

## **EFFECTS OF ECONOMIC PARTNERSHIP AGREEMENTS ON AGRICULTURAL TRADE BETWEEN NIGERIA AND THE EU**

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### **Abstract**

*Smart simulation Computable Partial Equilibrium (CPE) Methodology was employed in this study to determine the Effects of Economic Partnership Agreements (EPAs) on Agricultural trade between Nigeria and the European Union (EU). Specifically, the study investigated the patterns of imports of Nigeria; the potential import effects on the country embarking on free trade under the economic partnership agreements scenario; the potential revenue effects on the country under the same platform; the potential welfare effects on the country under the same platform; and the sensitive products for the country based on source and volume of import criteria. World integrated trade solutions (WITS) provided access to international trade and protection related data and offered built-in-analytical tools for the study. Results of the analysis on patterns of import of the country showed that Nigeria imported much of her agricultural products from the Rest of the World (ROW), and least from ECOWAS region. Product group 10(cereals) constituted 38.50% of the total imports. Result on Potential Import Effect of EPAs, showed that Nigeria will gain \$35330.1 million in "Trade Creation" and loses \$14947.484 million in terms of "Trade Diversion", with Total Import Effect amounting to \$50277.6 million. Result on the Potential Tariff Revenue Effect showed total likely tariff revenue loss of -\$16666.7 million for the country. Result on Potential welfare effect showed likely welfare gains of \$2238.8 million for the consumers in all the agricultural products studied. Result on sensitive products based on source and volume criteria, showed that product groups 3, 4 and 15 were identified to house potential sensitive products for the country and should be exempted from EPAs. It is also recommended that fiscal measures such as Value-Added Tax (VAT) should be imposed on imported duty-free food products from the EU to reduce revenue loss from Nigeria.*

**Key words:** EPAs, Agricultural Trade, Nigeria, EU

### **1. Introduction**

Nigeria accounts for more than half the entire ECOWAS region as a key political player; a major contributor to the promotion of regional peace, and democracy in the ECOWAS sub-region. The country also wields considerable economic clout: accounting for over 60% of the bloc's trade. However, trade is limited both in terms of products and destination markets. The EU absorbs around 22% of all Nigeria's exports and accounts for around 25% of overall trade, making it second only to the U.S. According to European Commission figures, petroleum products made up 94% of Nigeria's trade with the EU in 2006, followed by foodstuffs and animal products around 3% (National Bureau of Statistics, 2006).

The Economic Partnership Agreements (EPAs) between West Africa and the European Union (EU) are aimed at promoting trade between the two groupings. The expectations are that through trade deepened integration, development in addition to sustainable growth and poverty reduction would evolve in ECOWAS sub region (Onogwu & Arene, 2013). The EPAs are set out to help West African countries integrate and as well into the world economy and share in the opportunities offered within and outside the sub-region by globalization. Also, it hopes to provide scope for wide-ranging trade co-operation on areas such that services, and standards acting as drivers of change to kick-start reform and help to strengthen rule of law in the economic field, thereby attracting foreign direct investment (FDI), to help create a "virtuous circle" of growth (ECOWAS Statistical Bulletin,2008).

However, with the exception of about 15 Caribbean states that signed a regional economic partnership agreements (EPAs), negotiations with all the other countries have continued. To preserve their access to the EU market after 2007, about 20 countries concluded interim trade agreements. This light version of the original EPAs has not put an end to the negotiations as some of these countries would like to see the terms of the trade agreement revised, or their scope extended, and concluded at regional levels, to preserve their regional integration process (ECDPM, 2012). In this regards, one wonders how Ivory Coast and Ghana each could have a bilateral free trade agreement with the EU. This is because opening their domestic market to European products, while their West African partners, with whom they form a customs union, keep protecting their market from the EU would, very logical lead to EU goods flooding the whole regional markets via these two countries, rendering the West African customs union and further integration process totally ineffective. This scenario which seems to be unique to West Africa is the same in several other African regions (Arene, 2002; Stevens, 2006).

Recently, Europe threatened to withdraw the special trade preferences by 2014 to countries not showing commitment to proceed with their interim EPA. Europe's objective hopefully is to press for the conclusion of broader trade deals at regional level that would replace these awkward and controversial interim EPAs. In an apparently generous move, the European parliament's trade committee called on decision-makers to extend this deadline to 2016. The identification of regionally traded products in a bid to sustaining them through joint and diversified action plan by the region is very necessary in aiding the negotiations through listing of products where trade exist among ECOWAS for which the EU are suppliers. These should be exempted from tariff removal (McKay, Milner & Morrissey, 2005).

It has been argued that in the African interim EPAs, regional integration has in fact been undermined; in the case of Central and West Africa, by adoption of bilateral EPAs with individual countries; in the case of SADC by tariff liberalization schedules that do not respect the obligation of SADC countries to maintain a common external tariff and by the different treatment for South Africa; in the case of ESA, by the separate schedules each of the countries has attached to the agreement; and in the case of EAC by adopting tariff elimination schedules inconsistently with the Customs Union Protocol which requires the application of the three-band common external tariff to all imported products (ATPC, 2008). According to Zgou and Kweka (2008), these agreements are variable in commitments, especially regarding the schedule of liberalization, and which products are classified as sensitive (and hence excluded from liberalization)

## **1.2 Statement of the Problem**

Despite nearly three decades of privileged access to the EU market, Nigeria's economic development seems not to have benefitted from it as intended. In this regards, preferential access has failed to boost local economies and stimulate growth in ECOWAS and ACP countries in general (Panagariya, 2002).

Besides, during the structural adjustment program (SAP) era (1986-1993), policies of most ECOWAS member nations were directed at altering and re-aligning aggregate domestic expenditure, specialization, and production patterns to minimize over dependence on imports; enhance non-oil export base and ensure a steady and balanced economic growth (Babatunde, 2006). In spite of all these efforts, the possible trade, tariff revenue, and welfare implications of EPAs on Nigeria major agricultural products traded are not known as to equip Nigeria policy makers in their negotiation bid towards arriving at EPAs that will accommodate trade and developmental interests of the sub-region. This work proffered suggestions.

However, based on the above, this work investigated The Effects of Economic Partnership Agreements on Agricultural Trade between Nigeria and the EU (Scenario). The work specifically, described the patterns of imports of Nigeria, estimated the potential trade effects on the selected country embarking on free trade under economic partnership agreement scenario, estimated the potential revenue effects on the selected country under the same platform, estimated the potential welfare effects on the selected country under the same platform and identified the sensitive products based on the source and volume of import criteria.

Furthermore, this study analyzed the following hypotheses: That signing of EPAs by Nigeria will lead to a diversion of Agricultural trade in favour of the EU, that effect of EPAs on Agricultural tariff revenue would be negative to the study country; that welfare effects will be adverse to the study country.

## 2.1 Sampling and data analysis procedures

Nigeria was purposively selected from the 15 ECOWAS member nations based on the large size of its economy in the sub-region. EU trading partners with Nigeria were selected purposively. Panel data on various agricultural commodities were equally purposively selected based on the United Nations Harmonized System (HS) of classification code 1-24. The choice of panel data is due to increases in the efficiency of the estimators that significantly reduce the potential problem that may be caused by the omission of variables as used in the similar work of Onogwu, Arene and Chidebelu (2011).

Similarly, Data were collected from secondary source only. World Integrated Trade Solutions (WITS) provided access to international trade and protection related data and offered built-in Sources of data which included from: Trade Analysis and Information System (TRAINS), United Nations Conference on Trade and Development (UNCTAD); COMTRADE, International Trade Centre (ITC), World Trade Organization (WTO), United Nations Industrial Development Organisation (UNIDO), ECOWAS Social and Economic Indicators cum ECOWAS Statistical Bulletin; African Statistical Yearbook, International Monetary Fund (IMF), World Bank, among others.

Furthermore, Objectives 1, 2, 3, and 4 were achieved by the use of Self Monitoring, Analysis, and Reporting Technology (SMART) simulation partial equilibrium model of trade analysis, accessed through the World Integrated Trade Solution (WITS) website. Objective 5 was realized from objective 1 based on source and volume of trade.

## 2.2 Analytical Framework and Model Specifications

Following milner, et. al. (2005). Figure 1 illustrates the welfare effects of an EPA from the perspective of a small home country member (denoted  $H$ ) of ECOWAS countries that is negotiating with the EU. There are initially two extra-regional suppliers, the EU and the ROW, both with infinitely elastic supply curves. For a given product,  $DH$  represents the home country's demand for imports,  $S$  the partner's (upward sloping) supply of exports (to

H), and  $SEU$  and  $SW$  are the respective extra-regional export supply functions at constant cost (prices  $PEU$  and  $PW$  respectively). Assume for convenience that initially  $PEU > PW$  (this would not apply in our case where the EU is initially the dominant supplier), but once tariffs are eliminated the EU can meet all demand at  $PEU$  (i.e.,  $SEU$  is below  $SR$ ).

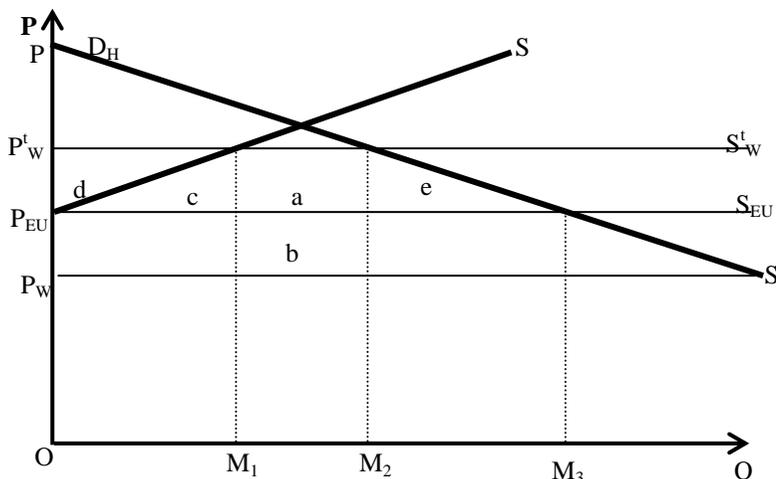


Figure 1. Effects of an EU-NIGERIA EPA

There is a non-discriminatory (ad valorem) tariff ( $t$ ) on extra-regional imports, where  $P_t = P_w(1 + t)$  and initially H imports  $OM_2$  in total, with  $OM_1$  coming from R and  $M_1M_2$  from ROW ( $P_{tEU}$  is not shown as the EU is assumed to be the higher cost supplier prior). Assuming no domestic production capability welfare ( $W'$ ) and change in welfare denoted  $\underline{W}$  is defined by the consumer surplus: W for H is initially given by the consumer surplus triangle (the area below DH and above  $StW$ ) plus the tariff revenue on extra-regional imports (area  $a + b$ ). Under the EPA,  $t$  applies to ROW but not the EU. The relevant supply price is now  $PEU$  with the total quantity of imports expanding from  $OM_2$  to  $OM_3$  (the consumption effect). Figure 1 illustrates a case where all imports post-EPA come from the EU. The trade diversion effect is illustrated as  $M_1M_2$ , and the trade creation effect  $OM_1$ . Different scenarios could be illustrated in separate figures, but it is more useful to consider other possibilities in describing how we estimate the welfare effects.

### 2.3.1 Model Specification for Objective 2

#### (2a) Consumption Effects Only (CE)

If the EU is initially the dominant supplier we can interpret this as  $P'_w = P'_{EU}$ ; imports increase by  $M_2M_3$  and we measure the welfare gain as area  $e$  as represented in figure 1. The consumption effect alone ( $\Delta C^M$ ) is estimated relative to existing EU import volumes as (where elasticities are the modulus although of course a reduction in tariffs implies an increase in import demand):

$$\Delta C^M = \left( \frac{t}{1+t} \right) \eta^d_{M, M_0^{EU}} \quad (1)$$

Where  $t$  is current tariff imposed on imports from the EU,  $\eta^d_M$  is the price elasticity of demand for imports;  $M_0^{EU}$  is the existing value of imports from the EU. As an EPA entails

elimination of tariffs on imports from the EU, the tariff revenue loss on imports ( $M_0^{EU} = OM_2$ ) and welfare effects can be estimated as follows:

$$\Delta R^C = - t . M^{EU} \quad (2)$$

$$\Delta W^C = (1/2) t . \Delta C^M \quad (3)$$

(2b) ‘Trade Creation’ with Consumption Effects (TC&CE)

For the case where Nigeria supplies a relatively significant share of imports one can estimate the effects of trade creation with consumption effects by considering the case where Nigeria price lies over the relevant range between  $tROW^P$  and  $tEU^P$ . In this case all Nigeria imports ( $OM_1$ ) will be replaced by imports from the EU. The maximum value of trade creation with consumption effects ( $CM\Delta TC$ ) obtains where the price of Nigeria imports is as high as the tariff inclusive price of imports from the EU. Thus:

$$\Delta TC_M^C = (1/2) \left( \frac{t}{1+t} \right) . \eta_{M.M}^d . M^{NIGERIA} \quad (4)$$

Where  $M_0^{NIGERIA}$  is the current value of imports from Nigeria. Welfare effects of trade creation with consumption effects can be estimated as the combination of the maximum value of trade created by the displacement of Nigeria exports to partner country  $j$  and consumption effects of trade creation defined in equation (4) as follows

$$\Delta W_{TC}^M = [ M_0^{NIGERIA} ] t + (1/2) [ t . \Delta TC_M^C ] \quad (5)$$

(2c) Trade Diversion’ with Consumption Effects (TD&CE)

Relevant cases of trade diversion occur where more efficiently produced imports from the ROW ( $M_1M_2$ ) are displaced by relatively less efficiently produced commodities from the EU due to an EPA. Commodities for which the ROW is a dominant supplier pre-EPA can be taken to indicate that the ROW is more efficient than the EU. Where an EPA leads to  $P_{EU} < P'_{ROW}$  under the prevailing constant production cost conditions the EU becomes the sole supplier to country  $j$ , and total import diversion will be the upper limit of trade diversion. Obviously, not all imports will be diverted from ROW, and we assume the EU must initially be supplying a reasonable share of imports of a product (at least 20%) to have a capacity for TD. The consumption effects due to trade diversion ( $\Delta TD_M^C$ ) can be estimated in a similar way by assuming (in the absence of information about the level at which the post-EPA EU price will settle relative to  $P'_{ROW}$  and  $P_{ROW}$ ) that on average the post-EPA price of imports from the EU lies midway between the two.

Thus:

$$\Delta TD_M^C = (1/2) \left( \frac{t}{1+t} \right) . \eta_{M.M}^d . M_{ROW} \quad (6)$$

**2.3.2 Model Specification for Objective 3**

(3a) evidently, trade diversion will be associated with tariff revenue loss since country  $j$  switches from taxed ROW sources to duty free EU sources. The tariff revenue loss due to trade diversion (with consumption effects) is given by:

$$\Delta R_{TD}^C = -t \cdot M_0^{ROW} \quad (7)$$

Using the assumption that  $P_{EU}$  lies halfway between  $P'_{ROW}$  and  $P_{ROW}$ , the welfare impact of trade diversion with consumption effects can be estimated as the combination of consumption effects (from equation 6) and tariff revenue effects (from equation (7):

$$\Delta W_{TD}^M = (1/2) \left[ \left[ (1/2) t \cdot \Delta TD^C \right] - \left[ t \cdot M^{ROW} \right] \right] \quad (8)$$

(3b) The consumption effect component of trade (import) effects can be measured using the elasticity of import demand function in this case the changes in the import prices are assumed to be caused by changes in *ad valorem* import tariffs:

$$\Delta M_c = \left( \frac{-t_n^{EU}}{1 + t_n^{EU}} \right) \cdot e_M^D \cdot M_n^{EU} \quad (9)$$

Where the current tariff rate is imposed on imports from the EU in the present period  $n$ ,  $e_M^D$  is elasticity of demand for imports, and  $M_n^{EU}$  is imports from EU.

(3c) Import source substitution effects can be estimated using an imperfect substitution approach:

$$\Delta M_k = \left( \frac{-t_n^{EU}}{1 + t_n^{EU}} \right) \cdot \tilde{\alpha}_n^{EU} \cdot M_n^k \quad (10)$$

where  $0 \leq \tilde{\alpha}_k^{EU} \leq 1$  is elasticity of substitution between imports from the EU and those from the Preferential Trade Areas (PTA;  $k = PTA$ , implying that this equation measures welfare-raising switching of imports from relatively less efficient suppliers from the PTA to more efficient suppliers from the EU); and from the rest of the world ( $k = ROW$ , meaning that this equation captures welfare-lowering switch of source between relatively less efficient EU and the relatively more efficient ROW), and is the quantity of imports from region  $k$ . Source substitution away from the PTA or ROW implies that  $\Delta M^k \leq 0$ .

(3d) the total tariff revenue effect can be estimated as the summation of tariff revenue losses due to removal of tariffs on existing imports from the EU, and tariff revenue lost on imports shifted from the tariff-paying PTA and ROW sources to EU sources which face a tariff. This can be represented thus:

$$\Delta R = t_n^{EU} \left( -M_n^{EU} + \Delta M^{PTA} + \Delta M^{ROW} \right) \quad (11)$$

### 2.3.3 Model Specification for Objective 4

(4) The welfare effects associated with the import and revenue effects will be estimated using the expression:

$$\Delta W = t_n^{EU} \left( \frac{1}{2} \Delta M_c + \Delta M^{PTA} + \Delta M^{ROW} \right) \quad (12)$$

where the first term captures the welfare-raising effects of consumption effects due to cheaper duty-free prices; the second term measures the welfare-improving effects of import source substitution away from the relatively inefficient preference-receiving regional partners to the relatively efficient EU producers; and, the last term captures the welfare-reducing effect of import source substitution away from the least-cost producers from the rest of the world to the preference-receiving EU producers.

### 3. Results and Discussion

The data obtained from SMART simulation partial equilibrium analysis (2014) were presented and discussed using descriptive statistical tools such as frequencies, percentages and tabular presentations.

**Table 1. Patterns of Agricultural Imports of Nigeria.**

Product groups	Total Imports from EU	Total share (%)	Total Imports from ROW	Total share (%)	Total Imports from ECOWAS	Total share (%)
Product group1	48.1	0.1	234.6	0.1	-	-
Product group2	-	-	13.7	0.1	-	-
Product group3	160448.4	16.3	590831.1	32.5	1977.0	34.8
Product group4	139680.1	14.2	304984.7	16.8	1742.3	30.6
Product group5	3579.2	0.4	31309.0	1.7	-	-
Product group6	18114.7	2.3	10030.9	0.6	-	-
Product group7	2423.1	0.3	5137.4	0.1	-	-
Product group8	50.4	0.1	830.3	0.1	-	-
Product group9	57705.5	5.9	20151.9	1.1	-	-
Productgroup10	525733.4	53.5	699878.3	38.5	316.1	5.6
Productgroup11	58049.6	5.9	17762.8	1.0	-	-
Productgroup12	752.8	0.1	5129.8	0.3	-	-
Productgroup13	8322.9	0.9	16922.1	0.9	-	-
Productgroup14	-	-	132.2	0.1	-	-
Productgroup15	7810.6	9.8	114633.1	6.1	1649.7	29.0
Total	982718.8	100.0	1817781.9	100.0	5685.1	100.0

**Source:** author's calculation (SMART partial equilibrium analysis, result 2014).

The product groups studied were: Product group 1 (Live Animals), Product group 2 (Meat and Edible Meat Offal, Fish and Crustaceans), Product group 3 (Mollusks and Other Aquatic Animals), Product group 4 (Diary Produce, Birds Eggs, Natural Honey, Edible Products of Animal Origin not Elsewhere Specified or Included), Product group 5 (Products of Animal Origin, Not Elsewhere Specified or Included), Product group 6 (Live Trees and other Plants, Bulbs, Roots and the likes; Cut Flower and Ornamental Foliage), Product group 7 (Edible Vegetables and Certain Roots and Tubers), Product group 8 (Edible Fruits and Nuts; Peel of Citrus Fruit or Melons), Product group 9 (Coffee, Tea, Mate and Spices), Product group10(Cereals), Product group 11 (Products of Milling Industry; Malt, Starches; Insulin; Wheat Gluten), Product group12 (Oil Seeds and Oleaginous Fruits; Miscellaneous Grains, Seeds and Fruits Industrial or Medical Plants; Straw and Fodder), Product group 13 (Gums, Resins and Other Vegetable Saps and Extracts), Product group 14 (Vegetable

Plaiting Materials; Vegetables Products not Elsewhere Specified or Included) and Product group 15 (Animal or Vegetable Fats and Oils and Their Cleavage Products; Prepared Edible Fats; Animal or Vegetable Waxes).

The patterns of Nigeria imports from three different sources were examined and achieved with the descriptive statistics such as frequencies, percentages and tabular presentations. They include imports from ECOWAS, EU and rest of the world (ROW). Their corresponding percentage shares were also determined and presented on table 1.

Results on patterns of agricultural imports of Nigeria as presented on table 1, showed that Nigeria's highest (\$982718.8 million) imports came from ROW followed by imports from the EU and least (\$45635.1 million) imports came from ECOWAS region. It was further observed that product group 10 (cereals) was the highest (\$699,878.3 million) product group Nigeria imports which comes from ROW at 38.5%. The result also revealed that there were no importations by Nigeria on product group 2 (Meat and Edible Meat Offal) from EU. Out of 15 agricultural product groups studied, Nigeria import's only product group 3 (Fish and Crustaceans, Mollusks and Other Aquatic Animals) at 34.8%, product group 4 (Diary Produce, Birds Eggs Natural Honey, Edible Products of Animal Origin not Elsewhere Specified Or Included) at 30.7%, product group 10 (Cereals) at 5.6% and product group 15 (Animal or Vegetable Fats and Oils and Their Cleavage Products; Prepared Edible Fats; Animal or Vegetable Waxes) at 29.0% from ECOWAS region.

### **3.2 Potential trade effects of EPAs on Agricultural products.**

The result on potential trade effect of EPAs between Nigeria and EU is presented in table 2. In this case, EU is receiving duty-free entry into Nigerian Markets. Nigeria was observed to have trade creation effect of \$35330.1 million and trade diversion effect of \$14947.4 million, respectively.

**Table 2. Potential Trade effect of EPAs between Nigeria and EU on Agricultural Products**

Product Groups	Trade effect for Nigeria in US dollars		
	Total Trade effect	TC	TD
Product group 1	2.4	2.4	0
Product group 2	-	-	-
Product Group 3	1068.1	7127.1	6059.0
Product group 4	-93.3	2030.2	2123.5
Product group 5	-84.3	44.5	128.8
Product group 6	244.0	244.1	0.1
Product group 7	366.4	446.9	80.5
Product group 8	-6.7	2.1	8.8
Product group 9	136.1	576.4	440.3
Product group 10	-4331.7	979.1	5310.8
Product group 11	2342.3	2631.1	288.8
Product group 12	20513.7	2052.1	6.3
Product group 13	10.2	92.5	82.3
Product group 14	-	-	-
Product group 15	215.2	633.7	418.4
Total	20382.4	35330.1	14947.6

**Source:** Author's calculation (SMART simulation partial equilibrium result (2014)).

Similarly, the result showed that trade creation will outweigh trade diversion in favour of the EU countries as observed from the results of the study and this result is in line with the stated hypothesis and concluded that EPAs will lead to trade creation in favour of EU countries. This study justifies similar findings of Tekere and Ndlela (2003) who examined the effects of SADC-EU EPA on SADC countries using partial equilibrium analysis and showed that trade creation would outweigh trade diversion effect in favour of EU.

### 3.3 Potential Revenue Effect of EPAs

The result on potential revenue effect of EPAs between the economy of Nigeria and the EU is presented on table 3. Result showed potential total revenue losses (-\$16666.6 million) for Nigeria. It was equally observed from the results obtained from the SMART simulation partial equilibrium analysis (2014) that product group 5 and 12, only showed potential positive gain for Nigeria if it should go into signing EPAs with EU. The results of this study are in tune with similar findings of Busse et al (2004) who opined that ECOWAS countries would experience an absolute decline if they should go into EPAs

**Table 3. Potential Revenue Effect of EPAs between Nigeria and the EU**

Product groups	Nigeria Revenue effect in US dollars
Product group 1	-4.9
Product group 2	-
Product group 3	-6401.7
Product group 4	-2721.2
Product group 5	-40.4
Product group 6	-204.7
Product group 7	-179.9
Product group 8	-5.2
Product group 9	-598.9
Product group 10	-6297.7
Product group 11	-480.1
Product group 12	-7.8
Product group 13	-94.5
Product group 14	0.00
Product group 15	370.2
Total	-16666.6

**Source:** Author's calculation (Smart Simulation Partial Equilibrium analysis 2014)

Similarly, the results of this study are in accordance with the second hypothesis studied which stated that EPAs on agricultural revenue would be negative for Nigeria. This is because imports from the EU will be duty-free following full EPA. Consequently there is a 100% loss of tariff revenue on all imports from the EU due to tariff removal.

### 3.4 Potential Welfare Effect of EPAs

Results on potential welfare effect of EPAs between Nigeria and the EU are presented on the table 4. As the imports of Nigeria from the EU of various Agricultural products increases, it is seen as negative impact from the point of view of the Government and Producers in the country. However, the result as presented on table 4, on welfare effect of EPAs to Nigeria showed total potential welfare gain (\$2238.8million) for the consumers in all the products groups studied. Similarly, product group 3 recorded the highest (\$814.6million) potential

welfare gain for Nigeria and least (\$0.3 million) was on product group 8. There were no report on potential welfare effect on product group 2 and 14. These results are contrary to the opinions of McKay, et al (2005) who used partial equilibrium method to illustrate the case of East African cooperation (Kenya, Tanzania and Uganda) and suggested that the welfare effect from a reciprocal agreement with the EU will be small and ACP countries will experience short-run adjustment costs especially in the form of revenue losses. But in line with similar findings of Morrisey and Zgovu (2011) who opined that over half of ACP countries are likely to experience welfare gain.

Lastly, the results of this study refuted the stated hypothesis and concluded that welfare will not be adverse for Nigeria.

**Table 4. Potential Welfare Effect of EPAs between Nigeria and the EU**

Product Groups	Nigeria Welfare effect in US dollars
Product group 1	0.4
Product group 2	-
Product group 3	814.6
Product group 4	279.9
Product group 5	2.2
Product group 6	10.9
Product group 7	7.1
Product group 8	0.8
Product group 9	81.2
Product group 10	359.0
Product group 11	513.6
Product group 12	2.1
Product group 13	4.4
Product group 14	-
Product group 15	99.9
Total	2238.8

**Source:** Smart Simulation Partial Equilibrium analysis (2014)

### **3.5 Agricultural Sensitive Products for Nigeria.**

As the requirement is to liberalize substantially all trade, this allows ECOWAS countries to exempt sensitive products (SPs) from liberalization. There are no clear criteria for which products will be classified as SPs.

However, based on the source and volume of imports criteria and 20% ECOWAS import shares of the studied country, the following were identified to be the potential sensitive products for Nigeria they includes: product group 3 (Fish and crustaceans, Mollusks and Other Aquatic Animals), product group 4 (Diary produce, Birds Eggs Natural Honey, Edible products of Animal origin not Elsewhere Specified or included), product group 15 (Animal or Vegetable Fats and Oils and their Cleavage products; Prepared Edible Fats; Animal or Vegetable Wax).

## **4. Conclusion**

Based on the above results of this study, it was concluded that trade creation effects will be in favour of Nigeria if EPAs should be signed with EU. These results refute the stated hypothesis of this study, which stated that signing of EPAs by Nigeria will lead to a

diversion of agricultural trade in favour of EU. This is because products from EU become cheaper by the amount of its tariff cut; there will be new customers in Nigeria who would buy these products from EU, resulting in Trade Creation Effects and this is in line with similar findings of Viner (1950), Morrissey and Zgovu (2007) in (Onogwu, & Arene 2013).

Result on revenue effects was observed to be in accordance with the second null hypothesis studied which stated that EPAs effects on agricultural revenue would be negative for Nigeria as observed from this study. This is because imports from the EU will be duty-free following full EPA. Consequently there is a 100% loss of tariff revenue on all imports from the EU due to tariff removal. This result is in tone with similar findings of Adeola and Olumuyiwa (2005) who opined that one of the major fears about the EPA is that it will lead to significant revenue loss for most of the West African countries for which trade revenues constitute a significant proportion of total revenue.

The result on welfare effects of EPAs, as identified in this study, refuted the stated hypothesis tested and concluded that welfare will not be adverse for the Nigeria. Though, it can be seen as a negative impact from the point of view of the Government and Producers in Nigeria. However, the result showed likely welfare gains, for the consumers in all the product groups studied.

However, based on the source and volume of imports criteria, it was observed from import patterns of Nigeria, that agricultural product groups 3, 4 and 15 should be the likely sensitive products for the country as observed from this study and this may be due to the fact that these product groups are traded within ECOWAS sub region as intra-traded products.

## 5. Recommendations

The on-going Economic Partnership Agreements (EPAs) negotiations between Nigeria and the EU need to be concluded and implemented based on the research findings, but measures should be taken to protect the infant food industries from going out of production due to cheaper food products flooding the country's market from the EU markets. Such measures should include imposition of value-added taxation on duty-free imported products from the EU, and relocation of labour from contracting to expanding production sectors by undertaking production and employment adjustment programmes, as well as skill development and productivity enhancement programmes. Welfare losses are likely to occur if trade diversion effects outweigh trade creation- with- consumption effects in Nigeria. These developmental dimensions should be accommodated in the agreements.

Similarly, Agricultural product groups 3, 4 and 15 were identified to be the potential sensitive products for the country and should be exempted from EPAs.

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