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Global Value Chain Development and Structural Transformation in Nigeria

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Key Points

- The rationale for global value chain development in Nigeria is premised on several grounds that include: viability as a lever for guiding the country's economic transformation; potency for addressing the growth inclusiveness challenge facing the country; and effectiveness in driving sustained growth through delinking the economy from fluctuations in commodity prices and weather conditions.
- To take advantage of these benefits, Nigeria needs to take advantage of its vast potentials in wide array of activities that include agricultural commodities (cocoa, cassava, etc), oil and gas, manufacturing, entertainment and similar activities.
- Structural transformation is possible in Nigeria through GVC development via industrialization, technology upgrade, emergence of new ancillary activities, export diversification, and inclusive growth promotion.
- The current active support of the government through the Agriculture Transformation Agenda, specifically the Staple Crop Processing Zones, and the Nigeria Industrial Revolution Plan is creating a momentum leading to emergence of some GVC firms.
- To consolidate these gains and tackle the remaining challenges, there is need to articulate a national policy on value chain development, deepen reforms to further improve the business and regulatory environment, focus on areas of comparative and competitive advantages, promote public and private R&D investment, and champion intra-ECOWAS cross border trade.

1 | Introduction

The Nigerian economy faces the challenge of limited economic transformation and diversification. This is evident from the country's specialization in less dynamic and low value added domestic activities and trading in the global system. While the economy was relatively diversified in the 1970s with building and construction, wholesale and retail playing major roles in

economic activities, there has been a reversal since 1980s. Even the results of the just concluded rebased GDP from 1990 to 2010 has not shown any significant diversification away from reliance on the natural resource sectors even though it points out to the potentials the economy has to achieve this. Indeed, the issue of economic transformation through effective di-

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versification into industry, manufacturing and processing has taken a center stage in the country's economic policy discourse for a long time. However, this has not materialized despite the significant progress made in economic growth that has averaged almost 7% in the past decade. Changing the status quo demands changing the orientation of economic production structure in favor of value chain development along the lines of available resources and integrating the chain with the global economy. It is noteworthy, though, that issues relating to value chain development in Nigeria mirrors developments in other African countries where there is growing global participation in global value chain (GVC).

Value chain involves a procedure for bringing together producers, processors, buyers and sellers in an intertemporal framework with a view to adding value to the goods or services being exchanged as it passes from actors involved along the spectrum from conception to the final consumer in the domestic, regional, and global markets. Also involved in these chains of value added activities are the array of technical, financial, business and other service providers along the backward and forward spectrum of the chain.

The importance of value chain development and global integration is numerous and compelling. First, it has been proven to contribute to higher national economic growth since the mid-1990s. It is, thus, associated with higher productivity gains, expanded economic activity and higher economic growth. Second, it has significant transformative effect on the economy. Third, it builds competitiveness through improved logistics. Fourth, it has high positive effects on industrial development, technology transfer and skills upgrade. Fifth, value chain activities increases job creation, not only for activities directly connected to the chain but also to other peripheral remotely related activities. Sixth, GVC breaks the barrier of trade protectionism and promotes regional economic and trade integration. Seventh, it helps improve logistics performance that has been empirically proven to reduce trade costs, on the average, ten times more than the equivalent reduction in tariffs. Lastly, it strengthens the trade-investment nexus.

This policy brief examines the state of GVC in Nigeria, focusing on the challenges and abounding opportunities for its development. The potentials for driving GVC are highlighted and illustrated in selected key commodities and activities where the

country has obvious comparative advantage. These include cocoa, shea, cassava, oil and gas, and manufacturing. A note is also made of the emerging trends in GVC development. Based on observed challenges, lessons for transforming the economy through GVC are proffered based on experiences from successful GVC countries. The brief also notes that there is an ongoing momentum to jump-start GVC through reforms in the agriculture and manufacturing sector, imbuing confidence in the development of GVC in Nigeria.

2 Value Chain Development and Global Integration in Nigeria

Nigeria is highly endowed with basic inputs and commodities that would normally form the foundation for GVC. The country is rich in several agricultural products (cocoa, groundnut, palm produce, cotton, tomatoes, cassava, rice, maize, etc.), fisheries, livestock, precious stones (gold, gemstones, etc.), crude oil and natural gas. Most of these commodities hold high potential for significant value chain processes and GVC that remain largely untapped.

In contrast, developing Asian and American countries are highly active in GVC. OECD GVC database shows that Malaysia, Philippines and Singapore are relatively highly advanced and sophisticated in this respect, recording a total annual average GVC participation rate of around 70 percent in 2000, 2005 and 2009. These countries have very strong backward and forward GVC participation rates in clothing and apparel, ICT, manufacturing, electronics, services, etc.

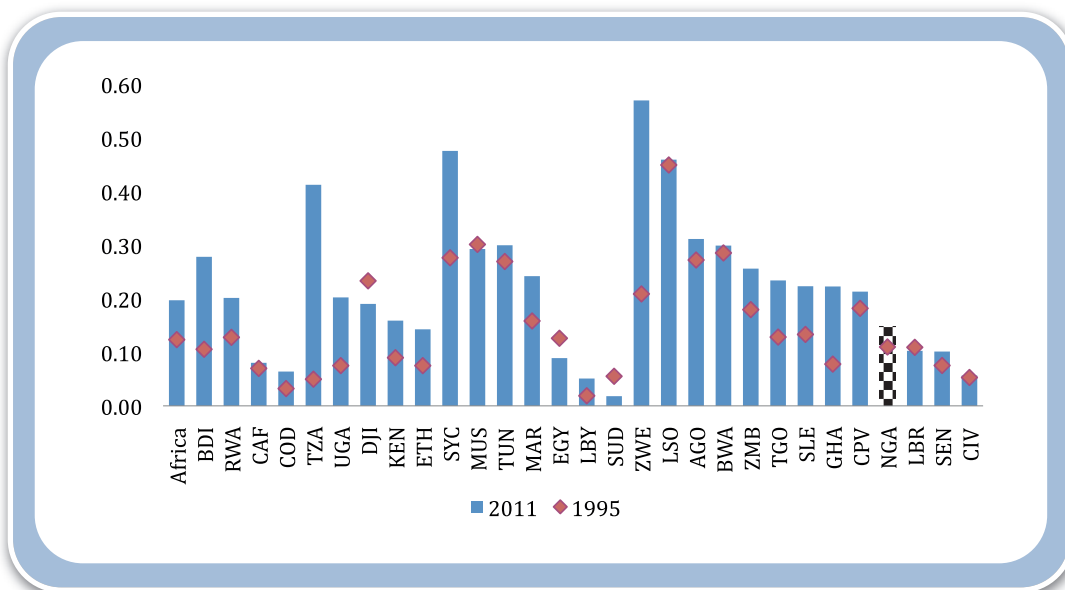
Unlike top GVC African countries like Lesotho, Seychelles, Tanzania and Zimbabwe that ranked among the world top 30 countries, Nigeria is yet upcoming in GVC. The country ranges among the lowest on the continent both on backward and forward GVC integration (Charts 1 and 2). In 2011, for instance, the UNCTAD-EORA GVC database shows that while Seychelles, Tanzania and Lesotho recorded a total GVC participation rate of 0.74, 0.67 and 0.66, respectively, Nigeria scored 0.45. These countries demonstrated strength in backward integration compared to forward, implying that they use more imported inputs in their overall exports. Conversely, Nigeria's strength is in forward integration, suggesting that the country's exports are dominated by raw inputs that are used in third countries' exports.

² AfDB (2013).

³ See Cattaneo, Gereffi and Staritz 2010; Sturgeon and Memedovic 2011; Elms and Low 2013; and UNCTAD 2013.

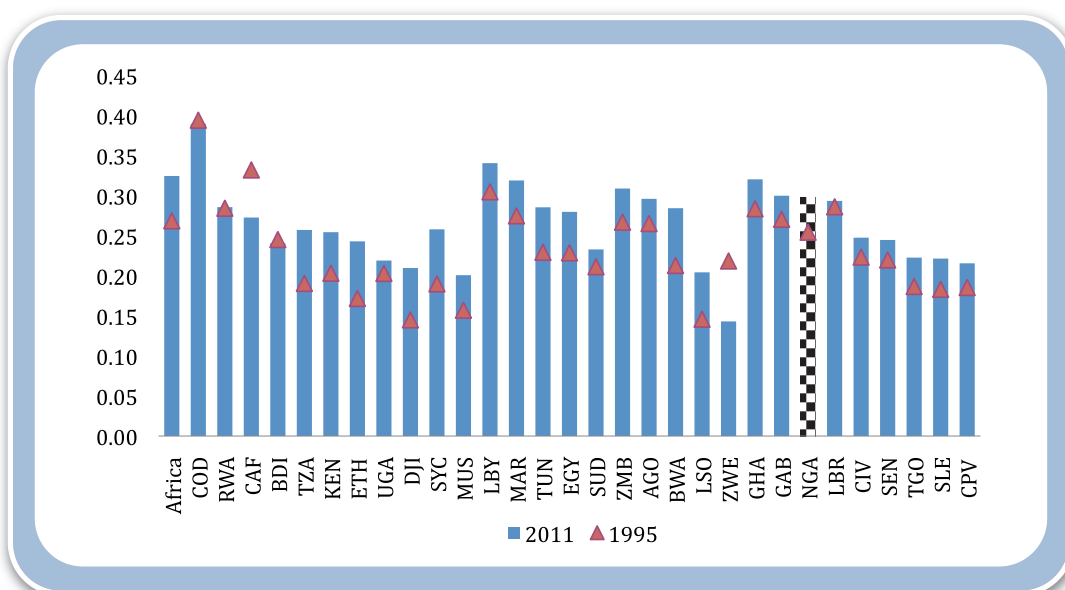
⁴ See Arvis, et al 2013; Brunner 2013; Milberg and Winkler 2013; Saito, Ruta and Turunen 2013; OECD 2013; OECD, WTO and UNCTAD 2013; Barrientos, Gereffi, and Rossi 2011; Gentile-Lüdecke and Giroud 2012; and Görg, 2011.

Chart 1 Backward integration of selected African countries into global value chains, 1995 and 2011



Source: Adapted from AfDB, OECD and UNDP (2014).

Chart 2 Forward integration of selected African countries into global value chains, 1995 and 2011



Source: Adapted from AfDB, OECD and UNDP (2014).

GVC holds high promise for increased job creation, poverty reduction and inclusive growth in Nigeria. It also holds high potential for galvanizing regional integration within the ECOWAS bloc. Given the importance and its potentials, GVC should form the nucleus of the country's Transformation Agenda. It appears that the Federal Government of Nigeria has more recently realized this as evident in the ongoing efforts to integrate

GVC into the country's ongoing economic and structural reform initiatives in key priority sectors, especially agriculture and industry.

There are indications that the Federal Government of Nigeria in association with some State Governments is currently undertaking a Staple Crop Processing Zones initiative located in

strategic parts of the country. The key goal of this initiative is to increase local value addition of rice, cassava, fisheries, sorghum and horticulture. Other activities being considered include processing and value chain development of tomatoes, pineapples and beef. The guiding principles of this intervention is anchored on offering superior operating environment for downstream players, create a new platform for private sector to drive the process and ensure an integrated value chain approach to address sector constraints. Already, 13 anchor Staple Crop Processing Zones have been identified in different regions of the country along the 5 crops mentioned above. To sufficiently attract both domestic and foreign private sector investors, cost-reducing incentives of between 15 and 25 percent are being provided with promised internal rate of return ranging between 25 and 50 percent. Some of the incentives being offered include: fiscal and administrative support; land acquisition; infrastructure and real estate provision; and facilitation of supply security. One interesting development in this respect is that several State Governments are already coordinating with the Federal Government in offering land to prospective investors.

Another important development that shows Nigeria's gradual emergence as a GVC country is the recent articulation of the Nigeria Industrial Revolution Plan (NIRP). The broad goal of the reform is to improve Nigeria's competitiveness and ensure that an additional 3.5 to 5 trillion Naira worth of annual ma-

nufacturing revenues are generated. It also aim at increasing the percentage contribution of manufacturing to GDP from the current level of 4 percent to 6 percent in 2015 and to over 10 percent at the end of the life of the Plan in 2017. The National Automotive Policy that aims to develop automotive value chain in Nigeria is a major component of this policy. Its implementation has started in earnest with gradual increase in duties on imported used vehicles.

It is noteworthy that there are a few firms that are already making efforts to break into the GVC processing and trading while others are relatively stabilized in this activity (Box 1). In addition, Innoson Motors is also making significant progress in the automotive industry with auto plant assembly lines and other related chains of activities located in the South Eastern part of the country. The emergence of these firms is, to some extent, a product of ongoing reforms that focus on value chain development in the country. In a similar vein, those relatively entrenched in value chain activities are leveraging these reforms to deepen their engagements in these important activities.

Value chains would serve Nigeria as a vehicle for new forms of production, technology transfer and development, logistical development, labor skills upgrade, long-term industrial upgrade, job creation, poverty reduction, inclusive growth and global networking.

Emerging GVC Firms in Nigeria

Dangote Group provides a good example of an emerging GVC firm in Nigeria. The Group is the largest trading company in the Nigerian Stock Exchange and one of the top 5 listed companies in West Africa in 2012, according to Forbes. The Cement subsidiary has a fully integrated quarry-to-depot production and value chain system including transportation and logistics. The firm currently has fully integrated cement value chain activities in three different plants in Nigeria and has plans for similar activities in Cameroon, Republic of Congo, Cote d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Liberia, Senegal, Sierra Leone, South Africa, Tanzania and Zambia.

Dangote Sugar is also tapping into the recently developed National Sugar Development Policy to develop GVC in the sugar industry from integrated sugar cane plantation through milling to sales and distribution of the final product. These activities are expected to create around 150,000 jobs along the value chain with expectation of massive exports of sugar to the world, beginning with the ECOWAS market. The firm has invested heavily in farming equipment, farm and irrigation expansion channels, importation of sugarcane varieties and community land settlement. This is a significant move away from previous practice when refined sugar was imported for bagging and subsequent sale in the Nigerian market.

The firm is also in the process of extending its value chain development into the oil, gas and petrochemical sector. Currently, the firm is in the process of establishing the largest petroleum refinery and fertilizer value chain plant in Africa. The firm is investing US\$9 billion in refinery, and petrochemicals cum fertilizer processing complex.

Source: Authors.

3 Potentials for Developing GVC in Nigeria: Selected Commodities

There have been some attempts to analyze the development potentials of value chain in Nigeria. UNIDO, CBN and BOI (2010) focused on agriculture value chain development with emphasis on finance. The study found the highest potentials in cassava, rice, meat/leather, soybeans and fisheries and promising potentials for cotton, maize, palm, poultry and tomatoes. Beyond agriculture, the large endowment of the country in oil, gas and other natural resources that include solid minerals provide additional opportunities for value chain development and global integration of the country. A few of these potential commodities and activities are briefly highlighted here.

Agricultural Commodities

Nigeria is rich in several agricultural commodities, notable among which are cocoa, shea nut, palm produce, cassava, cashew, soybeans, millet, maize, tomatoes, etc. The large abundance of these products provides an opportunity for promoting value addition and integrating activities involving their processing for domestic consumption and exports. Hence, rather than engaging in exporting these commodities

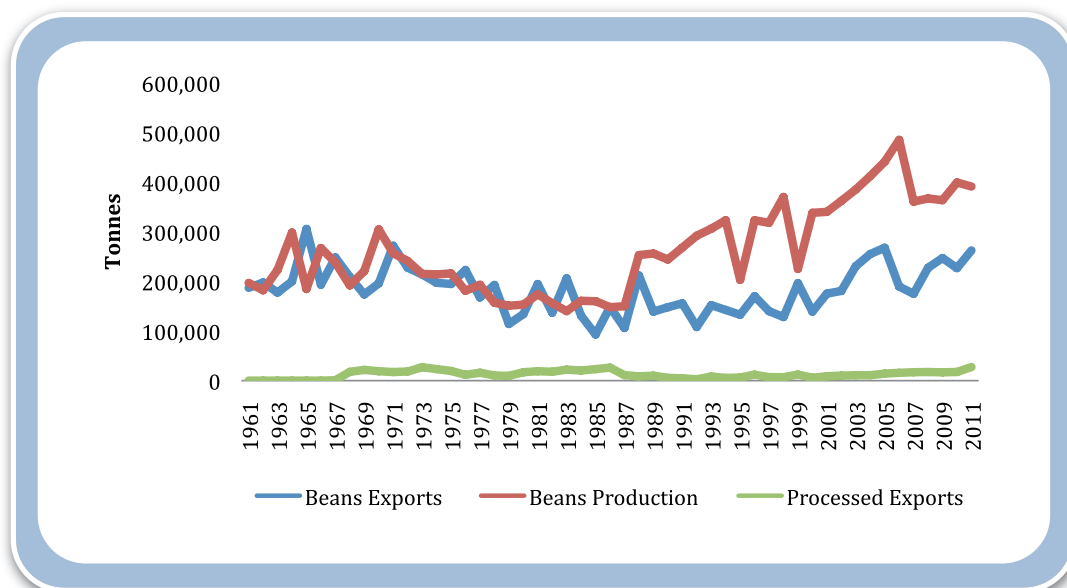
in their raw form, much can be done to process them before export.

A few studies have examined the agro-related global value chain with focus on level of competitiveness, participation, and tendency for economic upgrading⁵. These studies show that countries like Ethiopia, Kenya, South Africa and Uganda have leveraged its comparative advantage and have recorded an appreciable success in horticulture, providing lessons for Nigeria in the commodities for which it has comparative advantage.

Cocoa

Cocoa is the second most important export commodity in Nigeria behind petroleum. The country is the fourth largest producer in the world in 2012, coming behind Côte d'Ivoire, Indonesia and Ghana. Nigeria produced a total of 383,000 tons or 8% of global output. It is noteworthy that this is a major slide in performance when compared to the period shortly after independence when cocoa generated around 90% of foreign exchange earnings and close to 20% of world output. Most cocoa currently produced in the country averaging 90 percent of total production is destined for exports in its raw form (Chart 3). Locally processed cocoa exports comprising butter, paste, powder and cake consistently account for insignificant percentage of total production.

Chart 3 Cocoa Production and Exports Dynamics in Nigeria, 1960-2012



Source: FAO Database.

⁵ See Razzaque and Velde 2013; Lee, Gereffi, and Beauvais 2012; Ouma 2010.

Cocoa's high potential for value chain development and global integration lies in its wide production that cuts across no less than 14 of the 36 States of the Federation. The favorable rain pattern in the country also provides additional opportunity for increased cocoa production across the country. The large domestic market for products made from cocoa such as chocolate, beverages, etc, provides additional impetus for cocoa value chain development.

More recently, there has been a resurgence of support by the Government, especially the Federal Government for the Nigerian farmers to grow more cocoa and improve domestic production. There have been focused efforts at stepping up the distribution of cocoa seeds that are resistant to diseases such as Black pod with a view to boosting production prospects by 2015. However, what has not been given sufficient attention are the development of the value chain and processing of the commodity before exports. The focus has rather been on satisfying the global demand for cocoa beans that is expected to outpace supply due to fall in production and increased demand for industrial use, especially in the production of chocolates.

According to the International Cocoa Organization (ICCO), global consumption of chocolate has doubled in the past 20 years, with around 14 percent increase in demand in the last five years. This provides excellent opportunity to expand domestic cocoa production. However, rather than exporting raw cocoa beans, consideration for adding value before exports should be the way forward. The viability for global integration of Nigeria into the cocoa value chain lies in the fact that the world chocolate industry that thrives on cocoa is a multi-billion dollar sector with sales of top ten producers reaching \$86.3 billion in 2013, according to the ICCO. None of these firms are located in cocoa producing country or region of West Africa.

With the growing global demand for organic cocoa estimated by ICCO to be around 0.5 percent of total production in 2013, Nigeria needs to become more strategic in its cocoa bean production and development, with serious focus on developing organic cocoa. Otherwise, Nigeria may be displaced in the global cocoa market by rival organic cocoa producing countries such as Madagascar, Tanzania, Uganda, Brazil, Costa Rica, Dominican Republic, El Salvador, Mexico, Venezuela, to mention a few. This would require complying with all the requirements involving legislation of importing countries engaging in the use of cocoa for organic products.

Cassava

The clear potential for developing cassava value chain lies in its wide production across the country, with high concentra-

tion in the Southern part of the country. Cassava is a staple that is widely cultivated, produced and consumed by people across income and socio-economic status. Cassava has global appeal that makes it a good candidate for value chain development and global integration. It is mostly used as staple food in Africa and Latin America and as commercial inputs for production of starch-based products (textiles, adhesives and paper) and animal feeds in Asia. Its tolerance for drought, ability to grow in lands where other crops fail, and capacity of its roots to remain in the ground for between 24 and 36 months without going bad make for favorable conditions for its production, processing and sale. Nigeria was the highest world producer of cassava in 2012, producing 54 million tons or about 20% of total world output.

The wide use of cassava and its derivatives provides excellent opportunity for its value chain development both for food and industrial use. For example, cassava is useful for varieties of food, input in confectioneries (mainly bread), vegetables, adhesives, paper, textiles, ethanol, and animal feed. For cassava to be used in any of this way, long chain of processes is required, with each holding high opportunity for job creation, poverty reduction and export potential. The high demand for cassava products in countries like Japan, China, Europe, Brazil and other countries in the paper, textile, biofuel and adhesive industries demonstrates the high benefits the country stands to derive from value chain development and global integration in cassava. The stable viscosity, flexibility, and abrasion resistance nature of cassava extracts make cassava one of the best products for industrial use.

The Presidential Cassava Initiative of 2002 that proposed to increase cultivation area to 5 million hectares with annual production of 50 million tons and exports earnings of \$150 billion by 2010 did not achieve the intended targets of sufficiently improving cassava value chain. During the cassava revolution of the mid-2000s, several pilot projects were established as either wholly private or public-private initiative to boost cassava value chain development. Some Chinese private investors teamed up with local private investors and Government institutions in Ekiti, Kwara, Oyo and Taraba States to set up ethanol plants and semi-processed cassava cakes for exports. In addition, a policy requiring 10% cassava flour content in all locally produced confectionary and bakery products were initiated in 2006.

The vibrant bread and confectionary market, the high demand for textiles, animal feed and adhesives that make use of cassava-based products offer excellent opportunities to improve its value chain development and global integration. A re-

view of the past cassava policies may be in order with a view to assessing the shortfalls and way forward.

Other viable agriculture-related commodities that offer excellent and unique opportunities for value chain development and global integration based on the country's comparative advantage are leather/meat, cotton/textile, sesame, rubber, soybean, cashew nuts, rice, tomatoes and fruits.

3.1 Oil and Gas

That Nigeria is well endowed with oil and gas is not disputable. Despite several years of exploitation, proven reserves for crude oil and natural gas remain high, estimated to be 37.14 billion barrels and 5.12 trillion cubic meters, respectively, at the end of 2013 (OPEC 2013). While daily crude oil production was 1.95 million barrels per day, installed refining capacity was mere 445,000 barrels per day. Even then, there exists serious underutilization of this capacity as actual output of refined products was 82,400 barrels per day with exports of paltry 8,200 barrels per day.

The above reveals the high potential the country has to improve value chain development and global integration of oil and gas in West Africa. For instance, until recently, Nigeria was for many years the only country in West Africa that produces crude oil in commercial quantity. The large market opportunities in the country and the West and Central African regions presents excellent opportunity for development and processing of oil and gas value chain and global integration. Such diversification will also provide a way out of the 'resource curse' conundrum facing the country.

Oil and gas value chain development is most suitable given its potential for strong forward and backward linkages. On forward linkages, derivatives of crude oil such as petrochemicals are high potential sources of industrial production such as plastics, paints and other products. Conversely, the backward linkages involve provision of services that include plant and facility construction and maintenance, finance, insurance and shipping.

Local content has been advocated as the major strategy for developing strong value chain linkages between the oil and gas sector and other sectors of the economy⁶. However, given the capital- and technology-intensive nature of the sector, the need to create local capacities in these areas cannot be overemphasized. Local suppliers, servicing firms and oil servicing artisanal activities involving fabrication, rig maintenance, etc, are poten-

tial areas of capacity development if attention is focused on value chain development in this sector. Even though the sector is less labor-intensive compared to agriculture and services, the gamut of support services in the oil and gas continuum would provide reasonable number of jobs across the value chain.

Norway provides a good lesson for Nigeria in the oil and gas value chain development and global integration. While oil was discovered in commercial quantity ten years behind similar discovery in Nigeria, Norway has achieved significant development of its oil and gas value chain, now focusing on knowledge-based and innovation-driven economy by leveraging its strength through the oil and gas value chain. The supplier component alone generated about 114,000 jobs with sales valued at \$52 billion in 2010 (Sasson and Blomgren 2011).

More job creation and value addition also take place at the three value chain phases of upstream (oil and gas exploration and exploitation), midstream (processing and transportation), and downstream (refining distributing, marketing, and selling oil and gas products). Each of these phases has highly developed local and foreign firms that provide highly integrated value chain for oil and gas products. The oil and gas value chain development and global integration leveraged on the country's comparative advantage in shipping and shipbuilding. Hence, the country is able to integrate its oil and gas sector with sectors and activities that include transport and logistics, production technology, marine equipment and heavy machinery, chemical products, and business services.

The factor that made for success in the oil and gas value chain for Norway that provides good lesson for net oil exporting countries in Africa, especially Nigeria, is State policy support. First, the Government implemented a protectionist policy for the sector in the early years of oil and gas discovery that allowed Norwegian local oil firms to develop competences along the value chain. The Government developed a regulation that mandated the foreign-owned International Oil Companies (IOCs) to inform the Ministry of Petroleum and Energy about available supplier bids. The Ministry would then compel the IOCs to include specific Norwegian firms in the bidding process.

Second, the Government ensured that strategy for local capacity building across the oil and gas value chain was part of the necessary condition for licensing IOCs to operate in the country. The IOCs were given support in form of tax rebates as incentives for developing the local capacity (Heum 2008). Third, the Government provided strong support for local R&D

⁶ See Oyejide and Adewuyi 2011 and Teka 2011.

in the oil and gas value chain through fiscal spending and ensuring that IOCs conduct a substantial part of their R&D activities – up to 50% in the late 1970s – in Norwegian research institutions. However, as the country improved its capacity in the oil and gas value chain, gain strong competencies and became globally integrated, these protectionist measures were gradually removed and completely phased out in 1994. Lastly, establishment of strong and effective regulatory framework and national oil company, Statoil, that formed strong synergy with the government, research institutions and tertiary institutions also helped. This assisted to establish, develop and nurture a vibrant and flourishing oil and gas value chain industry.

Given Nigeria's comparative advantage on resource availability in the oil and gas sector and the knowledge-intensive nature of the sector that makes for value creation in activities that include engineering, geoscience, logistics, and other important activities, the Norwegian experience provides a food for thought for the country. Brazil and Malaysia also provide similar experiences. Adapting these experiences to local conditions will help the country establish self-reinforcing oil and gas value chain and global integration. It will also provide an opportunity for the country to develop oil and gas value chain clusters similar to Stavanger in Norway, Aberdeen in Scotland, Houston in the US, and Calgary in Canada as the success of the firms operating in the sector would further attract more players and workers as they endeavor to take advantage of the existing firms, R&D centers, capacities and operational scale.

3.2 Manufacturing

Nigeria is a highly import-dependent economy. Imports are highly concentrated in manufactured goods and sometimes in goods where the country apparently has comparative advantage such as refined petroleum products. Yet, the country has very large domestic market and growing middle class with voracious appetite for manufactures that provide excellent opportunity for value chain development and global integration in manufacturing. Rather than importing most goods, there is need to respond to the high domestic demand by building domestic capacity, beginning with light manufactures and gradually improve to heavy plant, machinery, vehicles and other production equipment. Interestingly, there are specific policies and incentives that encourage the adoption of locally manufactured industrial equipment.

Asian experiences of manufacturing value chain development and global integration provide good lessons in this respect.

Chinese success in transforming its economy since 1978 stands out among the experiences of the Asian countries. One known factor that helped China to forge such phenomenal structural transformation over such a short period of time is industrial clustering. These industrial clusters or special economic zones take different forms with each having its peculiarities and providing unique lessons for policy. Three broad types of such clusters can be identified. First are those by small and medium enterprises that revolve around traditional industries where the host community has comparative advantage. Second are the technological- and capital-intensive clusters of Chinese-owned firms involved in more complex manufactures such as automobiles. Third are the foreign investors- and multinational companies-induced clusters active in the production of automobiles and electronics. Different examples of these three types abound in different provinces in China with specific interesting features and characteristics about their emergence, dynamics and operations.

Based on the Chinese experience, one can infer factors that could promote value chain development and global integration in manufacturing. Local infrastructure plays a key role in attracting and sustaining industrial clusters and so are social networks. Also important are macroeconomic policy and business and regulatory environment. The first step in applying the lessons from Chinese industrial clusters is to look inward, focusing on exploring and exploiting available comparative advantages in natural resources, demographics and fiscal regimes. To implement the policies learned, national strategies for industrial clustering would have to be developed based on existing local characteristics, stage of development, resource endowment and other relevant factors.

Value chain development and global integration in all the commodities and activities described above provides excellent opportunity and channel for industrial development and structural transformation of the Nigerian economy. Processing all the commodities identified and adding value to the natural resources require industrial activities that are capable of improving inclusive growth through job creation and poverty reduction. This is the main channel for transforming African economies from its current state of predominantly agrarian to predominantly industrial and from primary production into processing and manufacturing activities.

4 GVC and Structural Transformation in Nigeria

Value chain development and global integration is one of the very few options available for Nigeria to structurally transform

its economy and would promote structural transformation through the following channels.

Easy route to industrialize. For example, Bangladesh that specialized primarily in jute milling before independence is now a major force in garment GVC. Since 1980s and 1990s when Bangladesh entered the garment GVC, the number of garment factories has grown to almost 6,000 with estimated exports worth over US\$25 billion in 2013. Bangladesh entered the chain at the most basic level where sewing plants were provided with imported inputs for local assembly. Today, the country engages in the full range of garment making that include yarn manufacturing, accessories and textiles. Similarly, Indonesia, Vietnam and Cambodia have also industrialized through GVC participation in the garment sector. These examples illustrate how promoting GVC participation in, say cassava, oil and gas or other commodities for which Nigeria has positive initial endowments could revolutionize the country's industrialization drive.

Technology upgrade. This implies ability to capture a higher share of value added products in the GVC⁷. It is widely acknowledged that learning and innovation are important determinants of competitiveness and growth of either firms or countries to improve efficiency. This suggests that gradual upgrade of technology achieved through learning or innovation is critical for structural transformation. Yet, the state of technology in Nigeria is still relatively rudimentary and this is evident in the mode of production in almost all sectors of the economy. But it has been shown empirically that establishing linkages with the world through GVC is one sure and steady way to access and upgrade technological know-how, innovation and learning⁸. This would usually be achieved through provision of needed technical assistance and best practices to ensure best quality of products to meet global best standards. They are also most likely to expose local participants to improved technology through either overseas training or technology imports by establishing turn-key plants in the local economy or both. These will contribute to improving existing production processes, products and functions. Exposing the country's technology to the gamut of channels through which technological diffusion and upgrade do take place such as labor mobility, technical assistance, franchise and turn-key plants would radically transform the structure of the economy and its production processes such as in cassava and cocoa.

Skills upgrade and access to global best practice. Existence of highly committed, competent and innovative entre-

preneurs has been identified as an important condition for GVC development⁹. Thus, most countries that have structurally transformed their economies through GVC participation succeeded by tapping locally available manpower and natural resource endowment. They rely on low skilled workers that are willing to accept low wage to engage in production and then gradually get their skills honed and upgraded in the production process. The revolution of the Taiwanese computer industry was based on harnessing pre-existing basic production skills and design capacities¹⁰. Integration into GVC allows participants within the value chain to interface with superior technology that would further refine domestic skills. Inclusion of industry-specific skills upgrade trainings that meet international standards would further boost skills in the production processes. Workers are also likely to learn new "soft skills" that would make them more efficient in the production processes or in new and emerging production activities.

Emergence of new and peripheral productive activities.

One major advantage of engaging in GVC is emergence of new peripheral activities that provide wider range of opportunities. Transport and logistics, banking and financial services, insurance, health services, education services and several other support services are likely to spring up. In addition to providing expanded economic opportunities, such increased activities would also significantly relax other constraints to structural transformation. For example, improved logistics services would significantly reduce trade costs, that on the average, have been found to constrain trade ten times more than tariffs. This would contribute to boosting productive activities and trade in diverse products and intermediate inputs along the value chain.

Export diversification. Effective GVC development and integration would change the current highly concentrated export structure in Nigeria. One main factor responsible for the unprecedented performance of China in global trade is GVC participation. The country is the main manufacturing base for products that were previously imported by the US and Europe from other countries such as Malaysia and South Korea. Global brands such as Apple, Samsung, Nokia, among others, use China as assembly point. A considerable percentage of intermediate inputs are imported from Europe and other Asian countries for final assembly in China and re-exported to the world. This is the same for other wide-ranging products like electronics and ICT equipment. All of these have strong cumulative effect on the increased Chinese trade data. Breaking

⁷ See AfDB, OECD and UNDP (2014)

⁸ See Gereffi et al., 2005.

⁹ AfDB, OECD and UNDP (2014)

¹⁰ See Kishimoto 2004.

into the GVC would do the same for Nigeria. Trade in diverse products would soar far beyond the current concentration on oil and gas.

Inclusive growth through structural transformation, job creation, wealth spread and poverty reduction. As earlier enunciated, GVC spurs increased economic activities in new and existing wide array of businesses along the value chain and other peripheral engagements. These new activities provide array of higher employment opportunities that could help spread wealth and reduce income inequality. Job creation, not only in activities directly connected to the chain, but also in other peripheral remotely connected activities and support services would provide additional impetus for driving inclusive growth.

5 Challenges

The observed weak value chain development and global integration in Nigeria despite the high potentials hinges on several identifiable challenges. There is **weak local technological and skill capacity in key areas that could strengthen value chain development and global integration.** For example, the country's industrial and manufacturing base is yet weak with limited capacities in important areas like fabrication and metallurgy.

Weak regulatory and institutional framework for domestic production of quality goods that would meet the minimum acceptable specifications in global developed markets. Existing regulatory and institutional frameworks are weak, duplicative, and with overlapping mandates that evoke confusion among market players. These tend to limit the extent to which local products developed through value chain activities can enter the highly competitive global market.

Weak state of national infrastructure. Over the years, the state of infrastructure in Nigeria has ranked below average. In 2010, for instance, Nigeria ranked 100 out of 155 countries in the Global Logistics Performance Index. The good news is that the situation has gradually improved over the years with a peak ranking of 75 out of 160 countries in 2014. Despite this improvement, challenges remain high in logistics and infrastructure.

Poor coordination mechanisms. In agriculture commodities, for instance, there is no effective coordination among farmers, farm gate buyers, processors, and sellers. Buyers and suppliers do not have code of standards that would compel farmers to comply with given quality criteria.

Weak overall global competitiveness. The performance of the Nigerian economy in the global indices measuring competitiveness has not been sufficiently satisfactory. For instance, the World Economic Forum ranked Nigeria 115th out of 144 countries in its 2013 Africa Competitiveness Report. Similarly on the World Bank's Doing Business, the country has not been faring too well, sliding in its global ranking from 138 out of 189 countries in 2013 to 147 in 2014.

Limited support to local producers and processors in facilitating their participation in global value chains. The production and processing of commodities that could be integrated into the global value chain is undertaken predominantly by individuals and small and medium enterprises without significant active support from the State.

Insufficient intellectual property rights protection. It has been acknowledged that enabling business environment is a necessary condition for promoting SMEs to integrate into the global value chain. The insufficiency of intellectual property rights has been a major challenge to the continued state of underdevelopment of the entertainment industry, especially Nollywood.

6 Suggested Policy Actions

To effectively integrate Nigerian firms into the GVC and avoid the current marginalization in GVC trading activities, implementation of some salient policy recommendations are necessary.

Articulate a clear National Policy on Value Chain Development that is effectively integrated with the national trade, industrial development and competitiveness strategies. This should provide streamlined approach to, not just domestic value addition, but also GVC integration. The policy should be effectively aligned with the country's Industrial Development Policy and the Vision 20:2020.

Deepen policy to further improve the business and regulatory environment to make investment in GVC attractive to domestic firms and globally successful transnational corporations. The provision of basic infrastructure such as electricity, water, transport, ports and logistics should be given more attention. Existence of these basic infrastructure will improve value chain development and global integration in several activities including perishable commodities such as tomatoes, fresh fruits and vegetables. There is also need to improve access to credit for local businesses, especially SMEs.

Facilitative role of government is also required to improve access to land for commercial agriculture and building factories. This will require a reform of the current land titling system. Regulatory agencies such as the Standards Organisation of Nigeria (SON) and National Agency for Food and Drug Administration and Control (NAFDAC) should be strengthened to develop a strategy for meeting the global products standardization and certification requirements and provide targeted sector- and activity-specific support to individuals and firms to meet these standards.

Focus on areas of comparative and competitive advantages. Nigeria has seeming comparative and competitive advantages in several commodities. A need assessment will be required of key sectors where such advantages actually exist with a view to ordering them based on level of comparative and competitive advantages that will, in turn, provide insight on prioritizing them.

Government at all levels and private sector players should be more active in R&D investment with a view to achieving technology and skills upgrade. The first step in this direction will be to identify key sectors where Nigeria has the strongest comparative advantage that can be turned into competitive advantage. To fully understand this, it may be important to undertake skill audit in these selected sectors with a view to identifying the skills gap.

Relevant government agencies should be empowered to provide pertinent market information for prospective value chain firms and individuals. Some of the agencies include Nigerian Export Promotion Council, Nigerian Investment Promotion Commission, Nigeria Export Processing Zones Authority, etc. The focus should be to provide relevant and timely information on the requirements from foreign countries for specific commodities to enter into their markets. Information on contracting opportunities should also be shared. Following this, these agencies should provide technical assistance on developing the capacities of these prospective market players on how they could meet these requirements and successfully enter the markets. A champion may be picked for support in selected sectors for support in a demonstration effect with a view to up scaling to other firms.

Nigeria should champion border measures for promoting GVC in the ECOWAS region through the ECOWAS Common Industrial Policy. The country stands to benefit

most from such policy development and intervention given its market size and potentials. The region has several commodities that could form the foundation for value chain development and global integration. Examples include cocoa, shea, cassava, and fresh vegetables and fruits. Similar European model where at least 12 countries in the region contribute to the production of the Airbus should be considered for developing value chain around these commodities within the ECOWAS region.

7 Conclusion

Value chain development and global integration should be seen as one of the very few options available for developing countries such as Nigeria to gain access to larger markets and new technologies and ultimately attain economic diversification and structural transformation. This process of structural transformation can be achieved mainly through product upgrading, improved technological capabilities, and increased competitiveness that are made possible through value chain activities. Given its high resource and human capital base, Nigeria has very high potential to succeed through this strategy. These opportunities, especially resource-based exist and needs to be seen and effectively utilized.

Value chain development and global integration offers opportunity for Nigeria to deal with the challenge of limited growth inclusiveness. It offers a major channel for creating sustainable jobs and pulling a large number of Nigerians out of poverty.

Nigeria has several natural resource and agriculture products and commodities that could form the nucleus of the product upgrade through value chain development and global integration. The need for public capacity building for policy formulation and implementation, strengthening the infrastructure and general business environment, improving regulatory oversight of the public agencies responsible for checking standards, stepping up investment in R&D in defining the research priorities and disseminating research results to small- and medium-sized enterprises cannot be overemphasized.

Challenges exist, though. Therefore, targeted government policies are required to leverage the existing opportunities and mitigate perceived risks. Private sector also has a critical role to play in this and so are multilateral agencies.

References

- AfDB (2013) Policy Paper on Structural Transformation of the Nigerian Economy. Paper prepared for the High Level Seminar on the Nigerian Transformation Agenda.
- AfDB, OECD and UNDP (2014) African Economic Outlook 2014. OECD Publishing, Paris. <http://dx.doi.org/10.1787/aeo-2014-en>.
- Arvis, Jean-François, Yann Duval, Ben Shepherd, and Chorhthip Utoktham. 2013. "Trade Costs in the Developing World: 1995-2010," World Bank Policy Research Working Paper No. 6309. Washington: The World Bank.
- Barrientos, S., G. Gereffi, and A. Rossi. 2011. "Economic and social upgrading in global production networks: A new paradigm for a changing world", *International Labour Review*, 150: 319-40.
- Brunner, Hans-Peter. 2013. Can Global Value Chains Effectively Serve Regional Economic Development in Asia? ADB Working Paper Series on Regional Economic Integration No 110. Manila: Asian Development Bank.
- Cattaneo, O., G. Gereffi and C. Staritz. 2010. *Global Value Chains in a Postcrisis World: A Development Perspective*. Washington D.C.: World Bank.
- Elms, D. K. and Low, P. 2013. *Global Value Chains in a Changing World*. Geneva: World Trade Organization.
- Gentile-Lüdecke, S. and A. Giroud. 2012. "Knowledge Transfer from TNCs and Upgrading of Domestic Firms: The Polish Automotive Sector." *World Development* 40(4): 796–807.
- Gereffi G., J. Humphrey, and T. Sturgeon (2005). The Governance of Global Value Chains, *Review of International Political Economy* 12, 1: 78–104.
- Görg, Holger. 2011. "Globalization, Offshoring, and Jobs". In *Making Globalization Socially Sustainable*, Bacchetta, Marc and Marion Jansen (Eds.). Geneva: International Labor Organization and World Trade Organization.
- Heum, P. 2008. "Local Content Development – Experiences from Oil and Gas Activities in Norway", Bergen: The Institute for Research in Economics and Business Administration, SNF Working Paper 02/ 08.
- Kishimoto C. 2004, "Clustering and upgrading in global value chains: the Taiwanese personal computer industry", in H. Schmitz (ed.): 233-264.
- Lee, Joonkoo, Gary Gereffi, and Janet Beauvais. 2012. "Global Value Chains and Agrifood Standards: Challenges and Possibilities for Smallholders in Developing Countries." *Proceedings of the National Academy of Sciences* 109 (31): 12326–31.
- Milberg, W. and D. Winkler. 2013. *Outsourcing Economics: Global Value Chains in Capitalist Development*. New York: Cambridge University Press.
- OECD. 2013. *Interconnected Economies: Benefiting from the Global Value Chains*. Paris: OECD Publishing.
- OECD, WTO and UNCTAD. 2013. *Implications of Global Value Chains for Trade, Investment, Development and Jobs*. Paper prepared for the G-20 Leaders Summit.
- OPEC. 2013. *Annual Abstract of Statistics*. Organization of the Petroleum Exporting Countries, Vienna, Austria.
- Ouma, Stefan. 2010. "Global Standards, Local Realities: Private Agrifood Governance and the Restructuring of the Kenyan Horticulture Industry." *Economic Geography* 86 (2): 197–222.
- Oyejide, T. Ademola and Adeolu O. Adewuyi. 2011. *Enhancing linkages of oil and gas industry in the Nigerian economy*. MMCP Discussion Paper No 8, University of Cape Town and Open University.
- Razzaque, Mohammad A., and Dirk Willem te Velde. 2013. *Assessing Aid for Trade: Effectiveness, Current Issues and Future Directions*. Commonwealth Secretariat.
- Saito, Mika, Michele Ruta and Jarkko Turunen (2013) *Trade Interconnectedness: The World with Global Value Chains*. Washington, DC: International Monetary Fund.
- Sasson, Amir, and Atle Blomgren. 2011. "Knowledge Based Oil and Gas Industry." *Knowledge- Based Norway*. Report No. 4.
- Sturgeon T. and G. Gereffi. 2009. *Measuring Success in the Global Economy: International Trade, Industrial Upgrading and Business Function Outsourcing in Global Value Chains*, *Transnational Corporations*, 18 (2): 1-35.
- Sturgeon, T. and O. Memedovic. 2011. *Mapping Global Value Chains: Intermediate Goods Trade and Structural Change in the World Economy*. Vienna: UNIDO.
- Teka, Zeferino. 2011. *Backward Linkages in the Manufacturing Sector in the Oil and Gas Value Chain in Angola*. MMCP Discussion Paper No 10, University of Cape Town and Open University.
- UNCTAD. 2013. *Global Value Chains and Development: Investment and Value Added Trade in the Global Economy*. New York and Geneva: United Nations.
- UNIDO, CBN and BOI. 2010. *Unleashing Agricultural Development in Nigeria through Value Chain Financing*. Working Paper. United Nations Industrial Development Organization, Vienna, Austria.