somewhat marginally in the world economy. The modes and indicators of trade openness include the rapid growth of international trade, foreign direct investment (FDI) and international flows of capital and information. This could be one of the reasons for the formation of various regional economic groups around the world such as European Union (EU), Organization of Economic Co-operation and Development (OECD), Organization of Petroleum Exporting Countries (OPEC), with a view to harmonizing policies in order to reap the gains of economies of scale. Hence, the countries in West Africa have come under one umbrella-Economic Community of West African States (ECOWAS), to maximize their potentials in order to reap the gains of trade openness.

It is not that ECOWAS Members are not abundantly endowed with resources. In fact, they are very rich in both mineral and human resources. For instance, Nigeria had earned US$350 billion between 1965 and 2000. But while oil revenues per capita rose from US$33 to US$325 during the period Gross Domestic Product (GDP) per capita declined from $I000 in 1980 to a trifling value of $300 in 2001 (Obadan, 2003). Thus, what she earned during the period did not add meaningful value to the people's living standard (Sala-i-Martin and Subramanian, 2003). Similarly, Ghana is endowed with gold, diamond, manganese ore, and bauxite; Liberia with iron, timber and rubber; and Sierra Leone has one of the world's largest deposits of rutile, titanium ore (Johnson,2003).

In 2001, the combined Gross Domestic Product (GDP) for ECOWAS Members was about $74.2 billion, excluding Mauritania that opted out of the union in 2002. Nigeria's economy, the region's largest with a GDP of $39.5 billion in 2001, is larger than the combined GDP of the others (see Table 1). This is not to be commended because her population of about 128.71 million was equally more than half of the entire region's of about 254.53 million people in 2004. While the region's economies grew at a combined average rate of 4.34% in 2002, the average per capita GDP-PGDP was $329.5 in 2001 and the degree of openness indicator stood at a low average of $68.84 for the region in year 2000 (see Table 1).

Studies (e.g. Tussie, 1998; Akinlo, 2003; Alege and Ogun, 2005) have related the effects of trade openness to different macroeconomic indicators and sectors of various world economies. Also most empirical studies (e.g. Kavoussi, 1984; Jung and Marshall, 1985; Fosu, 1990a; 1990b; 1996; Dollar, 1992; Uwatt, 2004) on growth of less developed countries-LDCs including ECOWAS Members were cross-country analyses. Only a few of them (like

Kunst and Marin, 1989 as well as Abdulai and Jaquet, 2002) were country specific. Thus, relating the role of the impact of trade openness especially in West Africa to economic performance on country specific basis has not been given much attention. This formed the basic motivation for this study.

The above objective would be achieved by focusing attention on two of the most vibrant economies in ECOWAS-Ghana and Nigeria to provide empirical evidence on the issue. The country selection is also based on the understanding that the two countries represent about 60 per cent of the region's population as well as GDP (see Table 1). The study is presented in five sections. The next section after the introduction covers the literature review. This is followed by the methodology in section 3. The analysis of data and conclusion are presented in sections 4 and 5, respectively.

Literature Review

An Overview of ECOWAS History

The initial moves for the formation of ECOWAS were made by President William Tubman of Liberia in 1964 that led to the agreement between Côte d'Ivoire, Guinea, Liberia and Sierra Leone signed in February 1965., In April 1972, Generals Gowon (Nigeria) and Eyadema (Togo) reignited the idea by calling a meeting at Lomé (Togo) between December 10 and 15, 1973, which studied a draft of the treaty (Johnson, 2003). Finally, 15 countries-Benin Republic, Burkina Faso, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mail, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo signed the treaty (*'Treaty of Lagos'*) on 28th May 1975. Cape Verde joined in 1977, making it 16 Members, but Mauritania withdrew in 2002 (Johnson, 2003; MBendi, 2005).

The objectives of ECOWAS include promotion of regional trade and integration through the creation of an economic and monetary union for advancing economic growth and development in West Africa (Johnson, 2003). It was also aimed at promoting socio-economic and cultural activities with a view to raising the living standards of the citizenry, enhancing economic stability, fostering relations among member countries, and contributing to the progress and development of the region in the first instance and the African continent at large. However, ECOWAS has encountered some problems in the process of carrying out its objectives. These include political instability and dearth of good governance in some member countries, insufficient diversification of national economies; the inadequacy of reliable infrastructures, language asymmetry between Members, and difficulties in handling crises-especially those arising from religious and ethnic inclinations (Obadan, 2003; CBN, 2005).

Table 1: Some Economic and Demographic Indicators of ECOWAS Members

Member States	GDP ($'B) (2001)	Real GDP Growth Rate, (%) (2001)	Real GDP Growth Rate, (%) (2002)	[1]Degree of Openness (2000)	PGDP (2001)	Population (M) (2004)
Benin	2.4	4.9	4.8	44.46	366	8.177
Burkina Faso	2.4	5.1	5.2	40.33	205	12.822
Cape Verde	0.6	2.8	3.4	85.05	1,251	0.495
Cote d'Ivoire	9.2	-0.9	3.5	85.22	562	17.872
Gambia	0.4	5.0	4.1	108.92	275	1.478
Ghana	5.3	3.9	5.1	118.75	269	21.664
Guinea	2.9	2.9	2.4	57.15	380	9.202
Guinea-Bissau	0.2	7.2	6.2	89.69	186	1.540
Liberia	0.5	5.3	4.2	n.a	188	3.241
Mali	2.6	1.5	7.9	65.34	237	13.124
Niger	1.6	4.6	2.9	38.53	139	13.499
Nigeria	39.5	3.9	3.3	93.12	302	128.709
Senegal	4.6	5.7	4.9	70.08	472	11.386
Sierra Leone	0.7	5.5	5.2	50.52	146	5.336
Togo	1.3	2.2	2.0	85.41	274	5.988
Total/Average	**74.2**	**3.97**	**4.34**	**68.84**	**329.47**	**254.533**

Sources: Johnson (2003), Penn World Table (PWT, 1996-2005) and International Financial Statistics (IFS).

Theories of Trade Openness

Academic debate on trade openness has been informed by two strands of research with opposing perspectives. Some economists argue that trade between nations is a mechanism by which the wealthy nations exploit the poor ones through extraction of economic surpluses. Others are of the opinion that although trade between countries may not necessarily impact a country negatively, its impact is too weak to provide the essential stimuli that would generate growth. These groups of scholars prescribe that nations should look inward for solutions to their development problems. Their argument is that trade between nations can be likened to a game where the gains that accrue to one nation (usually the developed countries -DCs) are as a result of the deficiency of their trading partners usually the LDCs. This scenario to them (e.g. Myrdal, 1984 etc) is peculiar to the Latin American and African economies where the centre (DCs) exploit their surpluses from the periphery (LDCs). Hence, to them, for the LDCs to benefit from trading they need to be taken in to consideration as part of the global process instead of keeping to their fate by merely providing the inputs via exports.

The second group of scholars favours outward-oriented economic strategies or the exponents of export promotion, arguing that free trade amongst nations of the world would equally benefit the LDCs by expanding their activities via trade that would not have been possible from their domestic economies alone. It is also seen as a means of helping them through specialization and transfer of technology; and as result increases their citizens' welfare through enhancement of their aggregate national income (Adjasi, 2006; Kuada, 2006). To them (e.g. Grabowski and Shields,

1996 etc) openness to trade is very crucial to any economy because of differences in technology; proportion of potentially mobile resources (capital and labour) and availability of specific, non-mobile factors (land and other natural resources). In this wise, the gains to trade are in two forms: production and consumption gains.

Following this perspective, degree of a nation's openness to trade is believed to rub off on the nation via economies of scale, externalities associated with information and knowledge transmission as well as spill over effects that trickle to productive knacks of such an economy. And in the long run, it is believed to make the nation perform better economically. Said differently, trade openness can be described as the increasing integration of economic activities of the human societies around the globe. It could also connote the process of denationalization of clusters of economic, political and social activities that allows the flow of capital across national boundaries (Igudia, 2004). Thus, it involves the growing economic interdependence of countries worldwide through the increasing volume and varieties of cross-border transactions; international capital flows; as well as rapid and widespread technological change.

Technological spread had transformed the world to a global village that can be crisscrossed in a matter of seconds via the intensification of economic, political, social and cultural relations across national borders (Igudia, 2004; Alege and Ogun, 2005). It is also driven by the search for cheaper labour, raw materials and less government regulation. Akinlo (2003) defined it as a multi-dimensional concept that affects not only the economic, social, cultural and environmental facets of life but also the relations among government and nations of the world. Therefore, the process of trade openness integrates national economies via trade, capital flows, and harmonization of economic policies amongst nations and formation of global market frameworks. It also involves the process that promotes the integration of a whole system of interdependence among sovereign states by reducing barriers to trade, capital flow, technology transfer, among others.

Trade Openness and Nations' Economic Performance

World Bank (1992) had observed that global integration of markets is capable of turning the economies of developing countries with labour cost advantages into low-cost suppliers of certain manufactured goods. Sala-i-Martin (1997) further affirmed positive relationship between openness to trade and economic growth. This view is in line with economic orthodoxy which presupposes that the greater the intensity of competition resulting from openness to trade, the better will be the level of economic performance of nations (Hoeffler, 2002).

Ajayi (2001) noted that a more open economy based on a single but influential premise, economic integration, would improve economic

performance; offer new opportunities via expanded market and the acquisition of new technologies and ideas. Uwatt (2004) examined the link between globalization and growth using panel data for forty-one (41) African nations for the period 1980-1999. Though the study had mixed results the author suggested that African nations must stand up to face the demands of trade openness through meaningful policies that would promote and engender increased trade and capital inflows.

Sachs and Warner (1995) argued that countries that were open had experienced economic growth at a rate of 4.5 percent annually in the 1970s and 1980s while countries that were closed, barely managed to grow at a rate of 0.7 percent. Using the Sachs and Warner (1995) binary measure of openness, Hoeffler (2002) confirmed that openness to trade had a significant and positive impact on growth of nations via increased investment. In the same vein, Ndiyo and Ebong (2004) using vector auto-regressions (VARs) model empirically investigated the dynamic influence of trade openness, foreign direct investment (FDI), and other macroeconomic influence on growth, established a negative influence of openness, exchange rate, fiscal deficit, average world prices and balance of payments disequilibria on growth in Nigeria.

It is, however, believed that higher degree of openness ensures better flow of foreign investment from developed countries to their developing counterpart. It is equally evident that the latter (especially the ECOWAS Members) have not fully aligned their economies to allow the investment to stimulate satisfactory growth (Igudia, 2004). This has being attributed to such factors as inability of West African countries to formulate investment friendly policies, political and social unrest, reliance on primary products for exports, institutional and structural imbalances, and weak infrastructural base (Fosu,1996; Obadan, 2004; Aluko, 2004).

Alege and Ogun (2005) explored the link between openness to trade and industrialization by examining the impact of various indices of globalization such as degree of openness, volume of trade, inflow of foreign direct investment and increased technological innovations on aggregate manufacturing production in Nigeria. The study indicated that openness to trade, volume of trade, and increased information technology (IT) had significant influence on the level of manufacturing output. The above was similar to Akinlo's (2003) conclusion, using growth rate of exports and FDI as proxy for degree of openness, that a 1% point growth in exports increases stock market by 0.19 % point in Sub-Saharan African economies.

Empirical studies of trade openness have adopted a variety of methods. Scholars differ in their opinions on which of these methods provide a good assessment of the link between trade openness and economic performance. Scholars such as Kavoussi (1984) and Fosu (1990a) based their studies on cross-country data. Others like Abdulai and Jaquet (2002) did a country-specific study on Cote d'Ivoire (1961-1997) by

examining the causality between the growth rate of export and economic growth. They argued that cross-country aggregate analyses of growth generally tend to presume that the countries included in the analyses have common economic framework.

This study subscribes to the arguments found in the outward oriented growth literature. As noted above, this perspective endorses the view that nations of the world benefit more from one another by engaging in trade with a view of reaping the gains of comparative cost advantage. So a nation will concentrate her resources and technology mainly on the products it can cheaply produce to export to other countries and import others from the rest of the world. On the whole, the global economy is made better of. The recent successful performances of the Asian economies (*Asian Tigers*) give credence to the view that outward growth orientedness (openness to trade) is a vital tool for economic growth (Grabowski and Shields, 1996; Idowu, 2005). This is also supported by World Bank (1987) that the average growth rates of the strongly outward oriented countries were far higher than others, while the strongly inward oriented economies had a decline in growth between 1973 and 1985. Dollar (1992) had similar results for 95 LDCs (1976-1985).

Against this backdrop of previous research the present study leans particularly on the works of Abdulai and Jaquet (2002) and empirically examines the extent to which openness to trade had benefited the ECOWAS Members with a special focus on Ghana and Nigeria (1975-2004).

Model Formulation

This study takes a leap from the Mankiw, *et al* (1992) that uses Cobb-Douglas production function which made the economic growth model endogenous. The model can be represented as follows:

$$Y = AK^{\alpha}L^{\beta} \quad \text{.....(1)}$$

K and L are capital and labour inputs respectively, while parameters a and ß are their shares of output (Y), while A is an index of production efficiency. The study also draws insight from Akinlo (2003), Alege and Ogun (2005) models and exte nded the formulation to incorporate other explanatory variables. The degree of trade openness (TROP) is proxied using the ratio of volume of trade to GDP (i.e. Export+Import/GDP). The belief here is that the more the degree of trade openness, *ceteris paribus*, in an economy, the higher the level of economic performance captured by per capita GDP (PGDP). PGDP is used to capture the level of economic performance because it gives an indication on the proportion of income per a citizen, which should increase whe n the economy performs better.

Another important variable that is included is the level of real government expenditure (RGOV), obtained by dividing the current value

by consumer price index (CPI). The inclusion of this variable becomes very imperative because it is not uncommon to find bogus government spending in these nations. Ideally, RGOV should have a direct impact on PGDP through its influence on aggregate expenditure on the economy but it depends on the nature of goods and services in which such expenditure is channeled. Therefore, equation (1) above can be extended in an implicit form in the equation (2) below:

$$PGDP_{it} = f(RK_{it}, L_{it}, TROP_{it}, RGOV_{it}, U_{it}) \quad \text{----------(2)}$$

In furtherance, equation (2) can be expressed in explicit form as follows:

$$PGDP_{it} = A_{it} RK_{it}^{\delta 1} L_{it}^{\delta 2} TROP_{it}^{\delta 3} RGOV_{it}^{\delta 4} U_{it} \quad \text{----------(3)}$$

Where:

PGDP : real per capita gross domestic products,
RK : Real capital stock (derived as gross fixed capital formation over CPI),
L : Labour force in the economy,
TROP : Degree of trade openness for the countries,
RGOV : Real government expenditure,
U : stochastic term capturing other variables not included in the model.

Subscripts'i's represent time dimension (i.e. year) and 'i's denotes the countries. Linearing equation (3) above, by taking the logarithm of both sides leads to next equation below:

$$\log pgdp = \delta_0 + \delta_1 \log rk + \delta_2 \log l + \delta_3 \log trop + \delta_4 \log rgov + e \text{----------(4)}$$

Where:

δ_0 is log A, the intercept of the regression equation, e is log U which denotes the log of residuals, and $\delta i's$ (i =1,.., 4) are the parameters to be estimated that measures the rate of change in the dependent variable with variations in the explanatory variables. The aprori expectations are as follows; $\delta i's > 0$.

Methodology, Sources of Data and Results

The study adopts econometric approach to test the degree of correlation between the variables by employing regression technique with E-Views package. The data for the variables (except L) were obtained from International Financial Statistics (IFS) online database, which were *dollarized* using the country's exchange rate to U.S dollars. The labour force data for Nigeria was obtained from World Bank reported in Iyoha

(2004:260) and Ghana's was sourced from Food and Agricultural Organization (FAO)[3].

Unit Root Test of Variables

It had been shown in econometric studies (e.g. Granger, 1986, Engle and Granger, 1987) that most macroeconomic time series are not stationary. This implies that most Ordinary Least Squares (OLS) regressions that are carried out at levels may not be reliable. Given this knowledge, testing for stationarity (unit root) of variables using Augmented Dickey-Fuller (ADF) and/or Philip-Perron (PP) tests, becomes very essential. Both tests have similar approach and results but the major difference is that the latter takes into cognizance time series properties in the presence of possible structural change (Idowu, 2005). The tests were done both for intercept with and without trend, which are reported in Table 2.

In Table 2a&2b, it is obvious that all the variables were stationary at first difference i.e. I(1) series for Ghana using both tests except logtrop that was only with PP. For Nigeria, only *logrgov* was I(1) using ADF but with PP all became I(1) series. This implies that all the variables, which were I(1) series have to be differenced once to yield meaningful results that will be useful in making inference.

Table 2a: Augmented Dickey-Fuller (ADF) Unit Root Test.

	GHANA			NIGERIA		
	ADF			ADF		
Variable	Intercept no trend	Intercept & Trend	Decision	Intercept no Trend	Intercept & Trend	Decision
log pgdp	-1.942	-1.911	I(1)	-2.088	-2.279	I(1)
dlogrgdp	-4.099	-4.133		-3.289	-3.203	
dlogrgdp,2				-5.239	-5.148	
log rk	-2.718	-2.015	I(1)	-1.169	-1.495	I(1)
dlog rk	-3.744	-4.955		-3.329	-3.368	
dlogrk,2				-6.006	-6.046	
logl	0.675	-2.834	I(1)	0.305	-2.717	I(1)
dlogl	-5.059	-5.138		-4.250	-4.218	
log trop	-1.275	-3.099	I(2)	-0.573	-1.707	I(1)
dlogtrop	8.663	3.404		-2.626	-2.760	
dlogtrop,2	-5.241	-5.185		-5.052	-4.945	
log rgov	-2.653	-1.261	I(1)	-0.641	-2.707	I(1)
dlog rgov	-3.932	-5.279		-5.104	-4.995	
C.V 5%						
Level	**-2.971**	**-3.580**				
1st Diff	**-2.975**	**-3.587**				
2nd Diff	**-2.980**	**-3.594**				

Notes: C.V = critical value; a variable is stationary when ADF or PP values exceeds the C.V

Table 2b: Philip-Perron (PP) Unit Root Test

GHANA				NIGERIA		
	PP			PP		
Variable	Intercept no trend	Intercept & Trend	Decision	Intercept no trend	Intercept & Trend	Decision
log pgdp	-1.819	-1.834		-2.124	-2.362	I(1)
dlogrgdp	-4.576	-4.504	I(1)	-4.963	-4.856	
dlogrgdp,2	-	-	-	-	-	-
log rk	-3.831	-1.752		-0.865	-2.362	I(1)
dlog rk	-4.690	-5.765	I(1)	-3.329	-4.689	
dlogrk,2						
logl	0.829	-3.232		0.274	-2.766	I(1)
dlogl	-5.059	-5.138	I(1)	-4.250	-4.218	
log trop	-1.047	-2.625		-1.103	-2.145	I(1)
dlogtrop	-3.486	-3.461	I(2)	-6.407	-6.496	
dlogtrop,2	-7.341	-7.304				
log rgov	-2.875	-0.872		-0.584	-3.283	I(1)
dlog rgov	-5.206	-5.279	I(1)	-6.928	-4.995	
C.V 5%						
Level	**-2.967**	**-3.573**				
1st Diff	**-2.971**	**-3.580**				
2nd Diff	**-2.975**	**-3.587**				

Cointegration Tests

When a linear combination of variables that are I(1) produces a stationary series, then the variables maybe to be cointegrated. This means that a long-run relationship may exist amongst them, which connotes that they may wander from one another in the short-run but in the long-run they will move together. To establish whether or not long-run relationship exists between the variables, cointegration test using Johansen's multivariate method was carried out and reported in Table 3.

Using the Likelihood Ratio, Table 3 points out that the null hypothesis of no cointegration among the variables is rejected in favour of the alternative hypothesis of one cointegrating vector at 5% significant level because the values exceed the critical value for both countries. This means there is one cointegrating equation, which implies that a unique long-run relationship exits among the variables and the coefficients of estimated regression can be taken as equilibrium values.

Vector Error Correction Estimates

Given the cointegration results as discussed above, the study went further to estimate the regression (equation 4) using vector error correction approach, which is reported in Tables 4 for the two countries[4].

Going through the results in the Table 4, the variables appeared with the expected sign for both countries, indicating that the economic criterion for the model estimation was satisfactory. To examine the efficiency of the model statistically, some standard diagnostic tests[5] were carried out as reported in the lower part of Table 4. It could be observed from the Jargue-Bera (J-B) test that normality assumption cannot be rejected, meaning that asymptotically, the error terms are identically independently distributed (iid) for both countries. This is supported by the Breuch-Godfrey (B-G) serial correlation test, which indicates that the results are free from first order autocorrelation. In addition, the White's heteroskadasticity test reveals that the regression results do not suffer from this problem i.e. the OLS assumption of homoscedasticity is not violated. The Ramsey's regression specification error test (RESET) test also elucidates that the null hypothesis of no variable omission from the regression cannot be rejected at 10% significant level. This implies that the vector error correction model was not misspecified. More so, the Chow breakpoint test reveals that there was no significant structural break within the study period for the variables.

Moving upward in Table 4, the error correction term-EC(-1), which has the expected negative sign, is significant with respective absolute values of 0.889 and 0.831 for Ghana and Nigeria. The implication of this is that there is convergence in the long-run, as was earlier revealed by the cointegration test. The coefficients indicate that the speed of adjustment from the short-run to long-run is high and about 88.9 % and 83.1% errors made in the previous year is corrected in the current year for Ghana and Nigeria, respectively. This was further buttressed by the first differenced lagged value of the dependent variable-*Dlogpgdp (-1)* that is significant at 1% and 10% for Ghana and Nigeria.This implies that the level of economic performance of previous year significantly and positively affects the current year.

With respect to the general significance of the explanatory variables, the R-squared values of imply that about 78.6 % and 74.4% change in *Dlogpgdp* are explained by the variations in explanatory variables for Ghana and Nigeria, denoting that the regression has good fit and is reliable. The F-statistic, a measure overall significance of the regression, shows that the explanatory variables employed are significant at the 5% level for both countries, which is supported by low standard error of regression equation (SEE) signifying minimized sum of squared errors.

In terms of the explanatory variables, the t–statistics reveal that labour and capital were significant at 5% and 1% for Ghana and Nigeria respectively, portraying that the level of capital formation and labour force are essential for their economic performance. Trade openness and real government expenditure (at lag 2) were statistically significant at 1% and 5% for Ghana but for Nigeria they were significant at 5%and 10% and at

lag 2. The coefficients, which denote elasticity of economic performance with respect to the individual explanatory variable, demonstrate that a unit increase in trade openness will result to about 1.29 and 0.817 units increase in economic performance for Ghana and Nigeria, respectively. This indicates that openness to trade tend to benefit Ghana more than Nigeria. Also, it is obvious from the results that a unit increase in real government expenditure will lead to about 1.17 and 0.66 units increase in economic performance for Ghana and Nigeria, in that order. This equally connotes that government spending will enhance economic performance in Ghana

Table 3: Johansen's Multivariate Cointegration Test.

	Ghana		Nigeria		
H_0:	Eigenvalue	Likelihood Ratio	Eigenvalue	Likelihood Ratio	5 % C.V
None*	0.649208	73.52246*	0.684482	75.18481*	68.52
≤ 1	0.512399	44.19074	0.651231	44.03921	47.21
≤ 2	0.444678	24.07949	0.350629	15.59892	29.68
≤ 3	0.206143	7.609689	0.134493	3.941644	15.41
≤ 4	0.040097	1.145853	0.001546	0.041776	3.76
Normalized cointegrating equation	Lpgdp=0.892Lrk+1.134Ll+ 0.689Ltrop+0.997Lrgov-2.464		Lpgdp=0.478Lrk+4.758Ll+ 1.216Ltrop+1.383Lrgov- 2.275		

Notes: * Reject H_0 of no cointegration of the variables at 5% level of significance.
L denotes the Log operator. The VAR is of order 1 and it is computed under the assumption of unrestricted intercept but no trends.

Table 4: Vector Error Correction Estimates for Ghana and Nigeria (1975-2004).

	Ghana		Nigeria	
	Dependent Variable: Dlogpgdp			
Variables	Coefficient	t-Stat.	Coefficient	t-Stat.
constant	-0.110	0.309	-0.384	0.522
EC(-1) term	-0.889[c]	-1.815	-0.831[a]	-3.869
Dlogpgdp(-1)	1.495[a]	2.774	0.412[c]	1.834
Dlogl(-1)	1.738[b]	2.076	1.331[a]	2.692
Dlogrk(-1)	1.898[b]	2.411	1.361[a]	2.914
Dlogtrop(-1)	1.293[b]	2.109	-	-
Dlogtrop(-2)	-	-	0.817[b]	2.077
Dlogrgov(-2)	1.167[a]	3.212	0.659[c]	1.937
R-squared	0.7860		0.7439	
Adjusted R^2	0.6284		0.5427	
F-statistic	4.9963		3.6973	
SSE	0.3065		0.4001	
AIC	0.7742		1.3097	
Schwarz Criteria	1.3501		1.8903	
Diagnostic Tests				
Jargue-Bera	F= 0.3345 (0.8460)		F= 2.3639 (0.3066)	
B-G Serial Correlation	F= 1.3129 (0.1628)		F= 1.8687 (0.3100)	
White Heteroskadasticity	F= 1.3129 (0.2889)		F= 0.9974 (0.4995)	
Ramsey's RESET	F= 0.1937 (0.6638)		F= 0.1188 (0.7334)	
Chow Breakpoint	F= 0.6562 (0.7638)		F= 0.6288 (0.6799)	

Note: a, b and c means significant at 1, 5 and 10 % respectively. Tabulated two-tailed t-values were 2.457, 2.042 and 1.697 for 1, 5 and 10 %, in that order; while the Tabulated F ratio is 2.51 at 5% level. D represents the difference operator. The optimal lag lengths were determined using both Akaike Information Criteria (AIC) and Schwarz Criteria; usually the regression result where both statistics (absolute) have the smallest is preferred.

and Nigeria but the influence is high in the former.

Implications of Results

From the regression results discussed above, some findings and implications can be highlighted. First, the cointegration test shows the existence of a unique long-run relationship between economic performance, trade openness, real government expenditure, labour force and real capital stock for the countries, while the error correction term explains that about 88.9 % and 83.1% errors made in the previous year would be corrected in the current year for Ghana and Nigeria.

Trade openness can be said to impact positively the economies of ECOWAS Members. This is because trade openness had impacted positively and significantly the economies of Ghana and Nigeria, however, the effect is higher in former than the latter. This could be as a result of delay in polices implementation and also importations of consumer goods as well as reliance on exportation of primary products that usually have little value addition in the production process. This lends voice to Fosu (1996) that primary exports have little external impact on non-export sector.

Another implication is that the level of real government spending is relevant to the economic performance of Ghana and Nigeria, but its effect is higher in Ghana than Nigeria. This may be as a result of high level of recurrent expenditure as well as delay in policy implementation that normally characterized their budgetary system. The effect of corruption and insincerity in the administration of government expenditure is another issue, which is outside the purview of this study.

From the aforementioned, it will be appropriate to recommend that these countries keep opening up to trade but they should align their import and export mix by putting in place policies (fiscal) that will reduce importation of consumer goods and on the other hand enhance their technology to process their primary products before exporting them. This will help them benefit more from the opportunities that are in trade openness.

Akin to the above is the need to ensure that policies are initiated and implemented with needed promptness for the effects to be felt on time, because policies are to be properly and timely *'policed'* to yield profitable results. Therefore, the reform processes that some Members have embraced in terms of liberalization and privatization can be said to be a welcome development because if pursued sincerely they will help in enhancing the level of private sector participation, which is essential for economic performance.

Conclusion

Trade openness is believed to stimulate economic progress as a result of its effects in integrating world economies and generation of new and broader markets for various nations within the global space. Against this backdrop, the study carried out an empirical analysis of the possible influence of trade openness on economic performance of ECOWAS Members focusing on Ghana and Nigeria for the period 1975-2004. Data sourced from IFS and others were analyzed using cointegration and vector error correction technique and the following findings were made:

i) A unique long-run relationship exists between economic performance, trade openness, real government expenditure, labour force and real capital stock for both countries.
ii) A relatively high speed of adjustments from the short-run to the long-run, with about 88.9% and 83.1% errors made in the past period being corrected in the current period for Ghana and Nigeria, respectively.
iii) The level of economic performance of previous year was significant and positively related to the current year.
iv) Trade openness impacts positively and significantly the economies of Ghana and Nigeria, with the effects higher in the former.
v) Real government expenditure has significant and positive influence on economic performance of Ghana and Nigeria, the influence was also greater in the former than the latter.

The study suggested that for the countries to partake satisfactorily in the gains that are in trade openness and have desirable level of economic performance there is need to ensure that policies are initiated and implemented with needed speed. Also efforts should be made to align their import and export components via appropriate policies that will reduce importation of consumer goods, and on the other hand their technologies should be enhanced in order to increase the value of their exports. However, these findings and conclusion cannot be easily transplanted for other ECOWAS Members; hence further research in this area that will focus on other member countries is equally suggested.

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Notes

1 *This degree of trade openness in PWT was measured in current prices different from the usual ratio of trade volume to GDP.

2 The year ECOWAS was founded.

3 Only the growth (economic performance) equation that was formulated in section 3 was estimated, the causality test was not do

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