

**The Impact of Regional Integration on Nigeria's Imports: A Case of
ECOWAS Common External Tariff on Agro-Processing**

by

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Declaration

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Abstract

There has been several attempts to foster deep integration within West Africa in times past. Regional integration has notable gains and is vital for any economy. It promotes trade and contributes to growth. Consequently, the Economic Community of West African States (ECOWAS) customs union agreed on a Common External Tariff (CET), which Nigeria started to implement on 11th April 2015.

The study particularly looks at the impact of the ECOWAS regional trade agreement on trade and agro-processing in Nigeria. Specifically, the impact of the CET on imports of agro-processed products was quantified. In view of further liberalization, the effect of a possible ECOWAS-European Union (EU) Economic Partnership Agreement (EPA) on trade, revenue and welfare was also examined. The methodology used for analysis is a partial equilibrium model. Specifically, the Single Market Partial Equilibrium Modelling Tool (SMART) is used at a fairly disaggregated six-digit level of the harmonized system. The analysis makes use of 2014 trade data obtained from the SMART model and the ECOWAS CET schedule obtained from Nigeria Customs Service (NCS).

The study defined four tariff liberalization scenarios. The first is a common external tariff on all products imported by Nigeria from ECOWAS. The second scenario takes into consideration a zero-rating on ECOWAS imports of all products. The third scenario considers a complete elimination of existing import tariffs on all members of the EU in addition to ECOWAS partners in the context of an ECOWAS-EU EPA. The fourth scenario imposes the common external tariffs on imports from all trading partners, except ECOWAS and the EU, whose products remain zero rated.

Overall, the results indicate that a regional trade agreement with ECOWAS and the EU increases the imports of agro-processed products by Nigeria. This import growth is mostly driven by trade creation as a result of the lowering and/or the removal of tariffs. Cote d'Ivoire had the largest positive trade diversion effects among the ECOWAS partners and as for the European Union it was the Netherlands. Nigerian consumers benefit from reduced prices, but the influx of new imports may not favour producers in the agro-processing sector. This is because expensive local production is substituted by cheaper imports. Though not analyzed in this study, producers within the agro-processing sector may likely witness an impact of diminishing profits because of strong import competition. The analysis also indicates loss of tariff revenue for the Nigerian government but welfare gain in total, as expected. In the first

scenario (CET on ECOWAS only) agro-processing accounted for the largest share (60.83%) of tariff revenue loss for Nigeria.

Based on the results, agro-processing accounts for 33.83%, 30.01%, 7.35% and 5.17% of the trade creation across the four scenarios as well as some trade diversion 55.82%, 32.81%, 14.91% and 11.88%.

The implementation of Free Trade Area (FTA) within ECOWAS serves as a meaningful base provided trade policies are well coordinated and harmonized. The government however needs to come up with measures to enable producers of less competitive agro-processing sectors to remain relevant. The results show that Nigeria needs an approach to generate revenue to offset the tariff revenue losses caused by the implementation of the CET.

Opsomming

Daar was reeds verskeie pogings in die verlede om diep integrasie binne Suidwes-Afrika te bevorder. Streeksintegrasie het noemenswaardige voordele en is noodsaaklik vir enige ekonomie. Dit bevorder handel en dra by tot groei. Gevolglik, het die Ekonomiese Gemeenskap van Wes-Afrika State (ECOWAS) doeane-unie ooreengekom op 'n gemeenskaplike eksterne tarief (CET), wat Nigerië begin implementeer het op 11 April 2015.

Die studie kyk veral na die impak van die ECOWAS streekshandelseooreenkoms op plaaslike handel en landbou-verwerking in Nigerië. Spesifiek, was die impak van die CET op handel in verwerkte landbouprodukte gekwantifiseer. Met die oog op verdere liberalisering, is die effek van 'n moontlike ECOWAS-Europese Unie (EU) Ekonomiese Venootskaps-ooreenkoms (EPA) op handel, inkomste en welvaart ook ondersoek. Die metode wat gebruik is vir die ontleding is 'n gedeeltelike ewewigsmodel. Spesifiek, die Enkel Mark Parsieële Ewewig Modelling Instrument (SMART) word gebruik op 'n redelikegedetailleerde ses-syfer vlak van die geharmoniseerde stelsel. Die analise maak gebruik van handelsdata vir 2014 wat verkry is uit die SMART model en die ECOWAS CET skedule verkry vanaf die Nigeriese Doeane Diens (NCS).

Die studie definieer vier tarief liberalisering scenarios. Die eerste is 'n algemene eksterne tarief op alle produkte wat Nigerië invoer vanaf ECOWAS. Die tweede scenario stel 'n nul-tariefof die invoer van alle produkte vanaf ECOWAS. Die derde scenario oorweeg 'n volledige uitskakeling van bestaande invoertariewe op alle lede van die EU bykomend tot ECOWAS vennote in die konteks van 'n ECOWAS-EU EPA. Die vierde scenario stel die gemeenskaplike eksterne tariewe op produkte vanaf alle handelsvennote, behalwe ECOWAS en die EU, wie se produkte teen 'n nulkoers ingevoer word.

Oorhoofs, dui die resultate daarop dat plaaslike handelsooreenkoms met ECOWAS en die EU die invoer van verwerkte landbouprodukte vir Nigerië verhoog. Hierdie toename in invoere word gedryf deur handelskepping as gevolg van die verlaging en / of verwydering van die tariewe. Die Ivoorkus het die grootste positiewe handelsoordrag effekte onder die ECOWAS vennote en in die Europese Unie is dit Nederland. Nigeriese verbruikers vind baatby laer pryse, maar die invloei van nuwe invoeremag lei daartoe dat produsente in die landbou-verwerking sektor benadeel word. Dit is omdat duur plaaslike produksie vervang word met goedkoper invoere. Hoewel dit nie ontleed word in hierdie studie nie, sal produsente binne die landbou-verwerking sektor waarskynlik dalende winste ervaar as gevolg van sterk mededinging tov

invoer. Die ontleding dui ook op 'n verlies aan tariefinkomste vir die Nigeriese regering, maar algehele welvaart neem toe, soos verwag. Vir die eerste scenario (CET slegs vir ECOWAS) maak verwerkte landbou produkte die grootste deel (60.83%) uit van die verlies aan Nigerië se tarief inkomste.

Op grond van die resultate, is verwerkte landbouprodukte verantwoordelik vir 33.83%, 30.01%, 7.35% en 5.17% van die handelskeppingvir die vier scenariosonderkeidelik, asook vir handeloordragte 55.82%, 32.81%, 14.91% en 11.88%.

Die implementering van 'n vrye handelsarea (FTA) binne ECOWAS dien as 'n betekenisvolle basis, gegewe dat handelsbeleide goed gekoördineer en geharmoniseer is. Die regering moet egter vorendag kom met maatreëls om produsente van minder mededingende landbou-verwerking sektore in staat te stel om relevant te bly. Die resultate dui daarop dat Nigerië 'n benadering benodig om inkomste te genereer om die verlies aantariefinkomste wat veroorsaak word deur die implementering van die CET, teen te werk.

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Dedication

I dedicate this work to the Almighty God. He has been my source of strength and this accomplishment is through His divine help. Blessed be the name of the Lord.

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List of Abbreviations

ACP	African Caribbean and Pacific
AEC	African Economic Community
AfDB	African Development Bank
AGOA	African Growth and Opportunity Act
ATA	Agricultural Transformation Agenda
ATPSM	Agricultural Trade Policy Simulation Model
AU	African Union
BOP	Balance of Payment
BRIC	Brazil, Russia, India and China
CA	Cotonou Agreement
CARICOM	Caribbean Community and Common Market
CBN	Central Bank of Nigeria
CES	Constant Elasticity of Substitution
CET	Common External Tariff
CGCED	Caribbean Group for Cooperation on Economic Development
CGE	Computable General Equilibrium
CIA	Central Intelligence Agency
COMESA	Common Market for Eastern and Southern Africa
CTS	Consolidated Tariff Schedule
CU	Customs Union
CUSFTA	Canada-United States Free Trade Agreement
DAFF	Department of Agriculture, Forestry and Fisheries
DFQF	Duty-Free Quota-Free
EAC	East African Community
EBA	Everything But Arms

ECCAS	Economic Community of Central African States
ECOWAS	Economic Community of West African States
EEC	European Economic Community
EPA	Economic Partnership Agreement
ETLS	ECOWAS Trade Liberalization Scheme
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
FEM	Foreign Exchange Market
FTA	Free Trade Area
FTAA(s)	Free Trade Area of the America(s)
FTZs	Free Trade Zones
GDP	Gross Domestic Product
GSIM	Global Simulation Model
GSP	Generalized System of Preferences
GTAP	Global Trade Analysis Project
HS	Harmonized System
IAT	Import Adjustment Tax
ICT	Information, Communication and Technology
ICTSD	International Centre for Trade and Sustainable Development
IGAD	Intergovernmental Authority on Development
IMF	International Monetary Fund
ISI	Import Substitution Industrialization
ITC	International Trade Centre
LPA	Lagos Plan of Action
MERCOSUR	Mercado Común del Sur (i.e. Southern Common Market)

MFN	Most Favoured Nation
NAFDAC	National Agency for Food and Drug Administration and Control
NAFTA	North American Free Trade Agreement
NCS	Nigeria Customs Service
NDP	National Development Plan
NEEDS	National Economic Empowerment and Development Strategy
NEXIM	Nigerian Export-Import Bank
NIRP	Nigeria Industrial Revolution Plan
NSP	National Sugar Policy
OECD	Organization for Economic Co-operation and Development
PTA(s)	Preferential Trade Agreement(s)
SAARC	South Asian Association for Regional Cooperation
SADC	Southern African Development Community
SANE	South Africa, Algeria, Nigeria and Egypt
SAP	Structural Adjustment Programme
SMART	Single Market Partial Equilibrium Modelling Tool
SON	Standards Organization of Nigeria
SPM(s)	Supplementary Protection Measure(s)
SPT	Supplementary Protection Tax
SSA	Sub-Saharan Africa
TDP	Taxe Dégressive de Protection
TRAINS	Trade Analysis and Information System
TRIST	Tariff Reform Impact Simulation Tool
UEMOA	Union Économique et Monétaire Ouest Africaine (i.e. West African Economic and Monetary Union)
UK	United Kingdom

UNCOMTRADE	United Nations Commodity Trade Statistics
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNIDO	United Nations Industrial Development Organization
USA	United States of America
USAID	United States Agency for International Development
USDA	United States Department of Agriculture
VAT	Value Added Tax
WAEMU	West African Economic and Monetary Union
WCO	World Customs Organization
WEF	World Economic Forum
WITS	World Integrated Trade Solution
WTO	World Trade Organization
YOY	Year-on-Year

Chapter 1: Introduction

1.1 Background

Regional economic integration is a Pan-African development agenda for the eventual attainment of a continental community (ECOWAS Vanguard, 2013). African leaders signed the (Abuja) Treaty establishing the African Economic Community (AEC) in June 1991. The broad aim of the Treaty was to establish a continent-wide single market by 2025. The Abuja Treaty laid down specific phases and a timetable for establishing and enhancing economic integration at the sub-regional level. It emphasized that the ultimate objective of a continent-wide integration was to be achieved through the building blocks of lower level regional integration arrangements.

Regional integration has been a key component of economic development across developing countries of the world over the years. West Africa in particular has discovered the importance of regional integration as a means of solving the problems of development facing the region. Almost all countries belong to one or more blocs within which trade agreements are made. This is evident in Nigeria's active membership in the Economic Community of West African States (ECOWAS), African Union (AU), Cotonou Agreement (CA), the European Union (EU) – African Caribbean and Pacific (ACP) Agreement, and the African Growth and Opportunity Act (AGOA) of the United States of America (USA).

Nigeria joined ECOWAS when the treaty was signed on May 28th, 1975 in Lagos. ECOWAS consisted of sixteen countries that included Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone and Togo. The membership reduced to fifteen after Mauritania pulled out in December 2000. ECOWAS is one of the five regional pillars of the AEC more popularly known as the Abuja Treaty. Others are Common Market for Eastern and Southern Africa (COMESA), Economic Community of Central African States (ECCAS), Intergovernmental Authority on Development (IGAD) and Southern African Development Community (SADC).

In July 1993, a revised ECOWAS Treaty was signed. There was a shift to a more “people-centred organization” as opposed to the “overly bureaucratic inter-governmental agency of the past” (Aryeetey, 2001). Since its creation, ECOWAS has been promoting economic cooperation and regional integration as a tool for an accelerated development of the West African economy (ECOWAS, 2010). The aim is to create a borderless region where the

constituting countries enjoy free access to its abundant resources and is able to exploit them through the creation of opportunities under a sustainable environment.

The Common External Tariff (CET) and the Free Trade Area (FTA), the two constituent parts of a Customs Union (CU), were both decided upon as part of the integration process of ECOWAS (Anonymous, 2009). A CET implies that each product entering into the customs territory of any ECOWAS country will be assessed at the same rate of customs duty. The ECOWAS CET, which should have been implemented as of January 1st, 2015, only became effective in Nigeria from 11th April 2015 and was officially launched in Lagos on June 23rd, 2015. The regional trade policy agenda in West Africa has been recently marked by negotiations of the ECOWAS CET and Economic Partnership Agreement (EPA) with the EU.

The ECOWAS-EU EPA negotiations started in 2002 and should have been finalised in 2007. ECOWAS concluded the EPA negotiations with the EU on 6 February 2014 (European Commission, 2016). The signature process is currently ongoing, as thirteen out of the fifteen-member states have signed the EPAs. Nigeria, Gambia and Mauritania have refused to sign the agreement. Mauritania is not a part of ECOWAS but was added to the sub-region for the purposes of the agreement. The disparity in interests shown by respective countries in West Africa has contributed to the delay in its implementation. Most of the ECOWAS members are least developing countries that have nothing to lose whether or not the EPA is signed since they enjoy Duty-Free Quota-Free (DFQF) market access to Europe under the Everything But Arms (EBA) scheme. The situation is different for non-least developing countries if they lose their preferential market access to Europe (Czapnik, 2014). Non-developing countries like Cote d'Ivoire and Ghana have an interim EPA with the EU while Nigeria and Cape Verde presently enjoy a Generalised System of Preferences (GSP). The EPA is designed to create developmental framework that promotes domestic and regional reforms, one of which is trade facilitation (Brenton, Hoppe & Newfarmer, 2008).

Trade facilitation is simply the movement of goods and services between sellers and buyers across border. The facilitation of trade can improve the competitiveness of a country in the world market (International Centre for Trade and Sustainable Development; ICTSD, 2011). Trade facilitation is referred to as the simplification and harmonization of international trade procedures, with trade procedures being the activities, practices and formalities involved in collecting, presenting, communicating and processing data required for the movement of goods in international trade (World Trade Organization; WTO, 1998).

1.2 Problem Statement

The Nigerian economy is dominated by oil, which accounts for nearly 90% of foreign earnings, 25% of the Gross Domestic Product (GDP) and about 80% of public revenue (Agbaeze, Udeh & Onwuka, 2015). It is estimated that because of corruption, 70% of the oil revenues within the nation only benefit a mere 2% of the entire population. However, the long-term development of Nigeria cannot be based on one resource (crude petroleum) since it can be depleted and is subject to the fluctuations of international demand and price conditions. According to the United Nations Industrial Development Organization (UNIDO, 2012), what is being proposed is the diversification of the economic base of the country, with the purpose of securing regular and sustainable inflows of revenues for economic development. The diversification of the economy is expected to come largely from agriculture, particularly from a well-developed agro-industry and agribusiness activities.

Regional integration in West Africa is a very relevant issue in view of agro-processing in Nigeria. The demand for food and fibre makes reliance on agriculture and agro-industrial products inevitable. There is no sector of Nigeria's economy that is not linked with agriculture and its related activities. The African Development Bank (AfDB, 2000) stated that the transformation of agriculture in Africa calls for a shift from subsistence farming to a commercial agriculture with improved access to markets and agro-industry. This includes greater dependence on input and output markets and the high level of integration between agriculture and other sectors of the domestic and international economies.

The great potential of agriculture to drive and power the economy finds meaning only in the adoption of agro-industrial processing and transformation. This is evident in the linkage hypothesis of Hirschman, which states: 'the best development path lies in choosing those activities where progress will result in further progress somewhere else' (Food and Agriculture Organization; FAO, 1997). The agro-industry is therefore believed to play a crucial part in increasing economic activities due to its high level of interdependence through forward and backward linkages. PwC (2016) used an input-output analysis multiplier model to review the impact of low oil prices on key economic indicators in Nigeria. Across the 26 sectors surveyed, the report identified agriculture, petroleum, retail and Information, Communication and Technology (ICT) as priority sectors with the most dominant transmission links to the overall economy. The results ranked agriculture as the sector with the highest inter-industry linkages in terms of weighted value. Hence, as measured by the share of output sold to or bought from other industries, an activity that exhibits a high level of interdependence can contribute to

economic growth. The potential for agro-industrial development in a developing country like Nigeria is largely linked to the relative abundance of agricultural raw materials and low-cost of labour. The value addition that could be derived from effective agro-processing constitutes the main ingredient for growth and development of the economy.

Since the establishment of ECOWAS in 1975, it has faced many challenges in its member states. The sub-region has been prone to constant political instability, cross border disputes, poverty and under-development, civil conflicts, wars, proliferation of small arms and light weapons and recently terrorism (Clark, 2013). Hence, resources and energy that should have been used for the development of ECOWAS are wasted to resolve such crises. For example, during the Niger Delta crisis in Nigeria, the security vote was over four hundred million Naira yearly at the expense of other social infrastructure (Clark, 2013). The large amount of money spent on conflict resolution could have led to poverty alleviation in member states provided it was used for welfare development.

According to the AfDB (2014), Nigeria is West Africa's largest market with great potential to be a main driver of regional integration considering its population. It indicated that with the GDP rebasing, Nigeria now has the largest economy in Africa and a great potential for its services and manufacturing sectors. Nigeria also attracted half of the Foreign Direct Investment (FDI) coming into the region with about 45% in 2012. Nonetheless, ECOWAS intra-regional trade has been reducing steadily, presently consisting of less than 1% of Nigeria's total imports and 3% of its export (AfDB, 2015). Informal trade networks are however expected to be significantly larger, particularly for agricultural goods, petroleum products, and re-export trade.

Goods such as cement and cassava flour from Nigerian companies served the needs of their clients across West Africa. Thus, closer integration with the region would require Nigeria to open its markets to regional exports because there is a need for a change of perspective on the neighbouring countries being more of partners and not just mere clients. The facilitation of trade in ECOWAS is vital to enhance the region's trade performance, both with regards to intra-regional trade as well as exports globally.

Despite a number of studies regarding the effects of regional economic integration, agro-processing has not been much of a priority focus in Nigeria. This gap motivates the study. Efforts to better link regional markets can be achieved if regional value chains were built in West Africa especially in areas like agro-processing. The focus on value chains through which products of agriculture can meet the needs of final consumers both home and away has been

minimal (UNIDO, 2013). ECOWAS as a region is the world's largest producer of cocoa (Soule, 2013). 90% of cocoa is exported raw or roasted, packaged and sent to the United States or Europe. This denies Africa of the most profitable part of the confectionery market value chain – the processing of the cocoa into chocolate.

According to Olubomehin and Kawonishe (2004), integration is no longer a simple question of propriety but an inevitable strategy of survival and development. History shows that no country has ever become rich by exporting raw materials without also having an industrial sector, and in modern terms an advanced services sector. The more a country specializes in the production of raw materials only, the poorer it becomes (Nigeria Industrial Revolution Plan; NIRP, 2014).

1.3 Objective

The main objective of this study is to investigate the effects of ECOWAS regional trade agreements on trade and agro-processing in Nigeria.

The sub-objectives of this study are:

- i. to assess the likely consequences of the complete implementation of the ECOWAS CET on trade in general and agro-processed goods in particular for Nigeria and
- ii. to assess the likely consequence of the ECOWAS-EU EPA on trade in general and agro-processed goods in particular for Nigeria

1.4 Methodology

Empirical studies have used various techniques to investigate the effects of regional economic integration. The existing literature on the methods of assessing the effects of regional economic integration on international trade can be classified into three main groups. They are gravity models, partial equilibrium and general equilibrium models. This study reviews these applied techniques and results (see section 2.8 for more details).

The study analyses trade creation and trade diversion effects of regional integration between Nigeria and ECOWAS and then between Nigeria and ECOWAS together with the EU. Secondary data gathered from various sources was relied upon for this study. The trade data was obtained from the International Trade Centre (ITC). The base year adopted was 2014 since it had the most recent available data as at the time of writing. Importantly, it also gives the estimates of the trade agreements (ECOWAS CET and ECOWAS-EU EPA) before the actual year of implementation.

The economic impact of the implementation of the ECOWAS CET on agro-processing in Nigeria was analysed by formal modelling. Tariff data from the Trade Analysis and Information System (TRAINS) was used bearing in mind that it includes Harmonized Schedule (HS) nomenclature. The World Integration Solution (WITS) software developed by the World Bank and United Nations Conference on Trade and Development (UNCTAD) served as the source of the analytical tool, namely the Single Market Partial Equilibrium Modelling Tool (SMART). Simulations based on tariff schedules were carried out with the SMART model. The SMART model has an internet user interface and it already contains most of the data. The model therefore requires no additional trade flow data or data on existing tariff levels. The user has the option of changing the elasticity values and selecting the new tariff values as part of the scenario selection. The model is useful for analysing changes in trade flows between individual countries and hence it avoids the bias of aggregation. The only noteworthy drawback with the online version of the SMART model is that it does not allow for different tariff changes per tariff line (i.e. individual products), only equi-proportionate changes, or setting all tariffs to a new base level, is possible. For this reason, additional calculations were carried out in Excel when different tariff changes per tariff line were required.

The method steps are as follows:

- Products classified as agro-processing were identified. Agro-processing in this study is according to the definition of FAO (1997) which described the agro-processing industry as one that transforms products derived from agriculture, forestry and fisheries through basic preservation, broad post-harvest activities or capital-intensive production of articles like textiles, pulp and paper etc. Following this, all products originating from agriculture, forestry and fisheries are considered as agro-processing. In order to derive the HS codes for agro-processing, the agreement on agriculture as defined by the WTO was adopted but with some modifications. These modifications include the separation of the HS codes of agriculture into primary agriculture and processed products then, the addition of the HS codes related to forestry and fishery products. Hence, the list of agro-processing products (see appendix 1) includes the HS codes for processed agriculture, forestry and fishery products.
- The details on tariffs and trade flows between Nigeria and the rest of ECOWAS, and the EU were explored in order to define the liberalisation scenarios.

- The quantity of trade that can be created and diverted was derived for scenarios assuming complete tariff removal, which were estimated with simulations using the internet based SMART model.
- In order to apply the common external tariff on all of Nigeria's imports from ECOWAS and to allow for the exclusion of products exempted from the trade agreement, the SMART model was supplemented by additional Excel spreadsheet calculations.

The focus in this study is primarily on determining the trade creation and trade diversion effects due to changes in imports after the implementation of a customs union. The SMART model does not consider new sources of imports, but allows for diversion of imports from one existing source to another. ECOWAS as a region largely depends on imports for most of its needs. Although it is acknowledged that the domestic allocation of resources, and hence domestic production and exports, is influenced by a change in tariffs when the price of goods traded in the home market is above the world prices, these effects are not measured as part of this study. The analysis is concerned with the effect on the import side after the implementation of a customs union to determine which domestically produced product might be most affected by increased competition. To this end, the historic trade patterns have also been noted for mostly exportation of raw materials and importation of finished goods.

1.5 Thesis Outline

The importance of regional integration and the background of the ECOWAS CET and ECOWAS-EU EPA are discussed in chapter one. This chapter also gives reasons why the agro-processing industry should be a priority focus as a strong drive to industrialization. The rest of the study is structured as follows: chapter two presents the theories, rationale, benefits and techniques of regional integration applied in past studies. It also highlights the challenges paying particular attention to ECOWAS. The trade context of Nigeria is discussed in the third chapter. The policies of trade and development plans of Nigeria so far are described. The WITS-SMART model, data and method employed for the analysis are discussed in chapter four. This chapter also explains the tariff liberalisation scenarios considered. The fifth chapter presents the discussion of the estimated results. The sixth chapter highlights the conclusions and recommendations.

Chapter 2: Review of the Literature

2.1 Introduction

This chapter aims to give background knowledge of regional economic integration. Two terms commonly used in the literature are economic integration and regional economic integration. Economic integration is the joining of countries to form a larger entity while regional economic integration is an agreement between countries within a specific region. This study makes use of regional economic integration for uniformity sake. Some of the various definitions are discussed in section 2.2. Presented in section 2.3 and section 2.4 respectively are various theories and the levels of regional economic integration. Section 2.5 discusses the rationale and benefits of regional economic integration while section 2.6 discusses the challenges as it relates to the Economic Community of West African States (ECOWAS). Section 2.7 focused on the prospects of agro-processing in terms of driving development. Just before the chapter summary is a description of the major techniques for assessing regional economic integration and an overview of past studies that applied it.

2.2 Definition of Regional Economic Integration

According to De Lombaerde and Van Lagenhove (2005), regional economic integration is a large-scale territorial differentiation indicated by the progressive reducing of internal boundaries and possible rising of new external boundaries, wherein states move from a condition of partial or total isolation towards partial or complete unification, among others. For Mambara (2007), regional economic integration means the formation of closer economic linkages among countries that are geographically close to each other, mainly through Preferential Trade Agreements (PTAs). The European Union (EU) described regional economic integration as the process of overcoming, by common accord, political, physical, economic and social barriers that divide countries from their neighbours, and of collaborating in the management of shared resources and common national goals (Lolette Kritzinger-Van Niekerk, 2011). Any policy designed to reduce trade barriers between a subset of countries regardless of the fact that such countries are contiguous or even close to each other has been referred to as regional economic integration (Winters, 1996; Nicolas, 2008).

Jovanovic (1992) conceived regional economic integration as a process through which economies of separate states unite in large entities. Regional economic integration involves the process of trade, economic and financial convergence of integrating states (Biswaro, 2003). Clark (1996) considered it an intergovernmental cooperation that would bring about vital

policy decision, thereby encouraging the exchange of goods, services, labour and capital. Similarly, regional economic integration is a way of eliminating restrictions on international trade, payments and factor mobility (Carbaugh, 2004).

2.3 Theories of Regional Economic Integration

Integration is believed to have originated from Balassa's study in 1961. Other scholars have traced the origin of trade gains and the theory of regional economic integration to the pioneering work of Viner in 1950. He introduced the traditional theory of customs union while other authors made subsequent extensions. Viner focused on two types of production effects (trade creation and trade diversion) and ignored the consumption effect, which was later included by Meade (1955) and Lipsey (1957). The production effect is referred to as a change in the source of supply of a commodity from a more expensive domestic one to a cheaper member-state (positive effect) and from a lower cost foreign one to a higher-cost member-state producer (negative effect). In 1965, Johnson modified the theory of customs union by considering its total welfare gain.

The theories of economic integration groups welfare into three; static effect, dynamic effect and other agglomeration versus spread effects (Sapir, 2011). Static effects made up of production and consumption effects are primary effects while dynamic effects are resultant effects. The static effects are sometimes called old or first regionalism while the dynamic effects are also known as new or second regionalism. The dynamic effects according to Schiff and Winters (1998) refers to what influences the rate of economic growth in a country over a medium term. Large-scale economies, technological change, market structure and competition, productivity growth, risk and uncertainty are some of the dynamic effects (Hosny, 2013).

Kim (2002) recognized the first and second wave of regionalism, which seems more significant in size. The first wave of regionalism was in the 1950s and 1960s while the second one began in the 1980s and became widespread in the 1990s. Regional economic integration under the old wave was limited to neighbouring countries but in recent times, it has gone intercontinental. This study recognizes both the static and dynamic effects of regional economic integration but will focus on the static effects (trade creation and trade diversion) which is explained further in sections 4.3.1 and 4.3.2. Private sector involvement, competition and services are some of the factors responsible for the difference between the Viner theory and the post-Viner developments as presented in table 1.

Table 1: Comparison of Old and New Regionalism

Old Regionalism	New Regionalism
Import substitution	Export orientation
Planned allocation of resources	Market allocation of resources
Led by governments	Led by private firms
Mainly industrial products	All goods, services and investment

Source: Lawrence (1997)

2.4 Levels of Regional Economic Integration

Integration usually begins with a preferential trade area, then a free trade area, followed by a customs union, a common market, and then an economic union, which is created through the integration of monetary and fiscal issues, and then full integration. According to Pugel (2012), the different levels of integration are:

i. **Preferential Trade Area**

A preferential trade area is the lowest level of integration. The countries involved only lower tariffs on specific products to their partners without necessarily removing the trade barriers that exist between them. For example, the African Growth and Opportunity Act is a preferential trade agreement provided by the United States of America.

ii. **Free Trade Area**

A free trade area is an area where members eliminate tariffs among themselves but retain their own external tariff on imports from the outside world. These import tariffs may not necessarily be the same as those imposed by other members of the area. An example of a free trade area is the North American Free Trade Area (NAFTA), which consists of the United States of America (USA), Canada and Mexico.

iii. **Customs Union**

A customs union is formed when a group of countries decides to remove the trade barriers among themselves and adopt a common group of external barriers. This is a higher level of integration as opposed to a free trade area where individual members are allowed to impose its own tariffs on imports from non-members. In this hierarchy, ECOWAS fits in the stage of a customs union where Nigeria and all other fourteen members as a group impose a common external tariff on imports from non-member countries. Internal trade barriers have however not been fully removed. Another example of the customs union is the Southern African Development Community (SADC) that was established in 1992.

iv. Common Market

A common market imposes a common external tariff on imports from the rest of the world and in addition, allows for the free movement of labour and capital between member countries. An example of a common market is the EU. In 1992, the EU became a common market.

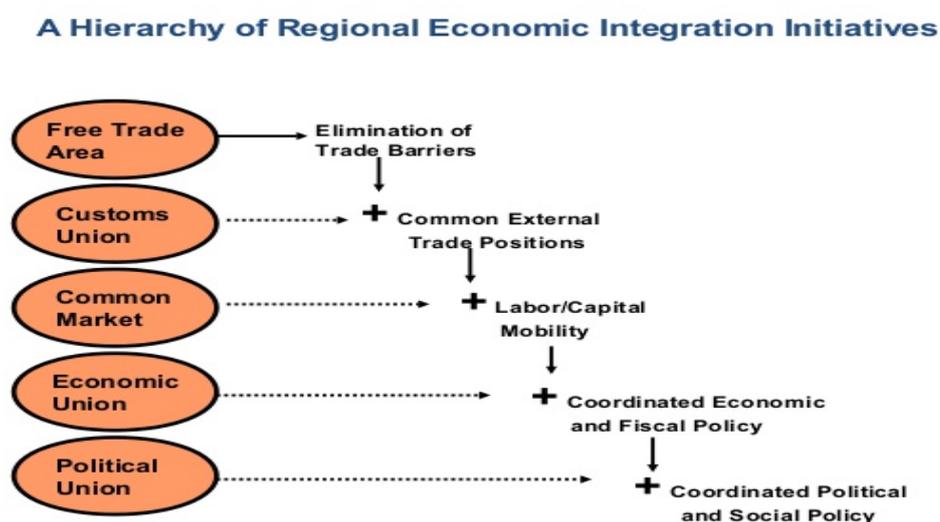
v. Economic Union

In an economic union, members coordinate and harmonize their economic (monetary and fiscal) policies, and welfare policies, amongst other. An economic union is referred to as a monetary union where the member countries adopt the same currency. An example of an economic union is the Belgium-Luxembourg union formed in 1921. The customs union of the West African States aims to become an economic union in the near future.

vi. Full Integration

This is the highest level of integration that member states can attain. It can also be referred to as a political union. Unlike the economic union, a united government makes policy decisions binding on all members. An example is found in the USA. The processes of integration are represented in the diagram below.

Figure 1: Levels of Integration



2-12

Source: SAARC WTO (2013)

2.5 Rationale and Benefits of Regional Economic Integration

Integration attempts to get rid of the bias that exists between indigenous and foreign products (Salvatore, 1997). The formation of regional blocs is a bid to reinforce political ties and create benefits that can be commonly shared amongst members (McCarthy, 2006; Dalimov, 2009). This is evident in the successful integration within the EU displaying a strong political commitment and institution. Regional economic integration became prominent since the end of the Second World War (Olubomehin & Kawonishe, 2004). The world politics had been prone to a lot of unrest, which in turn affected the economy. It therefore became necessary for nations to enhance their political power. Regional economic integration became necessary due to the insecurity of the 1970s (Asante, 1999). In political terms, another reason why nations may have a regional agreement is to be able to avoid hostility from neighbouring countries (Rourke, 1995).

According to Hartzenberg (2011), the intention of African leaders to integrate Africa was the motivation for the Lagos Plan of Action (LPA). The LPA was a reform programme between 1980 and 2005 put in place to help Nigeria and all African countries to cease from exporting their untapped resources to developed countries. Another rationale for the LPA was to encourage industrialization within Africa. A former President of Nigeria, Olusegun Obasanjo once said: 'Regional economic cooperation and integration can allow us to build integrative infrastructure in transport, communications and energy together, which may have been too expensive for individual, small and fragmented African countries to execute (Olubomehin & Kawonishe, 2004).

Regional integration and regional cooperation have the involvement of neighbouring countries in collaborative ventures in common (Asante, 2002). In addition, it is important to note that regional integration addresses the problems faced by member countries. Noteworthy are challenges related to globalization and unstable world economy coupled with continuous inter-regional problems. Other specific problems include high rate of conflicts, political instability and the lack of good governance.

Regional economic integration can exhibit various benefits. This section will consider some of the many benefits of regional economic integration.

1. Policy Coordination

The integration of many countries will enable greater coordination of economic policies. Individual countries may not be able to address the political issues facing them on their own.

Regional economic integration is therefore a feasible approach to enhance cooperation amongst member countries. According to the United Nations Development Programme (UNDP, 2011), regional agreements can proffer solutions to policy issues. It is noteworthy that these benefits will only reach its full potential in the long run (Jovanović, 1992).

2. Economic Growth

Regional economic integration leads to economic growth. Carbaugh (2004) noted that the gains from regional economic integration could have both static and dynamic effects. Economic growth is considered as a dynamic effect of regional economic integration (particularly customs union). The dynamic effects of regional economic integration outweigh the static effects because it is cumulative in nature (Hine, 1994). The static effects of a customs union are trade creation and trade diversion (Babarinde, 2015). Lloyd and Maclaren (2004) identified the volume, cost and terms of trade as beneficial effects of regional integration.

A greater market is created for trade as a result of regional economic integration (Qureshi, 1996). A regional economic integration increases market size and production. The members have an increased access to more products and can produce efficiently too. More trade is thus created among them. Mistry (2000) indicated that an economy would experience growth due to intra-regional trade. According to the African Development Bank (AfDB, 2005), once countries can trade freely, a rapid increase in trade can be expected. Regional economic integration is mainly concerned with facilitating trade. Trade within West Africa is made possible through regional economic integration (Clark, 1993). ECOWAS, which happens to be the customs union of West Africa, has been instrumental in this regard (Asante, 2000). McCarthy (2002) agreed that trade is facilitated when countries within a certain region unite.

3. Employment Generation

Regional economic integration will enhance the mobility of labour from one country to the other. Likewise, industries that need labour move their production to the countries where it is available. Lolette Kritzinger-Van Niekerk (2005) indicated that West Africa would enjoy Foreign Direct Investment (FDI) when foreign countries invest in its expanded market. She however added that such benefit would only accrue if the investors do not 'tariff-jump' (i.e. having a production outlet abroad through FDI or licensing to avoid tariffs).

2.6 Challenges with a Focus on ECOWAS

The United Nations Economic Commission for Africa (UNECA, 2004) stated that the majority of the regional integration in Africa is characterized by overlapping membership with contrasting targets. The World Trade Organization (WTO, 2010) suggested that agreements are sometimes delayed due to the fact that many countries engage in multilateral trade negotiations. Different parties within countries tend to have varying interest and positions. This is evident with producer organizations in Union Economique et Monétaire Ouest Africaine (UEMOA) countries. They who lobbied to use the ECOWAS Common External Tariff (CET) to increase tariffs on agricultural products compared to the pre-existing West African Economic and Monetary Union (WAEMU) CET, meanwhile importers of food staples in the same countries strived for low rates (De Roquefeuil, 2013). The numerous regional integration agreements have not done much to encourage intra-regional trade. According to Asante (1999), the existence of many regional bodies in ECOWAS is one of the challenges in the sub-region while others include political and financial challenges.

ECOWAS has failed to successfully relate with its citizens. This is revealed in the results of a survey carried out to mark its tenth anniversary. Some participants regarded ECOWAS as a football team in England when asked (Sesay & Moshood, 2011). The goals of the ECOWAS community do not seem to be well supported by its members as they lack special interest and are not completely committed (Asante, 1999). Abbey (2011) declared that regional integration is a process and not just a one-time event. Therefore, people should be involved in the decision-making process.

Yeats (1998) perceived a negative effect on industrialization and growth in Africa when regional imports are diverted from low to higher cost sources. Vamvakidis (1999) stated that the negative impact of regional trade agreements on growth and investment is as a result of its implementation at the expense of broad liberalisation. Asante (1999) is of the view that the weakness in the market integration model lies in the focus on trade liberalization as the main tool of integration. The manner in which a region unites could pose a challenge in realizing utmost integration. The ECOWAS region adopts the market integration method, which is based on the removal of trade and non-tariff barriers and assumes that integration is mainly about trade and investment. The revised ECOWAS treaty has suggested a shift from the market approach to a classical production model, which has not been adhered to (Forson, 2013). Regional trade agreements can prevent growth by altering trade composition in favour of low-technology goods (Spilimbergo, 2000).

Furthermore, there is low intra-African trade. Only around 10% to 12% of all African goods are traded with other African countries (Tafirenyika, 2014). One of the reasons why regional integration agreements in Africa have not been effective in promoting trade is due to non-tariff barriers (Yang & Gupta, 2007). The other reason is low level of resource harmonisation among members. UNECA (2010) also strongly believed that despite the fact that regionalism has multiplied in post-independence Sub-Saharan African (SSA) countries; intra-regional trade in SSA is still lower than expected. The main hindrance to effective regional integration in West Africa is the incomplete implementation and/or outright violation of the ECOWAS protocol on free movement of people, goods and services by security agencies in some member countries (Igue, 2011).

The behaviour of developing countries is believed to be affected by regional integration agreements (Schiff & Winters, 2003). However, Mutharika (1972) mentioned that the impact of economic integration on developed and developing countries cannot be the same when he considered it as a tool for economic development. The emphasis on economic development with the move for regional economic community has been slow and disappointing (Matlosa, 2005).

Mold (2005) identified insufficient production of goods and bad quality or quantity of goods as one of the challenges African countries encounter during trade. Many countries in Africa have not succeeded in expanding their markets because of narrow exports and colonial powers upon which they are hugely dependent. Lack of political will, bad legal environment, inadequate infrastructure and vulnerability are some of the obstacles of effective economic integration (Cheru, 2002). Some of the factors that prevent trade and investment include frictions emerging from rules of origin, contingent protections, duplicated customs procedures, difference in national product standards and simple border red tape.

Two significant barriers to integration in West Africa are inadequate modern cross border infrastructure and weak institutional and human capacity (AfDB, 2011). UNECA (2010) and Osabuohien (2011) also enumerated small size of markets, poor transport facilities and high cost of trade as possible challenges. The World Economic Forum (WEF, 2010) outlined access to finance, corruption, burdensome tax regulations and inadequate supply of infrastructure as some of the most difficult factors for trade within a bloc. Intra-regional trade is marked by high cost of transaction because of multiple border crossings for goods to reach land-locked countries (McCarthy, 2007). Economic integration needs some elements like transport and communication facilities, huge capital, institutions etc, to meaningfully achieve its goals

(Essien, 2009). The persistence with which member states of ECOWAS protect their borders with quadrupled checkpoints makes regional integration appear more like a theory yet to be clearly practiced (Ogbonna, Aluko & Awuah, 2013). As indicated by an ECOWAS study, there are seven checkpoints on each 100 km of the road between Lagos (Nigeria) and Abidjan (Cote d'Ivoire). This road covers a distance of 992 km. The duplicity of the checkpoints, monitored by corrupt and unchecked agents poses a threat to intra-West African trade. Table 1 shows the checkpoints on selected West African highways.

Table 2: Checkpoints on Selected West African Highways

Highways	Distance (km)	Number of Checkpoints	Checkpoints per 100 km
Lagos - Abidjan	992	69	7
Lome - Ouagadougou	989	34	4
Abidjan – Ouagadougou	1122	37	3
Niamey – Ouagadougou	529	20	4
Cotonou – Niamey	1036	34	3
Accra – Ouagadougou	972	15	2

Source: ECOWAS Secretariat (2001, cited in Ogbonna et al., 2013)

Burdensome documentation requirements, extreme standards and poor road and rail networks cause time delays and increase the cost of intra-regional trade (Viljoen, 2011). Panhausen and United (2010) noted that the fragmented nature of agricultural products is a basic problem for transporting agricultural products for trade. This major setback has been defeated by countries that took definite steps to coordinate their transport policies and adopt common technical standards and legal principles. According to the WTO (2005), such countries have experienced a huge reduction in their transport costs.

Various trade restrictive tools (high tariffs, special levies and import bans) have had harmful effects on domestic industries (World Bank, 2010). Nigeria partially set its tariff to the proposed ECOWAS CET in 2005 but has failed to remove import bans or reduce levies on specific products (Zouhon-Bi & Nielsen, 2007). According to UEMOA (2014), not all national tariffs have been aligned, additional taxes not planned by the CET are being applied and the temporary *Taxe Dégressive de Protection* (TDP) are still applied by specific countries when it should have been phased out by the end of 2006.

It was confirmed towards the end of 2014 at the regional meetings that ECOWAS was ready to start applying the CET. Nevertheless, they admitted that some notable challenges will be faced at the initial stage of implementation. Coste and Von Uexkull (2015) enumerated some

of the issues which include - (i) the clarification of the application modalities of Supplementary Protection Measures (SPMs), (ii) the development of a community customs code, (iii) possible renegotiations at the WTO for some ECOWAS countries and products for which CET rates will exceed WTO bound rates, (iv) the establishment of a sound regional mechanism to monitor the effective implementation by all countries of the CET and compliance with SPM application rules, (v) the removal of policy barriers to intra-regional trade and improvement of the ECOWAS Trade Liberalization Scheme (ETLS) and (vi) the eventual elaboration of a common ECOWAS trade policy.

2.7 Prospects for Agro-Processing as a Driver of Developments

Agro-processing industries serve as an important link between agriculture and industry. It can simply be described as the activities involved in transforming agricultural products into food, feed, fibre, fuel or industrial raw material. The agro-processing industry has an important role to play in the economic development of a country. Agro-processing activities can contribute to sustainable livelihoods through increases in incomes, employment, food availability, nutrition and social and cultural well-being from a limited area of land (Simalenga, 1996; Proctor et al., 2000). According to the Department of Agriculture, Forestry and Fisheries (DAFF, 2012), the agro-processing sector covers a wide area of post-harvest activities, comprising artisanal, minimally processed and packaged agricultural raw materials, the industrial and technology-intensive processing of intermediate goods and the fabrication of final products derived from agriculture.

Within manufacturing or production, the agro-processing sector in developing countries occupies a relevant place in overall turnover and value added, particularly for the least and less-developing countries, though huge heterogeneity may exist among them (Da Silva, Baker, Shepherd, Jenane & Miranda-da-Cruz, 2009). Some developing countries have been successful in adding value to agro-food exports by means of processing. This in turn has made them achieve high value in the market. For instance, in fisheries and wood, Côte d'Ivoire has recorded a good experience. So also has Senegal in fisheries and Ghana in wood (Crammer, 1999). There has also been a diversification from traditional primary exports to the processing of other products. This is evident in Equatorial Guinea where there was a shift from cocoa to sawn wood and veneer sheets and in Kenya from coffee and tea to horticultural and fisheries products.

Most developing countries witnessed agro-industrialization in the early 1990s. It is necessary to know the impact of agro-industrialization on the environment. Barrett, Barbier and Reardon (2001) suggested that environmental impacts of agro-industrialization can be seen as direct effects on agriculture, direct downstream effects on processing and distribution and indirect effects like income growth. Reardon and Barrett (2000) presented a framework of agro-industrialization in developing countries, the factors responsible and the resultant effect.

According to the Food and Agriculture Organization (FAO, 2007), the shares of global manufacturing value addition for food, beverages, tobacco and textiles which are the main agro-industry manufacturing product categories tracked by the United Nations Industrial Development Organization (UNIDO) generated by developing countries have almost doubled between 1982 and 2007. Manufacturing exports have a positive and significant impact on economic growth while primary exports have a negative and insignificant effect on economic growth (Fosu, 1990). It is highly possible for manufacturing and agriculture to dominate the market on a continental level.

At national and regional policy levels as well as in academic circles, the potential of agribusiness development is fast becoming a topical issue (FAO, 2008). According to the Organisation for Economic Cooperation and Development (OECD, 2008), there are only few studies that have highlighted the potential of the agro-industry and the prospects of agribusiness activity in Africa. Large agribusiness companies with a multinational outlook are of increasing importance in South Africa, Algeria, Nigeria and Egypt that make up the SANE countries (UNIDO, 2012). Nigeria and South Africa have a strong potential for accelerating Africa's agro-industry and the four SANE countries can lead to a further acceleration of agro-industrial development in Africa (UNIDO, 2012). In September 2010, Financial Nigeria stated that a number of capital funds have risen or are raising capital for agriculture and agro-industry investments in Africa (UNIDO, 2012).

As at 2010, more than 60% of the active population in ECOWAS was engaged in agriculture thereby meeting around 80 % of the food needs of its population, which means net food import was about 20% (ECOWAS Commission, 2010). Agriculture is also considered the pillar of the economy since it has various effects on the society in terms of employment, earnings and food security (Efobi & Osabuohien, 2011). Agricultural trade serves as a source of growth, which encourages growth in other sectors (Coote, Ann & Alan, 2000). The poor benefit from agricultural trade in developing countries. The United States Agency for International Development (USAID, 2010) suggested that it is due to the fact that majority of the poor people

of the world live in rural areas where agriculture is a main source of income and consumption. Majority of the production in agriculture is operated by small family farms (Hermelin, 2003). The advantage of international agricultural trade according to Arene (2008) is that it allows countries to obtain the benefits of specialization like increases in output of goods and services. In addition, they obtain commodities and services that they produce in inadequate quantities or do not produce at all.

In a bid to achieve industrialization, Nigeria began with the Aid to Pioneer Industries Ordinance of 1952 before independence (Ekundare, 1973). From the 1960s to the 1970s, the Import Substitution Industrialization (ISI) strategy was popular. The aim was to reduce the dependence on foreign trade and manage foreign exchange by locally producing goods, which were formerly imported. The Nigerian government concentrated on key industries like petrol chemical plants, cottage industries, textiles, breweries and agricultural industrial sectors. It however ignored the domestic factor endowments needed to oversee the industrial sector. A major setback of ISI was the inability to reduce the volume of imports and its increased demand on foreign reserves. The ISI failed to stimulate structural transformation, thus leading to export promotion initiatives and deregulation in the 1980s and 1990s (Adeoti, 2002). According to Jalilian, Tribe and Weiss (2000), the decade of the 1980s and 1990s were mainly periods of de-industrialization in Nigeria and several countries in SSA.

The World Bank or International Monetary Fund (IMF) economic Structural Adjustment Programme (SAP) drawn from the so-called Washington consensus was dominant in these countries during that period (Radošević, 2009). One of the major aims of SAP was to stimulate agricultural production and agro-industry. Adeoti and Olubamiwa (2009) described the effect of The Presidential Cocoa Rebirth Initiative on Innovation capacity building in cocoa production and processing. The development of indigenous technologies in the Nigerian agro-industry is a vital tool of Small and Medium Enterprise (SME) and it could result in employment and income generation as well as extension of industrial production over a well-diversified base (Ridell, 1990).

2.8 Overview of Applied Studies and Techniques

As stated in chapter one under methodology, there are several techniques used to examine the effects of regional integration on trade. The purpose of this sub-section is to review the empirical work that has been applied in the literature. Before discussing the various models, there is a need to know the suitable method to be used. Dervis, De Melo and Robinson (1982)

suggested that modelling is important in policymaking. Piermartini and Teh (2005) also asserted that economic models are consistent and painstaking means of assessing different trade policies. The choice of a suitable method requires the consideration of specific factors like a time dimension. The impact of a change in trade policy can be identified in two ways. These are the ex-ante and the ex-post approaches.

2.8.1 Ex-Ante and Ex-Post Analysis

Robson (1980) proposed a six-fold classification for empirical studies where three methods were combined with ex-ante or ex-post divisions. The first method is the direct approach, which involves the observation of tariff changes and their effect on the domestic prices of the imported goods. The second method is the survey of opinions from experts or producers on how the changes of trade structures are expected to affect performance in both domestic and partner markets. Thirdly, the effects of integration can also be assessed by indirect methods. This refers to the residual imputation of trade flow estimates predicted before integration that can be removed from actual trade flows.

Ex-ante studies use trade patterns and estimated elasticities before the regional agreement is implemented to calculate the possible effect of eliminating trade barriers with a partner country. The ex-ante analysis attempts to answer questions like ‘what if’. For example, the use of computable general equilibrium (CGE) models to enable policy analysts to understand the possible effects of an economy joining a free trade agreement, as well as the partial equilibrium model used in this study.

Ex-post studies, on the other hand, evaluate trade flows after the regional agreement has been implemented and compares the actual level of trade with a prediction of trade in the absence of the regional agreement. The ex-post approach in other words, uses historical data to carry out an analysis of the effects of a past trade policy. For instance, a gravity model, which tries to reveal the trade agreements, may influence flows in bilateral trade.

2.8.2 Gravity Model

It is mostly used in the analysis of trade policy and is suitable for ex-post residual imputation according to Robson’s classification scheme (Grunbaum, 2007). Econometric models have been used in analysing the effects of international trade. Economists have applied it to many trade issues like economic unions, free trade agreements etc. The gravity model developed by Tinbergen (1962) has been frequently used to evaluate the effects of regional economic integration. The gravity model is believed to be consistent with international trade theories

ranging from monopolistic models (Anderson, 1979; Bergstrand, 1985) to Ricardian and Hecksher-Ohlin frameworks (Deardorff, 1998). However, this has raised criticisms because of its dependence on pre-integration periods that have passed by long ago (Endoh, 1999).

The gravity model has been employed by many bodies of empirical literatures such as Aitkin (1973), Frankel, Stein and Wei (1995), Krueger (1999) among others to determine the impact of preferential arrangements on the flow of trade. Tinbergen (1962) used the gravity model to determine the flow of trade while Aitken (1973) used the gravity model to analyse regional trade agreements. Frankel, Stein and Wei (1995) made use of the gravity model for the evaluation of trade patterns in many trade blocs. The aim was to know if the establishment of trade blocs results in more regionalization. They concluded that Mercado Común del Sur (MERCOSUR) and the Andean Pact trade more between themselves but most other blocs do not. Schwanen (1997) carried out a detailed study of changes in the trade patterns of Canada with respect to the effects of both Canada-United States Free Trade Agreement (CUSFTA) and NAFTA from 1989 to 1995. He compared trade in liberalized sectors to other sectors and discovered that the trade growth with the US was much faster in the sectors liberalized by these agreements.

Krueger (1999) used the gravity model to analyse trade effects between the United States and Mexico. The study concluded that the effect of NAFTA on the USA was small compared to Mexican exports to the USA. Finger, Ng and Soloaga (1998) used the gravity model to evaluate the effect of Caribbean Community and Common Market (CARICOM), NAFTA and MERCOSUR on the countries of the Caribbean Group for Cooperation on Economic Development (CGCED). The impact from CARICOM significantly increased trade between members. The impact from NAFTA did not affect CGCED exports to NAFTA members. The exports to MERCOSUR countries were negative and statistically significant. Soloaga and Winters (2001) studied nine regional trade agreements in order to measure trade effects before and after the formation of the bloc. Results show that trade diversion occurred in two out of the nine regional trade agreements and trade creation for most of the other regions.

The estimates of the gravity model when calculating the effects of regional trade agreements are sensitive to the country sample chosen. Haveman and Hummels (1998) discovered that the estimates of regional trade agreements differ significantly after changing the country sample results with a different trade prediction in the absence of regional trade agreements. As for Ghosh and Yamarik (2004), the results derived from gravity models are highly sensitive to the variables included in the regressions and previous beliefs of researchers. They recorded a

considerable decrease in the number of regional trade agreements that create trade when the researcher's earlier beliefs are introduced during estimation.

Most researchers make use of panel data (Matyas, 1997; Wall, 2000; Glick & Rose, 2001). It is considered a remedy for the weakness identified in the static gravity model. Piermartini and Teh (2005) mentioned some weaknesses in the estimation of gravity model such as the absence of relevant trade determinants that can lead to bias and the addition of unnecessary variables resulting in misspecification. Therefore, Bun and Klassen (2002) applied a dynamic panel model by expanding the static model with lagged regressors incorporating lags of trade and income. Following the use of panel data econometric models to highly disaggregated trade data, Milner and Sledziewska (2005) found that the European Agreement had transitory but significant trade diverting effects for Poland's import. That is, the trade creation was dominated by trade diversion.

2.8.3 General Equilibrium Model

The CGE studies according to Krueger (1999) have been prospective instead of retrospective. This is another commonly used methodology in trade policy analysis. It fits Robson's classification of ex-ante indirect scheme. Thus, it only shows what may happen in the future. The general equilibrium theory serves as the basis for computable general equilibrium models. Deardorff and Stern (1986, cited in Piermartini & Teh, 2005) was reported to be one of the first global CGE models that modelled world production and trade and it is called the Michigan model. A notable benefit of the general equilibrium model is its ability to account for all linkages between sectors of an economy (Piermartini & Teh, 2005). Borges (1986) stated that the most important strength of the general equilibrium is its solid microeconomic foundation. In identifying the winners and losers of a policy change, the CGE model according to Kehoe and Kehoe (1994) serves as an appropriate tool. This is because it reallocates the impact of the resources through all the sectors within an economy. The CGE models can also give policy makers detailed scenarios. It enables the policy analysts to comprehend how a particular policy plays out via local, regional or global view.

Many of the CGE studies are static and called first generation models. Nielsen (2003) noted that second generation models can include increasing returns and imperfect competition in important sectors. Third generation models can perform dynamic analysis. CGE models are therefore widely used for modelling complex trade and welfare effects of economic integration.

Hertel, Hummels, Ivanic and Keeney (2007) applied CGE analysis to evaluate the probable outcome of a Free Trade Area of the Americas (FTAAs) better. They realised that imports increase in all the regions of the world because of the FTAA. Wolf (2000) considered the Free Trade Area (FTA) between the EU and the UEMOA to determine if the gains in liberalisation will make up for the loss in tariff revenue that may occur. The results of the CGE model used demonstrated that more than 50% of loss in tariff revenue was more than the gains in liberalisation. The UEMOA countries would therefore have a significant loss in tariff revenue. Konan and Maskus (1996) studied the impact of different trade liberalization between Egypt and the EU. They used a CGE method and concluded that the association agreement with the EU has limited welfare gains to Egypt.

Hertel, Anderson, Francois, Hoekman and Martin (1999) recognised another commonly known and well-used global model, the model of the Global Trade Analysis Project (GTAP). Kerkala, Niemi and Vaittinen (2000) simulated the effects of a post-Lomé world for African Caribbean and Pacific (ACP) countries using the GTAP model. They analysed the effects of entering a free trade agreement consistent with WTO requirements and considered how it relates to the EU Generalized System of Preferences (GSP) system. The results reflect negative effects of both FTA and the GSP system on GDP. However, welfare effects can become positive in the free trade area. Walsh, Brockmeier and Matthews (2007) used the GTAP dataset to analyse the implications of domestic support reductions in agricultural trade liberalisation. Results show that the effect of the import tariff reductions exceeds the gains from domestic support.

Despite the benefits of CGE models, they also have some demerits. The sectoral aggregation prevents the analysis of specific markets. In other words, it lacks information on sectors especially for the poorest countries due to high levels of sectoral aggregation. This is the reason why results from CGE studies are sometimes questioned (Jayasinghe & Sarker, 2004). The CGE approach requires a lot of data, thus it tends not to be applied with high levels of data disaggregation (Milner & Sledziewska, 2005). On the part of McKittrick (1998), policy information is generally out of date and baseline scenarios are from old data. It depends on fundamental assumptions of perfect competition, Constant Elasticity of Substitution (CES) technology and a system of demand and supply ensuring a market clearing mechanism. Fole (2002) considers this unrealistic. CGE models cannot easily switch to a new phase of regional trade agreement being that it is static (Nielsen, 2003).

2.8.4 Partial Equilibrium Model

This model is also commonly used one and belongs to the ex-ante method under Robson's classification. It considers the effect of a policy action in the market that is directly affected. That is, it does not account for the interactions between the various markets in a given economy. The partial equilibrium model is derived from Viner's theory and follows the work of Verdoorn (1960). The aim was to determine trade creation and trade diversion. Verdoorn developed this method to measure the effects among European countries when the European Economic Community (EEC) was created. As revealed in the literature, partial equilibrium models especially the World Integrated Trade Solution-Single Market Partial Equilibrium Modelling Tool (WITS-SMART) model, have been widely used to analyse the static effects of various regional trade agreements and market liberalization policies in Africa (DeRosa, Obwona & Roningen, 2002; Busse, 2005; Stahl, 2005). Khorana, Kimbugwe and Perkidis (2007) used the WITS-SMART model to estimate trade creation, trade diversion, welfare and revenue effects for Uganda under the East African Community (EAC). The results showed no negative effects for the Ugandan industry. Karemera and Koo (1994) used the partial equilibrium model to determine trade effects between the USA and Canada. Results showed that both countries experience major increases in trade volumes.

Many studies have used partial equilibrium models to assess several agreements on trade integration. According to Grubaum (2007), one of such is the integration of the EU, an early study by Verdoorn that revealed that gains were recorded even though it was moderate. Baldwin and Murray (1977) simulated the effects of alternative scenarios considering the Generalized System of Preference (GSP) of the USA, EEC and Japan. The study concluded that GSP benefits are outweighed by Most Favoured Nation (MFN) liberalization. Despite the benefit of the model, it has some limitations too. For example, it can be sensitive to the use of elasticity parameters and overlooks market interactions, which could however be modelled. The model only takes into consideration the markets where the change in tariff is applied.

There are four ready-made partial equilibrium models, namely:

- **Single Market Partial Equilibrium Modelling Tool (SMART):** The major assumption of this model is the Armington assumption, which states that imports from different countries are imperfect substitutes (Jammes & Olarreaga, 2005). Under SMART, export supply can be perfectly elastic or upward sloping as developed by Jammes and Olarreaga (2005).

- **Global Simulation Model (GSIM) of Industry-Level Trade Policy:** This was developed as a result of the improvement of SMART by Francois and Hall in 2003. It is an analytical tool for global simulations. It solves by clearing world markets for the price of each source and takes into account substitution across all sources. The model is particularly relevant in the context of upward sloping export supply functions.
- **Tariff Reform Impact Simulation Model (TRIST):** Experts at the World Bank developed this model. It considers the actual revenues collected from trade together with the taxes levied on trade. TRIST is also based on the assumption of imperfect substitution between imports from various sources proposed by Armington.
- **Agricultural Trade Policy Simulation Model (ATPSM):** The United Nations Conference on Trade and Development (UNCTAD) developed this model in the 1990s to analyse trade policy issues in agriculture. It is more concerned with standard agricultural policies like quotas or subsidies. Domestic prices are considered as a function of world market prices and national tariffs, subsidies, quotas and other support measures.

For the purpose of this study, the SMART model has been selected in order to derive the impact of a tariff reduction for the Nigerian market. It was also chosen for the detailed information that it can provide at a disaggregated product level. This partial equilibrium model will be discussed in more detail in chapter four.

2.9 Chapter Summary

This chapter presented the review of literature related to regional economic integration within ECOWAS. Regional economic integration is an agreement between countries within a specific region. Some scholars believe that the theory of customs union originated from Viner's contribution in 1950. The theory gives two effects, which are the production and consumption effects. Viner only focused on the production side (trade creation and trade diversion) while Meade (1955) and Lipsey (1957) put forward the consumption side. In 1965, Johnson developed the theory of customs union by concentrating on the welfare effect. Integration starts with a preferential trade area and ends with the formation of a political union. Other intermediate levels included a free trade area, customs union, common market and economic union. The insecurity of the 1970s motivated regional economic integration (Asante, 1999). It became necessary for regional blocs to enhance their political power and create benefits that all members can share. Some of the benefits of regional economic integration are policy

coordination, economic growth and generation of employment. Regional economic integration is not devoid of obstacles some of which are discussed in relation to ECOWAS. Asante (1999) noted that the existence of numerous regional bodies in the sub-region is a challenge while others are political or financial.

Agro-processing has the potential to drive development and one of the stated reasons is that it serves as a vital connection between agriculture and industry. DAFF (2012) describes it as a broad area of post-harvest activities, ranging from artisanal, minimally processed and packaged agricultural raw materials, industrial and technology-intensive processing of intermediate goods and the fabrication of final products obtained from agriculture. Agro-processing has been a means of value addition for many developing countries like Côte d'Ivoire, Senegal, Ghana and Equatorial Guinea. Nigeria and South Africa have a strong potential for accelerating Africa's agro-industry and Algeria and Egypt altogether making up the SANE countries can lead to a further acceleration of agro-industrial development in Africa (UNIDO, 2012).

Analytical methods used to assess the impact of regional economic integration include gravity models, general equilibrium and partial equilibrium models. The choice and suitability of each method can be classified into two groups in terms of their time dimension: ex-ante and ex-post analysis. Ex-ante is suitable for analysis bearing 'what if' questions in mind and examples are the CGE models and partial equilibrium models. Ex-post makes use of historical data to analyse the effects of a past trade policy and the gravity model falls in this category. Robson (1980) also proposed a six-fold classification for empirical studies in which three methods were combined with ex-ante or ante-post divisions. Each of the technique used in examining the effects of regional integration on trade has its benefits and weaknesses. These as well as past studies that have applied them were considered. One of the four partial equilibrium models discussed in this chapter is the SMART model applied in this study. It was selected to allow for detailed analysis of tariff liberalization.

Chapter 3: Overview of Production and Trade in Nigeria

3.1 Introduction

The purpose of this chapter is to put the Nigerian trade and production in context. The first section introduces the chapter and after that is a brief on trade and policy issues in section 3.2. The following section (section 3.3) considers the Economic Community of West African States (ECOWAS) regional trade agreement. The next is section 3.4 that discusses the Structural Adjustment Programme (SAP). An overview of the Nigerian economy comes up in section 3.5. The general trade and agro-processing trade profile is given in section 3.6. A brief analysis of the share of Nigeria's imports to which the CET is already applied, is presented in section 3.7 while summary of the chapter featured last.

3.2 Trade Policy Brief

Nigeria became a member of the World Trade Organization (WTO) in 1995. According to WTO (2005), many developing countries like Nigeria regard trade as the key driver of any developmental plan for reasons such as job creation, market expansion, and increased income, facilitation of competition and information dissemination. There are 14 Free Trade Zones (FTZs) functioning in Nigeria. According to Nigeria Trade Hub (2013), a free trade zone is an area where goods may be landed, handled, manufactured and re-exported without any intervention from the Nigerian Customs Service (NCS). Five are located in Lagos, which is a highly populated business city. Industries such as chemicals, petroleum, textiles, garments, rubber, plastics, electrical appliances and electronics, telecom equipment, metal, wood, leather, education materials and cosmetics are allowed in the FTZ. The Standards Organization of Nigeria (SON) inspects the quality of imported goods. The National Agency for Food and Drug Administration and Control (NAFDAC) is in charge of import of food, drugs, cosmetics, medical devices, bottled water and chemicals.

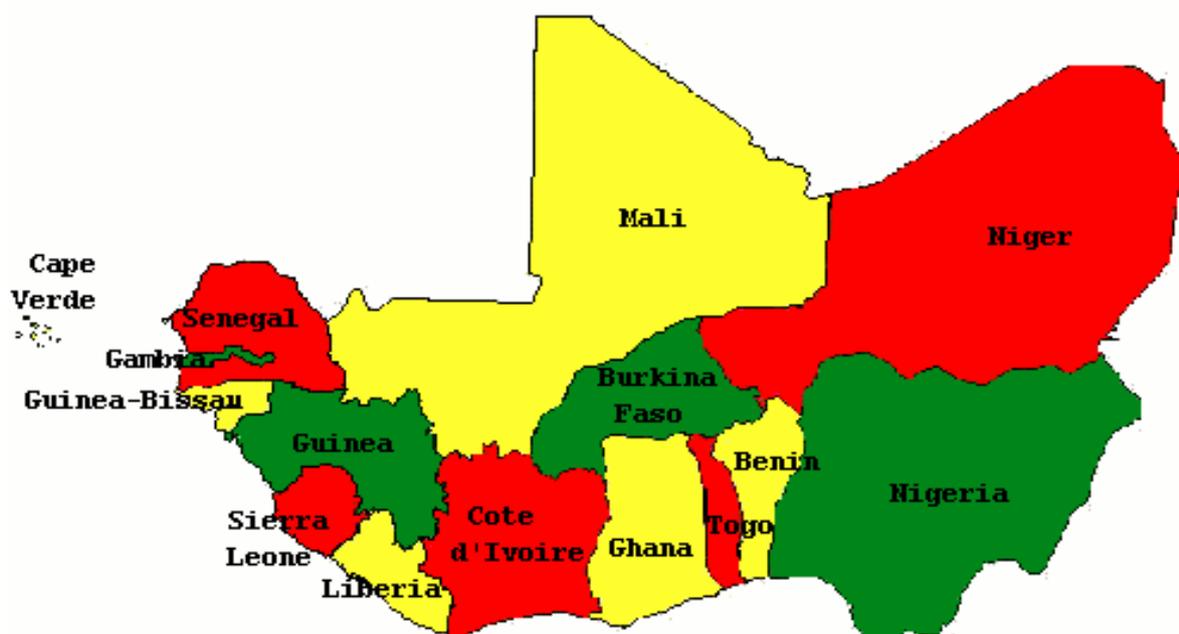
Nigeria was one of the last Sub-Saharan countries in Africa to adopt a trade policy reform. Trade policy issues have been noted for uncertainty due to its rapid change over time thus making it a controversial issue in Nigeria. The World Bank (2001) noted that the economy of Nigeria was highly protected with an average unweighted nominal rate on imports of over 30% while individual tariffs were changed often depending on an ad-hoc basis. High tariffs and frequent policy changes also made importation difficult. Due to the dependence of Nigeria on imported goods, both raw materials and finished products, a number of importers resort to smuggling to avoid paying full tariffs. Nigeria also makes use of non-tariff barriers to attain

self-sufficiency. One of it is an Agricultural Transformation Agenda (ATA) adopted in November 2012 by the government to enable expansion of the agricultural sector and facilitate industrialization of the agricultural economy of Nigeria (Adesina, 2012).

3.3 Regional Economic Integration within ECOWAS

The unrelenting determination of Adebayo Adedeji resulted in the formation of the ECOWAS. This former Executive Secretary of the United Nations Economic Commission for Africa (UNECA) believed that without economic and political unity, Africa cannot match up to the rest of the world. This kind of process according to him should start at the smaller level of the region (Carstens, 2006). The motive behind the existence of ECOWAS was for an economic cooperation and integration scheme among its West African members (Van Nieuwkerk, 2001).

Figure 2: Fifteen Members of Economic Community of West African States



Source: Google Image by Unknown

The discussions that led to the signing of the ECOWAS treaty at Lagos began in 1973 (Banks & Muller, 1998). The ECOWAS States was established on May 28, 1975 and has since then made progress in regional integration via various channels. Four years after, ECOWAS Commission's Protocol on Free Movement was established to facilitate the free movement of all citizens within the sub-region (ECOWAS, 2012). On the contrary, this free movement of

people and goods within ECOWAS has remained elusive. The ECOWAS Treaty was revised in 1993 so as to strengthen the regional integration process.

ECOWAS has been noted for the application of several policies and protocols as a guide to the coordination and implementations of development plans. The ECOWAS Trade Liberalisation Scheme (ETLS) was the initial step aimed at the free circulation of goods and the creation of a Common Market, which has not been fully achieved. The Heads of State and Government initiated short and medium term actions in October 2013 Summit. A major progress made in the ECOWAS regional integration process is the establishment of the CET. The process of regional integration has been plagued by a lot of instability in some of the member countries. Although the creation of a customs union via the introduction of a Common External Tariff (CET) was outlined in the original ECOWAS Treaty of 1975 and the Revised Treaty of 1993, consecutive deadlines for its adoption were often postponed during the 2000s because of little or no progress in negotiations (Ajayi & Osafo-Kwaako, 2007).

The Authority Heads of States and Government of ECOWAS, at its 29th session on 12th January 2006 adopted the ECOWAS CET for ECOWAS Member States. The ECOWAS CET draws on the Union Économique et Monétaire Ouest Africaine (UEMOA) or West African Economic and Monetary Union (WAEMU) CET structured along four tariff bands namely: 0% (essential social goods), 5% (basic raw materials, capital goods and specific inputs), 10% (intermediate products) and 20% (final consumer goods). The eight ECOWAS countries involved in WAEMU are Benin, Burkina Faso, Cote d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo. The dual aim of this structure was to encourage local value addition and at the same time apply low duties on essential goods (Coste and Von Uexkull, 2015).

In 2005, Nigeria adopted an interim tariff schedule in order to align Nigeria's tariffs with the ECOWAS CET. This was a challenge for Nigeria because the tariff limit permitted by the ECOWAS CET was 20% but Nigerian customs duties were up to 50% for some products. Nigeria pushed hard for a fifth tariff band at 50 % under the ECOWAS CET but this was later revised to 35% and unanimously adopted by ECOWAS (De Roquefeuil et al., 2013).

In a bid to fix a suitable tariff band for each product, there were various negotiations. An agreement was reached for the final structure of the CET and was approved by ECOWAS Heads of States in Dakar in October 2013 (UNECA, 2015). Although this was to come into force on January 1st, 2015 the government officially launched it on June 23, 2015. The CET established two Supplementary Protection Measures (SPMs) namely a temporary Import

Adjustment Tax (IAT) and a safeguard Supplementary Protection Tax (SPT) applicable to goods from third countries (Coste and Von Uexkull, 2015).

According to circular number 013/2015 this regulation, adopted on 30th September 2013 introduced additional protection in the initial application of the CET by allowing 3% of tariff deviation by member states for a period of 5 years (NCS, 2015). The CET has 5,899 tariff lines, which implies that member states can protect a maximum of 177 tariff lines (i.e. 3% of 5,899) (WTO, 2015). The ECOWAS CET has five main flexible tariff categories as seen in table 2 below.

To kick off the customs union, a common ten-digit nomenclature was agreed upon by ECOWAS (ECOWAS Vanguard, 2013). This common nomenclature was thereafter assigned common duty rates or tariffs. The CET is based on the 2012 Harmonized System (HS) of the World Customs Organization (WCO). Prior to the introduction of the CET, Nigeria used the 2007 version of the HS, which is subject to annual downward review every five years. The CET comprises an import adjustment tax, the national list and the prohibition list but will be eradicated by the end of 2019. In essence, the actual total implementation of the CET without changes would begin in 2020.

Table 3: Structure of the ECOWAS CET as Adopted by Nigeria

Category	Description	Rate (%)	Existing Nigeria Tariff Lines	CET Tariff Lines
1	Essential social goods	0	374	85
2	Basic raw materials and capital goods	5	2001	2146
3	Intermediate products	10	680	1373
4	Final consumer goods	20	2582	2165
5	Specific goods for economic development	35	193	130
Total			5830	5899

Source: Nigeria Customs Service (NCS, 2015)

Table 3 shows that the coming into force of ECOWAS common tariffs for imports will simplify the commodity lines to 5,899 but reduce the number of commodities admitted under 0% tariff rates from 374 to 85. At the same time, the scope of commodities admitted under the 10% band broadens from 680 to 1373.

3.4 Nigeria's Structural Adjustment Programme

According to Analogbei (2000), the Nigerian trade policies is broadly divided into two periods, which are the period before and after the implementation of the SAP. The SAPs, recommended by the International Monetary (IMF) and supported by the World Bank, began in July 1986 (Adeyemi & Abiodun, 2013). The motive of this policy was to prevent over-reliance on revenue from oil exports and encourage development in the non-oil sector of Nigeria. Bankole and Bankole (2004) highlighted the following as the aims of trade policies: prevention of dumping, promotion of import substitution, favourable movement in the Balance of Payment (BOP), foreign exchange savings and generation of revenue for the government.

3.4.1 Pre-Structural Adjustment Programme

The Nigerian economy was mainly agrarian at independence in 1960 and exports of cash crops like cocoa, rubber, palm oil and palm kernel from Southern Nigeria, and cotton and groundnuts from Northern Nigeria were the major sources of foreign exchange. Other exports were solid minerals, coal and tin. This led to the introduction of marketing boards that served as foreign markets set up to enable farmers to increase their production. The growth in the industry led to an increase in the demand, which in turn resulted to the challenge of maintaining a positive BOP.

The trade policies since the 1960s thus became protective in nature to keep the high demand in check (Adenikinju, 2005). From 1960 to 1970, efforts were made to expand the industrial base (particularly for local consumables) of Nigeria through Import Substitution Industrialization (ISI). Therefore, quantitative limits and high import duties were used to protect local manufacturing industries. Items considered luxury were enlisted as prohibited imports or they attracted high import tariffs (WTO, n.d.).

After the civil war in 1970, destroyed assets were replaced as a way of restoring the economic growth and securing equal distribution of development gains. Halfway into the second National Development Plan (NDP) of 1970 – 1974, the price of crude oil at the international level increased. The unprecedented increase in the price of crude oil led to excess funds that Nigeria had no rapid investment channel for due to its low absorptive exchange control regulations (Central Bank of Nigeria; CBN, 1979). The purpose of the second development plan was to reconstruct facilities destroyed during the civil war, rehabilitate Nigerians affected by war, create administrative support and economic infrastructure, increase growth rate per capita, give jobs, produce high level human capital, improve the rural and urban areas and make more social

amenities available for the people (Ekhosuehi & Ibietan, 2013). Industrial development had not been achieved, even though most of the farms were deserted, plantations affected by the war had been rehabilitated and government had set up their own companies in the area (Ejumudo, 2013).

An oil boom in view of increasing earnings from the crude oil sector marked the 1975 – 1980 period of the third NDP. The aim included research on agriculture and agricultural development schemes, livestock, electrification in rural areas, universal free primary education and construction of living units throughout Nigeria (Ekhosuehi & Ibietan, 2013). This third plan was about ten times the size of past development plans and there was adequate means to finance it to completion but the oil returns was more significant to Nigerians than genuine promotion of development (Ejumudo, 2013). The foreign reserve, which could support around 24 months of imports in 1974 could only fund 1.8 months towards the end of 1978. The foreign exchange earnings of the country got to its lowest point because of the oil shock in the early 1980s.

The fourth NDP came up between 1981 and 1985 when Nigeria experienced a reduction in revenue from foreign exchange. The policy of trade in Nigeria shifted to exports promotion and intense use of local raw materials in industrial production as from 1981. The price of oil fell abruptly while import demand increased causing the Economic Stabilization (Temporary Provisions) Act to be enacted in 1982. The tariffs on 49 items under this act were increased while gaming machines and frozen poultry were banned. Another 29 products were eliminated from the general import license regime and moved to the specific license even as the use of pre-shipment inspection became common. Between 1983 – 1985, 152 items were placed under specific import license, and foreign exchange regulations became strict. The aim of trade policy was to protect domestic industries and reduce the reliance on imports. Various efforts made to liberalize the exchange rate market did not succeed (Azam 1999; IMF, 2001).

3.4.2 Structural Adjustment Programme

The imbalance that the economy faced made it necessary for the government to implement the SAP in July 1986. The major components are the following:

- expand the industrial base of the economy by reducing reliance on oil sector and imports;
- achieve fiscal and balance of payments viability over time;
- establish the need for sustainable, non-inflationary growth; and

- reduce the dominance of unproductive public sector investments, enhance efficiency and strengthen the growth of private sector.

During the SAP era, a number of trade policies such as liberalization of trade and the pricing system, with emphasis on the use of suitable price mechanism for the distribution of foreign exchange were put forward. Obaseki and Ojo (1998) found that the Nigerian economy became more open since 1986 because of the policy measures applied during SAP. This progressive liberalisation involved a decrease in the number of products subject to import ban from 72 to 17. A second-tier Foreign Exchange Market (FEM) where demand and supply determined the exchange rate of the Nigerian currency (Naira) was introduced. The use of import and export licenses was eliminated. The use of domiciliary accounts by exporters to keep 100% of their export earnings was encouraged. In addition, they could import free of duty and other indirect taxes and charges. The removal of import-licensing requirement and the use of custom tariffs to limit imports marked the SAP period.

3.4.3 Post Structural Adjustment Programme

In 1988, the Nigerian Export-Import Bank (NEXIM) formerly called the Nigerian Export Credit Guarantee and Insurance Corporation commenced to facilitate credit and risk bearing facilities for banks to enable them finance exports of their customers (Chete, Adeoti, Adeyinka & Ogundele, 2014). The customs, excise and tariff decree based on the Harmonized System (HS) was approved in 1988. Under the tariff regimes of 1988 – 1994, advalorem rates were applied for imports on the Most Favoured Nation (MFN) basis. Since 1991, various items have been removed from the import prohibition list. Such products include refined vegetable oils, processed wood, textile fabrics, furniture, fluorescent tubes and lamp bulbs. Imports of motor vehicles above eight years from year of manufacture were also prohibited but later re-authorized in January 1998. The imports of all kinds of meat were banned in 1993. Since 1993, Nigeria has applied Value Added Tax (VAT) at 5% (the lowest rate in ECOWAS) to domestic and imported products and excise duty of about 20% to 40% on certain imports (Onuoha, 2012).

After this, Decree Number 4 of 1995 established the 1995 – 2001 tariff regimes that brought about an increase in import duties on raw materials, intermediate and capital goods but a decrease of tariffs on consumer goods. WTO (1998) stated that import duties covered a basic rate of customs duty adjusted by an annual rebate coupled with an extra 7%. The two tariff regimes (1988 and 1995) allowed for reviews and adjustments (such as increase or reduction

and/or addition to or removal from the list of import prohibition). The customs duties on agricultural products reduced from an average rate of 37% in 1988 to 33% in 2000. The quantity of items subject to duties of less than 50% increased between 1988 and 2000 while the quantity of items subject to duties of more than 50% reduced from 13% in 1988 to 7% in 2000.

The 1999 – 2006 regime is the National Economic Empowerment and Development Strategy (NEEDS) era geared towards the competitiveness of domestic industries through local value-addition and the promotion of diversifying exports (Briggs, 2007). In a bid to reduce prohibitions, there was a sharp increase in tariffs on most agricultural products in 2002. The agricultural products and foodstuffs subject to the highest tariffs were beverages and spirits (76.4%), tobacco (61.2%), grains (54.2%) and horticultural products (52.5%). NEEDS according to Briggs (2007) sought to strengthen Nigeria's integration with the rest of the world and at the same time take full advantage of it. To this end, the gradual liberalization of trade regime was employed. This led to the application of low import duties on raw materials and intermediate goods, which were not available locally. It also resulted in high import duties on finished products that compete with local production.

On September 25, 2008, the Nigerian government issued the 2008-2012 CET Book (USDA, 2009). It contains a list of prohibited imports that includes poultry, pork, beef, eggs, vegetable oil, noodles, waters, beer, bagged cement, soaps and detergents, corrugated paper and paperboards, some textiles, industrial gloves, footwear, bags, furniture etc. Second hand clothing, some spirits, counterfeit articles are some of the absolutely prohibited imports. This tariff review involved the harmonization of tariff regime with the proposed ECOWAS CET under the ECOWAS Trade Liberalization Scheme (ETLS). This was part of Nigeria's economic reform agenda targeted at improving trade and investment as well as harmonizing economic policies within ECOWAS.

In spite of the fact that import tariffs in Nigeria are in accordance with the ECOWAS CET, notwithstanding tariffs the Federal Government frequently announces lists of banned imports to strengthen the protection of the country's agriculture and industry. Import bans have been a major non-tariff tool used in Nigerian trade policy. In January 2011, few items such as toothpicks, cassava, readymade garments and certain types of furniture were removed while used motor vehicles below fifteen years from the year of manufacture were allowed to be imported. Tariff protection measures, including import bans have not resulted in remarkable results. It is quite notable that most of the banned products are still imported by Nigeria. This

goes to show that the import prohibition list has not been fully adhered to. 10.61% of the total trade in 2014 constitutes the imports of prohibited products and 19.63% of the total trade in 2014 accounts for the imports of products that attract levies¹.

Nigeria increased the number of supplemental levies and duties on specific agricultural imports in 2012. These levies and duties raised the effective tariff rates. The Tariff Book 2008-2012 (USTR, n.d.) also consists of a long list of levies varying from 5% to 100% based on the products and sectors, which were formerly the subject of import bans. The levies are applied on imports in addition to the tariffs in the tariff book and include products like rice, wines and spirits, tobacco products, perfumes, plastics, tyres, envelopes, notebooks, textile products, steel and metal products, ceramic products etc. In January 2013, the import of refined packaged sugar was prohibited corresponding to the industrial plan of Nigeria. The Federal Government of Nigeria approved concessionary low tariffs on the imports of raw sugar (5% duty and 5% levy) for three companies as opposed to the 5% duty and 70% levy under the National Sugar Policy (NSP) (Ships & ports, 2015). The ban on all rice imports was declared by Nigeria in 2015.

Nigeria is currently concerned with the protection of its agricultural sector from competition with imported products. Towards a regional trade policy, the CET which is now being implemented is a prerequisite to the Economic Partnership Agreement between ECOWAS and the EU. An important feature of the regional integration process is the dismantling of tariffs of the EPA which began in 2000. The region hopes to have a common currency by 2020.

3.5 Nigeria's Economy

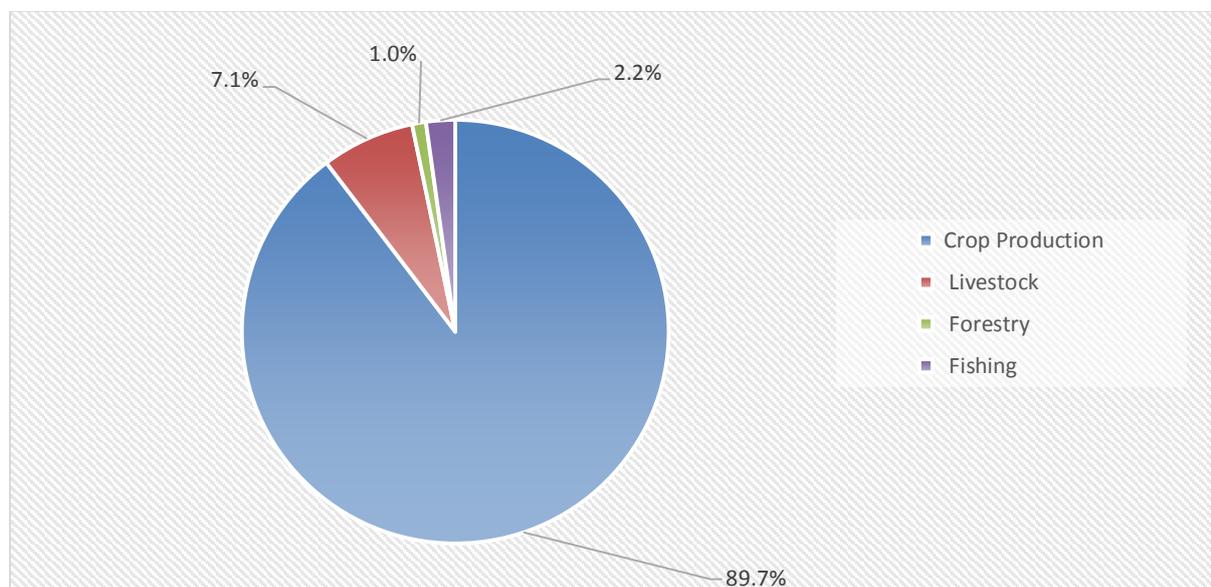
Nigeria, the largest economy in Africa who was primarily dependent on agriculture, shifted to crude oil exports in the 1970s. Agriculture contributes 40% of the Gross Domestic Product (GDP) and provides employment for around 70% of Nigerians (Central Intelligence Agency; CIA, 2012). Yet, the sector faces many obstacles that undermine production. Nigeria used to be self-sufficient in the production of food and exports of major crops in 1960. The share of agricultural products in total exports fell below 2% in the 1990s. This is attributed to the significant decrease in the production of groundnut, palm oil, rubber and cocoa (Olajide, Akinlabi & Tijani, 2012). The fall in domestic production made food imports to rise and food items such as bread made from imported wheat flour began to substitute cheap staple foods.

¹Author's calculations based on 2014 tariff and levy rates and import bans from Nigeria customs and 2012-2014 import data from International Trade Centre (ITC) Trademap.

The value-added per capita in agriculture increased less than 1% per annum in recent years (Food and Agriculture; FAO, 2016).

Agriculture remains a strong base of production in Nigeria despite the reliance on oil. Crop production, forestry, livestock and fishery that make up the agricultural sector has represented most of the growth in GDP over the years (World Bank, 2013). These sub sectors especially crop production have what it takes to boost growth in the agricultural sector of Nigeria. Figure 3 shows that in 2014, crop production contributed about ₦13,793 billion or 89.7% of agricultural GDP. The major crops cultivated are cassava, yam, maize, guinea corn, cotton, millet, rice, groundnut, cocoyam, beans. The livestock sector contributed about ₦1,086 billion or 7.1% in 2014. It is the largest source of animal protein (dairy and poultry products). 60% of the ruminant livestock are located in the semi-arid zone and managed by pastoralists. The fisheries sector contributed about ₦338 billion or 2.2% to agriculture GDP in 2014. It provides at least 50% animal protein. The smallest of them all is forestry contributing ₦161 billion or 1.1% in 2014 but it serves as a key supplier of industrial raw materials like timber.

Figure 3: Share of Subsectors to the Growth in Agricultural GDP in 2014



Source: CBN, 2015 (Author's calculations)

There is a vast potential in Nigeria for the agricultural sector. Nigeria has a significant base to expand upon its common resources like land, great atmosphere and rainfall, coastal zones and the agrarian history of the economy. Globally, Nigeria's gas reserves rank 6th and it has the 8th largest crude oil reserve in the world apart from being the largest producer of oil in Africa (Sanusi, 2010). The sources of economic growth should be diversified to strengthen the

economy. Nigeria is in a transition from over-reliance on the oil and gas sector to a more diversified economy. One reason why economic diversification is recommended for Nigeria is that the country is richly blessed with natural resources and should not focus on tapping only one (oil that is gradually depleting). The agricultural sector has many untapped potentials for growth.

Nigeria is the number one consumer of rice in Africa in addition to being one of the largest producers of rice on the continent. Nigeria is also one of the largest importers of rice in the world. Rice is an important cash crop that contributes substantial revenue for Nigerian farmers. Nigeria is also the largest producer of cassava in the world. In 2013, Nigeria's production of cassava represents 20% of the world, 34% of Africa and 46% of West Africa. About 66% of total cassava production is in the southern part of the country, while around 30% is in the north central, and 4% in other parts of the north (FAO, 2016). Nigeria, ranked as the 9th largest producer of citrus in the world still imports orange juice. Nigeria is also the largest producer of pineapples and mangoes in Africa but South Africa supplies it with concentrates. Nigeria imports tomato paste even though it is the largest producer of tomatoes.

The NEXIM Bank has identified agro-processing, manufacturing, solid minerals and services as the borderline of economic transformation in Nigeria. The "A" in the "MASS" Agenda of the Nigerian Export-Import Bank actually stands for agro-processing. The expansion of agro-industries is a crucial pre-condition to unlock potential for agricultural production. The Nigerian government attempts to address the infrastructure deficit in the country and the improvement of the agricultural sector through modernization and the establishment of staple-crop processing zones, with the value chain model to give linkages to the manufacturing sector (African Economic Outlook, 2013). Nigeria set up policies to increase domestic production of food imports via agricultural production and processing of raw materials. The population of the nation serves as a large domestic market capable of supporting and maintaining local production and processing. Mostly, economic activities are in primary production with limited value added by way of processing. The Nigerian government is actively involved in the commercial production of food crops. The biggest sector of the food-processing industry is drinks (breweries, bottles and distillers) accounting for 54% of the whole followed by food (millers, cookies, confectionery, sugar refineries, cocoa beverages, dairy products etc) representing 45% and tobacco (cigarettes and allied products) just about 1% in 2012 (United States Department of Agriculture; USDA, 2013). Locally owned firms are evident in the wheat, poultry, meat and confectionery area of the domestic market.

The Agricultural Transformation Agenda (ATA) under the administration of the Former President Goodluck Jonathan selected 14 sites across Nigeria. These sites were chosen to produce and process priority agricultural products such as rice, sorghum, cassava, livestock, fisheries, cocoa, cotton, maize, oil palm, onions, soyabean and tomato. Private sector such as Cargill United States America (USA) process local cassava into flour and sweetener. This will subsequently reduce the demand for imported sugar. The Dangote Group concentrate on rice and tomatoes in Kano and Nigeria Flour Mills process rice in Niger. The Nigerian government is particularly interested in the cassava-processing business. The plan is to have cassava flour combined with wheat in bread making. In 2005, a substitution policy was established for all bread to contain 10% cassava flour. Majority of the bakers in Nigeria use up to 20% of high quality cassava flour in making bread. In August 2013, the Federal Ministry of Agriculture and Rural Development (FMARD) secured a contract to supply China with 3.2 million tonnes of dry cassava chips. According to Adesina (2013), the focus is on exporting cassava chips, producing chips for livestock feed, starch, sweeteners and for making ethanol.

Nigeria should strive to satisfy the needs of the domestic markets by capitalizing on agricultural endowments through processing. It makes the local industries strong enough to withstand any form of competition and promotes export diversification. The addition of value to agricultural products that come from naturally existing resources of Nigeria will ensure that Nigeria not only returns to being a net exporter but that the products will be up to standard. In an attempt to liberalise trade, the efficiency of domestic industries is important. Ultimately, Nigeria's gains in trade come from favourable markets for exports at regional or multilateral levels. Nigeria should therefore focus on target sectors in which it has comparative advantage in order to encourage growth.

The agro-processing sector in Nigeria is dominated by the food, beverages and tobacco industry followed by the textiles sector which accounts for around a fifth of production. Table 4 shows the status of agro-processing production in Nigeria.

Table 4: Real Gross Domestic Product in 2014 (N' Billion)

Manufacturing	Values	Percentage
Food, beverages and tobacco	3,104.00	46.44
Textiles, apparel and footwear	1,483.24	21.52
Cement	488.28	7.30
Oil refining	311.38	4.66
Non-metallic products	198.96	2.98
Wood and wood products	193.07	2.89
Plastic and rubber products	180.37	2.70
Basic metal, iron and steel	163.11	2.44
Chemical and pharmaceutical products	127.77	1.91
Motor vehicles and assembly	55.77	0.83
Pulp, paper and products	50.24	0.75
Electrical and Electronics	5.07	0.08
Other manufacturing	367.84	5.50
Total	6,684.22	100

Source: CBN (2015)

Nigeria's economy can be described as a rapidly growing one with an average growth rate of 7% in the last decade (World Bank, 2013). Nigeria recorded 6.2% increase in quarter one of 2014 after a growth of 5.5% in 2013. Nigeria became the largest economy in Africa following the rebased Gross Domestic Product (GDP) calculations in April 2014. Although South Africa was recorded as being the biggest economy in Africa before the rebasing; Nigeria's per capita income is roughly 40% the level of South Africa despite rebasing. Nigeria is densely populated with more than 181 million inhabitants making it the most populous country in Africa and the 8th in the world (CIA, 2015). The rebasing revealed that unlike in the past, most of the growth recorded is from sectors such as telecommunication and manufacturing.

Over half of total trade in the world is from regional trade blocs that grew from 43% in 2001 to 60% in 2005 (Organization for Economic Cooperation and Development; OECD, 2005). In Nigeria, the non-oil sector gave a Year-on-Year (YOY) growth of 8.2% being a major driver of growth in quarter one of 2014. Nigeria's exports decreased by 13.2% to US\$ 82.6 billion in 2014 while the imports increased by 19.9% to US\$ 61.6 billion in 2014 as shown in table 5.

The service sector has witnessed rapid growth in the last decade with a total share of GDP that increased from 25% in 2000 to 37% in 2011 (Banque Nationale de Paris, 2012). Notwithstanding the growth of the service sector, the production of primary commodities has continued to dominate economic activities in Nigeria. The bulk of the growth in GDP recently is from trade, telecom and agriculture, which contribute to more than half of the nation's economy. The Foreign Direct Investment (FDI) to Nigeria decreased by 22% to US\$ 5.6 billion

in 2013 from US\$ 7.1 billion in 2012. FDI mainly originates from multinational companies in the USA, the United Kingdom (UK), China and South Africa.

Table 5: Macroeconomic Profile of Nigeria

Economic Indicators	2011	2012	2013	2014
Population (million)	160	165	169	174
GDP (US\$ billion)	418	446	498	553
GDP Per Capita (US\$)	2,606	2,708	2,944	3,182
Real GDP Growth (%)	4.9	4.3	5.4	6.3
Inflation (%)	10.8	12.2	8.5	8.0
Exports (US\$ billion)	97.2	94.3	95.1	82.6
Export Growth (%)	23.7	-2.9	0.8	-13.2
Imports (US\$ billion)	62.2	53.4	51.4	61.6
Import Growth (%)	32.9	-14.1	-3.8	19.9
Exchange Rate (Naira per US Dollar)	162.3	156.2	160.0	183.0

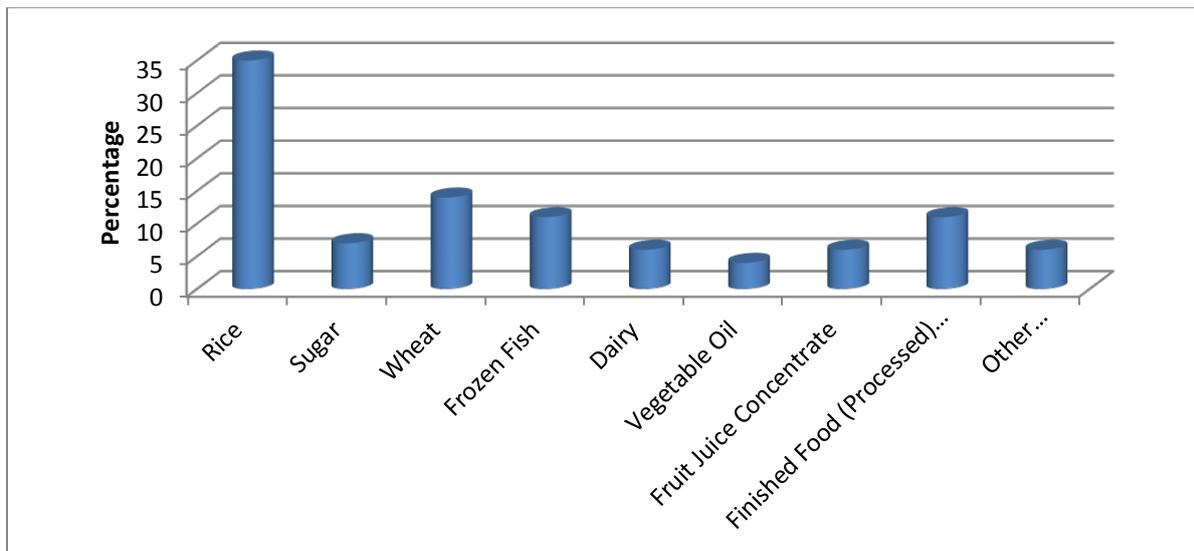
Source: Nigeria Economic Outlook (2016)

The Nigerian naira has been fluctuating against the US dollar since June, 2016. The black market naira depreciated to 321 Naira per USD in August 2016 (Teresa, 2016). Following the depression in the price of crude oil and a shortage of foreign currency, exports fell greatly in 2015. The government may resort to a continued restriction of imports to keep the official exchange rate strong.

3.6 Trade Profile

Nigeria is a huge net importer of agricultural products with a total import of about US\$ 8.0 billion in 2012. Figure 4 shows the estimated proportion of agricultural imports by volume which is dominated by rice at an estimated import value of US\$ 2.50 billion (35%).

Figure 4: Estimated Proportion of Agricultural Imports by Volume

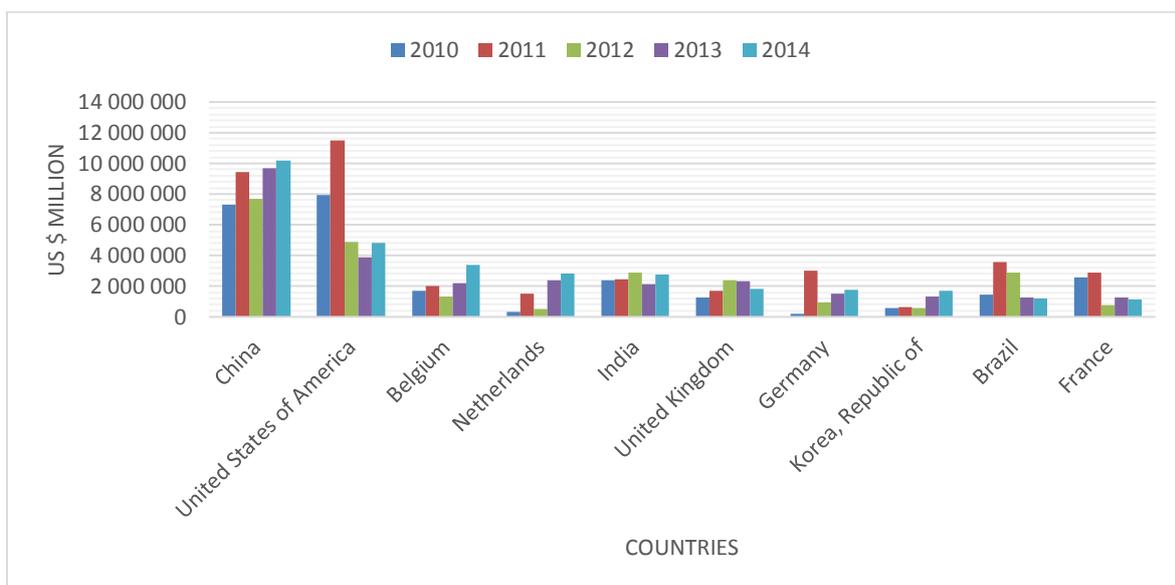


Source: USDA (2013)

3.6.1 General Trade

This section describes Nigeria’s current trade profile with a specific focus on trade with the ECOWAS region. This study made use of the import data reported by Nigeria for 2014, calculated by ITC based on the United Nations Commodity Trade Statistics (UNCOMTRADE) database. In 2014, Nigeria imported about US\$ 46 billion worth of goods from the world. Its major trading partners were the USA, the EU and Brazil, Russia, India and China (BRIC) countries (Figure 5).

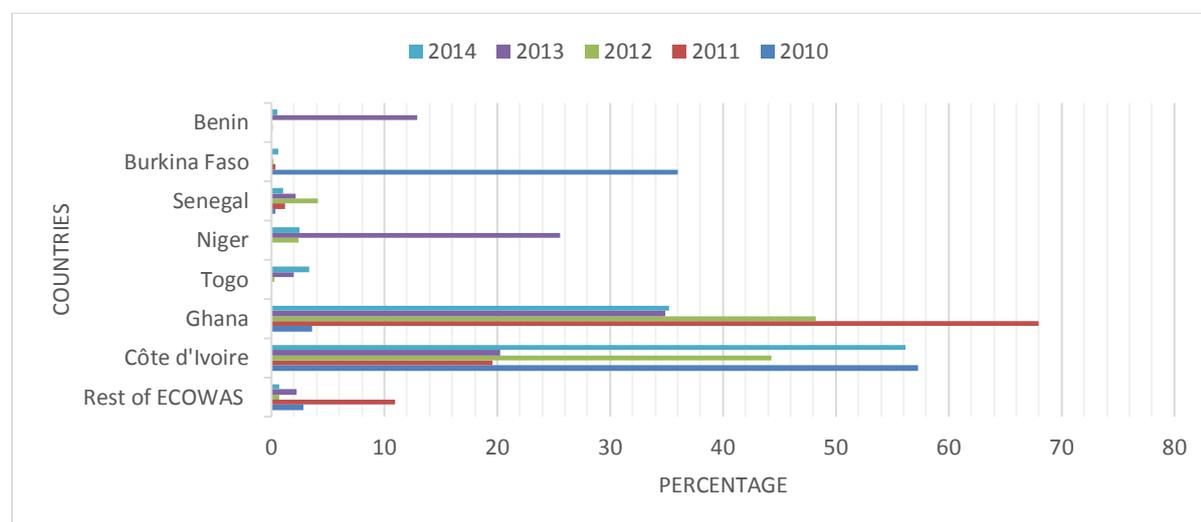
Figure 5: Top 10 Suppliers of all Products Imported by Nigeria



Source: ITC Trademap (2016)

Nigeria's imports by ECOWAS region revealed that the country consumed goods largely from Côte d'Ivoire with an import value of US\$ 104.7 million or 57.3% in 2010. The country also imported goods valued at US\$ 512.0 million or 68.0% from Ghana in 2011. Among all the ECOWAS partners in 2012, Ghana supplied Nigeria with the most imports accounting for US\$ 73.1 million or 48.2% and was closely followed by Côte d'Ivoire that recorded US\$ 67.2 million (44.3%). The situation took a slight turn in 2013 as a larger part of the imports from Niger with the value of US\$ 283.3 million² or 32.2% closely followed by Ghana representing a total of US\$ 280.2 million (31.8%). Ghana and Côte d'Ivoire maintained the leading positions in 2014; however, Côte d'Ivoire was the greatest supplier of imports for Nigeria with about US\$ 164.4 million or 56.2%, followed by Ghana accounting for a total value of US\$ 103.1 million (35.2%). This is presented in figure 6.

Figure 6: Percentage of Nigeria's Import from ECOWAS



Source: ITC Trade map (2016)

The value of Nigeria's imports from ECOWAS stood at US\$ 292.7 million at the end of 2014. This was 63.6% less than the value (US \$ 803.6 million) recorded in the preceding year. Nigeria's imports from ECOWAS in 2013 were about 5 times more than the value (US\$ 151.8 million) in 2012. The total ECOWAS import was US\$ 753.4 million in 2011 and US\$ 182.8 million in 2010. From 2010 to 2014, the value of Nigeria's trade from the world has been on the increase in value terms. It has however been a significant decrease in trade value within

² Since the mirror data on ITC Trademap did not confirm the value of cigars, cheroots, cigarillos and cigarettes imported in 2013 from Niger, the total value of imports of Nigeria from Niger for 2013 reported to be US\$ 1.6 million was adjusted with US\$ 283.3 million.

ECOWAS as presented in table 6. The total imports have been irregular between 2010 and 2014.

Table 6: Total Imports of Nigeria from ECOWAS

Exporters	Imported values (US \$ '000)				
	2010	2011	2012	2013	2014
Côte d'Ivoire	104,788	147,224	67,250	162,665	164,415
Ghana	6,562	512,037	73,176	280,268	103,114
Togo	0	0	358	15,735	9,767
Niger	0	0	3,631	283,375	7,385
Senegal	630	8,815	6,189	16,875	2,989
Burkina Faso	65,753	2,768	209	1,002	1,718
Benin	0	328	0	103,480	1,389
Sierra Leone	3,018	52,941	312	5,707	588
Liberia	31	2,105	129	476	538
Guinea	1,249	0	48	8,352	477
Cape Verde	33	695	107	6	258
Gambia	722	26,303	386	301	105
Mali	50	264	38	1,323	34
Guinea-Bissau	0	19	0	1,784	0
ECOWAS	182,836	753,499	151,833	881,348	292,777
Rest of the world	44,052,433	63,218,030	35,720,676	42,382,000	46,239,488
World	44,235,269	63,971,529	35,872,509	43,263,348	46,532,265

Source: ITC Trademap (2016)

Between 2010 and 2014, Nigeria's trade from the EU has witnessed a steady rise in value terms except for the fall in the year 2012 valued at US\$ 8.3 billion as presented in table 7.

Table 7: Total Imports of Nigeria from the European Union

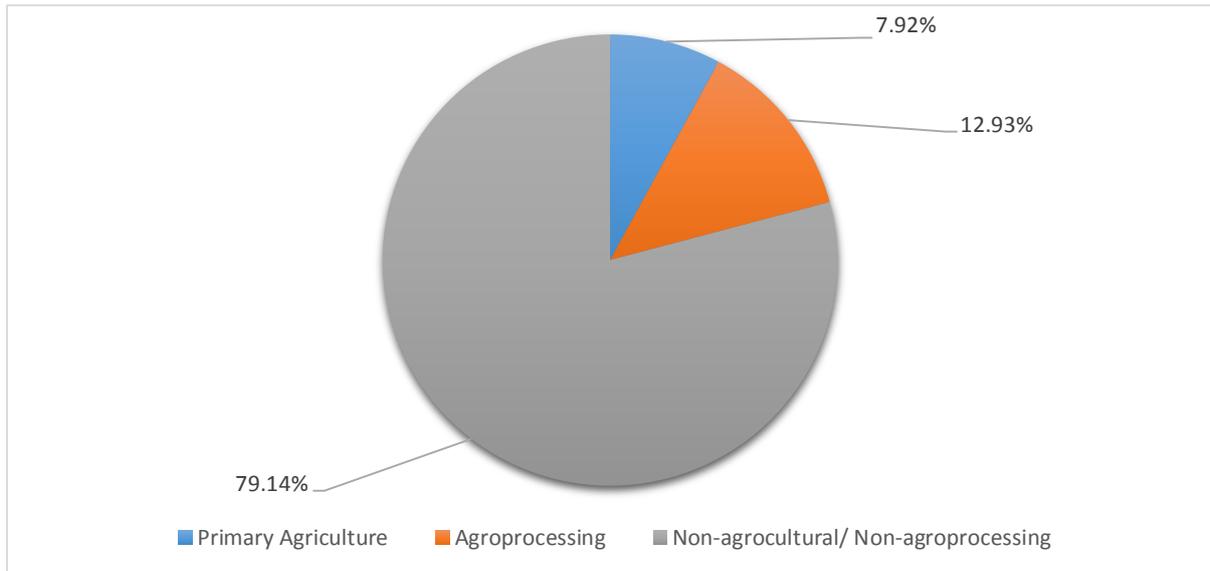
Exporters	Imported Values (US \$ '000)				
	2010	2011	2012	2013	2014
Belgium ³	1,706,409	2,008,946	1,312,155	2,169,758	3,369,660
Netherlands	35,208	1,512,330	518,564	2,417,674	2,842,171
United Kingdom	1,234,665	1,698,642	2,360,677	2,338,239	1,825,459
Germany	205,225	3,013,288	954,186	1,544,482	1,782,563
France	2,587,569	2 873 163	736,963	1,244,577	1,167,153
Italy	1,997,803	1,800,306	747,718	769,006	1,028,726
Spain	305,105	968,080	305,646	951,621	770,400
Latvia	40,358	47,286	52,700	406,505	679,921
Ireland	195,849	829,627	411,730	414,380	494,764
Sweden	381,063	346,189	439,595	261,379	270,801
Denmark	0	19,262	13,166	125,397	230,516
Cyprus	26,640	36,794	36,399	86,900	167,479
Luxembourg	731	223	4,902	173,462	142,875
Greece	122,649	137,814	132,159	97,670	139,435
Rest of the EU	503,650	350,195	330,200	875,161	674,459
EU total	9,658,924	15,642,145	8,356,760	13,876,391	15,586,382
Rest of the world	34,576,345	48,329,384	27,515,749	29,319,949	30,945,883
World	44,235,269	63,971,529	35,872,509	43,196,340	46,532,265

Source: ITC Trademap (2016)

According to figure 7, imports by products from the world were dominated by the imports of non-agricultural or non-agro processing products, which accounted for US\$ 36.8 billion or 79.1% of the total value of imports in 2014. Other goods that contributed noticeably to the value of imports in 2014 were agro processing products at US\$ 6.0 billion (12.9%) and primary agricultural products at US\$ 3.6 billion (7.9%).

³ Belgium is a port rather than a prominent production area.

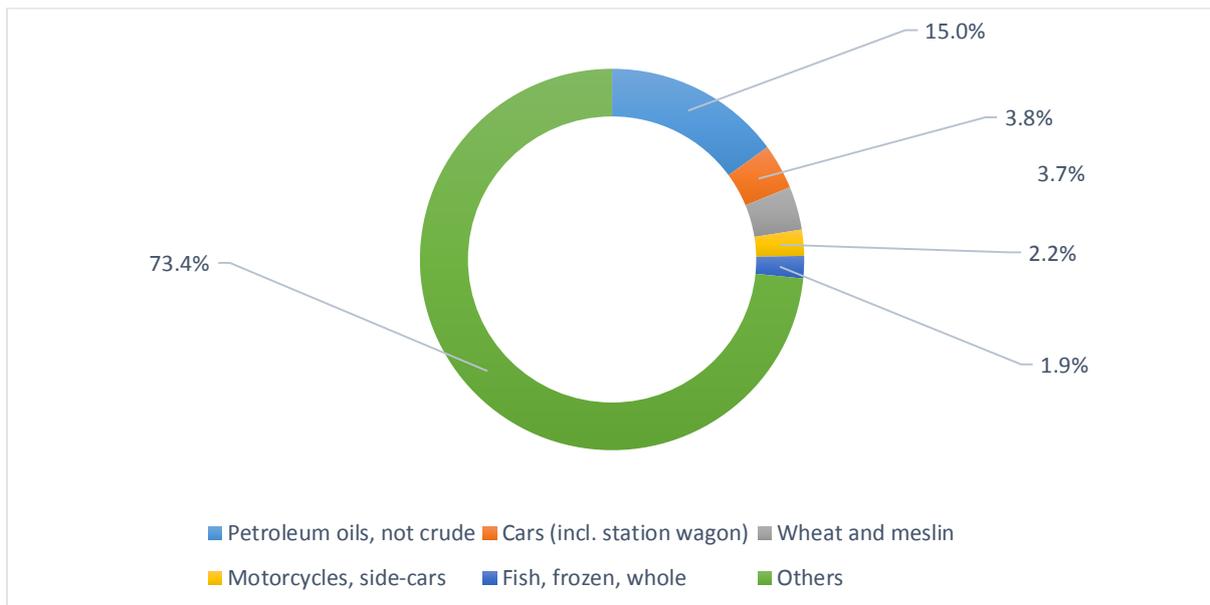
Figure 7: Share of each Product Group Imported by Nigeria from the World in 2014



Source: ITC Trademap (2016)

Mineral products, vehicles, and cereals were some of the main imports of Nigeria from the world in the year 2014 (Figure 8). The majority of the top five products imported at HS-4 came from the EU, the USA and BRIC (notably India and China). Under the category of ‘others’, is animal or vegetable fats and oils which is the leading product imported from ECOWAS countries.

Figure 8: Composition of Nigeria's Imports from the World in 2014



Source: ITC Trademap (2016)

3.6.2 Major Imports of Agro-Processing Products

Henson and Cranfield (2009) defined agro-processing as a subdivision of manufacturing, which processes raw materials and intermediate products obtained from the agricultural sector. Agro-processing entails adding value to all the products derived from the agricultural, fishery and forestry sectors through simple preservation, postharvest activities or capital-intensive production of textiles, pulp and paper (FAO, 1997). Agro-processing refers to all the activities carried out on agricultural products to render it fit for food, feed, fibre, fuel or industrial raw material (Mhazo, Mvumi, Nyakudya and Nazare, 2012). Although WTO agriculture HS codes were consulted but it had to be split into primary agriculture and agro-processed products for use in this study. For the purpose of this research, all the products derived from agricultural (specifically agro-processed products), fishery and forestry (such as rubber and wood products) are therefore implied when the term 'agro-processing' is used. The list of agro-processing in appendix 1 is therefore derived according to the FAO definition of agro-processing.

The remainder of this section presents the import profile of agro-processing for Nigeria. The next set of tables, tables 8, 9 and 10 show the major agro-processing products sourced from ECOWAS and the EU and the 2014 tariff rates associated to them.

Table 8 reveals that palm oil and its fractions contributed the largest value of agro-processing products imported by Nigeria from ECOWAS in 2010 and between 2012 and 2014. Notably in the year 2011 it is the import of tubes, pipes and hoses of vulcanised rubber worth US\$ 62.4 million and cocoa beans, whole or broken, raw or roasted at US\$ 27.4 million that accounted for over half of the total value of 'other agro-processing' as categorised in table 6. Some agro-processing products that are also important are concentrated or sweetened milk and cream, extracts essences and concentrates of coffee and tea in 2010 at US\$ 3.5 million and US\$ 3.2 million respectively. In 2012, cured or smoked fish and plywood, veneered panels and similar laminated wood represented US\$ 9.1 million and US\$ 8.7 million respectively. Extracts essences and concentrates of coffee and tea accounted for US\$ 7.7 million in 2013 and followed by spirits, liquors and other spirit beverages with the value of US\$ 7.4 million. Palm oil and its fractions accounted for US\$ 115.6 million in 2014 and followed by spirits, liquors, and other spirit beverages with the value of US\$ 34.2 million. Altogether, agro-processing contributed the least in 2010 accounting for a total value of US\$ 26.2 million. Agro-processing imports have been unstable from 2010 to 2014. The greatest supply was however in 2014 with about US\$ 195.0 million.

Table 8: Top 10 Agro-processing Imports from ECOWAS at four-digit HS level

HS-4	Product Label	Imported Values (US \$ '000)					%
		2010	2011	2012	2013	2014	MFN
'1511	Palm oil & its fraction	5,105	17,990	52,851	75,344	115,657	35.0
'2208	Spirits, liqueurs, other spirit beverages	20	1,168	2,756	7,447	34,252	20.0
'2101	Extracts essences & concentrates of coffee and tea	3,294	3,384	6,159	7,784	12,861	5.0
'1517	Margarine	660	6,118	6,258	6,908	12,722	20.0
'2301	Flour etc of meat, meat offal, fish, crustacean	21	0	226	1,214	3,060	10.0
'2008	Preserved fruits not elsewhere specified	73	899	1,198	2,114	2,451	20.0
'1806	Chocolate & other food preparations containing cocoa	54	367	649	425	2,194	20.0
'2104	Soups, broths & preparations thereof	0	28	0	1,224	1,823	20.0
'4412	Plywood, veneered panels & similar laminated wood	1,677	7,312	8,766	6,364	1,322	20.0
'2009	Unfermented fruit & vegetable juices	140	159	228	634	978	20.0
Sub-total	Agro-processing	11,044	37,425	79,091	109,458	187,320	
Other	Agro-processing	15,216	124,730	18,506	12,318	7,775	
Total	Agro-processing	26,260	162,155	97,597	121,776	195,095	

Source: ITC Trademap (2016)

Table 9 shows that throughout 2010 to 2014, sweetened milk and cream, malt extract and malt (roasted or not) were the top three agro-processing products imported from the EU by Nigeria. Agro-processing imports were at its peak in 2011 at US\$ 4.7 billion but fell greatly in 2012 to US\$ 955.7 million and it has since then been undulating.

Table 9: Top 10 Agro-processing Imports from the EU at four-digit HS level

HS-4	Product Label	Imported Values (US \$ '000)					%
		2010	2011	2012	2013	2014	MFN
'0402	Milk and cream, sweetened	91,655	919,662	153,034	234,570	535,794	5.0
'1901	Malt extract	74,721	646,165	131,383	225,235	358,664	10.0
'1107	Malt, roasted or not	31,958	104,997	78,868	67,737	118,155	5.0
'4805	Uncoated paper and paper-board	19,005	49,483	41,737	56,362	56,645	5.0
'2106	Food preparations	13,813	18,470	23,095	45,966	46,215	10.0
'4011	New pneumatic tyres, of rubber	15,272	18 468	30 486	40 493	42,512	12.5
'4802	Uncoated paper for writing	35,121	53,662	37,087	42,164	37,310	5.0
'4804	Uncoated craft paper & paper-board	7,889	16,611	17,187	19,464	34,037	5.0
'2202	Non-alcoholic beverages	10,866	19,801	30,021	23,051	32,901	20.0
'2208	Spirits, liquors, other spirit beverages	2,040	13,289	17,899	26,617	31,937	20.0
Sub total	Agro-processing	302,340	1,860,608	560,797	781,659	1,294,170	
Rest	Agro-processing	1,049,348	2,869,997	394,858	1,532,605	525,217	
Total	Agro-processing	1,351,688	4,730,605	955,655	2,314,264	1,819,387	

Source: ITC Trademap (2016)

Table 10 shows the 20 major imports of agro-processing at HS 4 for the 2014 year. The average MFN tariff rates associated to each of the imports listed is given. Generally, the MFN tariff rate is given at a more detailed level (HS 10). The imports are shown for ECOWAS and the

EU. The table confirms that while palm oil and its fractions is an important product imported by Nigeria from ECOWAS, sweetened milk and cream is the most important import from the EU amongst the agro-processing products.

Table 10: Nigeria's Agro-processed Imports; (US\$'000), Sources and Tariff Rates in 2014

HS4	Description	% MFN Tariff	Imported Values (US \$ '000)		
			World	ECOWAS	EU
'1701	Cane or beet sugar	7.5	853,638	0	19,016
'0402	Milk and cream, sweetened	5.0	789,008	15	535,794
'1901	Malt extract; food preparations of flour	10.0	514,366	461	358,664
'4011	New pneumatic tyres, of rubber	12.5	467,536	326	42,512
'1511	Palm oil and its fractions, whether or not refined	35.0	402,379	115,657	2,086
'4802	Uncoated paper for writing	5.0	316,625	54	37,310
'0305	Cured or smoked fish	10.0	196,849	55	13,716
'2002	Tomatoes, prepared or preserved	20.0	154,432	38	9,178
'2207	Ethyl alcohol & other spirits	20.0	130,597	0	5,729
'1107	Malt, roasted or not	5.0	120,472	0	118,155
'4818	Toilet paper, handkerchiefs	20.0	103,773	106	2,784
'2106	Food preparations	10.0	101,891	44	46,215
'2103	Sauces mixed condiments	20.0	97,956	51	5,438
'2401	Unmanufactured tobacco, tobacco refuse	5.0	97,295	0	27,943
'1702	Sugars	10.0	91,603	33	31,202
'4805	Uncoated paper and paperboard	5.0	86,068	49	56,645
'2208	Spirits, liquors, other spirit beverages	20.0	82,061	34,252	31,937
'4804	Uncoated craft paper and paperboard	5.0	80,573	0	34,037
'2202	Non-alcoholic beverages	20.0	70,229	836	32,091
'4811	Paper, paperboard, cellulose wadding	10.0	63,726	0	18,787
Subtotal	Agro-processing		4,821,077	151,977	1,429,239
Others	Agro-processing		1,666,543	43,118	390,148
Total	Agro-processing		6,487,620	195,095	1,819,387

Source: ITC Trademap (2016)

There has been a huge demand for agricultural commodities in foreign markets. Nigeria is a notable importer of wheat, ranked as the 13th largest importer in the world in 2016 according

to index mundi (2016). 17 million metric tonnes of wheat may be imported by Nigeria in 2020 following the 13% rate of growth recorded per annum (Olanrewaju, 2012). This is commensurate to total exports of Canada that happens to be the third largest exporter. Rice is also a top import of Nigeria with above two million metric tonnes milled rice per year. Nigeria is blessed with a lot of water bodies but still imports fish at an average of 97 billion Naira per annum.

3.7 Brief Product Line Analysis

The trade partners for Nigeria were split into ECOWAS, the EU and the rest of the world. This allowed for calculation of the share of trade values from products rated at CET level and those that are not, in order to motivate the scenarios defined later in this study (see section 4.4). The calculations based on the Single Market Partial Equilibrium Modelling Tool (SMART) reveals that the applied duties of some of the products are already at ECOWAS CET rates. Some of these rates are higher while others are either lower or the same as the CET rates specified for such products. As seen in table 11, a large percentage of imports from all three partner country groups are associated with the CET rates. The EU has the largest share at 87.16% followed by the rest of the world (78.90%) and ECOWAS (61.90%).

Table 11: Share of Trade Values from Nigeria's Imports

Partners	Value of products at CET level		Value of products not yet at CET level	
	Trade Value (US \$ '000)	Percentage (%)	Trade Value (US \$ '000)	Percentage (%)
ECOWAS	545,488.377	61.90	335,859.353	38.10
The EU	12,039,570.888	87.16	1,782,219.542	12.84
Rest of the World (ROW)	22,492,552.289	78.90	6,013,657.590	21.10
World	35,131,611.554	81.20	8,131,736.485	18.80

Source: SMART model simulations

Thus, by exploring the tariff lines in relation to base trade values for the ECOWAS partners, 38.10% accounts for the value of imports that are not yet at the CET level. 12.84% makes up the value of products that still needs to be CET rated from the European Union. For the ROW, 21.10% represents the value of products not having the CET rate yet. A complete implementation of the ECOWAS CET on the rest of the products that are not yet CET rated to

be achieved in the fourth chapter (see section 4.5.2) addresses one of the specific aims of this study as mentioned in section 1.3.

3.8 Chapter Summary

Most developing countries like Nigeria see trade as a major driver of development. A lot of uncertainty due to rapid changes has marked trade policy in Nigeria over time. The relentless effort of former Executive Secretary of UNECA, Adebayo Adedeji contributed to the creation of ECOWAS. The ECOWAS treaty was put forward in 1975 and later revised in 1993. The customs union formed through the adoption of a common external tariff was included in the treaty. In 1997, the CET was planned along four tariff bands (0%, 5%, 10% and 20%) and adopted by the eight ECOWAS countries that make up West African Economic and Monetary Union (WAEMU). This however did not come into full effect until January 1st, 2000. In 2005, Nigeria partially set its tariff structure to the proposed ECOWAS CET by way of introduction of a fifth tariff band which was initially 50% but was revised later to 35% and unanimously adopted by ECOWAS. In January 2006, the Head of ECOWAS States adopted the ECOWAS CET structured along four tariff bands (0%, 5%, 10% and 20%). ECOWAS collectively adopted a fifth band at 35% (instead of 50% requested by Nigeria). A final structure of the CET was approved in October 2013 and was officially launched on June 23, 2015.

The trade policies of Nigeria can be viewed based on two eras: Pre-Structural Adjustment Programme and Post-Structural Adjustment Programme (Analogbei, 2000). The Nigerian economy was agrarian in 1960. The growth in the industry increased import demand and created a Balance of Payment problem. Since then, protective trade policies were used to manage the increased demand. The Import Substitution Industrialization (ISI) strategy was used between 1960 and 1970 and it involved setting quantitative limits and high import duties to protect local manufacturing industries. From 1970 to 1974, there was an unprecedented increase in the price of oil, which resulted in excess funds that Nigeria could not absorb (CBN, 1979). The third period of National Development Programme (1975-1980) was marked by the reduction of trade policies. The fourth period was from 1981 to 1985 and was characterized by the fall in foreign exchange revenue: an aftermath of the oil shock of the early 1980s.

The SAP began in July 1986. It was suggested by the IMF and seconded by the World Bank. The goal was to reduce dependence on income from oil exports and boost development in the non-oil sector of Nigeria. The SAP period was marked by the removal of import-licensing requirement and the use of custom tariffs to limit imports. Barely two years after SAP, the

customs, excise and tariff decree was ratified based on the Harmonised System. Ad valorem rates were used for imports on a Most Favoured Nation basis under the tariff regimes of 1988 to 1994. Next was the 1995 to 2001 tariff regime that was established by Decree Number 4 of 1995. Agricultural products witnessed a sharp tariff increase in 2002. From 2003 to 2007, the NEEDS aimed at enhancing the integration of Nigeria with the rest of the world (Briggs, 2007). On September 25, 2008, Nigeria issued the 2008 – 2012 CET book which contained a number of banned imports such as poultry, pork, beef, eggs, vegetable oil, noodles, waters, beer, bagged cement, soaps and detergents, corrugated paper and paper boards, some textiles, industrial gloves, footwear, bags, furniture etc.

Agriculture and the oil sectors continue to dominate economic activities in Nigeria. Despite the huge reliance on oil, agriculture is a strong base of production in Nigeria. Nigeria is one of the world's largest producers of cassava, rice etc but remains a net importer of agricultural products. Nigeria should strive to satisfy the needs of the domestic markets by capitalizing on agricultural endowments through processing. It makes the local industries strong enough to withstand any form of competition and promotes export diversification. The addition of value to agricultural products that come from naturally existing resources of Nigeria will ensure that Nigeria not only returns to being a net exporter but that the products will be up to standard. In an attempt to liberalise trade, the efficiency of domestic industries is important. Ultimately, Nigeria's gains in trade come from favourable market for exports at regional or multilateral levels. Nigeria should therefore focus on target sectors that serve as its comparative advantage in encouraging their growth.

Nigeria is one of the fastest growing economies in the world. Nigeria experienced 5.5% growth in 2013 and a 6.2% increase in the first quarter of 2014. Nigeria overtook South Africa to become the largest economy in Africa in April 2014. Nigeria, a highly populated country with over 181 million people is the eighth most populous country in the world and the most populated in Africa (CIA, 2015). The five main trading partners of Nigeria in the year 2014 were China, USA, Belgium, Netherlands and India. The total import of Nigeria from the world was US\$ 46 billion in 2014. Between 2010 and 2014, the Nigerian trade from the world has been on the increase in value terms. The imports from the EU have also been on the increase in value terms despite the decline in 2012 at US\$ 8 billion. Conversely, trade within the ECOWAS sub-region has witnessed a major decrease in terms of value. In 2012, Nigeria imported US\$ 35 billion worth of goods from the world. It increased to US\$ 43 billion in 2013 and then US\$ 46 billion in 2014. Most of the products imported from the world by Nigeria in

2014 were mineral products, vehicles and cereals. Agro-processing imports from ECOWAS between 2010 and 2014 have not been steady. The lowest supply (US\$ 26.2 million) was recorded in 2010. The greatest supply was in 2014 with around US\$ 195.0 million. Palm oil and its fractions accounted for the largest value except in 2011 when tubes, pipes and hoses of vulcanised rubber worth US\$ 62.4 million was imported. Meanwhile, agro-processing imports were at its least in 2012 at US\$ 955.6 million. The greatest imports of agro-processing products from the EU were recorded in 2011 at US\$ 4.7 billion. Concentrated or sweetened milk and cream was the top agro-processing import. A brief analysis of the product lines reveals that 81.20% constitutes the value of imports at CET level from the world. Hence, the remaining 18.80% represents the value of imports not yet at CET level from the world, which will be CET rated later in the study.

Chapter 4: Methodology

4.1 Introduction

This chapter describes the methodology used in the study. This study applied the Single Market Partial Equilibrium Simulation Tool (SMART) included in the World Integration Trade Solution (WITS) software developed by the World Bank and the United Nations Conference on Trade and Development (UNCTAD) in the 80's (Lang, 2006). Section 4.2 briefly describes the data used, followed by additional details of the SMART model in section 4.3. These include the theoretic discussion of trade diversion, trade creation, tariff revenue, welfare and the impact of elasticities. The fourth section describes each of the four scenarios considered, followed by the discussion of data analysis methods in section 4.5. The summary makes up the last section.

4.2 Data Used

The WITS software puts together various trade flows. It consists of three major trade databases: the United Nations Commodity Trade Statistics (UNCOMTRADE), the UNCTAD Trade Analysis and Information System (TRAINS) and the World Trade Organization (WTO) integrated database or Consolidated Tariff Schedule (CTS) database. This study only requires trade flows, tariffs and elasticities; all of which are contained in the WITS software.

4.2.1 Trade Data

Data for the most recent year available, which is 2014 were obtained from the TRAINS database. For a maximum level of trade detail, Harmonized System (HS-6) level was used in this study.

4.2.2 Elasticities

The SMART model makes use of three types of elasticities; export supply elasticities, import demand elasticities and substitution elasticities. The SMART model assumes as default an infinite export supply elasticity, representing the price taker assumption (only quantity effect). The SMART model can also work with finite export supply elasticity, which implies a price and quantity effect. The elasticity of import demand used by the SMART model is specific to each product notwithstanding the partner. The default values of this elasticity are the same for all but differs per product. The SMART model assumes a default value of 1.5 for the substitution elasticity for all products.

The SMART model incorporates elasticities with default values which can be substituted with estimated elasticities. Default elasticity values were however used in this study. A major reason for not using the estimated elasticities from the literature is that they are sometimes considered imperfect. Hillberry and Hummels (2013) critique the method Broda, Greenfield and Weinstein (2006) employed to estimate the substitution elasticity used in their study. Most studies use different sample of data that may not be representative.

4.2.3 Tariff Rates

For the pre-Common External Tariff (CET) import rates imposed by Nigeria, the Most Favoured Nations (MFN) rates contained in the WITS software were used. The post-CET tariffs were taken from tariff schedules agreed as part of the Economic Community of West African States (ECOWAS) CET. The CET schedules were obtained from the Nigerian Customs Service (NCS, 2015), at the most detailed level of product (HS 10-digit). The HS 10-digit tariff rates were converted to HS 6-digit tariffs using averages.

4.3 The SMART Model

One of the analytical tools in WITS used for simulation is the SMART model. The SMART model is an ex-ante partial equilibrium model. Similar to any partial equilibrium model, it only accounts for the effect of tariff negotiations on the product that is directly affected without taking the impact on other products into consideration (Thomy, Tularam, & Siriwardana, 2013). The SMART model concentrates on the selected importing market and all of its exporting partners. The SMART model simulates the response of imports and other variables to changes in the tariff rate. The SMART model assumes that goods imported from different countries are imperfect substitutes even though they are similar.

The SMART model is highly sensitive to badly estimated elasticities as it may overlook the interactions between various markets (Mkenda & Hangi, 2009). Despite this, the SMART model can help to estimate trade creation, trade diversion, total trade (a sum of trade creation and trade diversion), and revenue and welfare effects.

4.3.1 Theoretic Discussion on Trade Diversion

Figure 9 shows that trade diversion happens after country A gets a lower tariff thereby changing the relative prices of the good traded when compared with country B. More of the good from country A is consumed (A_0 to A_1) while imports from country B reduces (B_0 to B_1) at a new equilibrium (E_1).

According to Jammes and Olarreaga (2005), if the tariff reduction on good g from country c does not apply to other countries (i.e. $\neq c$), the imports of good g from country c will increase more because of the shift from imports of good g from other countries that are more costly.

The formula for trade diversion under the assumption of perfectly elastic supply by Jammes and Olarreaga (2005) (which was used in this study) is given thus:

$$TD_{g,c} = \frac{m_{g,\neq c} * m_{g,c} * \frac{dt_{g,c}}{(1+t_{g,c})} * \sigma_{g,c,\neq c}}{m_{g,\neq c} + m_{g,c} + m_{g,c} * \frac{dt_{g,c}}{(1+t_{g,c})} * \sigma_{g,c,\neq c}}$$

The formula for trade diversion under the assumption of upward sloping supply curves by Jammes and Olarreaga (2005) is given below:

$$TD_{g,c} = \frac{m_{g,\neq c} * m_{g,c} * \frac{dt_{g,c}}{(1+t_{g,c})} * \sigma_{g,c,\neq c} \left[\frac{(m_{g,c}+m_{g,\neq c})\mu_{g,c}}{(m_{g,c}+m_{g,\neq c})\mu_{g,c}-m_{g,\neq c}} \right]}{m_{g,\neq c} + m_{g,c} + m_{g,c} * \frac{dt_{g,c}}{(1+t_{g,c})} * \sigma_{g,c,\neq c} \left[\frac{(m_{g,c}+m_{g,\neq c})\mu_{g,c}}{(m_{g,c}+m_{g,\neq c})\mu_{g,c}-m_{g,\neq c}} \right]}$$

Where:

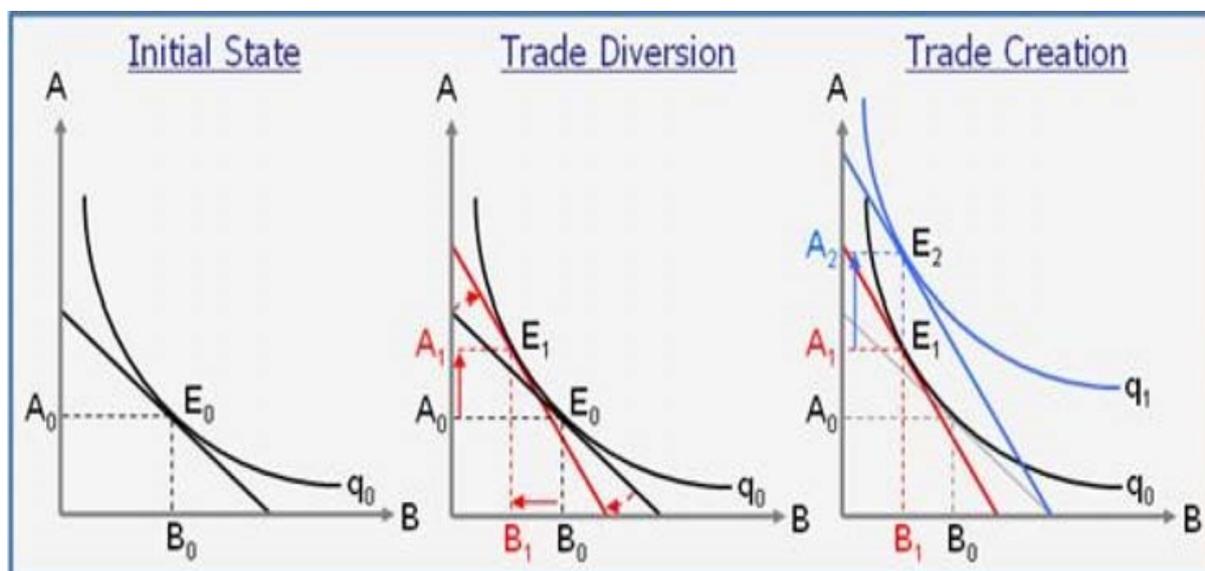
$TD_{g,c}$	Trade diversion of product (g) : Value of new imports of product (g) imported from country (c)
$m_{g,c}$	Initial import value of product (g) from country (c)
$m_{g,\neq c}$	Initial import value of product (g) from other countries
$dt_{g,c}$	Change in tariff rate of product (g) from country (c)
$t_{g,c}$	Initial tariff rate of product (g) imported from country (c)
$\sigma_{g,c,\neq c}$	Elasticity of substitution with respect to relative prices of the same product from different sources of supply
$\mu_{g,c}$	Elasticity of export supply by country (c) with respect to export price of product (g)

The tariff rate change in the formula above $\frac{dt_{g,c}}{(1+t_{g,c})}$ is calculated by deducting the initial rate from the new rate and using the initial rate in the denominator (Punt & Sandrey, 2015). For instance, when the tariff rate reduces from 25% to 10%, the term will then be calculated thus:

$$\frac{dt_{g,c}}{(1+t_{g,c})} = \frac{0.1 - 0.25}{1 + 0.25} = -0.12$$

The imports of a product ($m_{g,c}$) represents the value and quantity of imports since world prices are normalized to unity in the derivations of the trade creation equation (Jammes & Olarreaga, 2005, cited in Punt & Sandrey, 2015).

Figure 9: Trade Diversion and Trade Creation Effects



Source: WITS SMART User Manual (WITS, 2011)

4.3.2 Theoretic Discussion on Trade Creation

With reference to figure 9, trade creation occurs when the lower price of products from country A causes a rise in the composite quantity curve q_1 indicating a higher import of the variety coming from country A (A_1 to A_2) by consumers at a constant level of expenditure. Country A will enjoy a positive trade creation (A_1 to A_2) and a positive trade diversion (A_0 to A_1). Country B will have no trade creation effect and suffer a negative trade diversion (B_0 to B_1).

The reduction in tariff set on good g from country c causes the new partner country's imports of good g to increase (WITS, 2011). Based on the assumption of the nature of export supply elasticity, trade creation can be estimated in two ways (WITS, 2011). Jammes and Olarreaga (2005) described the trade creation equation indicated below:

Considering the perfectly elastic export supply assumption (which was used in this study), trade creation is calculated thus:

$$TC_{g,c} = \varepsilon_{g,c} * m_{g,c} * \frac{dt_{g,c}}{(1 + t_{g,c})}$$

Considering the upward sloping export supply assumption, an additional term is added to the equation:

$$TC_{g,c} = \varepsilon_{g,c} * m_{g,c} * \frac{dt_{g,c}}{(1 + t_{g,c})} * \frac{1}{(1 - \varepsilon_{g,c}/\mu_{g,c})}$$

Where:

$TC_{g,c}$ Trade created from product (g): Value of new imports of product (g) imported from country (c)

$\varepsilon_{g,c}$ Elasticity of import demand with respect to domestic price

$m_{g,c}$ Initial imports of product (g) from country (c)

$dt_{g,c}$ Change in tariff rate of product (g) imported from country (c)

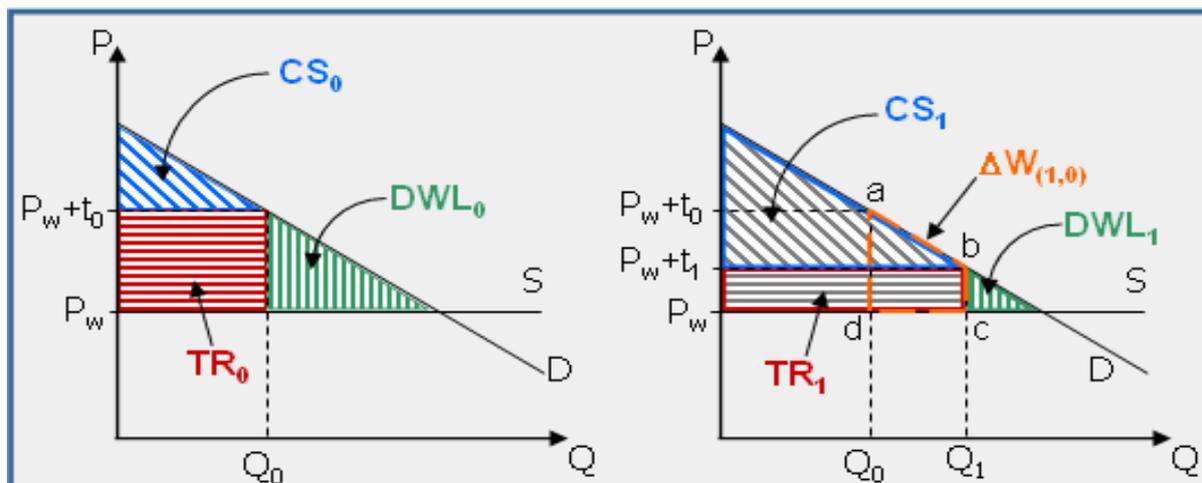
$t_{g,c}$ Initial tariff rate of product (g) imported from country (c)

$\mu_{g,c}$ Elasticity of export supply by country (c) with respect to export price of product (g)

4.3.3 Tariff Revenue Effect

The SMART model calculates the impact a change in trade policy has on tariff revenue as the difference before the agreement and thereafter. Figure 10 shows a decrease in the initial tariff (t_0) to a new tariff (t_1). The right hand side shows that consumer surplus increases, tariff revenue changes, deadweight loss decreases and welfare increases when the tariff reduces from t_0 to t_1 . According to WITS (2011), the change in tariff revenue comprises of two contrasting effects. A tariff revenue loss is equivalent to a transfer from the government to consumers $Q_0*(t_0-t_1)$. A tariff revenue gain because of increased imports is equal to $(Q_1-Q_0)*t_1$.

Where: CS = consumer surplus, TR = tariff revenue, DWL = deadweight loss, Q_0 = initial quantity, Q_1 = new quantity, t_0 = initial tariff and t_1 = new tariff.

Figure 10: Change in Consumer Surplus, Tariff Revenue, Deadweight Loss and Welfare

Source: WITS SMART User Manual (WITS, 2011)

Punt and Sandrey (2015) estimated the tariff revenue effect using the following equation:

$$dR_{g,c} = (m_{g,c} + TT_{g,c}) * (t_{g,c} + dt_{g,c}) - (m_{g,c} * t_{g,c})$$

Where:

$dR_{g,c}$ Change in tariff revenue from product (g) imported from country (c)

$m_{g,c}$ Initial imports of product (g) from country (c)

$TT_{g,c}$ Total trade created from product (g) imported from country (c)

$t_{g,c}$ Initial tariff rate of product (g) imported from country (c)

$dt_{g,c}$ Change in tariff rate of product (g) imported from country (c)

4.3.4 Welfare Effect

The change in welfare is that which the importing country's economy benefits by lowering the tariff from t_0 to t_1 . The gains constitute two positive effects. The first one is the additional tariff revenue due to increased imports (rectangle area of $\Delta W_{(1,0)}$) while the second one is the additional consumer surplus due to increased imports (triangle area of $\Delta W_{(1,0)}$) (Punt & Sandrey, 2015).

Punt and Sandrey (2015) derive the change in welfare using the following equation:

$$dW_{g,c} = [TT_{g,c} * (t_{g,c} + dt_{g,c})] + [0.5 * TT_{g,c} * dt_{g,c}]$$

Where:

$dW_{g,c}$ Change in welfare as a result of product (g) imported from country (c)

$TT_{g,c}$ Total trade created from product (g) imported from country (c)

$t_{g,c}$ Initial tariff rate of product (g) imported from country (c)

$dt_{g,c}$ Change in tariff rate of product (g) imported from country (c)

4.3.5 Impact of Elasticities

The partial equilibrium (SMART) model uses a variety of elasticities namely; import demand elasticity, substitution elasticity and an export supply elasticity. The import demand elasticity and substitution elasticity refer to the demand side while export supply elasticity refers to the supply side (WITS, 2011). The import demand elasticity measures the change in import demand by the importing country from country c after lowering the tariff following the implementation of the agreement. The elasticity considers the substitution between the demand for domestic goods versus imports given relative price changes between domestic and import prices. The elasticity enters the equation as a negative value because as the tariff and price of imports reduce, the quantity imported will increase. The elasticity is used when calculating trade creation.

The substitution elasticity determines how much of a product is imported from each of the exporting countries. The Armington assumption treats the same product from two different countries as imperfect substitutes. This elasticity is also used in the calculation of trade diversion.

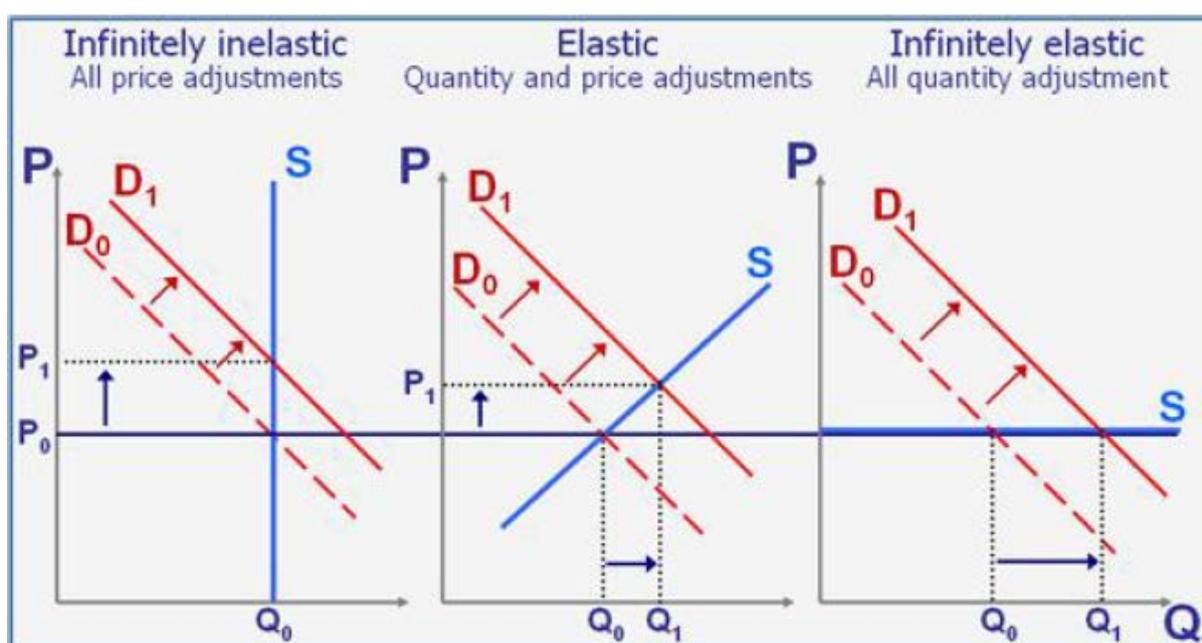
The export supply elasticity is the rate of change in the supply of export to the change in the price of export. It can be infinite which means the export supply curves are flat and the world prices are exogenously given. It can also be finite which means the export supply is upward sloping and includes both the quantity and price effect. The export supply elasticity can be vertical resulting in only price effects. This elasticity is used in calculating both trade creation and trade diversion.

Figure 11 shows the different export supply elasticity as explained by WITS (2011):

- Supply elasticity is infinitely inelastic: the market adjusts only through price (P_0 to P_1) since the quantity offered by suppliers is fixed.
- Supply elasticity is somehow elastic: the market adjusts through both price and quantity (P_0 to P_1 and Q_0 to Q_1).
- Supply elasticity is infinitely elastic: the market adjusts only through quantity (Q_0 to Q_1) since suppliers can meet with level of demand at the same price (P_0).

This study assumes flat supply curves; hence, there is only quantity effects.

Figure 11: Different Elasticities of Export Supply



Source: WITS SMART User Manual (WITS, 2011)

4.4 Scenarios Considered

The amount of intra-regional trade flows depends greatly on the trade and economic policies implemented by ECOWAS members. The ECOWAS Trade Liberalization Scheme (ETLS) has aimed at promoting cooperation and integration among member states through the liberalization of trade. Nigeria, as a member of ECOWAS should apply the trade liberalization measures that began in 2004. There should be a complete liberalization of trade between countries in the region but this is not the situation. The incomplete implementation of ETLS has affected intra-ECOWAS trade. Nigeria's protectionist position causes informal trade on the sub-regional level, especially in agricultural products. Total intra-regional trade has been on the increase but at a decreasing rate (UNCTAD, 2012). There are still non-tariff barriers

like certificates of origin, standards requirements, bureaucratic problems, unofficial fees, delays at borders, waste and theft at ports, harassment by the police, and other security agents at a number of locations, and inter-country payment difficulties because of inconsistencies in the implementation of the scheme by members (ECOWAS Vanguard, 2013).

Nigeria together with other sub-regional countries has made efforts to liberalize trade to take advantage of trade liberalization. The acceptance of the ECOWAS CET is one such effort. Rather than excluding the import levies from the ECOWAS CET, an Import Adjustment Tax (IAT) was established. The IAT is country specific allowing member countries to protect their industry at a maximum of 3% adjustment. The data for 2014 does not yet reflect the full implementation of the CET because the CET will be implemented in stages, hence the data can be used in the analysis to show the potential impact.

The establishment of a Common External Tariff in West Africa is a prerequisite to the signature of the Economic Partnership Agreement between the European Union and ECOWAS. After ten years, ECOWAS and the EU concluded negotiations in February 2014 to establish a free trade area and eliminate import duties on products from member states of the two trading blocs. The Economic Partnership Agreement (EPA) between the EU and West Africa draws from the ACP-EU Partnership Agreement signed in Cotonou in 2000. West Africa will remove import tariffs gradually over a period of 20 years while the EU opens its market completely from the onset. The West African market access offer to the EU is fully aligned with the ECOWAS CET adopted in October 2013. The market access offer of West Africa liberalizes 75% of tariff lines at the end of the transition period. West Africa has excluded all the sensitive products that presently attract a 35% duty under the ECOWAS CET. These are meat (including poultry), yoghurt, eggs, processed meat, cocoa powder and chocolate, tomato paste and concentrate, soap and printed fabrics. Half of the products presently facing 20% duty under the ECOWAS CET are also excluded from liberalization, and they include fish and fish preparations, milk, butter and cheese, vegetables, flour, spirits, cement, paints, perfumes and cosmetics, stationery, textiles and apparel and fully built cars. The implementation of the EPA and the ECOWAS CET go hand in hand. According to Onogwu and Arene (2013), development, sustainable growth and poverty reduction would develop in ECOWAS sub region through trade-deepened integration.

The opening up of the ECOWAS market especially in Nigeria may afford consumers more choices at lower prices since products from the EU are complements. Most thriving developing countries have recorded growth not by avoiding trade but through the gradual opening up of

their economies. Using the SMART model, different tariff liberalization scenarios were simulated. The four scenarios considered were to assess the possible implications of the ECOWAS CET and ECOWAS-EU EPA on the Nigerian economy. Scenario 1 is motivated by the assumption that Nigeria would at least begin by not having higher tariffs for imports from ECOWAS compared to non-ECOWAS countries. Nigeria therefore imposes the CET on all imports from ECOWAS. The rationale for scenario 2 is ECOWAS regional trade agreement while scenario 3 is based on the trade agreement between ECOWAS and the EU, but with hypothetical zero rating. Scenario 4 draws from the adoption of a common external tariff on non-members of ECOWAS excluding the EU in anticipation of an ECOWAS-EU EPA signature by Nigeria.

4.4.1 Scenario 1: Nigeria Imposes the CET on all ECOWAS Products

The ECOWAS regional agreement hopes to achieve deeper integration among member states. This scenario addresses the question of whether the principle of deeper regional integration within West Africa will be favourable for Nigeria especially for trade in agro-processing products. This scenario assesses the CET implications in the case of Nigeria applying the tariffs on ECOWAS partners. The purpose of this scenario is to implement the CET on all products from ECOWAS while ignoring domestic levies. Hence, the impact could be greater if domestic levies are also removed assuming intra tariffs will not be more than CET.

4.4.2 Scenario 2: Nigeria Zero Rates all Products from ECOWAS

This scenario went a step further by exploring the option of a zero rating on all products traded within ECOWAS. Nigeria implements zero tariff liberalization for all ECOWAS partners. In other words, the tariff rates on all members of ECOWAS were removed completely. This scenario shows the potential scope for further liberalization within ECOWAS to full customs union.

4.4.3 Scenario 3: Nigeria Zero Rates all ECOWAS and the EU Products

Although Nigeria is yet to sign the EPA with the EU members at the time of writing, this scenario analyses the potential implications of the EPA between ECOWAS and the EU. It suggests an ECOWAS-EU Free Trade Agreement (FTA) implemented as a 100% decrease on tariffs for all products supplied by ECOWAS countries and the EU as well. It assumes full liberalization because schedules are not available yet. In other words, a complete elimination of existing import tariffs on all ECOWAS and the EU members while keeping tariff rates for

the rest of the world the same. In this scenario, all tariff lines are included in the EPA liberalization schedule. In reality, an EPA would be implemented over a long time span.

This study however assumes a complete tariff liberalisation at the time of the base year (2014). The emphasis is on the final level of trade barrier elimination rather than the effects at each level. Hence, the impact is likely to be upper bound estimates of the trade, revenue and welfare effects, based on the number of products excluded from the anticipated agreement. For the purpose of this study, a total opening of the Nigerian market to ECOWAS and the EU imports is assumed. This should not be the exact outcome of the EPA since some products are allowed to be excluded from the liberalisation. The full liberalisation allows the products and sectors with the greatest impact to be identified.

4.4.4 Scenario 4: Nigeria Imposes the CET on all non-ECOWAS and non-EU Products

Having liberalized trade with ECOWAS and the EU, the share of base trade values for products with a tariff currently higher than the ECOWAS CET was about 21.2%. The CET was applied to countries outside the ECOWAS zone and the EU as well. This scenario is marked by a zero rating by Nigeria on imports from ECOWAS and the EU while plying the CET on imports from non-ECOWAS and the non-EU countries. It is expected to highlight the impact of the CET on trade with the Rest of the World (non-ECOWAS and non-EU partners).

4.5 Data Analysis Methods

The data was analysed with an internet based SMART model simulation and further analysis was extended to Excel spreadsheet calculations. The processes of each analysis are stated in the following sub-sections. Scenarios 2 and 3 were carried out first using the SMART model. Scenarios 1 and 4 uses the results from scenarios 2 and 3 as base, but because these scenarios required tariff line specific tariff changes additional Excel calculations were necessary to derive results for scenario 1 and scenario 4.

4.5.1 SMART Model Simulation for Scenarios 2 and 3

The analysis of the data was done using an internet based SMART model simulation. As a starting point, a new query was created and the data source (TRAINS) was specified in the SMART model. Nigeria was chosen as the importing country that applied a tariff cut for the most recent year for which data was available at the time i.e. 2014. The selection of all products at HS 6-digit level followed. Then, the definition of each scenario and estimation of parameters

was carried out. For the second scenario, all 14 members of ECOWAS were selected as tariff preference receiving countries, while all 28 members of the European Union were added as beneficiary countries for the third scenario. Based on a complete removal of tariffs; the scenario specified a 100% tariff reduction on every HS 6-digit product imported by Nigeria in both simulations. The user is required to define the parameters by setting elasticities to determine the sensitivity of demand and supply to the specific tariff change. Thus, the formula that determined the tariff change to be applied was chosen. The query was then saved, submitted and downloaded. The model gives an estimate of the trade, revenue and welfare effects of tariff change. These were saved in Excel format where additional spreadsheet calculations were done in order to allow for flexibility with respect to product specific tariff reductions for the first and fourth scenarios.

4.5.2 Excel Calculation for Scenarios 1 and Scenario 4

The results from the SMART simulation for the second scenario served as the starting point for further Excel spreadsheet calculations to derive results for scenario one. At this level, the focus was on different tariff changes per tariff line. Instead of the tariff rates going to zero, it was set to the CET tariff. The CET scheduled rates (NCS, 2015) were linked to the HS codes in the Excel workbook with the help of a vlookup function. These were introduced with the exemption of products from the rest of the world. The same process was replicated for the fourth scenario but with the third scenario as base. Here, the tariff rates for the products imported from ECOWAS and the EU were retained at zero tariff while Nigeria applied the CET on all other products from the rest of the world. The Excel calculation also involved a sensitivity analysis with respect to export supply elasticity.

4.6 Chapter Summary

This study made use of secondary data on trade, elasticities, and tariffs provided by the WITS software. The 2014 trade data used was obtained from the TRAINS database at HS-6 level. The three elasticities (export supply elasticity, import demand elasticity and substitution elasticity) utilized are from the SMART model. The tariff data (ECOWAS CET) applied for scenarios one and four was sourced from the Nigeria Customs Service.

The SMART model, an ex-ante partial equilibrium model from WITS served as the simulation tool in this study. The SMART model simulates the impact of a tariff change on imports and other variables. It is however very sensitive to badly estimated elasticities and could miss interactions between various markets. Although it does not take into account the second-round

effects of a trade policy change, the partial equilibrium model allows the use of widely available trade data at an appropriate level of detail such as at tariff line level.

The theories behind trade creation, trade diversion, tariff revenue, welfare and impact of elasticities were discussed. It was established that trade is created when the decrease in tariff of goods from a particular country makes the partner country's imports of such a good to increase (WITS, 2011). On the other hand, trade is diverted when the imports of goods from a partner country increases due to the shift of imports of such goods from other low-cost producers to high cost producers. The effect of tariff revenue is the difference between tariff revenue prior to a trade agreement and thereafter. The importing country (Nigeria in this study) benefits from a positive change in welfare after tariff reduction. According to WITS (2011), the import demand elasticity and substitution elasticity represent the demand side while the export supply elasticity represents the supply side. The import demand elasticity determines the change in import demand by Nigeria from ECOWAS and the European Union after the 100% tariff reduction. The substitution elasticity evaluates the amount of product that is imported by Nigeria from ECOWAS and the EU. The rate of change in the supply of exports to the change in the price of exports, which can be infinite (no price effect) or finite, is referred to as the export supply elasticity, but is not implemented in this study.

This chapter also explored four tariff liberalization scenarios. The first is the application of CET by Nigeria on all ECOWAS products. The second is a zero tariff on all products from ECOWAS and the third a zero-rating on all products from both ECOWAS and the EU by Nigeria. The last scenario is the introduction of the CET on all imports from the Rest of the World (ROW) while keeping ECOWAS and the EU products fully liberalized. The main analysis was done using the internet based SMART simulation for scenarios two and three but further calculations were done in an Excel spreadsheet for scenarios one and four.

Chapter 5: Results and Discussions

5.1 Introduction

This chapter presents the main findings from the Single Market Partial Equilibrium Modelling Tool (SMART) and Excel simulations of the effects of the full implementation of Economic Community of West African States (ECOWAS) customs union on Nigeria. This is achieved by analysing the impact on trade creation and trade diversion, tariff revenue and welfare if Nigeria reduces tariffs on all products imported from the rest of ECOWAS and the European Union (EU) in sections 5.3 and 5.4 respectively. It also highlights the effects of applying the ECOWAS Common External Tariff (CET) on intra-regional trade in section 5.2 and trade between Nigeria and the rest of the world leaving outside the EU in section 5.5. The following section (section 5.6) gives the sensitivity analysis and the penultimate section (section 5.7) compares the results with the literature. The summary of the chapter is in section 5.8.

5.2 Results Analysis of the Common External Tariff on ECOWAS

5.2.1 Trade Effects for Scenario 1

Scenario 1 implements a change in base tariff rates for all imports from ECOWAS to the scheduled rate for the year 2014. Hence, new tariff rates for all products are according to the CET. The simulation result for each of the product groups at aggregate level, under the first scenario is in table 12. It shows an increase in total imports as well as the positive trade creation and trade diversion effects. Total imports rise by US\$ 82.3 million resulting from the adoption of a common tariff on all products from ECOWAS.

Table 12: Trade Creation and Diversion Effects of the ECOWAS CET on Nigeria in Scenario 1

Product Group	Trade Value Before CET (US \$ '000)	Trade Creation After CET (US \$ '000)	Trade Diversion After CET (US \$ '000)	Total Trade After CET (US \$ '000)
Primary Agriculture	2,809,503.03	0	0	0
Agro-processing	6,487,619.92	27,866.42	0	27,866.42
Non-primary agriculture and non-agro processing	33,966,225.09	54,486.27	0	54,486.27
Total	43,263,348.04	82,352.68	0	82,352.68

Source: SMART model simulations and own calculations

Trade is created for Nigeria in all product groups except primary agriculture. The latter is because tariff rates remain unchanged for those products for which CET rates exceed the initial applied duty. The trade creation in non-primary agriculture and non-agro processing is higher with US\$ 54.4 million than agro-processing, which is US\$ 27.8 million. The trade diversion previously exported to Nigeria from non-ECOWAS countries that is now exported by ECOWAS countries instead gives a value of US\$ 22.5 million. The trade diversion effect from Nigeria's perspective is zero across all product groups. In economic terms, trade creation improves welfare while trade diversion causes welfare to decline. The CET on ECOWAS countries will increase total trade levels in Nigeria as consumers benefit from reduced prices. Consequently, this may pose a threat to the Nigerian industry as increase in welfare for consumers implies more imports. This holds in particular for agro-processing products like cigarettes containing tobacco, crude and refined palm oil, which make up some of the major trade creating imports (table 13). One reason for the large trade creation effect in cigarettes containing tobacco is the difference between the Most Favoured Nation (MFN) tariff rate (35%) and the CET rate (20%) applied on its imports from ECOWAS. Another explanation for this large trade creation effect is that Nigeria has been dependent on ECOWAS for its cigarettes containing tobacco imports (nearly 57% of the total), most of which was from Togo, Ghana, Cote d'Ivoire and Benin in 2014. The CET also suggests a great expansion of trade for light oils and preparations as MFN tariff (10%) for imports from ECOWAS reduced to 0%. As a result, these products are imported from ECOWAS suppliers, who are less expensive than other existing suppliers are. Importantly, adequate measures are required to maintain competitiveness. This therefore calls for the need to strengthen domestic industries most especially agro-processing products including crude and refined palm oil.

Table 13: Products with Major Trade Creation Effects in Scenario 1

HS Code	Product Description	Trade Creation(US \$ '000)
271011	Light oils and preparations	46,320.00
240220	Cigarettes containing tobacco	17,108.07
151110	Crude palm oil	5,781.42
151190	Refined palm oil	3,809.50
392190	Plates, sheets, film, foil and strip of plastics	2,292.07
Others		7,041.62
Total		82,352.68

Source: SMART model simulations and own calculations

5.2.2 Revenue Effects for Scenario 1

In addition to the effect on trade, the simulation carried out indicates the changes on tariff revenue. The tariff cuts implemented by Nigeria to conform to the CET rates may lead to a fall in tariff revenue. Table 14 shows a negative effect for all product groups except primary agriculture. The loss in revenue in value terms is the highest in agro-processing followed by non-primary agriculture and non-agro processing products. The estimated total tariff revenue loss will be US\$ -32.0 million with the implementation of the ECOWAS CET.

Table 14: Revenue Effects of the ECOWAS CET on Nigeria from Scenario 1

Product Group	Loss in Tariff Revenue (US \$ '000)
Primary Agriculture	0
Agro-processing	-19,503.93
Non-agriculture and Non-agro processing	-12,557.08
Total	-32,061.01

Source: SMART model simulations and own calculations

Table 15 shows the five products with the biggest loss in revenue. Crude palm oil by far gives the largest loss in revenue with a 39.10% of total revenue loss. This is followed by refined palm oil and light oils with revenue loss of US\$ 7.9 million and US\$ 3.2 million respectively. Theoretically, tariff reduction may result in a decrease in tariff revenue or increase it if there is a rise in imports. It was observed from the results that cigarettes containing tobacco, a major agro-processing product showed positive gain for Nigeria. As its price reduce because of the tariff cut, there is increased imports (see table 12) and a gain in tariff revenue (US\$ 1.7 million). Although, this value is a small proportion of total revenue, it is important given the need of tariff revenue for the Nigerian government especially from the agro-processing sector wherein the emphasis of this study lies.

Table 15: Products with the Largest Revenue Loss in Scenario 1

HS Code	Product Description	Revenue Loss (US\$ '000)	Percentage of Total Loss (%)
151110	Crude palm oil	-12,536.83	39.10
151190	Refined palm oil	-7,927.94	24.73
271011	Light oils and preparations	-3,299.69	10.29
392321	Sacks and bags, including cones of polymers of ethylene	-2,680.13	8.36
392190	Sacks and bags, including cones of polymers of ethylene	-2,541.19	7.93
Other	Products with negative revenue	-4,930.76	9.59
	Products with positive revenue	1,855.53	
Total	All products	-32,061.01	100

Source: SMART model simulations and own calculations

5.2.3 Welfare Effects for Scenario 1

The estimates in table 16 reveal that Nigeria will benefit from a positive welfare effect of US\$ 11.0 million by implementing the ECOWAS CET. All product groups experience welfare gains excluding primary agriculture that was already at CET level. Agro-processing products with US\$ 7.1 million exhibited most of the gains followed by non-agriculture and non-agro processing products at US\$ 3.9 million. Following from the trade expansion as indicated before, there is a surplus in the level of consumption, which in turn increases welfare. A positive welfare effect implies that individual households in Nigeria are better off with the ECOWAS CET.

Table 16: Welfare Effects of the ECOWAS CET on Nigeria from Scenario 1

Product Group	Welfare Effect (US \$ '000)
Primary Agriculture	0
Agro-processing	7,087.52
Non-agricultural and non-agro processing	3,959.89
Total	11,047.41

Source: SMART model simulations and own calculations

The main agro-processing product with the highest gain in welfare is cigarette-containing tobacco (US\$ 4.7 million) and is given in table 17. Another agro-processing product with major welfare gain is crude palm oil (US\$ 1.3 million). This could be attributed to the high import value and high initial applied duties.

Table 17: Welfare Effects of Agro-processing in Scenario 1

HS Code	Product Description	Welfare Effect (US \$ '000)
240220	Cigarettes containing tobacco	4,704.72
151110	Crude palm oil	1,300.82
Others		1,081.98
Total		7,087.52

Source: SMART model simulations and own calculations

5.3 Results Analysis of Tariff Removal on ECOWAS

5.3.1 Trade Effects for Scenario 2

According to the second scenario, Nigeria removed all tariffs for products imported from ECOWAS. This section therefore analyzes the trade opportunities for ECOWAS due to the tariff preference given by Nigeria. The trade creation and trade diversion effects for ECOWAS countries of this tariff reduction by Nigeria were analyzed using the SMART model and presented in table 18. It revealed that the ECOWAS partners that experienced major trade effects are Cote d'Ivoire, Niger, Ghana and Benin. Meanwhile countries with least total trade effects are Cape Verde, Gambia and Mali.

Most of the trade creation happened in Cote d'Ivoire with a gain of US\$ 53.3 million in trade creation and US\$ 26.7 million in trade diversion giving a total trade effect of US\$ 80.1 million as shown in table 15. This goes to show that as the products from Cote d'Ivoire become cheaper by the amount of its tariff cut, there will be new customers in Nigeria who would buy these products from Cote d'Ivoire. Furthermore, there will be a shift in demand from other non-ECOWAS suppliers to Cote d'Ivoire because the price of imports by Nigeria from Cote d'Ivoire decreases relative to the price of other non-ECOWAS countries. Trade creation is the additional imports by Nigeria from ECOWAS (US\$ 205.1 million) that is equal to trade creation for the world. There is evidence of little trade diversion in all the ECOWAS member countries valued at US\$ 69.6 million.

Table 18: Trade Effects of Tariff Removal on ECOWAS Imports in Scenario 2

Partners	Base Trade Value (US \$ '000)	Trade Creation (US \$ '000)	Trade Diversion (US \$ '000)	Total Trade Effect (US \$ '000)	Applied Duty before Zero Rating
Cote d'Ivoire	162,664.81	53,388.89	26,782.59	80,171.49	13.77
Niger	283,375.04	49,910.37	22,458.24	72,368.61	19.40
Ghana	280,267.73	35,873.55	11,885.05	47,758.60	13.24
Benin	103,479.63	41,605.52	2,769.27	44,374.79	15.89
Togo	15,734.85	10,326.16	2,454.91	12,781.06	15.59
Guinea	8,352.07	4,726.12	1,321.70	6,047.82	17.50
Burkina Faso	1,001.66	4,197.84	356.35	4,554.19	23.75
Senegal	16,875.14	2,684.41	697.17	3,381.58	10.71
Guinea-Bissau	1,783.98	1,423.75	316.99	1,740.74	21.67
Liberia	475.98	633.56	112.37	745.93	14.58
Sierra Leone	5,706.87	293.94	384.24	678.19	10.56
Mali	1,323.01	57.34	32.20	89.54	12.00
Gambia	300.81	32.25	46.61	78.85	16.57
Cape Verde	6.14	0.64	0.98	1.62	11.67
Total	881,347.73	205,154.34	69,618.67	274,773.01	

Source: SMART model simulations

The trade diversion effect for all suppliers sum to zero meaning the gain by all ECOWAS countries is equal to the loss from all non-ECOWAS countries. As shown in table 15 above, all ECOWAS countries, have a positive trade creation and positive trade diversion effect⁴ being beneficiaries of the tariff cut by Nigeria. The non-ECOWAS countries experienced a negative trade diversion effect and no trade creation effect. The full tariff reduction shifts Nigeria's imports away from the rest of the world to ECOWAS imports. As a result, many countries lost market share in Nigeria (table 19). Some of them include China, Malaysia, United States, India and Indonesia.

⁴The reported trade diversion equations by Jammes and Olarreaga (2005) used returned inconsistent results on product level compared to the SMART model, but fairly accurate results on the total. The equation used by the SMART model remains uncertain. Likewise, it is unknown if the equations of Jammes and Olarreaga (2005) are faulty.

Table 19: Top 10 Countries that Lost Market Share in Nigeria from Scenario 2

Countries	Trade Diversion Effect (US \$ '000)
Unspecified	-13,983.33
China	-9,934.68
Malaysia	-7,071.39
United States	-5,450.49
India	-4,877.58
Indonesia	-3,608.81
France	-2,850.18
United Kingdom	-2,357.69
Netherlands	-2,232.86
Belgium	-1,588.98
Others	-15,662.67
Total	-69,618.67

Source: SMART model simulations

Table 20 indicates that trade creation exceeds trade diversion in all the three product groups. Agro-processing products account for about 30.0% of the total trade creation and 32.8% of trade diversion. Maximum trade creation (56.8%) and trade diversion (65.0%) effects for Nigeria were from non-agriculture or non-agro processing products. The least trade creation (13.1%) and trade diversion effects (2.1%) are contributed by primary agriculture.

Table 20: Trade Effects in Product Groups for ECOWAS countries from Scenario 2

Product Group	Trade Creation (US \$ '000)	Percentage (%)	Trade Diversion (US \$ '000)	Percentage (%)
Primary agriculture	26,916.99	13.12	1,473.90	2.12
Agro-processing	61,569.02	30.01	22,840.45	32.81
Non-agriculture and non-agro processing	116,668.33	56.87	45,304.33	65.07
Total	205,154.34	100	69,618.67	100

Source: SMART model simulations

The trade creation and diversion effects for agro-processing calculated using the SMART model from the point of view of ECOWAS is in table 21. The result reveals that trade creation exceeds trade diversion in most of the products. Nigeria's total trade creation effect in agro-processing is expected to be US\$ 61.5 million. The reason for the expansion of trade from these products is purely tariff reduction. Maximum trade effects for Nigeria in agro-processing are

expected to be in tobacco and manufactured tobacco substitutes⁵. These include cigarettes containing tobacco, smoking tobacco whether or not containing tobacco substitutes and cigars, cheroots, cigarillos and cigarette valued at US\$ 44.2 million. This is because the duty rate applied by Nigeria fell to 0% from 35% for ECOWAS states.

Table 21: Trade Creation and Diversion in Agro-processing for ECOWAS Countries from Scenario 2

HS Chapters	Base Trade Values (US\$ '000)	Trade Creation (US \$ '000)	Trade Diversion (US \$ '000)	Total Trade Effect (US \$ '000)	Average Applied Duty before Zero Rating
24	9,701.95	40,957.80	3,312.69	44,270.49	35
15	82,738.85	14,257.70	15,257.97	29,515.67	30.42
21	9,084.39	1,348.61	1,161.76	2,510.37	16.90
22	9,017.48	1,408.93	895.80	2,304.73	21.50
19	5,939.80	1,464.09	390.01	1,854.10	16.67
44	6,511.25	851.55	464.72	1,316.28	16.25
20	3,493.53	632.47	446.62	1,079.09	21
40	1,483.15	156.68	336.51	493.19	12.19
23	1,275.42	231.01	162.43	393.45	10
17	615.75	128.27	214.06	342.33	35
18	818.73	85.46	131.59	217.05	12.50
48	153.07	17.69	19.24	36.93	11.25
13	288.97	13.06	19.95	33.01	5
04	200.60	11.83	20.84	32.67	10
11	45.40	3.30	5.58	8.88	10
09	2.60	0.56	0.65	1.21	20
35	0.09	0.01	0.01	0.02	10
Total	131,371.02	61,569.02	22,840.45	84,409.47	

Source: SMART model simulations

5.3.2 Revenue Effects for Scenario 2

Revenue effects examined in this analysis concentrates on the direct impacts from the loss of tariff revenue. Nigeria's tariff revenue decreased by US\$ 146.5 million because of the tariff cut on imports from ECOWAS (table 22). The analysis shows that the tariff reduction may lead to significant tariff revenue loss to the government. Revenue loss is the lowest in primary agriculture followed by agro-processing products. Revenue from imports from all countries is taken into account.

⁵The trade value of imports from Niger reported by the SMART model was US\$ 1,324,120.8 but this was replaced with 0 making the total imports from all countries to be US\$ 16,452.0 instead of US\$ 1,340,572.9.

Table 22: Revenue Effects of Tariff Removal on ECOWAS Imports from Scenario 2

Product Group	Loss in Tariff Revenue (US \$ '000)
Primary Agriculture	-44,188.15
Agro-processing	-45,495.64
Non-agriculture and Non-agro processing	-56,826.70
Total	-146,510.49

Source: SMART model simulations

The SMART model at a highly disaggregated six-digit level import data allows the identification of products with the largest revenue effects. Table 23 presents the five most affected products for the ECOWAS tariff liberalization scenario. Some of the agro-processing imports with the best results in terms of their effect on trade also have the most revenue effect. These are animal or vegetable fats and oil and their cleavage products such as crude and refined palm oil.

Table 23: Products with the Largest Revenue Effects in Scenario 2

HS code	Product Description	Tariff Revenue(US \$ '000)
080290	Nuts edible, fresh or dried, whether or not shelled or peeled, not elsewhere specified	-38,627.13
271019	Other petroleum oils and preparations	-20,528.14
151110	Palm oil, crude	-19,367.72
151190	Palm oil and its fractions refined but not chemically modified	-11,896.29
392190	Film and sheet of plastics, not elsewhere specified	-9,623.50
Others		-46,467.71
Total		-146,510.49

Source: SMART model simulations

5.3.3 Welfare Effects for Scenario 2

The estimates in table 24 show a positive total welfare effect valued at US\$ 18.7 million with the highest gains in agro-processing. This is due to cheaper ECOWAS imports. The gain in welfare in agro-processing is significant as it represents 54.5% of the total welfare gains recorded. The lowest gainers are primary agricultural products. The estimated welfare effects were highest for cigarettes containing tobacco amounting to US\$ 6.9 million. This means that the ECOWAS FTA is both trade creating since an increase in the welfare of Nigeria under individual product lines is observed.

Table 24: Welfare Effects of Tariff Removal on ECOWAS Imports in Scenario 2

Product Group	Welfare Effect (US \$ '000)
Primary Agriculture	1,641.48
Agro-processing	10,210.33
Non-agricultural and non-agro processing	6,886.58
Total	18,738.39

Source: SMART model simulations

5.4 Results Analysis of Tariff Removal on ECOWAS and the EU

5.4.1 Trade Effects for Scenario 3

The focus in this section is to identify the trade effects of the ECOWAS-EU EPA on Nigeria. The SMART model allows the country-by-country effect in terms of trade to be differentiated. In this section, the full tariff cut was extended to the 28 members of the European Union. The trade effects for ECOWAS countries are therefore already reported in scenario 2 and not repeated here. It is necessary to know the countries within the EU that would benefit most from EPAs. The simulation results presented in table 25 shows that the total trade creation effect for the EU partners is US\$ 8.4 billion and total trade diversion effect is US\$ 1.4 billion making a total trade effect of \$ 9.8 billion. The Netherlands is far ahead of the other European countries, with a gain of US\$ 2.3 billion. The Netherlands, closely followed by Belgium with a gain of US\$ 2.3 billion for the former and US\$ 1.9 billion for the latter are the top gainers of the tariff elimination accounting for most of the trade creation. Trade creation effects surpass the trade diversion effects, this means an EPA between Nigeria and the EU member countries would cause a net increase in imports. It is possible for these increased imports from the EU to affect producers of similar products in Nigeria adversely. Domestic producers may find it necessary to protect their production system in the face of severe competition.

Table 25: Trade Effects of Tariff Removal on Imports from the EU in Scenario 3

Partners	Base Trade Values (US\$ '000)	Trade Creation (US\$ '000)	Trade Diversion (US\$ '000)	Total Trade Effect (US\$ '000)	Applied Duty before Zero Rating
Netherlands	2,417,672	2,323 945.78	231,198.50	2,555,144.28	11.05
Belgium	2,169,715	1,977,833.40	228,125.87	2,205,959.26	10.91
Spain	951,621	873,969.20	109,580.49	983,549.69	11.74
UK	2,338,172	670,839.03	205,144.64	875,983.67	11.49
France	1,244,346	700,445.65	128,072.05	828,517.70	11.68
Latvia	406,505	600,465.33	51,337.54	651,802.87	11.17
Germany	1,544,398	281,471.46	178,452.98	459,924.44	11.72
Italy	768,832	148,861.15	85,842.18	234,703.33	11.74
Lithuania	136,951	162,535.79	14,933.07	177,468.85	10.00
Ireland	414,380	127,359.55	35,814.16	163,173.72	12.72
Estonia	121,694	117,970.58	10,377.38	128,347.96	7.63
Bulgaria	68,609	96,595.87	8,632.37	105,228.23	12.79
Sweden	261,379	65,805.68	23,295.68	89,101.36	10.89
Malta	53,014	77,399.51	7,202.89	84,602.40	14.40
Romania	107,167	73,506.26	10,704.51	84,210.77	9.86
Poland	93,027	24,946.18	7,533.00	32,479.17	11.73
Portugal	64,052	23,119.38	8,750.57	31,869.95	13.46
Denmark	125,397	20,436.91	9,137.17	29,573.08	10.89
Greece	97,670	7,406.75	6,824.02	14,230.77	11.53
Cyprus	86,900	6,248.24	7,786.95	14,035.19	12.85
Austria	59,488	7,277.44	6,023.95	13,301.39	9.78
Luxembourg	173,642	4,427.10	5,661.50	10,088.60	9.80
Hungary	25,255	6,715.47	2,963.93	9,679.40	11.79
Finland	105,453	5,683.89	2,891.59	8,575.47	8.21
Czech	16,866	1,738.97	1,845.62	3,584.59	11.68
Slovenia	9,005	1,156.59	1,813.37	2,969.96	14.19
Slovakia	6,053	693.57	1,149.20	1,842.78	13.26
Croatia	8,527	563.53	599.85	1,163.38	10.48
Total	13,875,790	8,409,418.26	1,391,694.02	9,801,112.29	

Source: SMART model simulations

Trade diversion occurs when less efficient producers replace efficient non-members of an FTA. In the case of an EPA between ECOWAS and the EU, there is a diversion of trade when less efficient European producers replace suppliers from the rest of the world that are more efficient. The analysis in this study presents a country-by country and product-by-product effect of trade diversion. Table 26 gives the list of top 10 countries whose market share in Nigeria reduced due to the preferential tariff provided by Nigeria to ECOWAS and the EU. The trade agreement

leads to more imports for Nigeria from ECOWAS and the EU and less imports from the rest of the world. The trade diversion from the countries below is equal to the combined gain by ECOWAS countries (table 18) and the EU countries (table 25). China and United States account for most of the trade diversion.

Table 26: Top 10 Countries that Lost Market Share in Nigeria from Scenario 3

Countries	Trade Diversion Effect (US \$ '000)
Unspecified	-350,043.17
China	-281,185.69
United States	-251,109.14
Norway	-71,244.08
India	-67,896.02
South Africa	-41,681.66
Korea, Republic	-38,668.84
Singapore	-35,115.81
United Arab Emirates	-31,895.78
Japan	-25,418.45
Lao PDR	-24,914.06
Others	-242,141.29
Total	-1,461,314.01

Source: SMART model simulations

The tariff removal under an EPA is sequential and this points out that the trade effects do not just happen instantly. The schedule of tariff elimination determines these effects, which spreads the estimated impact over time. Table 27 gives the amount of trade created and diverted along different product groups if there is an immediate and full liberalization.

Table 27: Trade Effects in each Product Group under Scenario 3

Product Group	Trade Creation (US \$ '000)	Percentage (%)	Trade Diversion (US \$ '000)	Percentage (%)
Primary agriculture	92,309.22	1.07	45,978.95	3.15
Agro-processing	633,374.12	7.35	217,897.03	14.91
Non-agriculture and non-agro	7,888,889.27	91.58	1,197,438.03	81.94
Total	8,614,572.60	100	1,461,314.01	100

Source: SMART model simulations

The simulation results in table 28 reveal that with trade creation for rubber and articles thereof (HS chapter 40)⁶ has the highest value at US\$ 346.4 million (54.7%). Other commodities with a high trade creation are tobacco and manufactured tobacco substitutes (HS chapter 24) at 10.8%, then miscellaneous edible preparations (HS chapter 21) at 6.6%. Preparations of cereals, flour, starch or milk (HS chapter 19) are also among the top four with 5.4% of trade creation. The ratio of the imports of these products is low when compared to total imports. In addition to that, the initial applied duty rate on the average is high resulting in an increase in trade creation. Agro-processing products like silk (HS chapter 50), cotton (HS chapter 52), other vegetable textile fibres (HS chapter 53) and vegetable plaiting materials (HS chapter 14) all have low trade creation values. The mentioned products have low amount of total imports and initial average applied duty rates as well.

Tariff elimination between Nigeria, ECOWAS and the EU has a notable increasing impact on the imports that replace the imports from other trading partners. A total trade value of US\$ 217.8 million is diverted from the rest of the world to ECOWAS and the EU. Trade is mostly diverted in the following; rubber and articles thereof (HS chapter 40), miscellaneous edible preparations (HS chapter 21), preparations of cereals, flour, starch or milk and animal or vegetable fats and oil and their cleavage products (HS chapter 19). Silk (HS chapter 50), cotton (HS chapter 52), other vegetable textile fibres (HS chapter 53) and vegetable plaiting materials (HS chapter 14) have the least trade diversion.

The emphasis here is on agro-processing products with major total trade effects although the non-agricultural and non-agro processing products had the highest trade effects. The major product among rubber and articles thereof is technically specified natural rubber with a total trade value of US\$ 377.2 million out of US\$ 405.9 million facilitating the highest level of trade. Fish sauce with total trade value of US\$ 62.4 million stood out as the leading product among miscellaneous edible preparations. Out of the preparations of cereals, flour, starch or milk; pastry cooks' product, milk preparations containing vegetable fats/oils made it to the top three at US\$ 30.1 million. This study facilitated the identification of agro-processing products whose imports will increase the most. Consumers in Nigeria may find this increase in competition and fall in prices (because of increased imports) beneficial but Nigeria needs to plan for domestic producers so that they can be well prepared for such competition through improved production capacity.

⁶ See appendix 2 for full list of chapter numbers.

Table 28: Trade Creation and Trade Diversion in Agro-processing from Scenario 3

HS Chapters	Base Trade Values (US\$ '000)	Trade Creation (US\$ '000)	Trade Diversion (US\$ '000)	Total Trade Effect (US\$ '000)	Average Applied Duty before Zero Rating
40	953,558.40	346,486.65	59,457.15	405,943.79	11.96
24	38,208.27	68,893.57	5,630.73	74,524.30	23.75
21	197,503.58	42,279.63	29,949.79	72,229.42	14.22
19	261,062.08	34,280.85	28,300.27	62,581.12	18.06
15	106,259.50	20,191.22	19,988.27	40,179.49	23.13
22	78,714.28	24,812.67	13,461.10	38,273.76	19.77
04	258,451.76	14,608.74	16,786.72	31,395.46	15.33
48	204,896.04	17,804.13	11,459.88	29,264.01	10.80
44	27,951.59	15,011.54	4,201.67	19,213.20	16.93
20	53,764.88	6,824.16	9,962.60	16,786.76	20.23
11	78,613.71	14,047.09	1,246.52	15,293.60	15.50
23	43,902.56	7,590.62	3,956.87	11,547.49	10
17	46,067.63	4,989.28	5,749.54	10,738.82	15.42
18	32,342.05	4,389.06	2,495.45	6,884.51	13.89
41	18,861.49	3,078.58	1,072.17	4,150.76	10
03	8,585.17	1,898.83	1,586.09	3,484.92	17.50
09	12,926.69	2,037.15	887.99	2,925.14	16.25
07	2,688.66	1,450.49	458.43	1,908.92	20
16	1,104.04	1,303.91	148.63	1,452.54	20
35	8,153.55	777.98	541.98	1,319.96	8.57
13	10,593.78	567.99	510.07	1,078.06	5
47	997.43	24.42	30.37	54.80	5
08	30.26	12.24	4.06	16.31	20
05	94.26	3.58	6.12	9.70	5
12	140.29	5.24	2.97	8.21	6.67
14	107.52	2.96	0.92	3.88	5
53	20.13	1.13	0.00	1.13	5
52	9.35	0.11	0.66	0.77	5
50	10.08	0.32	0.00	0.32	5
Total	2,445,619.01	633,374.12	217,897.03	851,271.15	

Source: SMART model simulations

5.4.2 Revenue Effects for Scenario 3

One of the pitfalls of the ECOWAS-EU EPA for Nigeria is the possible fall in tariff revenues. As expected, tariff elimination on ECOWAS and the EU imports affects the revenue in Nigeria. This scenario indicates that an EPA between Nigeria and ECOWAS could lead to a loss in tariff revenue. This study reveals a decrease of US\$ 1.67 billion emanating from the full liberalization. Non-agriculture and non-agro-processing products reveal the largest loss in

revenue followed by agro-processing products and primary agriculture under this scenario (table 29). The EU is an important trading partner for Nigeria especially in non-agriculture and non-agro processing products. Therefore, a fall in tariff revenue indicates an actual tariff revenue loss for the Nigerian government.

Table 29: Revenue Effects of Tariff Removal on Nigeria’s Imports in Scenario 3

Product Group	Loss in Tariff Revenue (US \$ ‘000)			Total
	ECOWAS	EU	ROW	
Primary Agriculture	-44,041.51	-4,168.28	-37,074.95	-85,284.74
Agro-processing	-38,384.17	-31,098.55	-204,738.23	-274,220.95
Non-agriculture and Non-agro processing	-51,094.05	-162,356.61	1,104,098.17	-1,317,548.83
Total	-133,519.73	-197,623.44	-1,345,911.35	-1,677,054.52

Source: SMART model simulations

The SMART model makes it possible to identify the products with the greatest loss in revenue. The extent of revenue shortfall varies across products as shown in table 27. The revenue loss presented by the simulation in this study refers to import tariff revenues. The revenue effects are negative in line with the decrease in import tariff. Light petroleum oils and preparations (product code 271011) is most affected contributing 29.43% of the loss in revenue. It happens to cause the biggest tariff revenue loss since it accounts for the largest increase in imports. The next top four products that account for a fall in tariff revenues are also reported in table 30. Among these is a notable agro-processing product (technically specified natural rubber) accounting for a mere 2.9% of the entire tariff revenue loss.

Table 30: Products with the Largest Revenue Effects in Scenario 3

HS Code	Product Description	Revenue Effect (US \$ ‘000)
271011	Light petroleum oils and preparations	-486,954.36
870323	Automobiles with reciprocating piston engine displacing > 1500 cc to 3000 cc	-51,365.06
400122	Technically specified natural rubber	-42,702.08
940600	Prefabricated buildings	-40,922.99
271019	Kerosene type jet fuel	-39,629.04
Others		-1,015,480.99
Total		-1,677,054.52

Source: SMART model simulations

5.4.3 Welfare Effects for Scenario 3

The increase in imports after ECOWAS-EU EPA agreement is a positive impact from the perspective of the consumers in Nigeria. All three-tier product classifications have welfare gains. Non-agricultural and non-agro processing recorded the highest (US\$ 416.1 million) welfare gain for Nigeria since they have some of the highest import values, high initial applied duty or both while the least was from primary agriculture (US\$ 4.6 million). The results of the simulation show that the total welfare effect would increase by some US\$ 460.0 million as presented in table 31. This is more than two times lower than the loss in tariff revenue. Light petroleum oils and preparations accounts for 75% of total welfare.

Table 31: Welfare Effects of Tariff Removal on Imports from ECOWAS and the EU in Scenario 3

Product Group Name	Welfare Effect (US \$ '000)
Primary Agriculture	4,637.72
Agro-processing	39,280.69
Non-agricultural and non-agro processing	416,082.16
Total	460,000.57

Source: SMART model simulations

5.5 Results Analysis of the Common External Tariff on the Rest of the World

5.5.1 Trade Effects for Scenario 4

This section of the study combines two out of the three scenarios considered earlier. In scenario 2, the impact of a full ECOWAS FTA on Nigeria, wherein all internal tariffs existing among members were totally removed was simulated. In scenario 3, the impact of the ECOWAS customs union on Nigeria, removing all internal tariffs together with a zero tariff for all products from the EU under an EPA agreement was simulated. The starting point for the fourth and final scenario here is scenario 3 to which the CET was then simulated on the rest of the world. The internal ECOWAS tariffs under this are all zero while external tariffs (excluding the EU that is zero-rated) are according to the CET rates.

The trade effects under the FTA simulations were positive for Nigeria and this strengthens the positive trade effect for Nigeria under the CET simulation. Scenario 4 considers the CET in an operational FTA using the simulation results from the SMART model. Table 32 shows in detail how that affects the Nigerian economy. The coming together of ECOWAS to form a customs

union creates a total trade of US\$ 14.0 billion for Nigeria from countries outside of ECOWAS and the EU regions. The increase in imports is mainly made up of non-agro processing (US\$ 13.2 billion), followed by agro processing (US\$ 728.6 million) and primary agriculture (US\$ 92.6 million). The small trade creation effect in primary agriculture can be traced to less economies of scale. The net effect of trade diversion in all of the product groups is zero from Nigeria's perspective, but it is estimated that about US\$ 2.4 billion worth of trade previously supplied by the rest of the world (ROW) will be supplied by ECOWAS and the EU partners as a result of the new duties.

Table 32: Trade Effects for Nigeria in Scenario 4

Product Group	Trade Value Before CET (US \$ '000)	Trade Creation After CET (US \$ '000)	Trade Diversion After CET (US \$ '000)	Total Trade After CET (US \$ '000)
Primary Agriculture	2,809,503.03	92,603.59	0	92,603.59
Agro-processing	6,487,619.92	728,661.08	0	728,661.08
Non-primary agriculture and non-agro processing	33,966,225.09	13,269,586.87	0	13,269,586.87
Total	43,263,348.04	14,090,851.54	0	14,090,851.54

Source: SMART model simulations and own calculations

The trade effect increased across agro-processing product lines. The results of trade creation across the respective product lines are positive. Trade in technically specified natural rubber in particular increased the most (US\$ 334.7 million). The results of the simulation are summarized in table 33. Trade creation implies that producers in any of the preference receiving countries that are more efficient displace the less efficient producers in Nigeria and consumers benefit from lower prices. The expansion of trade in technically specified natural rubber within Nigeria should come at the detriment of the domestic sector. Trade creation threatens Nigerian producers of import-competing products consisting of tobacco containing cigarettes and fish sauce etc. This stems from import increase leading to more competition. The increase of imports means less expensive imports for Nigerian consumers. Some producers in Nigeria will face adverse effects as products efficiently produced in other countries replace their products. The implementation of the CET will cause imports from the rest of the world to be cheaper, resulting in a sudden increase in demand for such imports. This call for sustenance measures for the economy in the face of such pressures to remain efficient through improved technology

and management techniques. This means that agro-processing industries need to improve productivity and competitiveness in view of the CET.

Table 33: Major Trade Creating Agro-processing products in Scenario 4

HS Code	Product Description	Trade Creation (US\$ '000)
400122	Technically specified natural rubber	334,755.53
240220	Cigarettes containing tobacco	56,485.67
210390	Fish sauce	38,219.23
401120	New pneumatic tyres, of rubber, of a kind used for buses and lorries	19,338.98
151110	Crude palm oil	18,149.34
Others		261,712.34
Total		728,661.08

Source: SMART model simulations and own calculations

5.5.2 Revenue Effects for Scenario 4

Table 34 presents the negative effect of the CET on tariff revenue. All three groups of product experience revenue losses. The implementation of the customs union would cause total tariff revenue to decrease by US\$ 2.7 billion.

Table 34: Revenue Effects for Scenario 4

Product Group	Loss in Tariff Revenue (US \$ '000)
Primary Agriculture	-85,347.10
Agro-processing	-356,421.53
Non-agriculture and Non-agro processing	-2,271,174.37
Total	-2,712,943.00

Source: SMART model simulations and own calculations

Nigeria is expected to gain revenue from one of the agro-processing products (sawn or chipped wood) with about US\$ 73,000. A possible explanation for this is the import rise after the import duty was reduced according to the CET (10%) from the previously applied MFN tariff (20%). This reflects previously applied MFN tariff (20%) and a newly introduced CET rate (10%) on the imports from the rest of the world.

Table 35: Agro-processing Products with the Largest Revenue Effects in Scenario 4

HS Code	Product Description	Revenue Loss (US\$ '000)	Percentage of Total Loss (%)
400122	Technically specified natural rubber	-42,702.08	11.98
151110	Crude palm oil	-34,948.36	9.81
401120	New pneumatic tyres of rubber, of a kind used for buses and lorries	-31,704.16	8.90
200290	Triple concentrate	-26,844.22	7.53
210390	Fish sauce	-26,663.84	7.48
Others		-193,522.87	54.30
Total		-356,421.53	100

Source: SMART model simulations and own calculations

Table 35 gives more detail on individual agro-processing products of tariff revenue effect. For Nigeria, it can be noted that the fall in tariff revenue would mainly be from the following agro-processing products: technically specified natural rubber, crude palm oil, new pneumatic tyres of rubber (of a kind used for buses and lorries), triple concentrate, fish sauce. For technically specified natural rubber that makes up a large part of Nigeria's agro-processing imports, there is a 11.98% decrease in revenue. Despite the great loss of tariff revenue from these products that causes resources to shift from the government to consumers in Nigeria, the government can regain it if revenue-generating media are established.

5.5.3 Welfare Effects for Scenario 4

The ECOWAS common external tariff is expected to improve welfare in Nigeria as its implementation leads to trade creation and no trade diversion for Nigeria. The results indicate that in terms of welfare effects, Nigeria gains US\$ 818.0 million. Non-agricultural and non-agro processing represents the largest benefit from the ECOWAS customs union at US\$ 740.1 million, mainly due to its present dominance of the country's imports. Essentially, the simulation results reveal that all the three product groups would enjoy welfare gains (Table 36) under the ECOWAS CET, which is consistent with the theory predictions.

Table 36: Welfare Effects for Scenario 4

Product Group	Welfare Effect (US \$ '000)
Primary Agriculture	4,649.40
Agro-processing	56,533.17
Non-agricultural and non-agro processing	756,865.27
Total	818,047.84

Source: SMART model simulations and own calculations

It is important to note that the ECOWAS customs union will raise welfare for the agro-processing sector. The welfare gain here is majorly from cigarettes containing tobacco and technically specified natural rubber.

Table 37: Welfare Effects for Agro-processing in Scenario 4

HS Code	Product Description	Welfare Effect (US \$ '000)
240220	Cigarettes containing tobacco	10,858.05
400122	Technically specified natural rubber	8,368.89
Others		37,306.24
Total		56,533.17

Source: SMART model simulations and own calculations

5.6 Sensitivity Analysis for Scenario 2

The SMART model reports an export supply elasticity of 99 but this value is not used in the calculation because the SMART model reverts to the equations for infinite elastic supply. The results of the SMART model are very sensitive to the choice of the different elasticity values. Therefore, sensitivity analysis was done to determine the impact of full tariff liberalization on ECOWAS imports (scenario 2) when the export supply elasticity is varied. The finite elasticity value implies a relatively inelastic export supply. The assumption of infinite export supply elasticity means that the reduction of tariff by Nigeria will not influence the prices in the partner country. The price effects therefore go to zero. Finite export supply elasticity however implies that the change in tariff will cause price and quantity effects.

Table 38: Sensitivity Result of Export Supply Elasticity for Scenario 2

Tariff Rate Reduction	100%	100%	100%
Trade creation	66,175.25	132,646.79	205,154.34
Trade diversion	35,727.36	58,221.23	69,618.67
Price effect	67,935.07	19,086.80	0
Total trade	169,837.69	209,954.82	274,773.01
Revenue effect	-147,273.98	-147,135.82	-146,510.49
Welfare effect	12,877.654	14,517.961	18,738.39
Export Supply Elasticity	1.5	10	99

Source: SMART model simulations

Table 38 shows that as the export supply elasticity increases the trade creation and trade diversion increases. The price effect decreases but there is still an increase in total trade. The tariff revenue also decreases while welfare effect increases. Trade creation is more responsive and total trade effect follows the same pattern while tariff revenue loss is less responsive. The results of this sensitivity analysis reveal the effect on ECOWAS imports and that results are sensitive.

5.7 Comparison of Results with the Literature

The significant trade creation for Nigeria observed in this study justifies similar findings of Schiff & Winters (2003). They concluded that regional integration among developing countries characterized by tariff liberalization and MFN tariff rate reduction has created trade leading to welfare gains for the members of the customs union. Similarly, Onogwu and Arene (2013) found that the signing of EPAs would lead to trade creation effects.

The increase in imports according to most studies may have an adverse effect on the domestic producers (Veeramani & Gordhan, 2010; Mugano, 2014). The case is applicable in this study. The results indicate that tariff reduction may have a negative impact on the domestic agro-processing sector especially technically specified natural rubber in Nigeria.

The estimated loss of tariff revenue from the results of this study corresponds to the findings of Thomy, Tularam and Siriwardana (2013) on their analysis of the impact of a SACU-EPA on Botswana's import of food, beverages and tobacco. They used the Vinerian partial equilibrium method to quantify the effects of full trade liberalization on the EU imports. Their findings indicate that there is a net welfare benefit despite some tariff revenue losses. Similarly, there are losses in tariff revenue in Nigeria but the welfare gains are large enough to outweigh

them. Nwali and Arene (2015) supported this in their analysis of the effects of EPA on agricultural trade between Nigeria and the EU.

The loss of tariff revenue similar to the one in this study is supported in Adeola and Olumuyiwa (2005) and Ousmane (2015). He explained that a notable challenge as regards the signature of the EPA by Niger is a fall in tariff revenues because the EU is a major trading partner of Niger. The case is applicable to Nigeria, because as mentioned previously (in section 3.6.1) the majority of Nigeria's imports is from the EU.

5.8 Chapter Summary

This chapter analyzed the effects of removing tariffs completely on imports initially from ECOWAS only (scenario 2) and then from the EU in addition (scenario 3). The study also considered the impact of a common external tariff on ECOWAS imports in scenario 1 and the rest of the world while maintaining zero tariff on ECOWAS and the EU in scenario 4. The impact of tariff removal or reduction was simulated using the SMART model. The elimination of the tariff rates in scenarios 2 and 3 has an impact on trade, revenue and welfare. The implementation of the CET has a positive trade creation and zero trade diversion for Nigeria.

The results of tariff liberalization in scenarios two and three indicate that there is a positive trade creation effect with small diversion effects from ECOWAS and the EU. Cote d'Ivoire has the largest trade effect in ECOWAS while Netherlands has the largest trade effect amongst the members of the EU. Two important agro-processing products with high trade creation effects are cigarettes containing tobacco and technically specified rubber. This is explained by high initial MFN tariffs as compared to new rates that are lower and high initial trade that cuts across all scenarios.

There was increased trade for all product groups except primary agriculture in scenario 1. Only the import of agro-processing, non-primary agriculture and non-agro processing products increases in scenario 1 because primary agriculture is already at CET level. Consumption of light oils and preparations, cigarettes containing tobacco increased because of reduced tariffs.

The simulation results of the intra-ECOWAS trade tariff liberalization by Nigeria in scenario 2 show positive trade effects of US\$ 274.7 million, with trade creation of US\$ 205.1 million and diversion of US\$ 69.6 million. However, the simulation of a complete tariff liberalization of the both ECOWAS and the EU suggests a total trade effect of US\$ 10.0 billion, with US\$ 8.6 billion trade creation and US\$ 1.4 billion trade diversion.

The reduction leads to a loss in tariff revenue with agro-processing being the most affected in scenarios 1 and 2. The pattern of revenue effect under scenario 2 is not entirely different from scenario 3 since both clearly highlight overall losses for Nigeria. Agro-processing as a share of revenue in scenario 3 was about 16.35%. The same goes for welfare effects although positive in both scenarios. This mainly shows that Nigeria is better off in a fully liberalized customs union.

Sensitivity analysis was done to test how sensitive trade, revenue and welfare results are to the export supply elasticity values. The results in this study are sensitive to elasticities, but the assumption of export supply elasticity of 10 is deemed realistic because it gives stable results.

Most of the literature on the role of regional integration suggests small or large effect on trade, revenue and welfare. While some reflect losses, others find out that it is not sufficient to influence the overall gains.

Chapter 6: Summary, Conclusions and Recommendations

Regional economic integration has been an important issue for most developing countries. The creation of trade blocs has the potential of creating benefits for the participating members. The Economic Community of West African States (ECOWAS) became a treaty with revisions in 1993. Included in this treaty was a customs union with a Common External Tariff (CET). The final structure of the CET commenced formally on June 25, 2015.

As observed from the history of trade, Nigeria used to be a net exporter of agricultural products until focus shifted to oil. The developmental goal of a country like Nigeria finds its strength in agro-processing. The focus is on the effect of regional trade agreements on agro-processing in Nigeria. In order to answer the question raised, this study used the Single Market Partial Equilibrium Modelling Tool (SMART) to determine the impact of regional trade agreements on trade, revenue and welfare. The SMART model is a partial equilibrium model contained in the World Integrated Trade Solution (WITS) software that allows for a highly disaggregated data at a six-digit level.

The study considered four scenarios relating to ECOWAS customs union. The first scenario examined the effect of the CET by lowering tariffs to ECOWAS. The second scenario assessed the impact of a complete removal of tariff on trade within ECOWAS. In addition to the second scenario, the third one included a full tariff removal on trade with the European Union (EU). The fourth scenario dealt with the impact of the CET in a functional ECOWAS Free Trade Area (FTA).

Generally, the findings of this study reveal that ECOWAS customs union does not make Nigeria worse off under an operational FTA. However, the CET has negative effects on the tariff revenue. The tariff revenue decreased significantly for the agro-processing sector but at different levels, Nigeria still benefits from welfare increases. Regional integration leads to an increase in total welfare under the ECOWAS CU. If managed correctly, this has the potential to enhance the competitiveness of Nigerian agro-processing industries and strengthens value chains. The actualization of these benefits will only be fully enjoyed if negative effects such as losses in tariffs are addressed. These findings suggest that the government of Nigeria may ensure sustainability of domestic industries by introducing alternative revenue-generating measures for technically specified natural rubber being top loser among agro-processing products.

The aim of ECOWAS customs union is to enhance intra-regional trade. The result shows a positive effect indicating the significance of trade agreements in facilitating trade between partners. The Nigerian economy proves to be a strong one with total positive effects from trade agreements displayed in the CET. The CET for non-ECOWAS and non-EU countries led to a notable increase in the value of agro-processing imports. This may possibly lead to the displacement of domestic industries by regional industries. Nigeria should be prepared to help those industries that may face displacement. The cigarettes containing tobacco and technically specified natural rubber are some of the agro-processing products on top of the list. The result of the simulation does not have an adverse impact on the ECOWAS customs union from the Nigerian perspective. The results show that the ECOWAS customs union is trade creating effect for Nigeria. In view of this finding, policy makers can be assured of the benefits of tariff liberalization.

One of the objectives of the study is to assess the likely consequence of the ECOWAS-EU Economic Partnership Agreement (EPA) on trade in general and agro-processed goods in particular for Nigeria. Imports from ECOWAS together with the EU were estimated to increase by US\$ 10.0 billion, a sum of trade creation and trade diversion. Considering trade creation, it shows a total value of US\$ 8.6 billion. The Netherlands is the biggest beneficiary, with US\$ 2.3 billion followed by Belgium with US\$ 1.9 billion. This study concludes that trade creation effects are in favour of Nigeria with the signature of an EPA with the EU.

Concerning the impact on tariff revenue, there is an estimated loss of US\$ 1.6 billion. The negative effect on revenue is due to the tariff-free imports of all products from ECOWAS and the EU. Nigeria must put the loss in revenue into consideration and create alternative options to make up for the shortfall. As EU products become less expensive because of zero tariffs, Nigerian customers will have access to these products from the EU. Consumers of all products gain although the government and producers view this negatively. Nigeria can therefore sign the EPAs and still gain. From all indications, the study concludes that the implementation of an ECOWAS-EU EPA will be profitable for Nigeria.

In conclusion, this study has shown that regional trade agreement with ECOWAS and the EU has the potential of increasing imports of agro-processed goods in Nigeria. This detectable growth is largely driven by trade creation with leading partners such as Cote d'Ivoire among ECOWAS countries and the Netherlands, among the EU partners. The gross implication of this trend is the influx of imports which, on the one hand will be cheaper for domestic consumers in Nigeria. On the other hand, however, it places significant pressure on domestic actors in the

agro-processing sector to compete with cheaper products. Bearing in mind the expensive nature of local production in Nigeria, producers within the domestic agro-processing market are likely to experience diminished profit margins. While it would appear desirable for the country to benefit from the overall welfare gain from cheaper imports and heightened market competition, the findings of this study also indicate that there is actual loss of tariff revenue for the government. These observations require concerted effort on the part of government to ensure appropriate technological advancement and sustainable policy framework targeted at improving agricultural production generally and agro-processing specifically. This is expected to optimize the country's benefit with regard to its strategic position in the ECOWAS Customs union.

The following recommendations are made for the study.

Regional integration creates trade, which improves welfare so adequate measures are required to ensure that there is an even distribution amongst citizen. Sustainable policies on economic diversification will ensure that the potential of trade liberalization is fully maximized. Policy makers need to come up with measures that will address major drawbacks that could cause loss in revenue for the economy.

Appropriate measures should be put in place to ensure that the agro-processing industry is not threatened by the influx of imports. Government can make incentives available to help producers who are less productive to become more competitive, as a way of ensuring developmental growth. Awareness programmes can be organized to educate the public on the need to support the industrial base of the economy with particular attention to agro-processing.

To develop agro-processing, Nigeria can draw practical lessons from the experience of China and Brazil in improving their agricultural production. Technological advancement and enhanced policy are two crucial measures that contributed to their fast growth. A proper infrastructural environment is necessary to facilitate a technological change in the Nigerian agricultural production. The institutional system of Nigeria demands serious attention for a sustainable development. In addition, old technology facilities should be replaced. Nigeria is similar to Brazil in terms of population, land size, labour and natural resources who emerged a leading economy within and outside of the sub-region by taking full advantage of all these endowments. Likewise, Nigeria can take a cue from that and seize the opportunity as a potential topmost beneficiary in the ECOWAS customs union.

The trade diversion formula needs to be validated as the formula reported by WITS does not return the results derived with the SMART model. To allow for replication of model results, an updated SMART model report should be made available by WITS to show the trade diversion formula actually used in the SMART model.

Future research can extend the scope of this study by considering the dynamic effects of tariff liberalization on production and exports. In addition, other analytical methods such as: gravity model or general equilibrium model can be used. It will allow for a comparative analysis of the impact of trade agreements on welfare.

References

- Abbey, J. (2011). *Regional integration in West Africa*. Accra in Modern Ghana News, May 7.
- Adenikinju, A. (2005). *SAP and the production efficiency in the manufacturing Sector*. CBN Publication.
- Adeola, & Olumuyiwa, (2005). *EU-ACP Economic Partnership Agreements: Implication for trade and development in West Africa*. Paper presented at the Silver Jubilee Meeting of WIDER-UNU, Helsinki, Finland.
- Adeoti, J.O., & Olubamiwa, O. (2009). Towards an innovation System in the traditional sector: The case of the Nigerian cocoa industry. *Science and Public Policy*, 36(1), 15-31. doi: 10.3152/030234209X403244.
- Adeoti, J.O. (2002). *Technology and the environment in Sub-Saharan Africa: Emerging trends in the Nigerian manufacturing industry*. Ash gate Publishing Limited.
- Adesina, A. (2012). *Agricultural transformation agenda: Repositioning agriculture to drive Nigeria's economy*. Abuja, November 2012. [Online]. Retrieved: http://www.emrc.be/documents/document/20121205120841-agri2012-special_session-tony_bello-min_agric_nigeria.pdf.
- Adesina, A. (2013). *How to start cassava chips export business?* [Online]. Retrieved: <http://agrobusinessng.com/cassava-chips-export-business/>.
- Adeyemi, K.S., & Abiodun, A.J. (2013). Development of the non-oil sector in Nigeria: Challenges and lessons for less developed countries. *Covenant Journal of Business and Social Sciences*, 5(1), 1-22.
- AfDB. (2000). *Regional integration in Africa. African Development Report 2000*. Oxford: Oxford University Press.
- AfDB. (2005). *Trade policy and performance in Sub-Saharan Africa since the 1980s*, Working Paper 78 Series 2212.
- AfDB. (2011). *Regional integration strategy paper for West Africa 2011 – 2015* [Online]. Retrieved: www.afdb.org/fileadmin/uploads/afdb/Documents/Policy-Documents/RISP%20for%20West%20Africa%20-%20REV%202.pdf.
- AfDB. (2014). *Combined mid-term review and regional portfolio performance review of the regional integration strategy paper for West Africa 2011 – 2015* [Online]. Retrieved: https://www.afdb.org/fileadmin/uploads/afdb/Documents/Boards-Documents/Combined_mid-

term_review_and_regional_portfolio_performance_review_of_the_regional_integration_strategy_paper_for_West_Africa_2011_%E2%80%93_2015__-_02_2015.pdf.

AfDB. (2015). *Nigeria, largest market in West Africa* [Online]. Retrieved:

<http://www.leadership.ng/business/412246/nigeria-largest-market-in-west-africa-afdb-report>.

African Economic Outlook. (2013). *Nigeria 2012. Issy les Moulineaux*, France: African Development Bank Group.

Agbaeze, E.K., Udeh, S.N., & Onwuka, I.O. (2015). Resolving Nigeria's dependency on oil – the derivation model. *Journal of African Studies and Development*, 7(1), 1-14. doi:<http://dx.doi.org/10.5897/JASD2014.0303>.

Aitken, N.D. (1973). The effects of the EEC and EFTA on European trade: A temporal cross-section analysis. *The American Economic Review*, 63(5), 81-82. Retrieved from <http://www.jstor.org/stable/1813911>.

Ajayi, K., & Osafo-Kwaako, P. (2007). *Research and trade policy formulation: The case of Nigeria's adoption of the ECOWAS common external tariff*. Working Paper, No 78.

Analogbei, F.C.O. (2000). Trade reforms and productivity in Nigeria. In proceeding of the Ninth Conference of the Zonal Research Unit of the CBN titled *Productivity and capacity building in Nigeria* (p.159). Lagos Press.

Anderson, J. (1979). A theoretical foundation of the gravity model. *The American Economic Review*, 69(1), 106-116. Retrieved from <http://www.jstor.org/stable/1802501>.

Anonymous, (2009). *Trade capacity building for West Africa project – update of ecotrader activities*. [Online]. Retrieved: http://www.hubrural.org/IMG/pdf/cedao_ecotrader_progress_update_on_the_ecowas_cet.pdf.

Arene, C.J. (2008). *Agricultural economics: A functional approach*. Abuja: Price Publishers.

Aryeetey, E. (2001). *Regional integration in West Africa*. OECD Development Centre Working Papers, No. 170, OECD Publishing, Paris. doi: <http://dx.doi.org/10.1787/751603543122>.

Asante, S.K.B. (1999). *ECOWAS economic integration: Challenges and prospects*. A Paper presented at a workshop organized jointly by the Legon Centre for International Affairs and Diplomacy, The United Nations Development Programme (UNDP) and The National Institutional Renewal Programme (NIRP) on Regionalism and Integration in West Africa: The Way Forward. Golden Tulip, Accra. December 20-21, 1999.

- Asante, S.K.B. (2000). Towards an African Economic Community. Paper presented at the Africa Institute of South Africa (AISA) 40th Anniversary Conference on the theme, United States of Africa? CSIR Conference Centre, Pretoria, South Africa. May 30 – June 2.
- Asante, S.K.B. (2002). ECOWAS: coping with regional integration in the twenty-first century. *Background paper for the UNDP Regional Human Development Report for West and Central Africa*. June 6.
- Azam, J.P. (1999). Dollars for sale: Exchange rate policy and inflation in Africa, *World Development*, 27(10), 1843-1859. Retrieved from [http://dx.doi.org/10.1016/S0305-750X\(99\)00088-1](http://dx.doi.org/10.1016/S0305-750X(99)00088-1).
- Babarinde, O. (2015). *Implications of the proposed EU-US transatlantic trade and investment partnership for EU-Sub-Sahara Africa relations*. Unpublished Conference Proceedings.
- Baldwin, R.E., & Murray, T. (1977). MFN tariff reductions and developing country trade benefits under the GSP. *Economic Journal*, 87(345), 30-46. doi:10.2307/2231831.
- Bankole, A.S., & Bankole, M.A. (2004). Industrial trade and export promotion policies and revealed comparative advantage in Nigeria's manufactured exports. In A. Garba (Ed.), *Leading Issues in Macroeconomic Management and Development*. Ibadan: NES.
- Banks, A., & Muller, T. (1998). *Political handbook of the world: Governments and intergovernmental organisations*. NY: CSA Publications.
- Banque Nationale de Paris, (2012). *Nigeria: A dynamic and diversifying economy*. Paris: BNP.
- Barrett, C., Barbier, E., & Reardon, T. (2001). Agro-industrialization, globalization and international development: The environmental implications. *Environment and Development Economics*, 6(4), 419–433. doi:10.1017/S1355770X01000249.
- Bergstrand, J.H. (1985). The gravity equation in international trade: Some microeconomic foundations and empirical evidence. *The Review of Economics and Statistics*, 67(3), 474-481. doi:10.2307/1925976.
- Biswaro, J.M. (2003). *Perspectives on Africa's integration and cooperation from OAU to AU: An old wine in a new bottle*. Washington: WIU.
- Borges, A.M. (1986). Applied general equilibrium models: An assessment of their usefulness for policy analysis. *OECD Economic Studies*, 7(1), 108-113.

- Brenton, P., Hoppe, M., & Newfarmer, R. (2008). *Economic partnership agreements and the export competitiveness of Africa*. Policy Research Working Paper No. 4627. Washington DC: The World Bank.
- Briggs, I.N. (2007). *Nigeria: mainstreaming trade policy into national development strategies*. African Trade Policy Centre Report No. 52.
- Broda, C., Greenfield, J., & Weinstein, D. (2006). *From groundnuts to globalization: A structural estimate of trade and growth* (No. w12512). National Bureau of Economic Research.
- Bun, M.J., & Klaassen, F.J. (2002). Has the euro increased trade? Tinbergen Institute Discussion Paper No. 02-108/2, University of Amsterdam.
- Busse, M. (2005). Trade effects of the East African Community. *The Estey Centre Journal of International Law and Trade Policy*, 6(1), 62. Retrieved from <http://ez.sun.ac.za/login?url=http://search.proquest.com/docview/217451586?accountid=14049>.
- Carbaugh, R.J. (2004). *International economics: 9th edition*. South-Western College Publishing.
- Carstens, A. (2006). *Regional integration in a globalizing world: priorities for the Caribbean*, Key Note Speech at the Biennial International Conference on Business, Banking and Finance, Port of Spain, Trinidad and Tobago.
- CBN. (1979). *Twenty years of central banking in Nigeria*. Published by CBN.
- CBN. (2015). *2015 Statistical bulletin: Domestic production, consumption and prices*. Published July 27, 2016.
- Cheru, F. (2002). *African renaissance: Roadmaps to the challenge of globalization*. London: Zed Books.
- Chete, L.N., Adeoti, J.O., Adeyinka, F.M., & Ogundele, O. (Ed.). (2014). *Industrial development and growth in Nigeria: Lessons and challenges*. Finland: UMI-WIDER.
- CIA. (2012). *World factbook: Nigeria*. [Online]. Retrieved from www.cia.gov/library/publications/the-world-factbook/geos/ni.html.
- CIA. (2015). *World factbook*. [Online]. Retrieved from <https://www.cia.gov/library/publications/the-world-factbook/rankorder/2119rank.html>.

- Clark, E. (1993). *Nigerian foreign policy and the European community*. Unpublished master's thesis, University of Krems.
- Clark, E. (1996). *Political economy of integration in Africa: Beyond the Lagos plan of action*. Unpublished doctoral thesis. University of Vienna.
- Clark, E.V. (2013). The Economic Community of West African States (ECOWAS): The challenges to the implementation of the protocol on the free movement of goods, persons and establishment. *Pakistan Journal of Social Sciences*, 10(1), 41-48.
- Coote, C., Gordon, A., & Marter, A. (2000). *International trade in agricultural commodities: liberalization and its implications for development and poverty reduction in the ACP states*. NRI Policy Series 5. Natural Resources Institute.
- Coste, A., & Von Uexkull, E. (2015). *Benefits of the ECOWAS CET and EPA will outweigh costs in Nigeria, but competitiveness is the real issue*. No. 21312. The World Bank.
- Crammer, C. (1999). Can Africa industrialize by processing primary commodities? The case of Mozambican cashew nuts. *World Development*, 27(7), 1247–1266.
doi:10.1016/S0305-750X(99)00053-4.
- Czapnik, B. (2014). Cote d'Ivoire's EPA: Between a rock and a hard place. *Bridges Africa* 3(5).
- Da Silva, C.A., Baker, D., Shepherd, A.W., Jenane, C., & Miranda-da-Cruz, S. (Ed.). (2009). *Agro-industries for development*. Rome: FAO, UNIDO.
- Dalimov, R.T. (2009). The dynamics of trade creation and trade diversion effects under international economic integration. *Current Research Journal of Economic Theory*, 1(1), 1-4.
- De Lombaerde, P., & Van Langenhove, L. (2005). Indicators of regional integration: Methodological issues. *Institute for International Integration Studies. Discussion paper*, (64).
- De Roquefeuil, Q. (2013). *Initial reflections on the ECOWAS Common External Tariff*. *GREAT Insights* 2(8). Maastricht: ECPDM.
- DeRosa, D.A., Obwona, M., & Roningen, V. (2002). *The New EAC customs union: Implications for Ugandan trade, industry competitiveness, and economic welfare: Final Report*. Economic Policy Research Centre.

- Deardorff, A.V., & Stern, R.M. (1986). *The Michigan model of world production and trade: Theory and applications*. Cambridge: MIT Press.
- Deardorff, A.V. (1998). Determinants of bilateral trade: Does gravity work in neoclassical world? In J.A Frankel (Eds.), *The regionalization of the world economy*. (pp. 7-31). London: The University of Chicago Press.
- DAFF. (2012). *Agro-processing strategy* [Online]. Retrieved: <http://www.nda.agric.za/daDev/sideMenu/AgroProcessingSupport/docs/DAFF%20agro-processing%20strategy.pdf>.
- Dervis, K., De Melo, J., & Robinson, S. (1982). *General equilibrium models for development policy*. Cambridge: Cambridge University Press.
- Deutsch, K.W., Burnett, S.A., Kann, R.A., Less, M., Lichterman, M., Lindgren, R.E. et al., (1957). *Political community and the North Atlantic area*. Princeton: Princeton University Press.
- ECOWAS. (2010). *ECOWAS vision 2010: Towards a democratic and prosperity community*. [Online]. Retrieved: <http://www.spu.ecowas.int/wp-content/uploads/2010/03/ECOWAS-VISION-2020-THEMATIC-TIC-PAMPHLETS-in-English.pdf>.
- ECOWAS Commission. (2010). *Regional agricultural policy*. Abuja: ECOWAS.
- ECOWAS. (2012). *Development partners review progress in regional integration*. Press Release on ECOWAS. June Abuja, Nigeria ECOWAS.
- ECOWAS Secretariat. (2001). *ECOWAS 1975 – 2000: Achievements and prospects*. Abuja, Nigeria.
- ECOWAS Vanguard. (2013). The ECOWAS trade liberalization scheme: Genesis, conditions and appraisal. *ECOWAS Vanguard*, 2(3). NANTS Regional Trade Advocacy Series. National Association of Nigerian Traders, Abuja.
- Efobi, U., & Osabuohien, E. (2011). Trade outcomes in Africa's regional economic communities and institutional quality: Some policy prescriptions. *Petroleum-Gas University of Ploiesti, Bulletin*. 64(4), 19-32. doi:10.2139/ssrn.2396898.
- Ejumudo, K.B.O. (2013). *The problematic of development planning in Nigeria: A critical discourse*. Development Country Studies.

- Ekhosuehi, O., & Ibietan, J. (2013). Trends in development planning in Nigeria: 1962 to 2012. *Journal of Sustainable Development in Africa*, 15(4), 297-311.
- Ekundare, R.O. (1973). *Economic history of Nigeria 1860 – 1960*. London: Methuen & Co. Limited.
- Endoh, M. (1999). Trade creation and trade diversion in the EEC, the LAFTA and the CMEA: 1960 – 1994. *Applied Economics*, 31(2), 207-216. doi:10.1080/000368499324435.
- Essien, A.E. (2009). *Introducing a common currency: The ECOWAS experience*. Paper presented at the ECOWAS-ZEI Academy in Comparative Regional Integration, Centre for European Integration Studies, Bonn, Germany. March, 16-28.
- European Commission. (2016). *The economic impact of the West Africa-EU economic partnership agreement*. [Online]. Retrieved: http://trade.ec.europa.eu/doclib/docs/2016/april/tradoc_154422.pdf.
- Finger, J.M., Ng, F., & Soloaga, I. (1998). *Trade policies in the Caribbean countries: A look at the positive agenda*. Paper presented at the Meetings of the Caribbean Group for Cooperation on Economic Development, Washington D.C. June 8.
- Fole, A.G. (2002). *Finance and trade in Africa: Macroeconomic response in the world economy context*. London: Palgrave Macmillan.
- FAO. (1997). *The state of food and agriculture*, FAO Agriculture Series. No 30. [Online]. Retrieved from <http://www.fao.org/docrep/w5800e/w5800e12.htm>.
- FAO. (2007). *The state of food and agriculture*, FAO Agriculture Series No. 38. [Online]. Retrieved from <ftp://ftp.fao.org/docrep/fao/010/a1200e/a1200e00.pdf>.
- FAO. (2008). Enabling environments for agribusiness and agro-industry development. In Africa, Proceedings of a FAO Workshop, Accra, Ghana. October 8 – 10.
- FAO. (2016). Statistical yearbook of the Food and Agricultural Organization for the United Nations. [Online]. Retrieved: <http://www.fao.org/docrep/018/i3107e/i3107e03.pdf>
- Forson, J.A. (2013). *Globalisation and development: Assessing factors that impedes development among the Economic Community of West African States (ECOWAS)*. GRIN Verlag.
- Fosu, A.K. (1990). Export composition and the impact of exports on economic growth of developing economies. *Economics Letters*, 34(1), 67-71. doi:10.1016/0165-1765(90)90183-2.

- Francois, J., & Hall, H.K. (2003). Global simulation analysis of industry-level trade policy. *Version*, 3, 21.
- Frankel, J., Stein, E., & Wei, S. J. (1995). Trading blocs and the Americas: The natural, the unnatural, and the super-natural. *Journal of Development Economics*, 47(1), 61-95. doi:10.1016/0304-3878(95)00005-4.
- Ghosh, S., & Yamarik, S. (2004). Are regional trading arrangements trade creating? An application of extreme bounds analysis. *Journal of International Economics*, 63(2), 369-395. doi:10.1016/S0022-1996(03)00058-8.
- Glick, R., & Rose, A.K. (2001). *Does a currency union affect trade? The time series evidence*. Unpublished Manuscript. [Online]. Retrieved: <http://haas.berkeley.edu/~arose>.
- Grunbaum, M. (2007). *Evaluation of trade and tariff revenue effects for the Organization of Eastern Caribbean States under alternative trade liberalization scenarios*. Doctoral dissertation, University of Florida.
- Hartzenberg, T. (2011). *Regional integration in Africa*. Trade Law Centre for Southern Africa. World Trade Organization Economic Research and Statistics Division.
- Haveman, J., & Hummels, D. (1998). Trade creation and trade diversion: New empirical results. *Journal of Transnational Management Development*, 3(2), 47-72. doi:10.1300/J130v03n02_03.
- Henson, S., & Cranfield, J. (2009). Building the political case for agro-industries and agribusiness in developing countries. In C.A. da Silva, D. Baker, A.W. Shepherd, C. Jenane, & S. Miranda-da-Cruz (Eds). *Agro-industries for development*. Rome: FAO.
- Hermelin, B. (2003). *Sustainability impact assessment (SIA) of the EU-ACP economic partnership agreements*. [Online]. Retrieved: http://trade.ec.europa.eu/doclib/docs/2007/june/tradoc_134879.pdf.
- Hertel, T.W., Anderson, K., Francois, J.F., Hoekman, B., & Martin, W. (1999). Agriculture and non-agricultural liberalization in the millennium round. Revision of a paper presented at the World Bank/WTO Conference on Agriculture and the New Trade Agenda from a Development Perspective, Geneva. October 1-2.
- Hertel, T., Hummels, D., Ivanic, M., & Keeney, R. (2007). How confident can we be of CGE-based assessments of free trade agreements? *Economic Modelling*, 24(4), 611-635. doi: 10.1016/j.econmod.2006.12.002.

- Hillberry, R., & Hummels, D. (2013). Trade elasticity parameters for a computable general equilibrium model. *Handbook of Computable General Equilibrium Modeling, 1*, 1213-1269.
- Hine, R.C. (1994). *International economic integration*. In D. Greenaway & L.A Winters (Eds.), *Surveys in international trade*. Oxford: Blackwell.
- Hosny, A.S. (2013). Theories of economic integration: A survey of the economic and political literature. *International Journal of Economy, Management and Social Sciences*, 2(5), 133-155.
- ICTSD. (2011). *Agricultural export restrictions speak controversy at the WTO*, 15(2).
- Igue, J. (2011). Economic integration in West Africa. In T. Corsino & V. Mathia (Eds.), *Sustainable regional integration in West Africa*, ZEI Discussion Paper C208.
- IMF. (2001). *Nigeria, selected issues and statistical appendix*, Country Report 01/132, Washington DC.
- Index Mundi. (2016). *Wheat imports by country in 1000 MT*. [Online]. Retrieved: https://www.google.co.za/?gfe_rd=cr&ei=baspWKDBHomp8wf4g6WABg#q=what+is+the+rank+of+nigeria+in+the+importation+of+wheat+in+2014.
- ITC Trademap. (2016). [Online]. Retrieved: <http://www.trademap.org>.
- Jalilian, H., Tribe, M., & Weiss, J. (2000). *Industrial development and policy in Africa: Issues of de-industrialization and development strategy*. Edward Elgar Publishing.
- Jammes, O., & Olarreaga, M. (2005). Explaining SMART and GSIM, The World Bank. [Online]. Retrieved: http://wits.worldbank.org/witsweb/download/docs/Explaining_SMART_and_GSIM.pdf
- Jayasinghe, S., & Sarker, R. (2004). Effects of regional trade agreements on trade in agrifood products: Evidence from gravity modelling using disaggregated data. *Applied Economic Perspectives and Policy*, 30(1), 61-81. doi: 10.1111/j.1467-9353.2007.00392. x.
- Johnson, H.G. (1965). An economic theory of protectionism, tariff bargaining and the formation of customs unions. *The Journal of Political Economy*, 73, 256-283. Retrieved from <http://www.jstor.org/stable/1829039>.
- Jovanovic, M. (1992). *International economic integration*. London: Routledge.

- Karemera, D., & Koo, W. (1994). Trade creation and diversion effects of the U.S-Canadian free trade agreement. *Contemporary Economic Policy*, 12(1), 12-23. doi: 10.1111/j.1465-7287.1994.tb00408.x.
- Kehoe, P.J., & Kehoe, T.J. (1994). A primer on static applied general equilibrium models. *Federal Reserve Bank of Minneapolis. Quarterly Review - Federal Reserve Bank of Minneapolis*, 18(2), 2. Retrieved from <http://ez.sun.ac.za/login?url=http://search.proquest.com/docview/227763416?accountid=14049>.
- Kerkala, L., Niemi, J., & Vaittinen, R. (2000). *Renegotiating the Lomé Convention-Trade policy schemes and their effects for African regions*. Helsinki School of Economics and Business Administration.
- Khorana, S., Kimbugwe, K., & Perdakis, N. (2007). The impact of tariff reductions under the East African Community customs union: Intra-trade effects on Uganda.
- Kim, S. (2002). *A strategy for the successful conclusion of the South Korea-Chile free trade agreement*. Master's project, Monterrey Institute of International Studies.
- Konan, D., & Maskus, K.E. (1996). A computable general equilibrium analysis of scenarios for trade liberalization using the Egypt CGE-TL model. *The World Bank, MENA Working Paper*.
- Krueger, A.O. (1999). *Trade creation and trade diversion under NAFTA No. w7429*. National Bureau of Economic Research.
- Lang, R. (2006). *A partial equilibrium analysis of the impact of the ECOWAS-EU economic partnership agreement*. Paper presented on Multilateralism, Bilateralism and Development for 9th GTAP Annual Conference on Global Economic Analysis, Addis Ababa. June, 14-18.
- Lawrence, R. (1997). Preferential trading arrangements: The traditional and the new. In A. Galal and B. Hoekman (Eds.), *Regional partners in global markets*, CEPR, Egypt: The Egyptian Centre for Economic Studies, World Trade Centre, 13-34.
- Lipsey, R.G. (1957). The theory of customs unions: Trade diversion and welfare. *Economica*, 24(93), 40-46. doi:10.2307/2551626.

- Lloyd, P.J., & Maclaren, D. (2004). Gains and losses from regional trading agreements: A survey. *The Economic Record*, 80(251), 445-467. doi: 10.1111/j.1475-4932.2004.00202.x.
- Lolette Kritzinger-van Niekerk. (2005). *Regional integration: Concepts, advantages, disadvantages and lessons of experience*. [Online]. Retrieved March 30, 2016: http://www.sarpn.org.za/documents/d0001249/P1416-RI-concepts_ay2005.pdf.
- Mambara, J.L. (2007). *Assessment of benefits of regional integration in SADC and COMESA – A gender analysis*. Harare: Trade and Development Studies Centre.
- Matlosa, K. (2005). *Democracy at crossroads: Challenges for the SADC principles and guidelines governing democratic elections*. ISS Paper 118. October, 1-18.
- Matyas, L. (1997). Proper econometric specification of the gravity model. *The World Economy*, 20(3), 363-368. doi: 10.1111/1467-9701.00074.
- McCarthy, D.M.P. (2006). *International economic integration in historical perspective*. London, New York: Routledge.
- McCarthy, C. (2007). Is African economic integration in need of a paradigm change? Thinking out of the box on African integration. In A. Bosl et al. (Eds.), *Monitoring regional integration in Southern Africa*, Yearbook Vol. 6 – 2007. Stellenbosch: Trade Law Centre for Southern Africa.
- McKittrick, R. (1998). The econometric critique of computable general equilibrium modelling: The role of functional forms. *Economic Modelling*, 15(4), 543-573. doi:10.1016/S0264-9993(98)00028-5.
- Meade, J.E. (1955). *The theory of customs unions*. Amsterdam: North-Holland.
- Mhazo, N., Mvumi, B., Nyakudya, E., & Nazare, M. (2012). The status of the agro-processing industry in Zimbabwe with particular reference to small and medium-scale enterprises. *African Journal of Agricultural Research*, 7(11), 1607-1622. doi: 10.5897/AJAR10.079.
- Milner, C., & Sledziewska, K. (2005). Capturing regional integration effects in the presence of other trade shocks: The impact of the Europe agreement on Poland's imports. *University of Nottingham Research Paper*, (2005/40).

- Mistry, P.S. (2000). Africa is record of regional cooperation and integration. *African Affairs*, 99(397), 553–557.
- Mkenda, B., & Hangi, M. (2009). Revenue implications of EPA on Tanzania. CUTS GRC Publications Series.
- Mold, A. (2005). *Non-tariff barriers: Their prevalence and relevance for African countries*. African Trade Policy Centre Work in Progress, No. 25.
- Mugano, G. (2014). The impact of SADC customs union on Zimbabwe. Doctoral dissertation, Nelson Mandela Metropolitan University.
- Mutharika, B.W. (1972). *Towards a multinational economic cooperation in Africa*. New York: Praeger Publishers.
- Nicolas, F. (2008). The political economy of regional integration in East Africa. *Economic Change and Restructuring*, 41(4), 345-367.
- Nielsen, C.P. (2003). *Regional and preferential trade agreements: A literature review and identification of future steps*. Fødevarerøkonomisk Institut. (FOI Rapport; No. 155).
- Nigeria Customs Service, NCS. (2015). [Online]. Retrieved: <https://www.customs.gov.ng/>.
- Nigeria Economic Outlook. (2016). *Nigeria economy Data*. [Online]. Retrieved: <http://www.focus-economics.com/countries/nigeria>.
- Nigeria Trade Hub. (2013). [Online]. Retrieved: <http://www.nigeriatradehub.gov.ng/UsefulTools/FreeTradeZone.aspx>.
- NIRP. (2014). *Nigeria Industrial Revolution Plan – Release 1.0*. NIRP Publishers.
- Nwali, C.S. & Arene, C.J. (2015). Effects of economic partnership agreements on agricultural trade between Nigeria and the EU. *International Journal of Food and Agricultural Economics*, 3(2), 63-74. Retrieved from <http://ez.sun.ac.za/login?url=http://search.proquest.com/docview/1683723263?accountid=14049>.
- Obaseki, P.J., & Ojo, M.O. (1998). Challenges of globalization for macroeconomic policy and management in Nigeria CBN. *Economic and Financial Review*, 36(4), 425.
- OECD. (2005). *Regional integration agreements*. Paris: OECD Publication.

- OECD. (2008). *Promoting commercial agriculture. In Africa, A Development Centre Perspective*. Paris: OECD (With five country background studies). [Online]. Retrieved: www.oecd.org/dev/publications/businessfordevelopment.
- Ogbonna, C.E., Aluko, B., & Awuah, K. (2013). The ECOWAS platform and the persisting challenges of integrating the West African Region: A discourse. *Journal of Economics and Sustainable Development*, 4(1).
- Olajide, O., Akinlabi, B., & Tijani, A. (2012). Agricultural resource and economic growth in Nigeria. *European Scientific Journal*, 8(22), 103-115.
- Olanrewaju, S. (2012). We are triggering cassava-based industrial revolution- Adesina. *Nigerian Tribune*, August 14, p.2012.
- Olubomehin, D., & Kawonishe, D. 2004. *The African Union and the challenges of regional integration in Africa*. Paper submitted to the Annual Conference of the African Studies Association of Australia and the Pacific (AFSAAP), University of Western Australia. November 26 – 28.
- Onogwu, G.O., & Arene, C.J. (2013). Adjusting liberalization due to trade, revenue, and welfare effects: An economic partnership agreement scenario between Cape Verde and the EU. *Journal of Agriculture and Sustainability*, 3, 87-107.
- Onuoha, M. (2012). *West Africa tax forum overview of Nigeria's tax landscape*. [Online]. Retrieved: <http://www.iticnet.org/file/document/watch/4383>.
- Osabuohien, E.S. (2011). *Analysis of international trade performance in selected SSA countries: The impact of institutional framework*. Unpublished PhD thesis Submitted to Department of Economics and Development Studies, Covenant University, Ota.
- Ousmane, A. (2015). The impact of the economic partnership agreements between ECOWAS and the EU on Niger. *Business and Economics Journal*, 6(2), 145. doi:10.4172/2151-6219.1000145.
- Pannhausen, C., & United, B. (2010). Regional agricultural trade in West Africa. A focus on the Sahel region. *Deutsche Gesellschaft Ftir*, 1-17.
- Piermartini, R., & Teh, R. (2005). *Demystifying modelling methods for trade policy* (No. 10). WTO Discussion Paper.

- Proctor, S., Henson, S., Loader, R., Masakure, O., Brouder, A., Bhila, L. et al. (2000). *Facilitating the effective production and marketing of processed food products by small-scale producers in Zimbabwe*. Project R7485.
- Pugel, T. (2012). *International economics. Fifteenth Edition*. McGraw Hill.
- Punt, C., & Sandrey, R. (2015). Trade diversion and trade creation effects of economic integration: Illustration of an excel based tariff simulation of Zambia entering a hypothetical Free Trade Agreement (FTA) with South Africa. Working Paper No. S16WP03. South Africa: Trade Law Centre.
- PwC. (2016). *Nigeria: Looking beyond oil (2016)*. [Online]. Retrieved: http://Nigeria-Looking-beyond-oil-LCCI-PwC-Report_2.pdf.
- Qureshi, Z. (1996). Globalization: New opportunities, tough challenges, finance and development. In C. McCarthy (Eds.), *Regional integration in Sub-Saharan Africa: Past, present and future*. London: Macmillan.
- Radosevic, S. (2009). Policies for promoting technological catch-up: Towards a post-Washington approach. *International Journal of Institutions and Economics*, 1(1), 23-52.
- Reardon, T., & Barrett, C. (2000). Agro-industrialization, globalization, and international development: An overview of issues, patterns, and determinants. *Agricultural Economics*, 23(3), 195–205. doi: 10.1111/j.1574-0862.2000.tb00272.x.
- Ridell, R.C. (Ed.). (1990). *Manufacturing Africa: Performance and prospects in seven countries in Sub-Sahara Africa*. James Currey London and Heinemann, Portsmouth, U.K.
- Robson, P. (1980). *The economics of international integration*. London: George Allen & Unwin.
- Rourke, J.T. (1995). *International politics on the world stage*. Guild Ford, Connecticut: Dushkin Publishing Group/Brown & Benchmark Publishers.
- SAARC WTO. (2013). [Online]. Retrieved: <http://www.slideshare.net/ujjmishra1/saarc-wto>.
- Salvatore, D. (1997). *International economics*, 9th edition. Prentice Hall.
- Sanusi, L.S. (2010). *Growth Prospects for the Nigerian Economy*. Convocation Lecture delivered at the Igbinedion University Eighth Convocation: Research Department, Central Bank of Nigeria.

- Sapir, A. (2011). European integration at the crossroads: A review essay on the 50th anniversary of Bela Balassa's theory of economic integration. *Journal of Economic Literature*, 49(4), 1200-1229. doi: <https://doi.org/10.1257/jel.49.4.1200>.
- Schiff, M., & Winters, L.A. (1998). Dynamics and politics in regional integration arrangements: An introduction. *The World Bank Economic Review*, 12(2), 177-195. doi: 10.1093/wber/12.2.177.
- Schiff, M., & Winters, L.A. (2003). *Regional integration and development*. Washington DC: The International Bank for Reconstruction and Development/World Bank and Oxford University Press.
- Schwanen, D. (1997). Trading up: The impact of increased continental integration on trade, investment and jobs in Canada. *Commentary-CD Howe Institute*, (89), 1-30. Retrieved from <http://ez.sun.ac.za/login?url=http://search.proquest.com/docview/216593253?accountid=14049>
- Sesay, A., & Moshood, O. (2011). The politics of regional integration in West Africa. West Africa Civil Society Institute (WACSI) Series 2(2).
- Ships & Ports. (2015). *BUA, others abuse sugar concessionary import tariff – council*. [Online]. Retrieved: <http://shipsandports.com.ng/bua-others-abuse-sugar-concessionary-import-tariff-council/>.
- Simalenga, T. E. (1996). Small-scale decentralised agro-processing. Paper presented at Small-Scale Decentralised Agro-Industry Seminar, Harare.
- Soloaga, I., & Winters, L.A. (2001). Regionalism in the Nineties: What effect on trade? *The North American Journal of Economics and Finance*, 12(1), 1-29.
- Soule, G. (2013). Analytical review of national investment strategies and agricultural policies for the promotion of staple food value chains in West Africa, In A. Elbehri (Eds.), *Rebuilding West Africa's food potential*, FAO/IFAD.
- Spilimbergo, A. (2000). Growth and trade: The North can lose. *Journal of Economic Growth*, 5(2), 131-146.
- Stahl, H.M. (2005). *Tariff liberalisation impacts of the EAC custom union in perspective*. Trade Law Centre for Southern Africa.

- Tafirenyika, M. (2014). *Intra-Africa trade: Going beyond political commitments*. *Africa Renewal* [Online]. Retrieved March 22, 2016:
<http://www.un.org/africarenewal/magazine/august-2014/intra-Africa-trade-going-beyond-political-commitments>.
- Teresa K. (2016). *Nigeria depreciates drastically following scrapping of currency peg in June*. [Online]. Retrieved: <http://www.focus-economics.com/countries/nigeria/news/exchange-rate/naira-depreciates-dramatically-following-scrapping-of-currency>.
- Thomy, B., Tularam, G.A., & Siriwardana, M. (2013). Partial equilibrium analysis to determine the impacts of a Southern African Customs Union - European Union Economic Partnerships Agreement on Botswana's imports. *American Journal of Economics and Business Administration*, 5(1), 1-14.
- Tinbergen, J. (1962). An analysis of world trade flows. *Shaping the World Economy*, pp.1-117.
- UEMOA. (2014). *Rapport annuel 2013 sur la surveillance commerciale*. Ouagadougou: UEMOA.
- UNCTAD. (2012). Handbook of statistics. United Nations Publication. Sales No. B. 12.11. New York and Geneva. [Online]. Retrieved:
<http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=381>.
- UNDP. (2011). *Regional integration and human development: A pathway for Africa*. New York.
- UNECA. (2004). *Assessing regional integration in Africa*. Policy Research Report. Addis Ababa.
- UNECA. (2010). *Assessing regional integration in Africa IV: Enhancing intra-African trade*, Addis Ababa.
- UNECA. (2015). *An assessment of progress towards regional integration in the Economic Community of West African States since its inception*. [Online]. Retrieved:
http://www.uneca.org/sites/default/files/PublicationFiles/int_progr_ri_inceptionecowaseng.pdf

- UNIDO. (2012). *Economic diversification strategies: A key driver in Africa's new industrial revolution*. Paper for the Round Table for the Africa Region at the General Conference Fourteenth Session, Vienna Austria. November 28 – December 2, 2011.
- UNIDO. (2013). *Sustaining employment growth: The role of manufacturing and structural change*. Industrial Development Report 2013.
- United Nations. (2008). *International Standard Industrial Classification of all economic activities (ISIC), Rev.4*. [Online]. Retrieved from http://unstats.un.org/unsd/publication/seriesM/seriesm_4rev4e.pdf.
- USAID. (2010). *From aid to trade: delivering results. A cross-country evaluation of USAID trade capacity building*. [Online]. Retrieved: http://pdf.usaid.gov/pdf_docs/Pdacr202.pdf.
- USDA. (2009). [Online]. Retrieved: https://nigeria.usembassy.gov/uploads/images/-BQOI9UI6yKODqaPIaLkBQ/FAS_Gain_Report_N19010.pdf.
- USDA. (2013). Nigeria food processing ingredients markets [Online]. Retrieved: http://gain.fas.usda.gov/Recent%20GAIN%20Publications/Food%20Processing%20Ingredients_Lagos_Nigeria_11-20-2013.pdf.
- USTR. (n.d.). [Online]. Retrieved: <https://ustr.gov/sites/default/files/2014%20NTE%20Report%20on%20FTB%20Nigeria.pdf>.
- Vamvakidis, A. (1999). Regional trade agreements or broad liberalization: Which path leads to faster growth? *International Monetary Fund Staff Papers* 46(1), 42-68.
- Van Nieuwerck, A. (2001). Regionalism into globalism? War into peace? SADC and ECOWAS compared. *African Security Review*, 10(2), 6-18.
- Veeramani, C., & Gordhan, K. (2010). Impact of ASEAN-India FTA on India's plantation commodities: A simulation analysis. Indira Gandhi Institute of Development Research, Mumbai [Online]. Retrieved from <http://www.igidr.ac.in/pdf/publication/WP-2010-004.pdf>.
- Verdoorn, P. (1960). The intra-bloc trade of Benelux. In E.A.G. Robinson (Eds.), *The economic consequences of the size of nations* (pp. 291-329). New York: Macmillan.

- Viljoen, W. (2011). Non-tariff barriers affecting trade in the COMESA-EAC-SADC Tripartite Free Trade Agreement. In R. Sandrey et al. *Cape to Cairo: An assessment of the Tripartite Free Trade Area*. Stellenbosch: Tralac.
- Viner, J. (1950). *The customs union issue*. Carnegie Endowment for International Peace. New York.
- Wall, H.J. (2000). *Gravity model specification and the effects of the Canada-U.S. border*. FRB of St. Louis Working Paper No. 2000-024A.
- Walsh, K., Brockmeier, M., & Matthews, A. (2007). Implications of domestic support disciplines for further agricultural trade liberalization. *Journal of International Agricultural Trade and Development*, 3(2),173-199.
- Winters, A. (1996). *Regionalism versus multilateralism*. Policy, Research Working Paper No. 1 Washington, DC: World Bank.
- WITS (2011). User's manual. Version 20.1. [Online]. Retrieved: http://wits.worldbank.org/witsweb/download/docs/Help_Files/Simulation/WITS-SMART_User_Manual.pdf.
- Wolf, S. (2000). From preferences to reciprocity: General equilibrium effects of a Free Trade Area between the EU and the UEMOA. In *Third Annual Conference on Global Economic Analysis*.
- World Bank. (2000). *Trade blocs*. Oxford: Oxford University Press.
- World Bank. (2001). *World development indicators*. Washington D.C.
- World Bank. (2010). *World trade indicators 2009/2010*.
- World Bank. (2013). *Nigeria economic report (No. 1)*. Washington, DC: World Bank.
- World Economic Forum. (2010). *The global competitiveness report 2010-2011*. Geneva: WEF.
- WTO. (1998). Structural reforms and increased transparency needed to generate trade and growth in Nigeria, Geneva.
- WTO. (1998). *WTO: a training package: what is trade facilitation?*
- WTO (2005). Exploring the links between trade, standards, and the WTO. World Trade Report, Geneva.

WTO. (2010). RTA database. [Online]. Retrieved: http://www.wto.org/english/tratop_e/region_e/region_e.htm.

WTO. (2015). *Trade policy review*. WT/TPR/S/322. [Online]. Retrieved: https://www.wto.org/english/tratop_e/tpr_e/s322_e.pdf

WTO. (n.d.). *Trade policy review*. WT/TPR/S/134. [Online]. Retrieved: https://www.wto.org/english/tratop_e/tpr_e/s134-3_e.doc.

Yang, Y., & Gupta, S. (2007). Regional trade arrangements in Africa: Past performance and the way forward. *African Development Review*, 19(3), 399-431. doi: 10.5089/9781452708805.001.A001.

Yeats, A. (1998). *What can be expected from African regional trade arrangements? Some empirical evidence*. World Bank Policy Research Working Paper No. 2004.

Zouhon-Bi, S.G., & Nielsen, L. (2007). *ECOWAS–fiscal revenue implications of the prospective Economic Partnership Agreement with the EU*. *World Bank Africa Region Working Paper Series*, (103).

Appendices

Appendix 1: Agro-processing Products at four-digit HS Level

'0304	Fish fillets and pieces, fresh, chilled or frozen
'0305	Fish, cured or smoked and fish meal fit for human consumption
'0401	Milk and cream, not concentrated nor sweetened
'0402	Milk and cream, concentrated or sweetened
'0403	Buttermilk and yogurt
'0404	Whey and natural milk products not elsewhere specified
'0405	Butter and other fats and oils derived from milk
'0406	Cheese and curd
'0407	Birds' eggs in shell
'0408	Birds' eggs dried
'0409	Natural honey
'0410	Edible products of animal origin, not elsewhere specified
'0505	Feathers for stuffing and & down
'0506	Bones & horn-cores degelatinised
'0511	Animal products not elsewhere specified
'0710	Frozen vegetables
'0711	Vegetables, provisionally preserved (unfit for immediate consumption)
'0712	Dried vegetables
'0713	Dried vegetables, shelled
'0811	Frozen fruits & nuts
'0812	Provisionally preserved fruits & nuts (unfit for immediate consumption)
'0813	Dried fruit
'0901	Coffee
'0902	Tea
'0903	Maté
'0905	Vanilla
'0910	Ginger, saffron, turmeric, thyme, bay leaves & curry
'1101	Wheat or meslin flour
'1102	Cereal flours other than of wheat or meslin
'1103	Cereal grouts, meal and pellets
'1104	Cereal grain, worked post hulling, excluding rice
'1105	Flour, meal and flakes of potatoes
'1106	Flour and meal of vegetables, roots and tubers or fruits

'1107	Malt, whether or not roasted
'1108	Starches; inulin
'1109	Wheat gluten, whether or not dried
'1208	Flour and meals of oil seeds
'1212	Locust beans
'1213	Cereal straws and husks
'1302	Vegetable saps & extracts
'1401	Vegetable material for plaiting
'1404	Vegetable products, not elsewhere specified
'1501	Lard and other pig & poultry fat
'1502	Bovine, sheep & goat fats
'1503	Lard stearin & oil, oleo stearin & oil & tallow oil
'1504	Fish/marine mammal, fat, oils & their fractions
'1505	Wool grease and fatty substances derived therefrom (including lanolin)
'1506	Animal fats & oils & their fractions
'1507	Soya-bean oil & its fractions
'1508	Ground-nut oil & its fractions
'1509	Olive oil and its fractions
'1510	Other oils from olives
'1511	Palm oil & its fraction
'1512	Safflower, sunflower/cotton-seed oil & fractions
'1513	Coconut (copra), palm kernel/babassu oil & their fractions
'1514	Rape, colza or mustard oil & their fractions
'1515	Fixed vegetable fats & oils & their fractions
'1516	Animal or veg fats, oils & fractions, hydrogenated
'1517	Margarine
'1518	Animal or vegetable fats & oils chemically modified; inedible mixtures
'1520	Glycerol (glycerin)
'1521	Vegetable waxes, beeswax & other insect waxes
'1522	Degras and residues
'1601	Sausages and similar products, of meat, offal or blood
'1602	Prepared or preserved meat, meat offal or blood, not elsewhere specified
'1603	Extracts & juices of meat, fish, crustaceans & molluscs
'1604	Prepared/preserved fish & caviar
'1605	Crustaceans & molluscs, prepared/preserved
'1701	Cane or beet sugar and chemically pure sucrose, in solid form

'1702	Sugars, not elsewhere specified ,including chemically pure lactose etc; artificial honey; caramel
'1703	Molasses resulting from the extraction or refining of sugar
'1704	Sugar confectionery (including white choc), not containing cocoa
'1801	Cocoa beans, whole or broken, raw or roasted
'1802	Cocoa shells, husks, skins and other cocoa waste
'1803	Cocoa paste, whether or not defatted
'1804	Cocoa butter, fat and oil
'1805	Cocoa powder, without added sugar
'1806	Chocolate and other food preparations containing cocoa
'1901	Malt extract; food preparations of flour, meal, starch or malt extract
'1902	Pasta & couscous
'1903	Tapioca and substitutes therefore prepared from starch
'1904	Breakfast cereals & cereal bars
'1905	Bread, biscuits, wafers, cakes and pastries
'2001	Cucumbers, gherkins and onions preserved by vinegar
'2002	Tomatoes prepared or preserved
'2003	Mushrooms & truffles, prepared or preserved
'2004	Prepared or preserved vegetables not elsewhere specified (incl. frozen)
'2005	Prepared or preserved vegetables not elsewhere specified (excl. frozen)
'2006	Sugar preserved fruits and nuts
'2007	Jams, fruit jellies & marmalades
'2008	Preserved fruits not elsewhere specified
'2009	Fruit & vegetable juices, unfermented
'2101	Extracts essences & concentrates of coffee and tea
'2102	Yeast
'2103	Sauces mixed condiments & mixed seasonings
'2104	Soups, broths & preparations thereof
'2105	Ice cream
'2106	Food preparations, not elsewhere specified
'2201	Mineral & aerated waters
'2202	Non-alcoholic beverages (excl. water, fruit or vegetable juices and mi
'2203	Beer made from malt
'2204	Wine of fresh grapes
'2205	Vermouth & other grape wine flavoured with plants or aromatic substances
'2206	Fermented beverages, not elsewhere specified

'2207	Ethyl alcohol & other spirits (if undenatured then higher than 80% by
'2208	Spirits, liqueurs, other spirit beverages, alcoholic preparations
'2209	Vinegar and substitutes for vinegar
'2301	Flour etc of meat, meat offal, fish, crustacean unfit for human consumption
'2302	Bran, sharps and other residues
'2303	Beet-pulp, bagasse and brewing or distilling dregs and waste
'2304	Soya-bean oil-cake and other solid residues
'2305	Ground-nut oil-cake and other solid residues
'2306	Oil-cake not elsewhere specified
'2307	Wine lees; argol
'2308	Other vegetable material, waste, residues, byproducts used for animal
'2309	Animal feed preparations, not elsewhere specified
'2401	Tobacco unmanufactured; tobacco refuse
'2402	Cigars, cheroots, cigarillos & cigarettes
'2403	Pipe, chewing & snuff tobaccos
'3501	Casein, caseinates and other casein derivatives and glues
'3502	Albumins, albuminates & other albumin derivatives
'3503	Gelatin and gelatin derivatives; glues of animal origin not elsewhere specified
'3504	Peptones & derivatives; protein substances & derivatives; hide powder
'3505	Dextrins & other modified starches; glues based on starches
'4001	Natural rubber, balata, gutta-percha etc
'4002	Synthetic rubber & factice from oil
'4003	Reclaimed rubber in primary forms or in plates, sheets or strip
'4004	Waste, parings & scrap (excl. hard rubber) & powder/granule obtained thereof
'4005	Compounded rubber, unvulcanised in primary forms
'4006	Rubber unvulcanised form & articles not elsewhere specified, excl. rods, tubes, discs
'4007	Vulcanised rubber thread and cord
'4008	Plate, sheet, strip, rods of vulcanised rubber other than hard rubber
'4009	Tubes, pipes & hoses of vulcanised rubber other than hard rubber
'4010	Conveyor or transmission belts or belting of vulcanised rubber
'4011	New pneumatic tires, of rubber
'4012	Retreaded/used tire; solid tire, interchangeable tire treads & flaps
'4013	Inner tubes of rubber
'4014	Hygienic/pharmaceutical art of vulcanised rubber
'4015	Articles of apparel & clothing accessories of vulcanised rubber
'4016	Articles of vulcanised rubber otherwise hard rubber, not elsewhere specified

'4017	Hard rubber in all forms, including waste & scrap; articles of hard rubber
'4104	Leather of bovine/equine animal, other than leather of hd 4108/4109
'4105	Sheep/lamb skin leather, other than leather of hd no4108/4109
'4106	Goat/kid skin leather, other than leather of hd no 41.08/41.09
'4107	Leather of other animals, otherwise leather of hd no 41.08/41.09
'4112	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather""
'4113	Leather further prepared after tanning or crusting ""incl. parchment-dressed leather""
'4114	Chamois leather, incl. combination chamois leather (excl. glacé-tanned leather subsequently
'4115	Composition leather with a basis of leather or leather fibre, in slabs, sheets or strip
'4401	Fuel wood; wood in chips or particles; sawdust & wood waste & scrap
'4402	Wood charcoal (including shell or nut charcoal)
'4403	Wood in the rough
'4404	Hoop wood; split poles; piles, pickets, stakes; chip wood
'4405	Wood wool; wood flour
'4406	Railway or tramway sleepers (cross-ties) of wood
'4407	Wood sawn/chipped lengthwise, sliced/peeled
'4408	Veneer sheets & sheets for plywood & other wood sawn lengthwise
'4409	Wood continuously shaped along any edges
'4410	Particle board and similar board of wood or other ligneous materials
'4411	Fibreboard of wood or other ligneous materials
'4412	Plywood, veneered panels and similar laminated wood
'4413	Densified wood, in blocks, plates, strips or profile shapes
'4414	Wooden frames for paintings, photographs, mirrors or similar objects
'4415	Packaging materials of wood
'4416	Casks, barrels, vats, tubs etc. of wood
'4417	Tools, tool & broom bodies & handles, shoe lasts of wood
'4418	Builders' joinery & carpentry of wood
'4419	Tableware and kitchenware of wood
'4420	Wood marquetry & inlaid wood; caskets & cases or cutlery of wood
'4421	Articles of wood, not elsewhere specified
'4701	Mechanical wood pulp
'4702	Chemical wood pulp, dissolving grades
'4703	Chemical wood pulp, soda or sulphate, other than dissolving grades
'4704	Chemical wood pulp, sulphite, other than dissolving grades
'4705	Semi-chemical wood pulp

'4706	Pulps of other fibrous cellulosic material
'4707	Waste and scrap of paper or paperboard
'4801	Newsprint, in rolls or sheets
'4802	Uncoated paper for writing, printing etc.
'4803	Paper, household/sanitary, rolls of a width > 36 cm
'4804	Uncoated Kraft paper & paperboard, in rolls/sheets not of hd 48.02/48.03
'4805	Uncoated paper and paperboard not elsewhere specified, in rolls or sheets
'4806	Vegetable patch, greaseproof, tracing, glassine paper etc in rolls/sheets
'4807	Composite paper & paperboard, not surface coated or impregnated
'4808	Paper and paperboard, corrugated, creped, crinkled, embossed, perforated
'4809	Carbon, self-copy paper etc, roll of width > 36 cm
'4810	Paper & paperboard, coated with kaolin or other inorganic substances
'4811	Paper, paperboard, cellulose wadding & webs of cellulose fibers, coated
'4812	Filter blocks, slabs & plates, of paper pulp
'4813	Cigarette paper, w/n cut to size or in form of booklets or tubes
'4814	Wallpaper & similar wall coverings; window transparencies of paper
'4816	Carbon, self-copy & copying paper, duplicator stencils & offset plate, paper
'4817	Card, envelope, letter, plain postcard, stat of paper; box, wallet...,pap
'4818	Toilet paper, handkerchiefs, tissues, napkins, table cloths, diapers,
'4819	Packing containers, of paper, paperboard, cellulose wadding, webs
'4820	Registers, acct, note, order books etc; other stationary articles of paper
'4821	Paper or paperboard labels of all kinds
'4822	Bobbins, spools, cops & sim supports of paper pulp, paper or paperboard
'4823	Other paper, paperboard, cellulose wadding cut to size & adhesive paper
'5001	Silk-worm cocoons suitable for reeling
'5003	Silk waste, not elsewhere specified
'5103	Waste of wool
'5202	Cotton waste (including yarn waste and garnetted stock)
'5203	Cotton, carded or combed
'5301	Flax, raw or processed but not spun; flax tow and waste
'5302	True hemp, raw, processed, not spun; tow and waste of true hemp

Source: Nigeria Customs Service (2015)

Appendix 2: Harmonized System Code – Chapters Description

1. Live animals
2. Meat and edible meat offal
3. Fish and crustaceans, molluscs and other aquatic invertebrates
4. Dairy products; birds' eggs; natural honey; edible products of animal origin, not elsewhere specified or included
5. Products of animal origin, not elsewhere specified or included
6. Live trees and other plants; bulbs, roots and the like; cut flowers and ornamental foliage
7. Edible vegetables and certain root and tubers
8. Edible fruit and nuts; peel of citrus fruit or melons
9. Coffee, tea, mate and spices
10. Cereals
11. Products of the milling industry; malt, starches; inulin; wheat gluten
12. Oil seeds and oleaginous fruit; miscellaneous grains, seeds and fruit; industrial or medicinal plants; straws and fodder
13. Lac; gums, resins and other vegetable saps and extract
14. Vegetables plaiting materials; vegetable products not elsewhere specified or included
15. Animal or vegetable fats and oil and their cleavage products; prepared edible fats; animal or vegetable waxes
16. Preparations of meat, of fish or of crustaceans, molluscs or other aquatic invertebrates
17. Sugars and Sugar confectionery
18. Cocoa and cocoa preparations
19. Preparations of cereals, flour, starch or milk; pastry cooks' products
20. Preparations of vegetables, fruit, nuts or other parts of plants
21. Miscellaneous edible preparations
22. Beverages, spirits and vinegar
23. Residues and waste from the food industries; prepared animal fodder
24. Tobacco and manufactured tobacco substitutes
25. Salt, Sulphur; earths and stone; plastering materials, lime and cement
26. Ores, slag and ash
27. Mineral fuels, mineral oils and products of their distillation, bituminous substances; mineral waxes
28. Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes
29. Organic chemicals
30. Pharmaceutical products
31. Fertilisers

32. Tanning or dyeing extracts; tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks
33. Essential oils and resinoids; perfumery, cosmetic or toilet preparations
34. Soap, organic surface-active agents, washing preparations, lubricating preparation, artificial waxes, prepared waxes, polishing or scouring preparations, candles and similar articles, modelling pastes, 'dental waxes' and dental preparations with a basis of plaster
35. Albuminoidal substances; modified starches; glues; enzymes
36. Explosives; pyrotechnic products; matches, pyrophoric alloys; certain combustible preparations
37. Photographic or cinematographic goods
38. Miscellaneous chemical products
39. Plastics and articles thereof
40. Rubber and articles thereof
41. Raw hides and skins (other than furskins) and leather
42. Articles of leather, saddlery and harness; travel goods; handbags and similar containers; articles of animal gut (other than silk-worm gut)
43. Furskins and artificial fur; manufactures thereof
44. Wood and articles of wood; wood charcoal
45. Cork and articles of cork
46. Manufactures of straw, of esparto or of other plaiting materials; basket ware and wickerwork
47. Pulp of wood or of other fibrous cellulosic material; recovered (waste and scrap) paper or paperboard
48. Paper and paperboard; articles or paper pulp, of paper or of paperboard
49. Printed books, newspaper, pictures and other products of the printing industry; manuscripts, typescripts and plans
50. Silk
51. Wool, fine or coarse animal hair; horsehair yarn and woven fabric
52. Cotton
53. Other vegetable textile fibres; paper yarn and woven fabrics of paper yarn
54. Man-made filaments
55. Man-made staple fibres
56. Wadding, felt and nonwovens; special yarns; twine, cordage, ropes and cables and articles thereof
57. Carpets and other textile floor coverings
58. Special woven fabrics; tufted textile fabrics; lace; tapestries; trimmings; embroidery
59. Impregnated, coated, covered or laminated textile fabrics; textile articles of a kind suitable for industrial use
60. Knitted or crocheted fabrics
61. Articles of apparel and clothing accessories, knitted or crocheted

62. Articles of apparel and clothing accessories, not knitted or crocheted
63. Other made up textile articles; set; worn clothing and worn textile articles; rags
64. Footwear, gaiters and the like; parts of such articles
65. Headgear and parts thereof
66. Umbrellas, sun umbrellas, walking sticks, seat-stick, whips, riding-crops and parts thereof
67. Prepared feathers and sown and articles made of feathers or of down; artificial flowers; of human hair
68. Articles of stone, plaster, cement, asbestos, mica or similar materials
69. Ceramic products
70. Glass and glassware
71. Natural or cultured pearls, precious or semi-precious stones, precious metals, metals clad with precious metal and articles thereof; imitation jewelry; coin
72. Iron and steel
73. Articles of iron or steel
74. Copper and articles thereof
75. Nickel and articles thereof
76. Aluminium and articles thereof
77. (Reserved for possible future use in the Harmonized System)
78. Lead and articles thereof
79. Zinc and articles thereof
80. Tin and articles thereof
81. Other base metals; cermets; articles thereof
82. Tools, implements, cutlery, spoons and forks, of base metal; parts thereof of base metal
83. Miscellaneous articles of base metal
84. Nuclear reactors, boilers, machinery and mechanical appliances; parts thereof
85. Electrical machinery and equipment and parts thereof; sound recorder and reproducers, television image and sound recorders and reproducers, and parts and accessories of such articles
86. Railway or tramway locomotives, rolling-stock and parts thereof, railway or tramway track fixtures and fittings and parts thereof; mechanical (including electro-mechanical) traffic signaling equipment of all kinds
87. Vehicles other than railway or tramway rolling stock, and parts and accessories thereof
88. Aircraft, spacecraft, and parts thereof
89. Ships, boats and floating structures
90. Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof
91. Clocks, watches and parts thereof
92. Musical instrument; parts and accessories of such articles

- 93. Arms and ammunition; parts and accessories thereof
- 94. Furniture; bedding, mattress, mattress supports, cushions and similar stuffed furnishings; lamps and lighting fittings, not elsewhere specified or included; illuminated signs, illuminated name-plates and the like; prefabricated buildings
- 95. Toys, games and sport requisites; parts and accessories thereof
- 97. Works of art, collections' pieces and antiques
- 98. (Reserved for special uses by contracting parties)
- 99. (Reserved for special by contracting parties)

Source: Nigeria Customs Service (2015)