THE IMPORT EFFECTS ON INTRA-COMMUNITY
AGRICULTURAL EXPORT TRADE DEVELOPMENT BY ECOWAS MEMBERS

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Abstract: ECOWAS policy of liberalizing trade has culminated in increase in demand and supply of made in community products within the sub-region. In this study, intra-ECOWAS trade in the four major agricultural products (animal products; the vegetable products; the animal or vegetable fats and oils and other cleavage products; and the prepared foodstuffs) were identified. Through this, the volumes of imports within and by the sub-regional members were captured. Subsequently, by the use of Ordinary Least Squares (OLS), the study ascertained how each national import influenced intra-regional exports. The regression analysis reveals that every increase in ECOWAS sub-regional exports were as a result of increases in Benin, Cote d’Ivoire, Ghana, Guinea, Senegal and Sierra-Leone’s intra-community imports of agricultural products by 4.899, 1.06, 5.53, 74.988, 7.34, and 2385.044 units, respectively, all things being equal, while Burkina Faso and Gambia have negative influences (-3.324 and -10497.67, respectively. Therefore, to ensure an improved and sustained sub-regional integration through trade, much of the ECOWAS fifteen member nations need to have significant patronage of the regional products.

Keywords: Agricultural products, ECOWAS integration, exports, imports, members import effects

Introduction
The Economic Community of West African State (ECOWAS) Trade Liberalization Scheme (ETLS) is an operational tool for promoting the West Africa region as a Free Trade Area. This lays in tandem with one of the objectives of the community, which is the establishment of a common market through “the liberalization of trade by the abolition, among Member States, of customs duties levied on imports and exports, and the abolition of non-tariff barriers…” – Article 3 of ECOWAS Treaty. The Scheme has undergone a series of transformation in respect of the categories of goods that are covered. The first category was defined when the scheme first came into existence in 1979. At that time, agreement was reached on only agricultural, artisanal handicrafts and unprocessed products to benefit from the scheme. Following this, in 1990, further agreement was reached and industrial products could be approved to take part in the scheme (http://www.etls.ecowas.int/).

Besides, with industrial products being accepted, it became imperative to define what products were “originating” from the ETLS region. The rules of origin which guide this concept are defined in the ECOWAS protocol A/P1/1/03 of 31st January 2003. It defines out originating products as follows:

- Wholly produced goods; goods whose raw materials completely originate from the region.
- Goods which are not wholly produced but their production requires the exclusive use of materials which are to be classified under a different tariff sub-heading from that of the product.
- Goods which are not wholly produced but their production requires the use of materials which have received a value added of at least 30% of the ex-factory price of the finished goods

It is evident in the UNCOMTRADE data of large volumes of intra-ECOWAS trade in Trade Division and classification (TDC) 01-04 (agricultural products), corresponding to HS chapters 1-24 (UNCOMTRADE, 2011; NBS, 2013). Total ECOWAS trade increases by an average of 18 percent per year between 2005 and 2014 (http://www.ecowas.int/ecowas-sectors/agriculture/). Between 1999 and 2006, the total intra-ECOWAS trade was 12% of the total ECOWAS trade (intra and inter-ECOWAS trade) (ECOWAS Statistical Bulletin, 2008); compared to the European intra-regional trade which is about 63.7% of the total trade (Eurostat, 2013). Nigeria, Côte d’Ivoire, Ghana and Senegal concentrate 87 percent of this trade, with 79 percent of regional imports ($55,520 million per year) and 94 percent of exports and re-exports ($77,792 million per year) (http://www.ecowas.int/ecowas-sectors/agriculture/). It is dominated by mining commodities (oil resources, iron, bauxite, manganese, gold, etc.) and agriculture (coffee, cocoa, cotton, rubber, fruits and vegetables and other products rather marketed within the region (dry cereals, roots and tubers, livestock products), etc. Moreover, ECOWAS is working towards monetary union and the extent of community integration through trade development which is a prelude left much to be desired. That is, the extents to which individual members’ imports from the sub-region as a key factor to the regional trade, growth and development, and how it influences the sub-regional exports in varied agricultural products are not known and as such have given rise to the following research questions:

- Which member nations have currently made significant imports to ensure ECOWAS trade development cum sustenance?
- Which regional member has made the most significant efforts in deriving the increased export needs of the sub-region that will engender regional integration through trade?
- How can import competitiveness of members lead to export prioritization efforts?
- Hopefully, will these engender a regional investment in the sectors where import is evident, thereby promoting and sustaining the evolving regional markets?
The Effect of Intra–ECOWAS Trade on Agricultural Products

The broad objective of the study is to find out the extent to which the volumes of the members imports effect ECOWAS sub-regional exports; while the specific objectives include identifying:

(i) The major products trade domamg ECOWAS sub-regional members

(ii) The exporting and importing nations of the products; and to

(iii) Determine the effects of members’ imports on sub-regional exports of the traded products.

The null hypothesis tested is that:

\[ H_0: b = 0 \] (ECOWAS member nations’ imports of agricultural products do not significantly influence the intra-regional exports of the products), against the alternative hypothesis;

\[ H_1: b \neq 0 \] (ECOWAS member nations’ imports of agricultural products have significant influence on intra-regional exports of the products).

Major products traded among ECOWAS members

In export and import list of the United Nations Harmonized System (HS) classification scheme codes, sections and chapter headings, there are 22 product sections; four among which deal with agricultural products NBS, (2014). These include, live animals and animal products of HS code 01, chapters 1-5; the vegetable products category consisting of HS code 02, chapters 6-14; the Animal and Vegetable fats and oils and other cleavage products that come under HS Code 03, Chapter 15; the prepared food stuff category comprising HS Code 04, Chapters 16-24 (NBS, 2014; ECOWAS, 2008). Therefore, the significance of ECOWAS member nations importing from and exporting to others in the light of growing emphasis for regional integration and at a stage when most ECOWAS countries are opening up their markets under the pressure of International Monetary Fund (IMF) and World Bank (WB) cannot be over emphasized. More so, producing a greater variety of agricultural goods increases the general knowledge about its technology and implies smaller costs of knowledge accumulation. For instance, Nigeria’s importation from and exportation of products of prepared foodstuff Benin, Cote d’Ivoire, Ghana, Togo, etc.; will likely lead to improvements in these countries’ products. ECOWASHas many agro-industries producing different varieties of products in the agricultural sub-sectors of the economies, thereby making it reasonably concentrated industry with the features that are prerequisites for integration through trade. Therefore, the study of impact of ECOWAS member nation’s imports on intra-community exports is necessary.

Besides, the ECOWAS trade liberalization programme involves three groups of products viz. unprocessed goods, traditional handicraft products, and industrial products. The programme is meant to give several advantages to member States and their citizens as they trade among themselves. An example of the advantages accruing to unprocessed goods imported from a member state as contained in Decision C/DEC.8/11/79 of the Council of Ministers is total exemption from import duties and taxes, free movement without any quantitative restriction as well as non-payment of compensation for loss of revenue as a result of their importation. Provided that unprocessed products among other conditions, originate from member states of the Community and must appear on the list of products annexed to the decisions liberalizing trade in goods or factors of production among countries that make up the market areas. A major characteristic of a common market is the non-existence of fiscal or other administrative barriers to the movement of goods or factors of production within the common market nations. The vital condition for the states of the common market is the prevention of common barrier to import from countries outside the common market, otherwise if member nations charge different rates of customs duties on import from economics outside the common market areas, foreign goods would move into low-tariff member nations of the group and flow freely from them into those charging high customs duties and have advantage over goods produced in those area in the sense that they will sell at lower and more competitive prices in those parts of the common market. Examples of common markets include the EEC- consisting of Benin, Burkina Faso, Cape Verde, the Gambia, Ghana, Guinea, Guinea-Bissau, Cote d’Ivoire, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, and Togo. Another example of a common market is the ECM- European Common Market originally formed by six European Economic Community (EEC) members in the 1950’s consisting of France, Germany, Italy, The Netherlands, Belgium, and Luxembourg. The number rose to twelve in 1987 with the joining of Britain, Ireland, Greece, Denmark, Spain, and Turkey (www.businessdictionary.com/definition, 2016). The trade liberalization process was expected to be implemented through such interventions like free international trade, common external tariff wall, consolidation or freezing of custom duties, and non-tariff barriers to intra-trade. Others include gradual phasing out of duties on industrial products from community projects over a period of 6-10 years at 10-16.6% annual rates of reduction depending on the classification of member states based on the level of development, location and importance of customs revenue. In the short-term, this would be achieved through greater use of national currencies. The medium-long-term objectives are to issue a common convertible currency and to create a single monetary zone (ECOWAS, 1994).

Materials and Methods

The study area is ECOWAS. ECOWAS was formed in the year 1975 by the countries in West Africa for the purpose of economic integration and development. ECOWAS are located between Latitudes 0° 26' and 20° 31' North; and Longitudes 10° 36' East and 20° 19' West. The northern border of West Africa is the Sahara desert. This is a sparsely populated region that is difficult to live in or travel through due to extreme heat and minimal food and water. Thus people tend to live and travel above (North
Africa) or below (West Africa) the Sahara. This creates a natural divide between the two regions. To the west and south of West Africa sits the ocean which serves as another natural border. And in the southeastern corner of West Africa are the Cameroon Mountains and highlands that lie along the border between Cameroon and Nigeria. The nations within ECOWAS sub-region include; Benin, Burkina Faso, Cape Verde, Cote d’Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra-Leon, and Togo.

The study purposefully selected the 15 ECOWAS members to illustrate the volumes of imports by each member of different products under review from the sub-region. More so, increased imports of agricultural products by member nations will lead to sustained and improved intra-community trade through expansion of exports. That is, Nigeria’s importation from and exportation of products of prepared foodstuffs to Benin, Cote d’Ivoire, Ghana, Togo, etc. will likely lead to improvements in these countries’ products. Given that Economic Community of West African States has many agro-industries producing different varieties of products in the agricultural sub-sectors of the economies, it is reasonably concentrated industry with the features that are prerequisites for integration through trade. This in turn will lead to improvement in the manufacturing capacity of the region by ensuring the extension of value chain of most of the intra-regional agricultural product exports, from primary to secondary and tertiary products; leading to realization of maximum benefits of globalization in the light of diversified agricultural products. The findings are useful information to ministries of agriculture, consultants, and ECOWAS member nations on the import competitiveness and export prioritization efforts required by each to satisfy demand and production in the various lagging agricultural sub-sectors. These will assist in the improvement and sustenance of market shares of members in particular agricultural products within the sub-region.

Data for this study were collected from secondary sources. All import data were retrieved from UNCOMTRADE statistics at the 10-digits level of the Harmonized System (H4). The data were import and export values for each of the ECOWAS countries for four major agricultural products under review. The independent variables were streams of imports of different agricultural products (animal products, vegetable products, animal or vegetable products and prepared foodstuffs) of the 15 members of ECOWAS in the period of review. The imports value where a given country is the supplier is coded as one given all imports of other 14 members. The data for all the countries are in units of 1000 of US dollars. Other data source is the ECOWAS Statistical Bulletin. The values of intra-regional exports and imports by the regional members which were used in the regression are as presented in Table 1. The intra-regional import values formed the independent variables, while the intra-community exports formed the dependent variable. All the values of the variables were sourced from the UNCOMTRADE data (UNCOMTRADE, 2011).

### Table 1: Values of imports by ECOWAS sub-regional members ($’000)

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<tr>
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<th>B.Faso</th>
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<th>D’Ivoire</th>
<th>Ghana</th>
<th>Guinea</th>
<th>G.Biss</th>
<th>Liberia</th>
<th>Mali</th>
<th>Niger</th>
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**Source:** UNCOMTRADE Data (2011)

Descriptive information was used to achieve objectives (i) and (ii). Objective (iii) was achieved by employing the
Ordinary Least Squares (OLS) Estimates to underscore the significant levels of the members’ import on regional exports of the traded agricultural products.

The implicit model form is thus:

$$TE_E = f(x_1, x_2, x_3, \ldots, x_n) + \varepsilon_i$$

Where:

$$TE_E = \text{Total ECOWAS Exports}$$

$$x_1 = \text{Import by Benin}$$

$$x_2 = \text{Import by Burkina Faso}$$

$$x_3 = \text{Import by Cape Verde}$$

$$x_4 = \text{Import by Cote d’Ivoire}$$

$$x_5 = \text{Import by Gambia}$$

$$x_6 = \text{Import by Ghana}$$

$$x_7 = \text{Import by Guinea}$$

$$x_8 = \text{Import by Guinea Bissau}$$

$$x_9 = \text{Import by Liberia}$$

$$x_{10} = \text{Import by Mali}$$

$$x_{11} = \text{Import by Niger}$$

$$x_{12} = \text{Import by Nigeria}$$

$$x_{13} = \text{Import by Senegal}$$

$$x_{14} = \text{Import by Sierra-Leone}$$

$$x_{15} = \text{Import by Togo}$$

$$\varepsilon_i = \text{Error term}$$

**Results and Discussions**

The ECOWAS countries are involved in trade with countries within and outside the region. Fig. 1 shows the structure of the community trade within, between 2006-2010. ECOWAS intra-trade accounts for an average of 14.08 percent of the total exports, and 10.54 percent of the value of total imports (2006 to 2010). Their largest trading partners outside the region are the European Union (EU), NAFTA, ASEAN; COMESA trade blocks. The EU, NAFTA, ASEAN, and COMESA account for an average of 17.02, 24.74, 10.98, and 4.98 percent within the same period, respectively of the value of total exports; while for imports the EU, NAFTA, ASEAN, and COMESA account for 24.28 percent, 11.94 percent, 17.84 percent and 4.42 percent, respectively (Fig. 2).

Table 2 x-rays the first twenty traded products by the sub-regional members. The traded products by ECOWAS members from the sub-regional markets, include: Prepared foodstuffs, mineral products, footwear, headgear, vegetable products, articles of stone, animal products, products of chemical, plastics and articles of plastics, wood and articles of wood, textile products, raw hides and skins, textiles and articles of textiles. However, according to the harmonized system of trade classification, agricultural products among these include prepared foodstuff, vegetable products and animal products. Other products belong to different trade classification codes than agriculture.

**Table 2: Product codes of the first twenty major product traded**

<table>
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<th>Product</th>
<th>Code</th>
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<td>Prepared Foodstuffs</td>
<td>170199 300490 300220 300590 300510 300530 300520 300390 300320 300310 300290 300280 300270 300260 300250 300240 300230 300220 300210 300200 300190 300180 300170 300160 300150 300140 300130 300120 300110 300100 300090 300080 300070 300060 300050 300040 300030 300020 300010 300000</td>
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<td>Vegetable Products</td>
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<tr>
<td>Chemical Products</td>
<td>200190 200180 200170 200160 200150 200140 200130 200120 200110 200100 200090 200080 200070 200060 200050 200040 200030 200020 200010 200000 200090 200080 200070 200060 200050 200040 200030 200020 200010 200000 200090 200080 200070 200060 200050 200040 200030 200020 200010 200000</td>
</tr>
<tr>
<td>Animal Products</td>
<td>280190 280180 280170 280160 280150 280140 280130 280120 280110 280100 280090 280080 280070 280060 280050 280040 280030 280020 280010 280000 280090 280080 280070 280060 280050 280040 280030 280020 280010 280000 280090 280080 280070 280060 280050 280040 280030 280020 280010 280000</td>
</tr>
<tr>
<td>Mineral Products</td>
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</tr>
</tbody>
</table>

**Source**: UNCOMTRADE Data (2011)
The Effect of Intra–ECOWAS Trade on Agricultural Products

The effects of the variable imports by the sub-regional members on ECOWAS agricultural product exports (Table 1) shows that:

Benin \(X_1\): The coefficient of effect of Benin’s import on the intra-regional exports of agricultural products is 4.899, while the standard error is 2.395. This is positive and highly significant at 5% level of significance. The implication of this scenario is that Benin will import more than Cote d’Ivoire for every increase in export of the product within ECOWAS sub-region, i.e. for every increase in exports, Benin’s intra-regional imports will increase by 4.899 units, all things being equal as against 1.06 units for Cote d’Ivoire.

Burkina Faso \(X_2\): The coefficient of effect of Burkina Faso’s import on the intra-regional exports of agricultural products is -3.324, while the standard error is 1.312. This is negative and highly significant at 5% level of significance. The implication of this scenario is that Burkina Faso will import less than Benin or Cote d’Ivoire for every increase in export of the product within ECOWAS sub-region, i.e. for every increase in exports, Burkina Faso’s intra-regional imports will decrease by -3.324 units, all things being equal as against an increase of 1.06 units and 4.899 units for Cote d’Ivoire and Benin, respectively.

Cote d’Ivoire \(X_4\): As shown in Table 1, the coefficient is 1.056, while the \(t^*\) equal to 22.322, which is positive and highly significant at 1% level of significance. This implies that every increase in regional export will lead to an increase to Cote d’Ivoire’s intra-community imports by 1.06 units all things being equal. This will lead to sustained regional integration.

Other Countries with positive import influence on intra-regional trade, but at 5% level of significance that are not included in the estimated equation are Guinea and Sierra Leone import volume coefficients (74.988 and 2385.044 units, respectively), while that with negative influence at 5% level of significance is Gambia imports coefficient (-10497.690 units).

Considering the estimated regression equation, we find that all parameter estimates are not zero hence:

\[ E_x = -626316+4890k_X+1.056X_i+5.525X_7+7498X_1+7.343X_1+µ \]

Where:

- \(X_1\): Estimated ECOWAS Exports
- \(X_i\): Import by Benin
- \(X_7\): Imports by Cote d’Ivoire
- \(X_9\): Imports by Ghana
- \(X_1\): Import from Guinea
- \(X_13\): Imports by Senegal

The two-tail test of the null hypothesis (at 5 per cent level of significance) reduces to two statements thus:

If, on the other hand, the observed \(t^*\) is smaller than 2 (but greater than -2), we accept the null hypothesis. Therefore, in our explicit linear regression model \(Y = b_0+b_1X_1+b_2X_2+...+b_kX_k+µ\), regression constant \(b_0\) represents an export threshold required to improve meaningfully the current export status of the regional member nations. This is abundantly negative and requires sustained and improved import streams to be positive given that all stake holders import goods supplied by member states. Summarily, we reject the null hypothesis \(H_0: b_1 = b_2 = b_3 = 0\) (i.e. ECOWAS member nations’ imports of agricultural products do not significantly influence the intra-regional export volumes of the product), and accept the alternative one that \(H_1: b_1 = b_2 = b_3 \neq 0\).
From Table 4, $F_{\text{cal}} = 648.683 > F_{\text{tab}} = 2.73$; meaning that the Null hypothesis is truly rejected. This is because, the model is significant at 1% level of significance, implying that not all $b^*$ are zero. Five explanatory variables $X_1, X_4, X_5, X_7, X_8$; i.e. intra-community imports by Benin, Cote d’Ivoire, Ghana, Guinea and Senegal have significant effects on the intra-ECOWAS exports.

Conclusion
The number of ECOWAS countries driving the sub-regional integration efforts by importing significantly from regional member-suppliers leaves much to be desired. Only five countries namely Benin, Cote d’Ivoire, Ghana, Guinea, Senegal and Sierra-Leone of the fifteen sub-regional members have imports that positively and significantly influence intra-regional agricultural product exports at 1 and 5% levels. With Burkina Faso and Gambia having negative effects on intra-regional exports, the remaining eight countries account for zero imports. Therefore, to ensure a sustained integration through trade, members need to improve on their patronage of made in the region agricultural products. Moreover, all ECOWAS member nations need to redouble their efforts to enhance regional economic integration through patronizing sub-regional products of trade to engender growth in a sustainable manner.

It is crucial to build on the trade achievements that have been made and strive for sustained integration and economic growth. Therefore, the significance of ECOWAS member nations importing from and exporting to others in the light of growing emphasis for regional integration and at a stage when most ECOWAS countries are opening up their markets under the pressure of International Monetary Fund (IMF) and World Bank (WB) cannot be over emphasized. Moreso, producing a greater variety of goods increases the general knowledge about its technology and implies smaller costs of knowledge accumulation. This in turn will lead to improvement in the manufacturing capacity of the region by ensuring the extension of value chain of most of the intra-regional agricultural product exports, from primary to secondary and tertiary products; leading to realization of maximum benefits of globalization in the light of diversified agricultural products. Nigeria’s importation from and exportation of products of prepared foodstuffs to Benin, Cote d’Ivoire, Ghana, Togo, etc. will likely lead to exportation of products of prepared foodstuffs to Benin, Cote d’Ivoire, Ghana, etc. will likely lead to improvement and sustenance of market shares improvements in these countries’ products. These will assist in the improvement and sustenance of market shares of members’ in particular agricultural products within the sub-region.

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References
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http://www.etls.ecowas.int/etls/about-etls/, 2016)