

# The Role of ECOWAS in Fostering Nigeria's Cocoa Beans Value Chain

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**Abstract**—Despite the huge potentials of the cocoa beans value chain in Nigeria, the performance of this sector is hampered, *inter alia*, by low productivity which is not unconnected to low value addition along the product's value chain. The regional platforms put in place by the Economic Community of West African States are supposed to be able to proffer solutions to some of the challenges of this sector. In economic literature, inter-linkages amongst related or same industries are important for value addition which in turn is essential for maximising income gains and improving general living standards accruing from engaging in production and trade. The New Trade Theory explicates how intra-industry/intraregional trade can give rise to the fragmentation of production processes that characterise value chains and how intra-regional trade can foster the needed value addition in a value chain. This current study is motivated by the need to assess the extent to which the Economic Community of West African States (ECOWAS) has fostered intraregional cocoa beans value chain between Nigeria and other members of ECOWAS by creating the necessary forward and backward linkages between actors in the cocoa beans value chain in Nigeria and the rest of ECOWAS. Findings from descriptive statistics seem to suggest a weak performance on the part of ECOWAS thus calling for the need for intensified regional efforts to sufficiently bolster the performance of Nigeria's cocoa beans value chain.

**Keywords**—*Economic Integration; Cocoa Beans Value Chain; ECOWAS; Nigeria*

## I. INTRODUCTION

Economic Integration (EI), an embodiment of custom unions, trade blocs and free trade, has an ultimate aim of fostering trade participation of Member countries and enhance economic performance and welfare of their citizenry in the long-run [1]. Reference [2] noted that discriminatory trade policy is the defining characteristic of a regional integration arrangement. EI instruments could be in form of tariff or non-

tariff measures. EI entails the partial or full removal of trade tariffs across national boundaries with the aim of lowering prices and fostering the welfare of citizens in the Member States [3].

In the bid to transform the agricultural sector – a sector crucial to the economy of Nigeria - and use it to foster its economic growth, Nigeria embarked on an Agricultural Transformation Agenda - ATA in 2010. Some agricultural products were earmarked as priority commodities in order to achieve the objectives of the Transformation Agenda. One of the prioritised commodities is cocoa beans. However, recent literature such as [4], [5] and [6] harped on the importance of paying attention to the entire value chain to deliver the income and other welfare gains to all actors rather than laying emphasis on only increases in production. The Agricultural Transformation Agenda noted cocoa beans value chain as a strategic commodity value chain that is expected to generate over 350,000 jobs in primary production, plantation establishment and across its value chain in 2015. In the context of a regional economic community, cocoa beans value chain would imply that the production processes are fragmented across national borders within the region. For example, within ECOWAS, production of cocoa beans may be done in Nigeria, processing done in Togo and marketing and selling to final consumers done in Benin Republic.

Nigeria is one of the leading exporters of this commodity after Cote d'Ivoire, Indonesia and Ghana respectively. Yet, notwithstanding the huge potentials of this commodity, it is characterised by low value addition and productivity which retard the gains of actors along its value chain [7] and [8]. However, on the positive end, [9] reported that notwithstanding the drop in production and yield, Nigeria remains the world's fourth largest exporter of cocoa beans.

The platforms created by ECOWAS are expected to be able to proffer solutions to some of the challenges of this sector. These platforms include the ECOWAS Trade Liberalisation Scheme (ETLS) meant to allow for free movement of goods, people and services and removal of trade barriers within this region and the ECOWAS Agricultural Policy (ECOWAP) meant to improve productivity and competitiveness of the agricultural sector of Member states. *Inter alia*, other platforms include the Regional Agricultural Investment Programme (RAIP) and the ECOWAS Bank for Investment and Development (EBID) and are meant to provide the needed funds for agriculture. These platforms are also expected to enhance the value chain in agriculture [4] including the cocoa beans value chain thus bringing about value addition and productivity increase. But to guarantee substantive value addition, there is the need for inter-linkages (forward and backward) amongst the cocoa beans industries within the region; a forward linkage of Nigeria with the rest ECOWAS members would imply that Nigeria supplies the rest of ECOWAS with cocoa beans as inputs while a backward linkage of Nigeria with the rest of ECOWAS implies that Nigeria demands for cocoa beans from the rest of ECOWAS.

The primary question this study raises is “to what extent is ECOWAS bringing about these inter-linkages (necessary for value addition) between Nigeria and the rest of ECOWAS?” In Other words, to what extent has ECOWAS fostered intraregional cocoa beans value chain between Nigeria and the rest members of ECOWAS? And consistent with economic literature on economic integration, the null hypothesis is that ECOWAS has not played a significant role in fostering intraregional cocoa beans value chain between Nigeria and the other countries in the ECOWAS region. This is an area, which to the best of our knowledge, is yet to be reasonably explored in West Africa. Similar studies are those of [10] and [11] which focus respectively on: China’s regional economies and value chains using an interregional I-O analysis; and Measuring global value chains and regional integration using an international I-O approach. The work of [12] on “value chain improvement for cocoa industry in Indonesia by input-output analysis” appears to be the most similar to this current study.

## II. CONCEPTUAL FRAMEWORK

According to (13), full economic integration suggests the unification of monetary, fiscal, social and countercyclical policies and needs that a supra-national authority whose decisions are binding for member countries be set up.

Reference [14] defined a value chain as the full range of activities which are needed to bring a product or service from conception, through the various phases of production, transformation and delivery to end consumers, and eventual disposal after use. Their value chain approach aims at characterizing how chain activities are carried out and to appreciate the way value is created and distributed amongst the participants in a chain. There are also other variants of the definition given by [14]. Reference [15] noted that although

the terms value chain and supply chain are often used interchangeably and describe the relationships of firms and processes required to deliver products to end consumers and both aim to identify the opportunities for and challenges to increasing productivity, there are slight differences between them. He remarked that the basic goals of value chains are value creation, innovation, development of products and marketing and so value chains are basically about net value added (rather than overall size and gross output), while supply chains focus on cost and supply efficiencies. Reference [15] opined further that supply chain analysts focus on measures that reduce costs and marginal inefficiencies in supply which may be to the detriment of focusing on measures capable of generating bigger value additions. This study adopts the definition of [14] of value chain.

### A. Review of some Relevant Theories

#### 1. Comparative Cost Advantage

The comparative cost advantage principle opines that countries trade in goods for which they have the comparative not absolute advantage in producing. Reference [16] while reviewing the comparative advantage theory opined that a country has a comparative advantage in the production of a good provided the opportunity cost of producing that good in terms of other goods is lower in that country relative to other countries. With respect to terms of trade and gains from trade, this theory asserts that there is no need for trade between two countries with the same terms of trade as this will result in zero gains from trade. To guarantee mutual gains from trade, terms of trade has to be within the range of the comparative costs.

The comparative advantage theory is somewhat comparable with the value chain approach as countries specialize in the activities or stage (not necessarily goods) that they have the comparative advantage in undertaking. For instance, within ECOWAS, suppose Ghana has a comparative advantage in producing cocoa beans rather than in processing while Nigeria has a comparative advantage in providing storage facilities and processing it and Benin has a comparative advantage in branding and distributing the product to end consumers, then individual countries ought to specialize in the stage(s) for which they have the comparative advantage in performing. The theory’s support of free trade rather than imposing restrictions such as tariffs, transportation costs and quota on trade is also in line with the purpose of economic integration arrangements such as ECOWAS Agricultural Policy (ECOWAP) in partnership with the New Partnership for African Development (NEPAD) which has as one of its objectives the enhancement of value chains in agriculture within the sub-region [4].

Notwithstanding, due to other assumptions of this theory, its applicability to this current study is questionable. For instance, among others, it assumes perfect competition in all economy, constant technology and existence of full employment. In reality, there exists imperfect competition, changing technology and less than full employment.

Moreover, the theory has no suggestion concerning the now common trend in which production processes are fragmented across national borders and the implication this has for the gains derivable for countries and their citizens from international trade. Nevertheless, the Ricardian model contributed greatly to the development of international trade by the use of relative prices in explaining the patterns of trade.

## 2. *New Trade Theories*

The 'New Trade Theories': New Trade Theory, Neotechnology Trade Theories and New-New Trade Theory emerged in the late 1970s and 1980s by Paul Krugman and built on the neoclassical framework by relaxing the assumptions of the existence of constant returns-to-scale and perfect competition and laid emphasis on the economies of scale and differentiation of products. The neotechnological theories emphasised the role of technology like the classical theories and departed from the neoclassical framework. With respect to economies of scale, in the presence of increasing returns to scale, when the inputs to an industry are doubled, the production of such industry more than doubles. In a situation in which there are many goods subject to economies of scale, rather than each country struggling to produce all goods, if each country produces just a few goods, the world will be able to produce so much of each good. The role of international trade then in this respect is that it offers the possibility of each country producing limited goods while taking the advantage of economies of scale and also giving the opportunity for increasing the consumption of all goods via trade [17].

Rather than the constant returns to scale assumed by the neoclassicals and the standard trade theories, the new trade theories assume increasing returns to scale which points to the existence of imperfect competition in as much as economies of scale are not external to the individual firms. For an industry with purely external economies of scale (that is an industry without any advantage to large firms), there will be many small firms that will be perfectly competitive [17]. At the level of the industry, economies of scale may arise due to the existence of a larger industry which provides a wider variety of specialised services that support the operation of the industry or provides a bigger and more flexible market for various specialised labour. However, with significant external economies of scale, a country that starts with production on a large basis in a specific industry will have an advantage of cost in that industry thereby inducing further specialisation in that industry and leading to inter-industry trade. In addition, it is possible for countries to lose from trade given that they have relatively small or low external economies of scale or income elasticity in their pattern of specialisation [17].

On the other hand, with the assumption of internal economies of scale which lead to imperfect competition, there are two possible dimensions. The first dimension models mainly economies of scale and considers imperfections in market and as such assumes monopolistic competition [17]. The second characterises market structure as being

oligopolistic or models Cournot or Bertrand competition [17]. For monopolistic competition, an industry is made up of reasonably large number of similar firms that produce differentiated/unique products. Here, equilibrium in the market ensures that all firms have zero profits with the number of firms determined by the size of the market. The relevance of this to trade is that trade increases the size of the market which may enlarge its scale of production and provide more varied products to consumers.

The basic trade mechanism here is internal economies of scale and differentiation of product – this causes the production of each varied product to be concentrated in that given country and each country produces different sets of varieties of a particular product. Due to consumers' love for varieties, each country imports the varieties produced by other countries and exports its own varieties, thus an intra-industry trade is created. In the case of an oligopolistic market, the decision of each firm mutually depends on that of the other. An open trade makes a firm to be a part of a bigger and more competitive market and each firm faces a higher demand elasticity which leads to an expanded output and expanded industry's output and consequently a fall in price. This is what is called the 'pro-competitive' effect. However, given the possibility of market segmentation and price discrimination, trade can occur without economies of scale and comparative advantage [17]. Trade takes place because oligopolists sense higher demand elasticity on exports more than on domestic sales – their foreign market share is smaller than domestic market. This makes them to penetrate each other's market (reciprocal dumping).

Here, differences and gaps in technology amongst countries are outcomes endogenous to firm-level product and process innovation that lowers the costs of production and creates new products. It is assumed that the flow of technology in a firm/country is neither free nor instantaneous meaning that a firm/country possesses a temporary comparative advantage in production and exports. The neotechnology trade theories' treatments of the effect of technology on trade are different from the Ricardian's in that in the former, trade is due to the innovating country's creation of some new products that other countries cannot produce at least on a temporary basis while in the latter, it is the technological (productivity) differences for some goods that cause trade.

In a situation in which consumers demand for varieties of goods (love for varieties) thus promoting the need for product differentiation in the presence of monopolistic competition, the new trade theory is able to account for this (18). However, recent studies reveal that intra-industry trade (or trade between countries or firms with similar technology, factor endowments and products) is more common with intermediate goods than with final goods and new trade theory accounts for this [19]. Just like the way consumers can maximize their utility under the 'love for variety' approach, firms, through trade in intermediate products should also be able to attain reduced costs and produce more output [18].



In addition, a priori, trade in intermediate products should also give room for firms to specialize narrowly along better defined comparative advantages. It also tends to be capable of promoting technological diffusion or provide producers with wider options of purchasing a given input that they may be incapable of producing themselves (18). Thus, if Nigeria or ECOWAS in general for instance engages in a global agricultural value chain, then trade in agricultural intermediate products would be the emphasis and gains from this pattern of trade is explainable within the new trade theory rather than the traditional trade theory. On the part of the New-New Trade theory, it maintains that global trade takes place between firms in a given country rather than between countries themselves. The proponents of global value chains also affirm the same. Yet, the applicability of the new-new trade theory to Nigeria and ECOWAS is limited because of the difficulties in obtaining microdata on plants and firms within this sub-region.

Some insights with regards the theory-objective nexus could also be garnered from other relevant theories such as the comparative advantage theory, heterogeneous firm theories and new economic geography/location theory.

#### B. Review of Empirical Studies

Some studies such as (1) and (20) relate economic integration, trade facilitation and agricultural export performance in ECOWAS countries using descriptive, statistical and econometric techniques. They used a descriptive analysis to assess the level of economic integration in ECOWAS countries. To examine the impact of economic integration process on agricultural exports in ECOWAS, they adopted a statistical analysis (correlation analysis) and employed an econometric method (Generalized Method of Moment) in examining the effect of economic integration on trade facilitation. Their findings suggested that in ECOWAS, on the average, the level of trade facilitation is below world average. The study also observed a sustained growth in agricultural production and a close relationship between agricultural production and agricultural exports in ECOWAS. They also found out that economic integration and trade facilitation influenced agricultural exports significantly in the region.

Reference [10] studied “China’s regional economies and value chains using an interregional I-O analysis.” The paper focused on the measure of domestic value chains (DVCs) across regions and their linkages with global markets. They used the Input-Output tables of China for 1997 and 2007 and concluded, *inter alia*, that the increase in interregional trade characterised by high trade in intermediate products is the primary cause of a flat creation and distribution of value added across regions. They also observed that the final demand for goods and services at the regional level, produced in other regions, has played a major role in the development of value added trade trans-regionally.

Reference [11] studied “Measuring global value chains and regional integration using an international I-O approach.”

Using Trade in Value Added (TiVA) as a new concept to estimate the evolution of GVCs and regional economic integration, their primary findings, *inter alia*, are that: intraregional Trade in Value Added in Europe is high thus revealing this continent as a high-level integrated region; the increasing interaction between EU15 and the rest of Europe is the main feature of the ongoing regional integration of the European region; contrarily, Asia as a whole witnessed a slight decrease in the presence of regional integration in the aspect of intraregional TiVA, and: trade in intermediate goods amounted to 66% of the total international TiVA in 2005 pointing to the fact that the deepening regional integration is basically driven by the increase in intraregional trade in intermediate goods in terms of value creation and distribution.

The work of [12] is also very similar to this current study. They however did not consider the role of economic integration. Their work was based on “value chain improvement for cocoa industry in Indonesia by input-output analysis”. Their objective was to assess the contributions of relevant sectors to value added and the extent of the forward and backward linkages of the cocoa beans industry in Indonesia. Using the input-output technique, they found out that the cocoa beans industry in Indonesia has weak forward and backward linkages with other sectors of the economy.

### III. STYLISED FACTS AND TREND ANALYSES: REGIONAL ECONOMIC INTEGRATION AND COCOA BEANS VALUE CHAIN

Some indicators of the performance of a regional economic community (REC) – intra-regional trade flows and the extent of trade facilitation are used to measure the performance of ECOWAS as a REC. In specific terms, the intra-regional trade flows in cocoa beans between Nigeria and the rest of ECOWAS (Nigeria-ECOWAS cocoa beans trade flows) and infrastructure (mobile cellular subscriptions, regulatory quality) are used as indicators of the performance of ECOWAS. With respect to the cocoa beans value chain in Nigeria, the performance of this value chain is benchmarked against those of the other leading producers of cocoa beans in the world – Cote d’Ivoire, Indonesia and Ghana – by comparing the productivities of cocoa beans of these countries with that of Nigeria. Trend analyses is used to shed more light on the relationship between regional economic integration in West Africa and cocoa beans value chain in Nigeria which is the interest of this study.

#### A. Regional Economic Integration in ECOWAS

Intraregional trade flows: This is shown in fig. 1 below

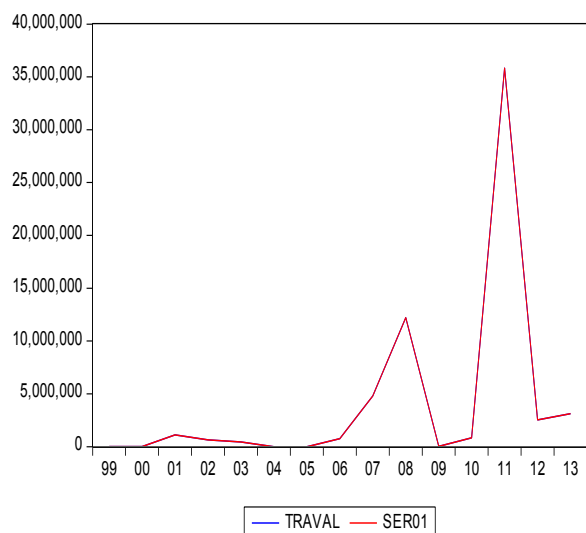


Fig. 1: Trend in the Value of Nigeria-ECOWAS Cocoa Beans Trade flows (TRAVAL) from 2000 to 2013.

Source: Charted from the statistics contained in (21)

Fig. 1 shows the trend in the Nigeria-ECOWAS cocoa beans trade flows (TRAVAL). The growth rates between 2000 and 2004 fluctuated between positive and negative values with zero growth in 2005 and 2006 because there was no trade for those years.

b) Indicators of Trade Facilitation: 1) infrastructure and 2) regulation. They are now considered as shown in table 1.

The mobile cellular subscriptions (per 100 people) indicator as shown in table 1 refers to mobile cellular telephone subscriptions to the service of a public mobile telephone that offers access to the Public Switched Telephone Network (PSTN). This indicator includes (and is divided into) the number of postpaid subscriptions and the number of active prepaid accounts (that is, those that have been used during the last three months). Subscriptions via data cards or USB modems, mobile data services, private trunked mobile radio, radio paging and telemetry are not included. This indicator reveals that Indonesia has the highest mobile cellular subscriptions up to recent times while Nigeria has the least consistently since the late 90s to recent times. Given that actors in the cocoa beans value chain in Nigeria need to communicate with other actors within the ECOWAS region in order to get information about the cocoa beans market in ECOWAS, the relatively low mobile cellular subscription suggests the possibility of actors in Nigeria not having necessary information thus inhibiting their opportunities to derive maximum gains from their activities.

TABLE 1: INDICATORS OF TRADE FACILITATION

Year	RegulatoryQuality				Mobile Cellular Subscriptions (per 100 people)			
	Nigeria	Indonesia	Ghana	Cote	Nigeria	Indonesia	Ghana	Cote
1998	-0.93	-0.26	-0.25	-0.26	0	1	0	1
2000	-0.74	-0.18	-0.10	-0.54	0	2	1	3
2002	-1.23	-0.64	-0.47	-0.45	1	5	2	6
2004	-1.32	-0.67	-0.35	-0.96	7	14	8	10
2006	-0.89	-0.34	-0.08	-0.85	23	28	24	23
2008	-0.78	-0.32	-0.04	-0.89	42	60	50	57
2010	-0.71	-0.39	0.12	-0.91	55	88	72	82
2012	-0.72	-0.28	0.12	-0.77	67	114	101	91
2014					78	126	115	106

Source: (22) and (23)

With respect to the indicator of regulation which relates to the policies and regulations that permit and promote private sector development, Ghana was the highest performer in this indicator with statistics ranging between -0.47 and 0.12 from 1998 to 2012 while Nigeria had the poorest performance (worst regulatory quality) with statistics ranging between -1.32 and -0.71. Hence, the two indicators of infrastructure are

pointers to the possibility of actors in the Nigerian cocoa beans value chain being the most adversely affected by the level of the availability of mobile cellular subscriptions and quality of the regulatory environment.

### B. Cocoa Beans Value Chain in Nigeria

#### a) Mapping as suggested by (14)

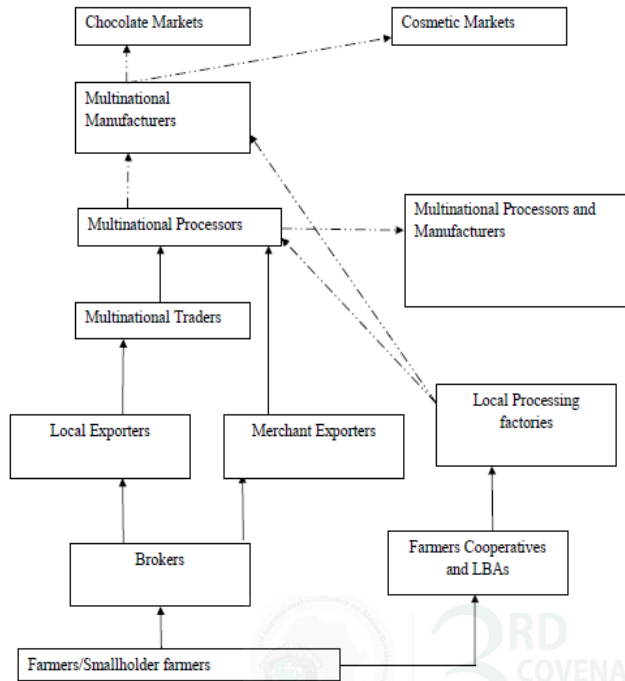


Fig. 2. The Nigeria's Cocoa Beans Global Value Chain  
Source: Adapted from (24)

#### b) Comparative Performance Assessment Using Benchmark Data

Reference [14] opined that one of the ways to assess the performance of a product's value chain is to benchmark the production efficiency/productivity against leading firms/countries in that given value chain. In this respect, given that Cote d'Ivoire, Ghana and Indonesia are the leaders in terms of exports, the productivity of Nigeria (proxy by productivity per hectare/yield of cocoa beans) is compared with those of these countries using trend analysis. This is shown by fig. 3

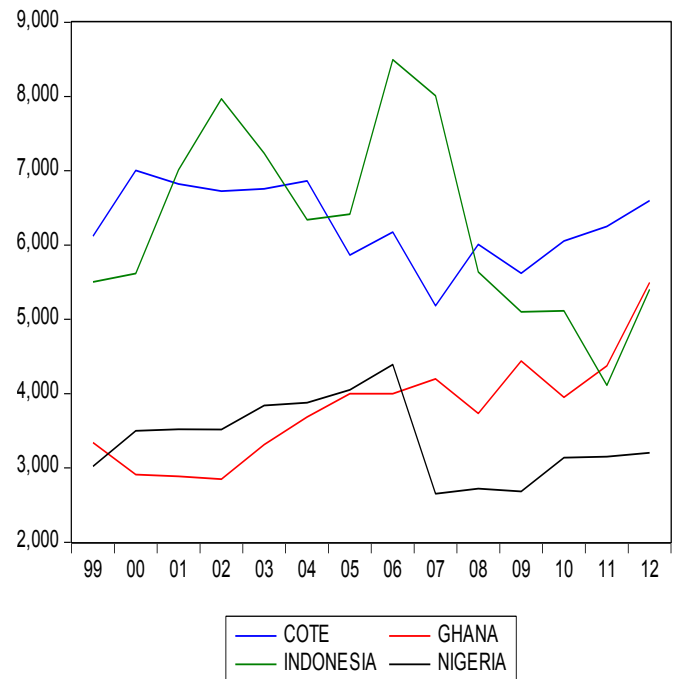


Fig. 3. Trend in Value Chain Productivity  
Source: Authors' computation from (25)

Fig. 3 shows that in the early/first half of the 2000s, Indonesia and Cote d'Ivoire had much higher cocoa beans productivities than Nigeria but Ghana had higher productivities than Nigeria within the same periods. However, in the second half of the 2000s, Ghana's productivities became much higher than those of Nigeria. Cote d'Ivoire and Indonesia also had much higher productivities than Nigeria. Thus, in the second half of the 2000s till 2012, out of the four leading exporters of cocoa beans in the world, Nigeria's productivities lag much behind those of the others.

Relating the Nigeria-ECOWAS trade flows (an indicator of regional economic integration) and the productivity of the cocoa beans value chain in Nigeria, in the first half of the 2000s, the trends showed a gradual and steady increase in the trade flows and productivity thus suggesting a positive relationship between them. However, in the second half of the 2000s up to 2013, the trend in the former fluctuated while that of the latter decreased sharply after 2007 thus showing an ambiguous relationship between the two. To corroborate the descriptive analysis done here, an empirical analysis using the input-output analysis is suggested to estimate the extent of forward and backward linkages brought about by regional economic integration.

## IV. CONCLUSION AND POLICY RECOMMENDATION

From the stylised facts and trend analyses, some insights into the performance of ECOWAS and the cocoa beans value chain between Nigeria and the relationship between the two concepts have been garnered. The indicators of regional economic integration considered show that on the average, Nigeria lags behind other leading exporters. On the other hand, the indicator of the intraregional cocoa beans value chain between Nigeria and the rest of ECOWAS (Nigeria's

cocoa beans value chain productivity) also shows a relatively low performance when compared to the productivities of other leading exporters of cocoa beans. Thus, it can be inferred that the platforms put in place by ECOWAS tend not to be sufficient to significantly bolster intraregional cocoa beans value chain between Nigeria and the rest of ECOWAS.

Thus, with special focus on the cocoa beans value chain in Nigeria, ECOWAS Commission still has to play better roles in increasing the access to telecommunication and encouraging better regulatory environment in order to create the necessary inter-linkages between the cocoa beans value chain actors in Nigeria and the actors in the rest of ECOWAS.

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