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Examination of the differential impact of trade on economic growth among ECOWAS and Non-ECOWAS Countries: 2005 - 2020

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Abstract

The objective of the study is to examine the differential impact of trade on economic growth among ECOWAS and Non-ECOWAS countries from 2000 – 2015. To achieve this objective, the study used secondary data sourced from the World Bank Data Base on Macroeconomic Indicators and Selected Statistics on African Countries an Annual Publication of African Development Bank. GDP was used as a proxy for economic growth while import, export, and foreign exchange rate as proxies for international trade. The data obtained were subjected to the following diagnostic tests; Unit root test, Co-integration test and Granger causality test as well as Error Correction Mechanism before the model was estimated. The estimated model was also subjected to statistical and econometric tests like t-test, goodness of fit, and f-test to determine its policy implications. E-views 10.0 and STATA Econometric Software Version 14.2 were used to estimate the model. Ordinary Least Square Multiple Regression Analysis was conducted with the aim of establishing if there is differential impact of international trade among ECOWAS and Non-ECOWAS countries using the variables in the study or otherwise. The study selected six ECOWAS and six Non-ECOWAS countries based on the availability of data. The study reveals that international trade drives economic growth in both ECOWAS and Non-ECOWAS countries. Comparatively, international trade promotes economic growth more in the Non-ECOWAS countries than the ECOWAS countries. The study recommends that ECOWAS countries need to borrow a leaf from their Non-ECOWAS countries in terms of trade enhancing policies. This is because the Non-ECOWAS countries benefit more from trade than the ECOWAS countries.

Key words: Differential impact of trade, Economic growth, International trade,

Introduction

The relevance of international trade originates from evidence that there is no country that can produce all commodities in terms of goods and services which its population requires for their utilization and consumption largely owing it to natural resource differences and constraints. It is therefore concluded that trade relationship suggests that countries need to export commodities in order to create revenue to be able to import those commodities which cannot be made domestically. International trade is simply known as the exchange of

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goods and services between nations of the world. At least two countries should be involved in the activity, that is, the aggregate of activities relating to trading between merchants across borders. Traders engage in economic activities for the purpose of the profit maximization engendered from differentials among international economic environment of nations (Adeleye, Adeteye & Adewuyi 2015)[1].

Economists generally see international trade as the integration among the nations of the world. It is likened to openness of the world economy where nations come together to the extent that they have free movement of capital and financial activities (Igudia, 2004)[2].

Economic theory states that international trade, flow of factors, ideas and information stimulate economic and political progress (Aboagye, 2006)[3]. Thus, international trade can be said to be the platform of globalization while trade, finance, investment and entrepreneurs constitute the heart (Obadan, 2004; Uwatt, 2004)[4]. 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. Africa is basically an open economy with international transactions constituting a significant proportion of its aggregate output. To a large extent, Africa's economic development depends on the prospects of its export trade with other nations. Foreign trade provides both foreign exchange earnings and market stimulus for accelerated economic growth (Adewuyi, 2002)[5].

The inability of developing countries to fully embrace international trade in their economic and developmental process is making them to participate somewhat marginally in the world economy. The modes and indicators of international trade 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, some countries in West Africa have come under one umbrella Economic Community of West African States

[1] Adeleye J. O., Adeteye O. S. & Adewuyi M. O. Impact of International Trade on Economic Growth in Nigeria International Journal of Financial Research, 6 (3): 27-40. (2015).
[2] Igudia, P. Globalization and Economic Development: "Nigeria's Experience and Perspectives", Globalization and Africa's Economic Development, Ibadan: Nigeria Economic Society. Pp 130 – 152. (2004).
[3] Aboagye, A. Q. Co-integration and Causality Analysis of Ghanaian Exports, Foreign, Domestic and Human, Journal of Business and Economic Research, 2 (3) 130 – 152. (2006).
[4] Obadan, M. I. Globalization and Economic Management in Africa, Globalization and Africa's Economic Development, Ibadan. Nigeria Economic Society, 3 – 34. (2004).
[5] Adewuyi, A. Balance of Payment Constraints and Growth Rate Differences under Alternative Policy Regimes, National Institutes of Social and Economic Research (NISER) Monograph Series No10 Ibadan, Nigeria. (2002).

ISSN 2787-0308 (ONLINE)

(ECOWAS), to maximize their potentials in order to reap the gains of international trade (Obadan, 2004)[6].

The mechanism through which international trade affects economic growth may be briefly described thus. International trade leads to an increase in income, in the level of investment and in the state of technical knowledge in the country. The increase in investment and improvements in innovations and technological progress then lead to increased productivity and competitiveness, and trigger a further increase in trade and in income. This positive feedback continues and brings about a "virtuous circle" of increased trade, rising income, and economic growth. This beneficial effect of international trade on economic growth is to be supported by the empirical evidences. International trade contributed positively and significantly to the transformation of some non-ECOWAS countries, including Canada, Australia, Sweden and Denmark, moving them from underdeveloped to developed countries as well as the newly industrializing countries of Southeast Asia- the so-called "Gang of Four", viz., South Korea, Taiwan, Hong Kong and Singapore. These countries have favourable terms of trade (Obadan, 2004)[7].

Contrary, international trade does not significantly transformed ECOWAS countries from underdeveloped to developed countries. This is attributed to two major factors, internal and external. The internal factors include the problem of high costs of production due to poor and inadequate infrastructural facilities; bad governance and misapplication of resources due to corruption; problem of rising insecurity as a result of persistent and general increase in the spate of communal, political, and economic crises leading to declining productive activities and aggregate production in the ECOWAS sub-region.

There is the problem of inability to finance economic growth programmes and to import the needed raw materials and technologies that can be used in production and services that can fastening the pace of economic growth in the sub-region;

The problem of continued importation of manufactured commodities has negatively affected foreign exchange value for the currencies of ECOWAS member countries leaving little or no exchange earnings for them to finance growth programmes. These factors combines in various ways not only to incapacitate ECOWAS member countries to produce enough for exports but also cause the inability of the country to import improved technologies that will enhance production of goods and services towards economic growth in the sub-region.

These problems that lead to unsatisfactory performance of trade in transforming ECOWAS from underdeveloped to developed countries informed the need for this study to uncover the differential impact of international trade on economic growth in ECOWAS and non-ECOWAS countries during the period 2005 to 2020.

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[6] Obadan, M. I. Globalization and Economic Management in Africa, Globalization and Africa's Economic Development, Ibadan. Nigeria Economic Society, 3- 34. (2004).
[7] Ibid

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Literature and Empirical Review

Conceptual Review

International Trade: Usman (2011)[8] conceives international trade as exchange of goods and services across international borders. Lipsey & Chrystal (1999)[9] defined foreign trade as exchange of goods and services that takes place across international boundaries. International trade is concerned with the relationship amongst nations in both the economic and financial sense. It plays a life-sustaining role in coordinating socio-economic performance and the possibilities for less developed countries (Esther & Kamtochukwu, 2017)[10].

Economic growth: Jhinghan, (2003)[11], regards it as quantitative sustained increase in a country's per capita output or income accompanied by expansion in its labour force, consumption, capital and volume of trade. Samuelson (2006), sees economic growth as the expansion of a country's potential GDP or national output.

ECOWAS Countries: ECOWAS is an acronym for Economic Community of West African States. ECOWAS countries are those countries in West Africa that are members of the Economic Community of West African States. The treaty establishing ECOWAS was signed in Lagos on 28th May, 1975 by eleven Head of States and four Parliamentarians representing West African Countries but Mauritania withdrew its membership in 2002. At present, ECOWAS has 15 members (Suleiman & Yarima, 2009)[12].

Non-ECOWAS Countries: Are those countries in Africa that are not members of the Economic Community of West African States.

Differential Impact of Trade: Were (2015)[13] asserted that the impact of international trade on economic development differs from one country to another. The impact is measured in terms of the volume of trade or the contribution of trade to the growth and development of Gross Domestic Product.

Empirical Review

[8] Usman O. A. Performance Evaluation of Foreign Trade and Economic Growth in Nigeria, Research Journal of Finance and Accounting, 2(2): 35-50. (2011).
[9] Lipsey and Chrystal Principle of Economics. Oxford University Press, London. (1999).
[10] Esther O. L. & Kamtochukwu E. International Trade and Economic Growth in Nigeria, Journal of Humanities and Social Science, 22 (6): 35-43. (2017).
[11] Jhingan, M. L. Economic Development and Planning, 35th Edition, Vrinda Publications (P) Ltd. (2003).
[12] Suleiman I. A. & Yarima A. H. Critical Assessment of Regional Economic Integration in West African Sub-Region. LAJAST: Lafia Journal of Arts, Science & Technology, 1 (1): 29 – 44. (2009).
[13] Were, M. Differential Effects of Trade on Economic Growth and Investment: A Cross-Country Empirical Investigation, Journal of African Trade, 2, 71–85. (2015).

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Previous empirical studies on the impact of trade and economic growth have been reviewed. They include:
Osabuohien (2017)[14] examined the differential impact of international trade on economic performance of ECOWAS member countries with special emphasis on Ghana and Nigeria between the period 1975 through 2004, employing co-integration and Vector Error Correction techniques. He established a unique long-run relationship between economic performance, international trade, real government expenditure, labour force and real capital stock for Ghana and Nigeria.

Brueckner & Lederman (2015)[15] examined international trade and economic growth: Panel data evidence from Sub-Saharan Africa employ the instrumental variable approach to a panel of 41 Sub-Saharan African countries. They found that trade openness increases economic growth both in the short and long run.
Lloyd, Ogundipe & Ojeaga (2014)[16] investigated the impact of export diversification and composition on GDP growth and GDP per capita in ECOWAS region during the period 1975 through 2007 using co-integration and panel least square estimation technique. They found that export diversification and manufacturing value-added index had a positive and significant impact on per capita growth. This study provided evidence for the important role of export diversification rather than just an export -growth relationship.

Arodoye & Iyoha (2014)[17] studied the nexus between international trade and economic growth in Nigeria making use of quarterly time-series data for the period 1981 to 2010. The results indicated that there is a stable, long- run relationship between international trade and economic growth and they concluded that trade policies which are in favour of export expansion should be encouraged because exports are a driver of economic growth. Furthermore, an exchange rate policy which is favourable to export expansion and consistent with Nigeria's status as a small open economy should be encouraged.

Edoumiekumo & Opukri (2013)[18] empirically investigated the contributions of international trade (proxy with export and import values) to economic growth in Nigeria measured by real gross domestic product (RGDP). The Time-series data collected was for a period of 27years which was analyzed using Augmented Dickey-Fuller (ADF) test, Ordinary Least Square (OLS) statistical technique, Johansen co-integration test and Granger Causality test. The results showed that there is a positive relationship between the variables and also co-

[14] Osabuohien, E.S.C. Trade Openness and Economic Performance of ECOWAS Members: Reflections from Ghana and Nigeria, African Journal of Business and Economic Research. 2 (2&3), 57. (2017).
[15] Brueckner, M., & Lederman, D. Trade Openness and Economic Growth: Panel Data Evidence from Sub-Saharan Africa. (2015).
[16] Lloyd, A., Ogundipe, A. A. & Ojeaga, P. Transnational trade on ECOWAS: Does Export Content Matter? International Journal of Business and Social Science, 5(10): 71 -82. (2014).
[17] Arodoye & Iyoha Foreign Trade-Economic Growth Nexus: Evidence from Nigeria, Central Bank of Nigeria Journal of applied Statistics, 5(1). (2014).
[18] Edoumiekumo, S.G. & Opukri, C.O. Economic Growth Factor in Nigeria: The Role of Global Trade, American Journal of Humanities and Social Sciences, 1(2): 51-55. (2013).

ISSN 2787-0308 (ONLINE)

integration exists among the variables. In addition, the Granger Causality test realized a uni-directional relationship showing that RGDP Granger cause export and also import Granger cause RGDP and export.

Methodology

This study employed Ex-Post Facto Method to examine the differential impact of international trade on economic growth among ECOWAS and Non-ECOWAS countries. This method investigates the extent and possible cause-and-effect relationships between dependent, independent and intervening variables. The nature of the data used in this study were time series data on inclusive variables i.e. GDP, import, export and foreign exchange for the period of 2000 - 2015. These data were sourced from World Bank Data Base for Macro-Economic Indicators, ECOWAS Statistical Bulletins and Journals. The data generated were subjected to the following diagnostic tests; Unit root test, Co-integration test and Granger causality test as well as Error Correction Mechanism before estimating the model. The estimated model was also subjected to statistical and econometric tests like t-test, goodness of fit, and f-test to determine its policy implications. E-views 10.0 and, STATA econometric software version 14.2 were used to estimate the model. Ordinary Least Square Multiple Regression Analysis was conducted with the aim of establishing if there is differential impact of international trade among ECOWAS and Non-ECOWAS countries using the variables in the study or otherwise.

Model Specification

This study adopted the basic Neoclassical Solow Growth Model but departs from it by allowing technology, With the introduction of technical progress represented by 'A' in equation (3.2) and taking into consideration the dynamics of international trade and capital inflows, the necessary variables of interest are then introduced through technical progress factor (A) as presented herewith. Following studies by Obadan (2004)[19], and Usman (2011)[20], we augment equation (3.3) as follows:

$AE = h (EXP_t, IMP_t, FERt)$ ----------3.1 (a) for ECOWAS
$ANE = h (EXP_t, IMP_t, FERt)$ ----------3.1(b) for Non-ECOWAS
Where:
AE = Technical progress factor for ECOWAS Countries;
ANE = Technical progress factor for non-ECOWAS Countries
EXP_t= Exports at time t;
IMPt = Imports at time t;
FER = Foreign Exchange Rate at time t
Integrating equation (3.1), we have:

[19] Obadan, M. I. Globalization and Economic Management in Africa, Globalization and Africa's Economic Development, Ibadan. Nigeria Economic Society, 3- 34. (2004).
[20] Usman O. A. Performance Evaluation of Foreign Trade and Economic Growth in Nigeria, Research Journal of Finance and Accounting, 2(2): 35-50. (2011).

$YE = f(EXP_t, IMP_t, FERt, L_t)$..... 3.2 (a) for ECOWAS and

$YNE = f(EXP_t, IMP_t, FERt, L_t)$..... 3.2 (b) for non-ECOWAS

Since Solow (1956) model adopted in this study is an optimization model it is suitable for application in both ECOWAS and NON-ECOWAS countries. The regression form of the model is thus stated in a linear form as:

$YE_t = a_o + a_1EXP_t + a_2IMP_t + a_3FERt + a_5 L + U$.....3.3 (a) for ECOWAS and
$YNE_t = a_o + a_1EXP_t + a_2IMP_t + a_3FERt + a_5 L + U$.....3.3 (b) for non- ECOWAS

We modify equation (3.2) by dropping labour force (L_t) and replace output (Y) by gross domestic product (GDP_t). Thus, the linear model stated in the log form becomes:

$lnGDP_{t\,(E)} = a_o + a_1EXP_t + a_2IMP_t + a_3FERt + U_E$.....3.4 (a) for ECOWAS
$lnGDP_t\,(_{NE}) = a_o + a_1EXP_t + a_2IMP_t + a_3FERt + U_{NE}$.....3.4 (b) for non-ECOWAS
Where: Ln = Logarithm
a_o = Intercept
a_1 = Coefficient of Export
a_2 = Coefficient of Import
a_3 = Coefficient of foreign exchange rate; and
U = Error term

Presentation and Discussion of Results
Descriptive Statistics

Table 4.1: Descriptive Statistics

Variables	Observation	Mean	Standard Deviation	Minimum	Maximum
GDP	864	4.157407	6.400906	-62.1	63.4
Export	781	34.44609	20.41679	4.4	124.4
Import	781	44.02714	25.42164	10.5	236.4
Foreign Exchange Rate	306	104.652	53.23364	54.1	827.6

Source: Author's Computation Using E-View 10.0

Although the main technique of data analysis in this study is the Multiple Regression Model, the need to understand the trend and distribution of the variables of the study is highly necessary. This is to help in the determination of the most appropriate regression estimation techniques. To fulfil this obligation, the descriptive statistics of all the variables are computed as contained in table 4.1. The results showed that the average GDP, Export, Import and Foreign exchange rate over the period of 16 years are about 4.157407, 34.44609,

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44.02714 and 104.652 in their respective units. There are wide ranges between the minimum and maximum values of all the variables. Also, the standard deviations are large (greater than 2). The wide range and large standard deviations are indications that significant changes have occurred on the variables over the period covered. This implies that there are enormous changes in the variables that worth studying. Further, since all the standard deviations are greater than zero, both fixed effect and random effect models can be applied. If the standard deviation is zero, the estimates of the fixed effect model become indeterminate.

Unit Root Test for Data from ECOWAS Countries

This study investigated the time series properties of the data by conducting Unit Root Test for stationary using Augmented Dickey-Fuller (ADF) method. The results are presented on table 4.2 below.

Table 4.2: Augmented Dickey-Fuller Unit Root Test for Data from ECOWAS Countries

Series	ADF Test Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Order of Co-integration
GDP	3.549129	-4.0113	-3.1003	-2.6927	I(1)
IMP	1.851534	-4.0113	-3.1003	-2.6927	I(1)
EXP	2.503567	-4.0113	-3.1003	-2.6927	I(1)
FER	2.146048	-4.0113	-3.1003	-2.6927	I(1)*

Source: Author's Computation Using E-View 10.0

The result of unit root test shown on table 4.2 above indicated that all the absolute value of ADF test statistics for each variable is less than their critical values (at 1%, 5% and 10%). The result also showed that all the variables were integrated of same order, that is, I (1) see column 6.

Table 4.3: Johansen Co-integration Test for Data from ECOWAS Countries

No of CE(s)	Eigen Value	Trace Statistics	5% Critical Value	Prob.
None	0.935725	58.4007	29.68	0.0000
At most 1	0.753248	19.9765	15.41	0.0000
At most 2	0.027146	10.3853	3.76	0.0000

Source: Author's Computation Using E-View 10.0

The results on table 4.3 above showed that the Eigen value is less than 5% critical value (at all Levels). This implies that there are three unique co-integrations equations between GDP, IMP, EXP and FER at 5% level. Thus, it can be concluded that there is long-run relationship between gross domestic product and international trade in ECOWAS countries during the year 2000 – 2015.

Table 4.4: Ordinary Least Square Parsimonious (VECM) Results: Dependent Variable: D (GDP)

Variable	Coefficient	Standard	t-Statistics	5% critical

ISSN 2787-0308 (ONLINE)

		Errors		value
Constant (C)	-33.84714	68.1371	-049675	2.20
GDP (-1)	0.0168293	0.33810	0.49776	2.20
IMP (-1)	0.897517	0.26664	3.36601	2.20
EXP (-1)	-0.094089	0.46971	-0.20031	2.20
FER (-1)	0.022537	0.06904	0.32643	2.20
R-Square	0.846463			
R-Square Adjusted	0.600805			
F-Statistics	3.445688			
Akaike Info. Criteria	32.34443			

Source: Author's Computation Using E-View 10.0

The results of vector error correction mechanism on table 4.4 above reveals that the coefficient of export (-0.094089) is negative, indicating negative relationship between it and GDP in all countries. But, IMP and FER have positive relationship with GDP since their respective coefficients are positive. The coefficient of multiple determination (R-Square) is high at 84.65%. This means that the included explanatory variable could account for about 84% of the total variation in GDP. The model has a good fit f-statistic at 3.445688 and also information criteria of 32.34443 also underscore the good fit of the model. The table further reveals that IMP passed the significant test a its t-statistic (3.36601) is greater than its 5% critical value (2.20). But, EXP and FER did not pass the significant test.

Unit Root Test for Data from NON-ECOWAS Countries

The results of unit root test for data from NON-ECOWAS countries are presented on table 4.5 below.

Table 4.5: Augmented Dickey-Fuller (ADF) Unit Root Test for Data from NON-ECOWAS Countries

Series	ADF Test Statistics	1% Critical Value	5% Critical Value	10% Critical Value	Order of Co-integration
GDP	1.382971	-4.0113	-3.1003	-2.6927	I(1)
IMP	2.919404	-4.0113	-3.1003	-2.6927	I(1)
EXP	0.655338	-4.0113	-3.1003	-2.6927	I(1)
FOR	0.498423	-4.0113	-3.1003	-2.6927	I(1)

Source: Author's Computation Using E-View 10.0

The result of unit root test shown on table 4.5 above indicated that all the absolute value of
ADF test statistics for each variable is greater that their critical values (at 1%, 5% and 10%).
The result also showed that all the variables were integrated in same order, that is I (1)
see column 6.

Table 4.6: Johansen Co-integration Test for Data from NON-ECOWAS Countries

No of CE(s)	Eigen Value	Trace Statistics	5% Critical Value	Prob.
None	0.720281	27.93413	29.68	0.0000
At most 1	0512193	10.09857	15.41	0.0000
At most 2	0.003484	0.048863	3.76	0.0000

Source: Author's Computation Using E-View 10.0

The results on table 4.6 above showed that the Eigen value is less than 5% critical value (at all Levels). This implies that there are three unique co-integration equations between GDP, IMP, EXP and FER at 5% level. Thus, it can be concluded that there is long-run relationship between gross domestic product and international trade in ECOWAS countries during the year 2000 – 2015.

Table 4.7: Ordinary Least Square Parsimonious (VECM) Results: Dependent Variable: D (GDP)

Variable	Coefficient	Standard Errors	t-Statistics	5% critical Value
Constant (C)	-5.936544	39.6484	-0.14973	2.20
GDP (-1)	-0.027226	0.22885	-0.11897	2.20
IMP (-1)	0.111551	0.07587	1.47034	2.20
EXP (-1)	0.170360	0.28792	0.59170	2.20
FER (-1)	0.076347	0.22087	0.34566	2.20
R-Square		0.899559		
R-Square Adjusted		0.738854		
F-Statistics		5.597561		
Akaike Info. Criteria		31.05179		

Source: Author's Computation Using E-View 10.0

The results of vector error correction mechanism on table 4.7 above reveals that the coefficient of export (0.170360) is positive, indicating positive relationship between it and GDP in all countries. IMP and FER have positive relationship with GDP since their respective coefficients are positive. The coefficient of multiple determination (R-Square) is high at 89.96%. This means that the included explanatory variable could account for about 90% of the total variation in GDP. The model has a good fit f-statistic at 5.597561 and also information criteria of 31.05179 also underscore the good fit of the model. The table further reveals that all the variables IMP, EXP and FER did not pass the significant test as their t-statistic (1.47034), (0.59170) and (0.34566) respectively are less than its 5% critical value (2.20).

Table 4.8: Regression Result for both ECOWAS and NONECOWAS Combined

Dependent Variable: GDP			
	Pooled regression	**Fixed effect**	**Random effect**
Independent Variables	(1)	(2)	(3)
Export	-0.00032	0.015**	0.0043

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	(0.0029)	(0.0072)	(0.0045)
Import	0.0072***	0.0043	0.0064**
	(0.0021)	(0.0030)	(0.0025)
Foreign exchange rate	-0.00064	-0.00064	-0.00069
	(0.00089)	(0.00090)	(0.00088)
Constant	1.31***	0.88***	1.17***
	(0.14)	(0.23)	(0.18)
Observations	261	261	261

Source: Author's Computation Using STATA 14.2** and *** denote significant at 5% and 1% respectively. Standard errors are in parentheses

To examine the relationship between trade and economic growth in Africa (ECOWAS and NON-ECOWAS countries combined), the pooled, fixed effect and random effect regression techniques were employed and the result is presented in table 4.8. The dependent variable is Growth of GDP while the independent variables Export, Import and Foreign exchange rate. Column 1, 2 and 3 of table contain the regression results of the pooled, fixed effect and random effect models respectively. Both the fixed effect model random effect model indicates that Export and Import are positively related to GDP while Foreign exchange rate is negatively related to GDP. But the pooled regression indicates that export is also related to GDP.

However, Foreign exchange rate is statistically insignificant in all the models while export and import are statistically significant at 5% level in the fixed effect and random effect models respectively. The statistical significance of the variables is indicated by the standard errors. The standard errors of the coefficients are less than half of coefficients of the variables. Thus, the variables are statistically significant. By the magnitude of coefficients, the fixed effect model indicates that 0.015 units increase in economic growth results from a unit increase in export while the random effect model indicates that a unit increase in increase in import lead to 0.0064 unit increase This implies that Export and Import have significant positive relationship with economic growth while Foreign exchange rate does not significantly affect economic growth in Africa.

Table 4.9: Regression Result for ECOWAS

	Dependent Variable: Growth of GDP		
	Pooled regression	Fixed effect	Random effect
Independent Variables	(1)	(2)	(3)
Export	-0.015**	0.00079	-0.012*
	(0.0059)	(0.0090)	(0.0065)
Import	0.0054**	0.0015	0.0047*
	(0.0022)	(0.0035)	(0.0025)
Foreign exchange rate	0.0048***	0.0061	0.0043**
	(0.0017)	(0.0050)	(0.0020)
Constant	1.36***	0.99**	1.33***
	(0.15)	(0.41)	(0.18)

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Observations	218	218	218

Source: Author's Computation Using EView10.0 *, ** and *** denote significant at 10%, 5% and 1% respectively. Standard errors in parentheses

The regression result for the examination of the relationship between international trade and economic growth for ECOWAS countries is presented in table 4.9. The dependent variable is GDP while the independent variables are Export, Import and Foreign exchange rate. The pooled is presented in column 1 while the fixed effect model and random effect model are in column 2 and 3 respectively. The results of the fixed effect model show that the relationship between GDP and all the independent variables is positive. But the pooled regression and random effect model show that export is negatively related to GDP.

The coefficients of all the variables are statistically significant in pooled and random regression but insignificant in the fixed effect model. A unit increase in Import and Foreign exchange rate bring about 0.054 and 0.048-unit increase in GDP each in the pooled regression. Conversely, a unit increase in export will result to 0.015 decrease in GDP correspondingly. In the random effect model, increase in Import and Foreign exchange rate leads to 0.047 and 0.043 increase in GDP while 0.012 decrease in GDP results from increase in export. This implies that trade has significant impact on economic growth in ECOWAS countries.

Table 4.10: Regression Result for NON-ECOWAS Countries

	Dependent Variable: Growth of GDP		
	Pooled regression	Fixed effect	Random effect
Independent Variables	(1)	(2)	(3)
Export	0.0030	0.031***	0.010**
	(0.0029)	(0.0082)	(0.0047)
Import	0.0071***	0.00094	0.0053**
	(0.0021)	(0.0030)	(0.0025)
Foreign exchange rate	-0.00073	-0.00097	-0.00096
	(0.00084)	(0.00084)	(0.00083)
Constant	1.18***	0.47*	1.03***
	(0.14)	(0.25)	(0.19)
Observations	177	177	177

Source: Author's Computation Using EView10.0 ** and *** denote significant at 5% and 1% respectively. Standard errors in parentheses

Regression estimates of the coefficients of pooled, fixed effect and random effect regression models for the assessment of the relationship between trade and economic growth in Non-ECOWAS member countries in Africa are presented in table 4.10. The dependent variable is still GDP while the independent variables still remain the same presented in previous tables. Also, column 1, 2 and 3 contains the pooled, fixed effect and the random effect models respectively. The results of all the models illustrate that export and import are positively related to GDP while Foreign exchange rate is inversely related to it. Meaning, increase

in export and import will bring about increase in economic growth and vice versa. But increase in exchange rate will lead to decrease in economic growth in the region.

However, the results indicate that foreign exchange is not significant; import and export are significant in the pooled and fixed effect regressions while both import and export are significant in the random effect model. This is given by the standard errors of the coefficients less than half the coefficients. Thus, the trade has significant impact on economic growth in the Non-ECOWAS region of Africa.

The estimates of the coefficients of the random effect model show that one unit increase in export will lead to 0.010 and 0.0053 increase in GDP growth respectively. Similarly, in the pooled and fixed effect model, a unit increase in import and export will bring about 0.0071 and 0.010 unit increase in GDP respectively. Since two of the variables representing trade have positive and significant relationship with GDP, the result thus indicates that trade significantly affects economic growth in the Non-ECOWAS countries.

Table 4.11: Comparison of the Results

	(1)	(2)	(3)
VARIABLES	**ECOWAS**	**Non-ECOWAS**	**All countries**
Export	0.00079	0.0030	0.0043
	(0.0090)	(0.0029)	(0.0045)
Import	0.0015	0.0071***	0.0064**
	(0.0035)	(0.0021)	(0.0025)
Foreign exchange rate	0.0061	-0.00073	-0.00069
	(0.0050)	(0.00084)	(0.00088)
Constant	0.99**	1.18***	1.17***
	(0.41)	(0.14)	(0.18)
Observations	218	177	261

Source: Author's Computation Using E-View 10.0

Having estimated and analyzed the regression models for ECOWAS and Non-ECOWAS as well as all the countries in the sample, the comparative analysis is done by considering the best models for each of the sample. The result of the Hausman test shows that the fixed effect model is the best for each sub-region but the random effect model is the best for the sample of all the countries. Therefore, the comparison is done in table 4.11 using the models as indicated by the Hausman test. The result shows that import, export and foreign exchange are positively related to economic growth in the ECOWAS Sub-region. Meanwhile, as indicated by the result, none of the variables has significant impact on trade on economic growth in the region. The insignificant positive relationship implies that foreign trade does not enhance economic growth in the region.

In the case of the Non-ECOWAS countries, import and export have positive relationship with economic growth while exchange rate has negative relationship with it. But only import has significant positive relationship with economic growth, this is similar to the result of the sample of all the countries. Meanwhile, import is more significant for the Non-ECOWAS sample than the

sample of all the counties. In short, foreign trade has positive relationship with economic growth in Africa.

Discussion of Major Findings

The summary statistics indicate wide ranges and large standard deviations. This shows that there are significant fluctuations in import, export, exchange rate and economic growth of the countries over the period under reviewed that 2000-2015. This justifies the influx of studies the area has presented in the literature review. If there are no significant changes in the variables, there would not be need for the study.

From the regression result, it has been identified that import and export have significant positive relationship with economic growth in Africa (combined sample) while exchange rate has insignificant negative relationship with economic growth in the region. These findings collaborate the findings of Balassa (1978)[21], Bairam (1988)[22]; and Fosu (1990)[23].

Another important finding of the study is that, all the variables (import, export and exchange rate) representing international trade has positive but insignificant relationship with economic growth in the ECOWAS Sub-region. This is in line with the conclusion of Oviemuno (2007)[24] who found that import and export do not serve as an engine of growth in the developing countries. However, import and export have significant positive relationship with economic growth in the Non-ECOWAS Sub-region. This confirms the submissions of Michaely (1977)[25].

Also, the results indicate that, trade drives economic growth in ECOWAS and Non-ECOWAS Sub-regions of Africa as well as the continent as a whole. This implies that improvement in international trade can enhance economic growth in the selected countries. In other words, there is causality between foreign trade and economic growth in Africa. This affirms the findings of Mohammed *et al* (2012)[26] which shows the existence of bidirectional causality between foreign trade and economic growth.

Finally, foreign trade has more significant positive impact on the Non-ECOWAS than the ECOWAS countries. That is, foreign trade drives economic growth

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more in the Non-ECOWAS countries than the ECOWAS countries. This could be as a result of the fact that the Non-ECOWAS countries are relatively more opened to trade as found by Osabuohien (2017)[27].

Conclusion

International trade has insignificant positive relationship with economic growth in the ECOWAS countries. Extensive literature review shows that trade is an important determinant of economic growth. But little or no attention has been paid to the comparative analysis of the relationship between international trade and economic growth particularly among ECOWAS and Non-ECOWAS countries of Africa. For strategic design of sound developmental policy framework deep, such comparative analysis is indispensable. This project therefore, deals with the relationship between international trade and economic growth, comparison of ECOWAS and Non-ECOWAS Countries.

Given the overwhelming evidence (expressed by the various econometric techniques) for the relationship, the study concludes that there is positive relationship between foreign trade and economic growth in ECOWAS and Non-ECOWAS Countries as well as the entire Africa. However, the relationship is insignificant for the ECOWAS countries. Also, there is bidirectional causal relationship between import and economic growth in selected countries. On the other hand, there is unidirectional causality between export and Non-ECOWAS Countries but no causality in the ECOWAS Countries. It means, foreign trade drives economic growth in Non-ECOWAS Countries while it does not in ECOWAS Countries. In short, the nature relationship between foreign trade and economic growth in the selected ECOWAS and Non-ECOWAS Countries is mixed.

Recommendations

Having empirically examined the differential impact of trade and economic growth in selected African countries, it has been established that there is a relationship between foreign trade and economic growth in the selected ECOWAS and Non-ECOWAS Countries. The following recommendations are thereby suggested.

a) First, manufacturing sectors should be given adequate attention in order to improve export capacity in the countries. This can be achieved by developing infant industries in the countries.
b) The findings do not show evidence of bidirectional causality between foreign trade and economic growth. This implies that the relationship has a feedback link as such it is recommended that policies that promote international trade should be given adequate attention in order to enhance economic growth. This could be achieved by export promotion and import substitution strategies particularly for the ECOWAS countries.

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c) It was found that the Non-ECOWAS countries benefit more from trade than the ECOWAS countries. It is suggested that ECOWAS countries need to borrow a leaf from their non-ECOWAS counterparts in terms of trade enhancing policies.
d) Finally, intra-regional trade should be promoted in order to derive the full benefits of International trade.