



Effect of China-Nigeria Economic Relations on Infrastructural Development in Nigeria

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ABSTRACT

The main objective of the study is to examine the effect of china-Nigeria economic relations on infrastructural development in Nigeria. Specifically, the study examined China's economic cooperation with Nigeria and how it has enhanced infrastructural development in Nigeria. The study was anchored on the Complex and Interdependence theory which was propounded by Keohane, Robert and Joseph Nye (1997). The study adopted ex-post factor research design while data for the study were sourced through secondary sources like journal article, text books, magazine, newspapers, and institutional documents. The result of the analysis revealed that there was economic cooperation that existed between China and Nigeria, but China's economic relation with Nigeria in areas of education, transportation and technological innovations has created minimal improvement in the said areas within the period under review. Based on these findings the study recommended among others that; Nigeria should use China's aspiration for oil to extract concession in areas vital to Nigeria interest, China should be encouraged to strengthen and improve its co-operation with Nigeria in addressing basic infrastructural impediments and Nigerian government must set up policies that ensure that technology innovation/transfer is prioritized to ensure that technology transfer is successful. Nigeria can learn from the trend of reform in China and create policies in such a manner that the economy of Nigeria becomes the focus of development.

Keywords: China-Nigeria, Economic Relations, Infrastructural Development

INTRODUCTION

The economic relations between the Federal Republic of Nigeria and People's Republic of China were formally established on February 10, 1971, a decade after Nigeria gained its independence from the British Empire (Etakoh, 2018). The year 2016 marked the 45th anniversary of the establishment of diplomatic ties between the two countries. In recent years, bilateral relations among nations have witnessed drive of rapid development with frequent exchanges at all levels and mutual political trust and bilateral economic benefits at hundreds of billions of dollars. Nigeria's relations with China have grown in the last decades from the limited and recurrent contact that marked the immediate post-independence era to an increasingly complex and expansive engagement.

Relations between Nigeria and China have expanded on growing bilateral trade and strategic cooperation. China is considered one of Nigeria's closest allies and partners. China is also one of Nigeria's important trading and export partners (Etakoh, 2018). According to Muyakwa (2012) and Etakoh (2018) China has now emerged as Nigeria's major development, trade and investment partner, having taking the place of Europe and North America in Nigeria's development agenda. While engagements between Nigeria and China are hardly new, they are now based more on economic ties, trade, investment and finance than on

political affinity. Osakwe (2015) noted that there is evidence that Nigeria has made some positive improvements which have been highly attractive to foreign investors, especially the Chinese investors. While Djeriwake (2016) revealed that China's increasing presence in Nigeria, and elsewhere in Africa, have spurred much speculation about the nature of the emerging partnership model. China has a growing economy that is hinged on manufacturing activities. Thus, her primary concern with Nigeria from the late 1990's was in line with her desire to secure access to Nigeria's natural resources to fuel her expanding economy. Hence Odeh, (2015) stated that Nigeria-China trade relations revolve majorly around the oil and natural gas sectors.

For Nigeria, incentives lie in China's very own fruitful economic transformation, its ability to deliver large scale infrastructural projects and, all the more significantly, its capacity to fund them (Etakoh, 2018). While at first driven by its immense interest for energy resource, China's involvement in Nigeria has since expanded a long ways past oil. China's public and privately owned businesses are making forays into Nigeria's manufacturing and information and communication technologies sectors, thereby enhancing development. While sustainable development encompasses more than just economic growth, it is generally agreed that, especially in developing countries, economic growth is a crucial component of development (Ukajejofo *et al.* 2016). Economies can grow by promoting a number of factors such as increased efficiency, enhanced education, technological change, accumulation and investment of capital, and the exploitation of natural resources.

Chinese companies have increasingly been relocating to Nigeria. As of 2013, according to the local investment agency there were 208 registered Chinese companies in Nigeria focusing on oil and gas, construction and telecommunication (Umejei, 2015). By 2016, the number registered with the investment agency had grown to 308 though the numbers could be considerably higher (Sun, Jayaram & Kassiri, 2017). Ukajejofo, Chen, Sun, Xiaoyang and Brautigam (2016) surveyed two sources the Nigerian Investment Promotion Council, NIPC and the Chinese Ministry of Commerce (MOFCOM) for the number of Chinese companies approved to invest in Nigeria and found 221 and 297 respectively though there was no guarantee they actually invested. 141 listed with MOFCOM were in manufacturing and 92 with NIPC. Only 21 to 30 were overlapping in manufacturing.

According to Somoye (2018) the Buhari Administration, like its predecessors signed financial deals, including the loan for the Lagos-Ibadan railway construction among others with the Chinese. It is on this basis that this study investigates the effect of China-Nigeria economic relations on infrastructural development in Nigeria

Statement of the Problem

Over the years, China has been relating to Nigeria through trade, aid and investments while Nigeria has equally been exploring trading opportunities in China. The China-Nigeria relation also has its basis on the premise of exploring their economic comparative advantages for mutual benefits. The China-Nigeria economic relation has also increased as China's growing economy requires more raw material resources from Nigeria; including crude oil to propel its industries. China is also taking advantage of Nigeria's huge population, which is estimated at around 150 million people (Nigeria Population Census 2006) to generate extraterritorial markets for China's manufactured goods. Due to its huge population, the most populous country in Africa, rich in natural resources, Chinese investments in Nigeria have become a trending issue in the 21st century as more than 200 Chinese companies are currently operating in Nigeria, thus making the country the largest recipient of Chinese Foreign Direct Investment (FDI), about \$15 billion out of its \$26.5 billion investments in Africa as of 2016 (SAIS-CARI, 2018).

The Nigeria Bureau of Statistics (NBS, 2017), indicates that Nigeria has a deficit of more than N6 trillion with China between 2013 and 2016. The statistics also shows that out of Nigeria's total import bill of N29 trillion between 2013 and 2016, China alone accounted for N6.41 trillion. It indicates a huge gap when compared with N714.97 billion worth of goods Nigeria exported to China within the same period. President Muhammad Buhari, recently expressed concerned about the imbalance in Nigeria-China trade at the opening of Nigeria-China Business/Investment Forum in Beijing in 2016, Buhari observed that trade relations between Nigeria and China rose from 2.8 billion dollars in 2005 to 14.9 billion dollars in 2015. Nigeria import alone from China accounted for 21.43 percent for the period of last four years while

Nigeria export to China accounted for only 1.48 percent of Nigeria's total export during the period (Yemi, 2017).

In spite of the economic relations between Nigeria and China, the benefits towards infrastructural development in Nigeria have been subjected to diverse opinions by scholars and analysts, in which Chinese investments in Nigeria attracted resentment and criticisms. Concerns have not been raised specifically over the impact of Chinese investments in Nigeria's infrastructural development, which is substantially affected by the dumping of inferior Chinese industrial products into the country, ineffective transportation system, ineffective healthcare and educational system, lack of technology transfer from China to Nigeria, fewer opportunities for the survival of Nigeria's investments in China, visa and employment restrictions to Nigerians to explore business opportunities in the country (Etakoh, 2018).

Olalekan (2020) also argues that the FDI from China has heightened Nigeria's dependence on the Chinese economy, thus undermining its own infrastructural development. It is against this background that this study investigates the effect of China-Nigeria economic relations on infrastructural development in Nigeria

REVIEW OF RELATED LITERATURE

Conceptual Review

Economic Relation

O'Farrill, Moraga, Perez and Vallejos (1999) defines economic relation as a complex, insufficiently defined concept, generally pertaining to industrial, financial, commercial, entrepreneurial and production related cooperation. Furthermore, Barston (2014) expressed economic relation as a component of international cooperation which aims at creating conditions that facilitate the process of commerce, it also comprises a wide range of aspects such as industrial cooperation, research and innovation, scientific exchanges and the establishment of scientific and economic commissions and committees.

Caraiani and Georgescu (2013) defines economic relation as the form of international collaboration for the purpose of obtaining mutual advantages through the common use of financial, material and technological resources of all partners. Caraiani and Georgescu (2013) distinguished between three dimensions of economic relations:

- in a wide sense;
- in a narrow sense, where international economic relation;
- and, in a specific field of activity.

Thus, in a wide sense, international economic relation is the exchange of activity in various fields and countries, and encompasses international commerce, cooperation in production, scientific and technological cooperation, international transportation, tourism, financial relations, the service domain, etc.

If we look at the international economic relation in a narrow sense, we can define it as a form of collaboration, between two or more countries or entities from various countries, in various ways, for the purpose of reaching certain industrial, agricultural, commercial, technical-scientific, touristic goals or other. In this sense, economic relation is not a commercial exchange or a mere transfer of goods, services and capitals from one country to another, but it represents the common use of the resources and means of all partners.

The process of defining international economic relation, according to Caraiani and Georgescu (2013), may be divided into three stages:

- in a first stage, economic cooperation was about the economic relation with the former colonies, which needed a totally different approach;
- the second stage refers to the conceptualization of economic relation as a solution for the inconsistencies in international economy, from this perspective, it was regarded as the only option to re-launch world economy;
- in the third stage, international economic relation was identified as "functional, pragmatic cooperation.

Considering the efforts made to define economic relation, we can assert that the defining process is a complex and dynamic one, influenced by the features of the international environment. Economic relation is not a unidimensional concept, it implies a multidimensional approach and, at the same time, the parties involved are many and committed to complex relations.

The development of the process of economic relation emphasizes the movement from isolated and short-term economic actions to complex and long-term economic ones. The concept of economic relation as noted by Agubamah (2014) may be identified both at the microeconomic and macroeconomic level. The two types of cooperation share in common not only similitudes, but also differences. Both types are based on the principles of international law, involve the independence of the parties and complex economic relations. Furthermore, Adewuyi, Alarudeen and Kareem (2015) claimed that when all major factors and long-term advantages are examined, cooperation remains the only rational way for all partners, and the most profitable. At the same time, relation is not a naive term, it designs a scientifically founded behaviour which is also viable from a political point of view, a must for the organic increase of the world system. Hence, it has potential of meeting Nigeria's quest for the much needed diversification of markets for Nigeria's merchandise. The authors noted that Nigeria's exports to China spread over many and varied products and increase from \$20.3 billion in 2000 to \$44.4 billion in 2005. They identify the top 10 exports to China to include: pulp of wood/of other fibrous cellulosic matt; tanning/dyeing extract, tannins and derives; preparation feathers & down, artificial flower; lac, gums, resins & other vegetables saps & extract; oil seed, oleagi fruits miscall grain, seed, fruits; cotton and cocoa preparations; copper and articles thereof; ores, slag and ash; and mineral fuels, oils and product of their distillation. Following the dramatic increase of Nigeria's total imports between 2000 -2005, the country's imports from China rose phenomenally from as little as \$252 million in 2000 to \$2.3 billion in 2005 (Ogunkola et al, 2010).

However, relations have since greatly expanded into the private sector, with investment often directly encouraged by both the Nigerian and Chinese governments. The Chinese business presence, previously limited to the venturing of Hong Kong textile producers and steel processors, is increasingly being replaced by big commitments from Chinese financial institutions. According to Adeolu, et al. (2010), posits that Nigeria's exports to China increased to \$ 526.9 million in 2005. However, the increase was more than 50% of which China's share of Nigeria's total exports fell from 1.5% in 2000 to 0.79 in 2007.

Infrastructural Development

The term 'development' has been defined as a comprehensive economic, social, cultural and political process which aims at the constant improvement of the well-being of the entire population and of the individuals on the basis of their active, free and meaningful participation in development process and in the fair distribution of benefits resulting there-from (American Heritage Dictionary, 2017).

The dominant political response to challenges of the environment has long shifted from one of environmental protection laws and regulations to that of infrastructural development. Infrastructural development is a long-term continuous development of society, aimed at satisfaction of humanity's need at present and in the future via rational usage and replenishment of natural resources, and preserving the earth for future generations. Vinceta (2014) argues that development means attaining a balance between environmental protection and human economic development and between the present and future needs. According to her, it means equity in development and sectoral actions across space and time. It requires the integration of economic, social and environmental approaches towards development.

Infrastructure is the basic physical and organizational structures needed for the operation of a society like industries, buildings, roads, bridges, health services, governance and so on. It is the enterprise or the products, services and facilities necessary for an economy to function (Sheffrin, 2013). Sheffrin (2013) describe infrastructure development as the set of interconnected structural elements that provide framework supporting an entire structure of development. It is the means of achieving an objective or set of objectives and also includes the objectives. It is an important term for judging a country, region or state's and individual's developments/status.

According to Fulmer (2009), the term typically refers to the technical structures that support a society, such as roads, water supply, sewers, electrical national grids, telecommunications, etc. and can be defined

as "the physical components of interrelated systems providing commodities and services essential to enable, sustain, or enhance societal living conditions. Viewed functionally, infrastructure facilitates the production of goods and services, and also the distribution of finished products to end-users (markets), as well as basic social services such as schools and hospitals; for example, roads enable the transport of raw materials to a factory (American Heritage Dictionary, 2017). In military parlance, the term refers to the buildings and permanent installations necessary for the support, redeployment, and operation of military forces (Department of Defense Dictionary, 2015).

Oshikoya and Jeromy (2017) defines infrastructure as social (or soft-core), or physical (or hard-core) infrastructure. They contended that soft-core infrastructure had to do with healthcare, governance, education, and accountability, as well as property rights, which are the driving forces of economic activities; whereas, hard-core infrastructure had to do with physical structures such as transport facilities, telecommunication facilities, power, water, and sewage, which they characterized as wheels of economic activities. This paper, however is focused on physical infrastructure.

The definition of infrastructural services, as given by Jacobson and Tarr (2010), was that it is the structures and networks that frame and hold cities making it possible to carry out economic and social activities like power and water supply, telecommunications, as well as others. World Bank (2009) defines infrastructure to be an umbrella for these economic activities, hence the noted that adequate infrastructure paves way for investment in less-developed areas, and provides room for economic diversity courtesy of freer movement of people, goods, and information. It promotes environmental sustainability since there will be provision for better waste disposal, and clean water, proper sanitation, etc.

A link was observed between infrastructural development and poverty reduction by African Development Bank (2017) stating that developing infrastructure can help decrease poverty in two significant ways: first is the link that resides between infrastructural development and economic development, and second is the link between infrastructural development and the pro-poor growth process. In both cases, the outcome is poverty reduction. The provision of basic infrastructure as markets, schools and good roads can help to reduce unemployment and illiteracy, which will lead to higher income and better nutrition.

Dialoke and Veronica (2017) proffer that different types of infrastructure are required at different strata of industrial development to properly demystify income and levels of productivity; through regression of data of 112 countries from 1970-2000 on industrial production and electricity generation capacities. With respect to investment in an economy, the elasticity of infrastructure is greater than 1 (Isaksson, 2010). This means that an economy that invests more will do so in infrastructure. Adenikinju (2015) relied on firm-level data to prove that a significant percentage of companies in Nigeria view inadequate power supply as a major hindrance to productivity. Costs incurred as a result of seeking alternative power sources eats very deep into profit, thereby making the environment uncomfortable for production. There are different categories of infrastructural development.

Empirical Review

China established diplomatic relations with Lagos in 1971 overcoming the hostility that was associated with Chinese effective support for Biafra during the Nigerian civil war of 1967-70 (Agubamah, 2014). Agubamah (2014) further discussed that a delegation visited Beijing in 1972 and signed an open-ended agreement on trade and technical cooperation. Despite the close relations in the 70s, Nigeria asserted its foreign policy independence. For example, Nigeria did not only become a member of the frontline state but also supported materially and otherwise groups fighting for independence in many Southern African countries. For instance, following the 1975 civil war in Angola, Nigeria supported the Soviet-backed MPLA, while China aligned itself with the FNLA, which was also supported by the US and CIA. During the Abacha dictatorship years of 1993-98 when Western aid was again cut off because of the abysmal human rights record of the regime, Nigeria adopted a "Look East" policy which strengthened the Beijing-Abuja alliance and built trust between the two nations.

According to Umejei (2015), Ramani, (2016) cooperation has continued to the present. Since 1999 when democratic elections started, every Nigerian president has visited China. In 2005. China and Nigeria published a joint communiqué with China announcing Taiwan as an unalienable part of the territory of

China. In 2015, China endorsed Nigeria's attempt to become a permanent member of the UN Security Council, while Nigeria supported China's position in territorial disputes in the Pacific region. China has also provided military support in counter-insurgencies efforts in the Niger Delta (Umejei, 2015, Ramani, 2016).

Chen, Sun, Ukaejiofo, Xiaoyang and Brautigam (2016) noted that good political relations have spilled over into economics (and vice versa). Historically, there were a number of Hong Kong based companies that invested in Nigeria after independence. Some originated in mainland China but moved to Hong Kong after the Communist takeover. Two are still operating in Nigeria. The Lee Group produces shoes, bread, plastic bags, steel and ceramics. The second WEMPCO, which is controlled by the Tung family is in ceramics, building materials, and the hospitality sector and opened the largest cold-rolled steel milling in Africa in 2015. In 2006, China and Nigeria signed an MOU on the establishment of a strategic partnership which was the first for an African country. The partnership led to an oil for infrastructure arrangement where Chinese companies were offered the first access to oil processing licenses. Presidential visits have led to large Chinese loans. President Jonathan's visit to Beijing in 2013 led to a \$3 billion loan for infrastructure which included expansion of the airports in Lagos, Kano, Abuja and Port Harcourt. Following President Buhari's visit in 2016, Nigeria was offered an infrastructural loan of \$6 billion.

Chinese companies have increasingly been locating to Nigeria. As of 2013, according to the local investment agency there were 208 registered Chinese companies in Nigeria focusing on oil and gas, construction and telecommunication (Umejei, 2015). By 2016, the number registered with the investment agency had grown to 308 though the numbers could be considerably higher (Sun et al, 2017). Chen et al. (2016) surveyed two sources the Nigerian Investment Promotion Council, NIPC and the Chinese Ministry of Commerce (MOFCOM) for the number of Chinese companies approved to invest in Nigeria and found 221 and 297 respectively though there was no guarantee they actually invested. 141 listed with MOFCOM were in manufacturing and 92 with NIPC. Only 21 to 30 were overlapping in manufacturing.

Nigeria has also been one of the largest recipients of loans from China. Between 2010 and 2015, Nigeria received the fourth highest amount of loans in Africa from China and the 6th highest over the longer period of 2000-15 (SAIS-CARI, 2018). However, that is likely to have gone up in the wake of the \$7.5 billion dollar loan from China in 2017 for the Lagos to Kano and Lagos to Ibadan rails (Adamu, 2017). As of 2011, they were the second highest recipient of FDI after South Africa (Umejei, 2015). Between 1995 and 2017, Nigeria has been the second largest importer of Chinese goods after South Africa. Exports to China have also been in the top five in most years over the same period (UNCTAD, 2018).

Thirty years after the first Chinese-built cross-border railway from Tanzania to Zambia, Chinese rail projects are crisscrossing Africa, supported with financing from the Export-Import Bank of China and built by Chinese state-owned enterprises (SOEs). Ethiopia and Kenya in particular have seen significant construction under the umbrella of the Belt and Road Initiative (BRI), which President Xi Jinping unveiled in the fall of 2013. Nigeria, West Africa's largest economy, is no exception.

Infrastructure investment has been a key part of this cooperation; within it, railway construction is a prominent reminder of China's presence on the continent. Railway infrastructure in Nigeria could lead to significant economic benefits in the long run, generating jobs and skills training and promoting trade. These would be a particular boon in the northeast and south, where endemic poverty has contributed to insecurity and instability. The same projects, however, are at the same time vulnerable: both to these security concerns and to domestic political challenges that could threaten the economic viability of the projects and exacerbate regional inequalities within the country.

Much of Nigeria's extant railway infrastructure is inherited from the British colonial period. This comprises a narrow-gauge network with three primary north-south trunk lines that end at the coastal cities of Lagos, Warri, and Port Harcourt. These lines traditionally served primarily extractive purposes: connecting the port cities to inland agricultural and mineral resources, which were then exported to colonial metropolises. After independence, however, the inflating costs of bureaucracy and corruption, coupled with the declining relevance of agricultural exports in the post-oil boom, meant that the network gradually fell into disrepair.

Nigeria's government has sought the participation of a number of foreign actors in this effort, including the African Development Bank with German-Nigerian firm Julius Berger for the central trunk line, and, controversially, a new concession with General Electric for the existing narrow-gauge network. The largest projects in this sector, however, have been dominated by Chinese firms. China Civil Engineering Construction Company (CCECC), a subsidiary of China Railway Construction Company, is involved in multiple infrastructure projects across the country, including the Lagos airport expansion, numerous road projects, and inner-city light rail projects in Abuja and Lagos, all financed with concessional loans from the Exim Bank of China.

In the railway sector, according to Kimairis (2016) Chinese finance is backing two major standard-gauge rail (SGR) projects. The first is an upgrade of the Western trunk line from Lagos to Kano, replacing the colonial track. CCECC was first contracted in 2006 to build the route, but given the Nigerian government's difficulties in raising its portion of the funding, the project was suspended; the line was subsequently segmented to be built in installments.

Of the planned route, the 187-kilometer (116-mile) Abuja-Kaduna single-track SGR was first to be completed in 2014, at a cost of \$874 million. CCECC is in the process of constructing the next 312-kilometer (194-mile) Lagos-Ibadan segment, which was awarded in 2014 after the completion of the Abuja-Kaduna line, at a cost of \$1.2 billion; financing for the \$1.1 billion Kano-Kaduna segment is still under discussion.³ Unlike the light rail and other infrastructure projects, which are financed under concessional terms, the interest rate and loan terms for these SGR projects are undisclosed (Kimairis, 2016).

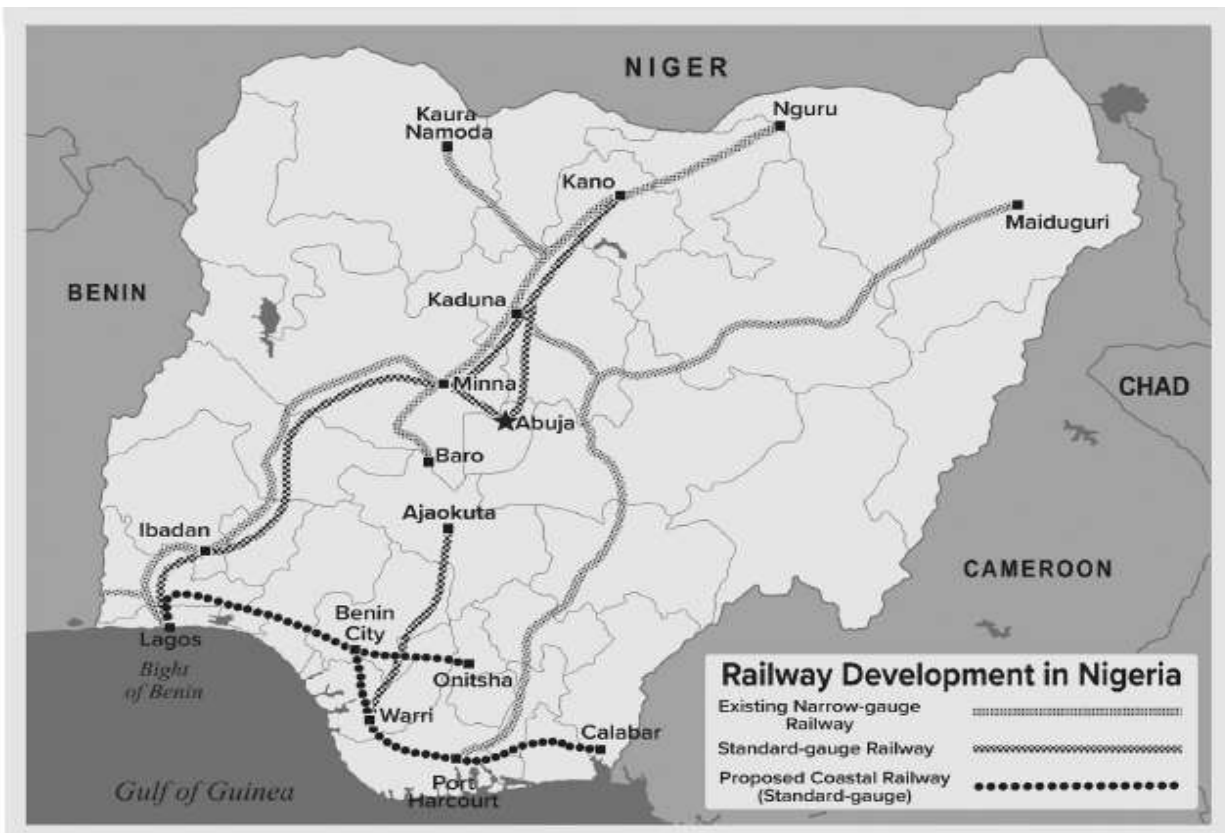


Fig. 1: Map of Nigeria showing Railways in Nigeria

Source: Author's interviews with Nigerian Rail Commission, Department of Transport, and China Civil Engineering Construction Group Limited (CCECC).

A second major project is a new coastal railway connecting Lagos to Calabar, via Warri and Port Harcourt, to include branch lines to Benin City and Onitsha. This was not part of the original twenty-five-year vision but proposed by CCECC as part of three east-west routes that would crisscross the colonial trunk lines. Of these three, only the southern coastal route had political interest and prospect for finance. The contract for the project, signed with CCECC in 2016, is reported to be worth \$11 billion (Vanguard News, 2016). The Nigerian senate approved a loan request to the Exim Bank of China in April 2017, which includes \$3.5 billion for the coastal project, indicating that the route will be segmented like the Lagos-Kano line, with the eastern segment from Port Harcourt to Calabar to be constructed first (Vanguard News, 2016). A loan agreement with the Exim Bank has yet to be confirmed.

China has become a major investor in Nigeria, but primary sector for such investment is transportation rather than petroleum. A variety of investment agreements were signed during Hu Jintao's 2006 visit to Nigeria, and during later visits (2010 and above), covering oil and gas, power generation, telecommunications, railways, agriculture, manufacturing, and finance (Obiorah, Kew & Tanko, 2018).

Gap in Literature

From the review of literature, several scholars have established some level of prediction in relation to Nigeria-China economic cooperation and infrastructural development in Nigeria, 2015-2022. The literature reviewed has been able to ascertain some relevant institutional variables that policy makers need to address in order to improve infrastructural development in Nigeria through economic relation with China. Conceptual framework was reviewed under economic relation and infrastructural development.

The interdependence theory by Nye (1979) was adopted because it best captures the essence of Nigeria-China economic relation and infrastructural development and provide valuable insights to the study. Within the confines of the theory of cooperation, Nye have argued that international relations are characterized more by cooperation and interdependence of nations with win-win, mutually benefiting outcomes. What this means is that both weak and strong economies have something to gain in a relationship, no matter the proportion, while the dynamics of unequal relations in the international division of labor cannot be ignored. Dependency theory is a social science tool of explanation that is predicated on the notion that resources flow from a "periphery" of poor and underdeveloped states to "core" wealthy states, enriching the latter at the expense of the former.

The studies reviewed above shares same area of interest with the present study in the instance that they focus on Nigeria-China economic relation and development, within the period under study. The difference here is that the reviewed studies concentrates mostly on Nigeria-China trade relations, which lacks emphasis on infrastructural development. Few discussed on Nigeria-China economic relation such as Sheriff (2018) on China-Nigeria for greater resource management and development, but few literatures shows how much impact the relationship between Nigeria-China impacted on the Nigeria's infrastructural development.

Additionally, empirical review on the course of study which relates to the present study were discussed under the stated objective of the study in chapter one. Majority of the works reviewed were done mostly on China-Nigeria trade relation. Although there is a vast body of literature on the bilateral relations between Nigeria and China, little is known about the economic relation between Nigeria and China on infrastructural development (Transportation, railways, education, health, digital infrastructure, power) in Nigeria, a gap this study intends to fill.

METHODOLOGY

Research Design

Research design is the plan and structure of investigation. Because of the historical content and analysis involved, ex-post-facto design was adopted. The area chosen for this study is Nigeria and China. Nigeria, officially the Federal Republic of Nigeria, is a country in West Africa. Content analysis was used to analyse data so generated. This is with a view to identify logical sequence of data as well as trends 2010-2020.

DATA ANALYSIS

The economic relations between China-Nigeria have improved the educational sector in Nigeria between 2015-2022

To answer this objective both secondary data was used. Secondary data consisted of textbooks, journal articles, newspapers, magazines, official documents from the government, internet materials, policy documents as well as local legislation that outline the framework within which infrastructural development on education would occur. Secondary data was also obtained from documents outlining the agreements between the Chinese and the government of Nigeria

China's aid and cooperation policies are strategies that are largely based on the Forum on China-Africa Countries Cooperation (FOCAC) process. FOCAC is a triennial high level meeting between leaders of china and African countries, hence, the Sino-African aid and cooperation strategy is based on 3-year programs. Most of the aid and cooperation projects are decided as an exchange between two countries during FOCAC or during some other high-level meeting. As stated by Chinese embassy in Abuja: We are trying to make a strategic plan, a long-term plan. Every third year, the inter-ministerial forum (FOCAC) evaluates the actions and makes plans for new actions. For example, we decided to construct schools. In the years to come, we will evaluate whether we should continue to give support in the same sector. These decisions are taken during the meetings of the forum. The principles of the cooperation are said to be related to African needs, and secondly, to help in domains that the Chinese are capable of help them in; hence the focus on practical aid projects, rather than the use of conditionality and a meta narrative on, for example, structural adjustment or economic policies, human rights, the environment,⁸ or other themes that are often being promoted by the Western donors (Omoruyi et al, 2017).

According to Zheng, (2016), China also justifies its overseas economic activities with development objectives that it helps developing countries to promote sustainable economic development and poverty reduction, but such development objectives have often been subordinated to strategic, diplomatic, or commercial considerations. There are 3 major perspectives of China's development cooperation strategy. The first perspective is the Beijing's desire to secure strategic resources those most fundamental to national security and secondarily for diplomatic reasons. The second perspective is the Chinese aid policy which has always maintained its distance from the established aid model under the guidance of the OECD Development assistance Committee (DAC) and will not necessarily challenge the existing international aid regime. The third perspective argues that China does not have a coherent aid strategy that is carefully designed and implemented. The Chinese aid policy is often contested by diplomatic and commercial agendas. The diplomatic agenda regards aid as an instrument for Exercising diplomatic influence on the international stage and deepening cooperation with selected countries whereas the commercial agenda views aid as a useful way of assisting domestic businesses to go international' and expand exports and investments (Varrall, 2015).

Nevertheless, it's important to note that China has only recently emerged as a donor, and the Chinese institutions have not yet had time to adjust to the dramatic increase in aid and cooperation that took place after the first (2000) FOCAC. According to Omoruyi et al, (2017) Chinese Embassy Personnel in Yaounde stated that "Chinese statistic services are not very good, and are yet not established a very good data system. Chinese aid and cooperation with Africa have been hindered by a lack of transparency, and a lot of the documentation on prior projects has been lost. Moreso, the Chinese aid and cooperation administration in policy of non-interference and in its principles of non-conditionality, may have even less control than other donors over the Nigeria use of funding and the selection of personnel to be trained or for scholarship awards. The scholarships and trainings are often in line with the FOCAC agenda and will involve staff in many Chinese and African ministries (Ministries of Commerce, Foreign Affairs, Culture, Education, Science & Technology, Agriculture, and Medicine), host universities in China, as well as both the political and economic and commercial branches of all of China's African embassies.

Then they will follow-up on the selection and process the names and visa applications for the chosen participants. Some of this training, especially short-term training, clearly has a diplomatic goal rather than providing capacity building. The selections of short-term trainees are usually biased: the Ministry sends their family and friends to the training instead of the selecting qualified people for the program. For

instance; the Chinese civil engineering construction company in Nigeria offered 48 scholarship slots for training of Nigerian students, but was hijacked by the ministers for their family and friends. And when the minister for works was contacted, he told the press that the scholarship was not for all Nigerians.

However, it should be noted that this is not a situation that is specific to the Chinese aid and cooperation. It is a Nigerian problem, linked to the lack of transparency in the administration of scholarships. As noted by an Embassy interviewer, who stated that “I have talked to the US Embassy about this problem, and the US Embassy has exactly the same stories and the same problem.” Nevertheless, this situation takes us back to the novelty of the strong Chinese involvement in Africa, and the Sino-African aid and cooperation, which has been characterized with rapid expansion and maybe a more organized and systematic approach (Bolomope et al., 2020).

The economic activities carried out by Nigeria and China have enhanced transportation system between 2015-2022

To answer this objective both primary and secondary data was used. Primary data consisted of information’s material gathered from interviews of government officials at the Ministry of Trade, Industry and Cooperatives. Secondary data consisted of policy documents as well as local legislation that outline the framework within which infrastructural development on education would occur. Secondary data was also obtained from documents outlining the agreements between the Chinese and the government of Nigeria

China’s Engagement with Nigeria in the Railway Sector

Transport is a vital sector in Nigerian economy, playing a crucial role in the pursuit of poverty eradication and sustainable development as it increases the access of businesses and consumers to goods and services and provides the means for emerging markets to integrate into the global economy. Amba and Danladi (2013) highlighted in their research that transport is one of the indices used in assessing the economic development of a country. The rail transport for instance, contributes to the socio-economic development of Nigeria as it facilitates access to markets, jobs, health care, education and leisure activities. Olasupo and Alokpa (2017) reported that rail transportation has played a crucial role in economic development as it supports low cost movement of freight and passengers and contributes to the growth of mining and agriculture.

Railway sustainability is understood to mean the development of a railway system that caters to the travel needs of society without putting their quality of life in jeopardy in the immediate or distant future. Sustainable transport systems align economic growth with social and environmental priorities as it provides the physical networks and services upon which a nation depends. The development of sustainable rail transport which actually meets the mobility and access desires of Nigerian people and businesses and at the same times reduces or eradicates greenhouse-gas emissions is the goal of every Nigerian head of government. Ongoing improvement of railway systems in Nigeria will facilitate infrastructure such as the transportation of goods and raw materials, boost tourism, enhance trade and generally improve standard of living of the populace.

Assessing the advantages and disadvantages of Chinese involvement in Nigeria may not be so simple. Nigeria’s economic growth in recent times, especially hitting its highest ever may partially be attributed to Chinese investment. In addition, the roads, railways, bridges and dams built by China are important contributors to the nation’s infrastructure (Saleh, Adie & Nwokedi, 2018). Similarly, during President Muhammadu Buhari September, 2018 visit to China, the President sought China’s financial aids for the construction of 3,050 megawatts Mambilla hydroelectric power project and signed a \$328 million deal on Information and Communication Technology Project (Olowolagba, 2018). Some of the financial aids have been used in the construction of railways, airport terminal and road rehabilitations. However, there are fears that over-reliance on China for financial aids could portend great dangers to Nigerian society as experience has shown with China’s aids in form of loans in some African and Asian countries.

Infrastructural development project (IDP) is the key to continuous development for both the developed and the developing countries. IDP refers to structures, systems, and facilities serving the economy of a business, industry, country, including the services and facilities necessary for its economy to function. It

is typically a term to characterize the existence or condition of costly technical structures' such as roads, railway lines, bridges, tunnels, or other constructed facilities such as loading docks, components of water supplies, sewers, electrical grids, telecommunications, etc. (O'Sullivan & Sheffrin, 2013).

Despite these strong fundamentals, Nigeria has found it difficult to convert her unique advantages into economic and social benefits for the country and the majority of her citizens. Whilst the political environment is improving with successful handovers within its democratic system, the crash in oil prices from a high of US\$115/barrel in August 2014 to current levels of US\$30 - \$50/barrel, has drastically reduced the federal government's revenues, of which oil revenues used to be about 75%.³ This makes diversification of the economy a top priority; this will require huge investments in infrastructure and the Nigerian government has identified this as a major priority by increasing the capital expenditure to 30% of the total 2016 and 2017 annual budgets compared with 11% in the 2015 budget (Adekalu, 2016).

Anyango (2020) noted that the projects to revitalize the Eastern line - Port Harcourt-Maiduguri are only in the draft phase. A slight revitalization of the narrow gauge without replacing it with a standard gauge has been proposed due to lack of funds. However, with the majority of tracks becoming a standard gauge, it could be reasonable to wait with the works on the Eastern line and modernize it the same way as the other lines. Chinese companies have also been commissioned to construct the light rail lines in Lagos and Abuja (Anyango, 2020). The first segments of the lines were supposed to be finished in 2021. These will be one of the first light rails in Western Africa. The presence of additional forms of transportation that avoids overcrowded roads could be another facilitation relieving the cities.

The impact of China-Nigeria economic relation on technology innovations, digital infrastructure and power in Nigeria

Under this objective, China's economic relation with Nigeria was examined, additionally; Nigeria - China cooperation was examined to find out how technological innovation from China to Nigeria impacted on digital infrastructure and power within the period under review.

Technological innovation and growth in skilled expertise are some of the factors contributing to economic development. As a developing country, Nigeria's quest to achieve economic growth is underpinned by the need to have technology embedded within the various economic sectors. Furthermore, a skilled and technologically adept workforce will be afforded an opportunity to improve their lives economically. Multi-National Corporations (MNCs) engaged in commercial activities within various developing countries have often contributed significantly to technology and skills - set transfers into the local economies. As Nigeria intensifies its relationship with China, Chinese MNCs continue to be embedded into the Nigerian economic space. Even as activities of MNCs increase in Nigeria technology transfer from China-Nigeria is not yet feasible.

Despite the numerous efforts made by the various policy documents to ensure technology innovation/transfer emanating from FDI, no policy has made it a requirement for contractual agreements between local and foreign entities. For example, Chinese MNCs operating within the construction sector are fully foreign owned subsidiaries of their parent companies abroad. No joint ventures with local firms are visible within the construction industry. With no policy deliberately pushing for such arrangements to create links between foreign and local firms, technology innovation/transfer is minimal or completely absent.

This finding supports Emeagwali (2018) assertion that for Nigeria to achieve development the one hundred million young Nigerians whose weapon is knowledge must develop their intellectual capital in order to build a stronger Nigeria using technology. At present, efforts at the acquisition of foreign technologies seem not to be working. This is because, the approach the Nigerian government has adopted in its attempt to achieve technology innovation/transfer seems to suggest that technologies can only be transferred through patent and licensing agreements with multinational corporations and through foreign direct investments. All the governments' efforts at technology transfer since the 1960s tow these lines. The end product of these processes is MNCs establishing their organizations in the country, produce their products/commodities for the consumption of the Nigerian people without Nigerians acquiring the technical and managerial skills and know-how. While it is true that the people benefit from these

activities, technology cannot be said to have been transferred. In other words, technology cannot be said to have been transferred if the owners of the technology are those utilizing it in a foreign country, as has been the case in Nigeria. Technology can only be said to have been transferred when the local people (in this case Nigerians) acquire, adopt, absorb and utilize it on their own.

Thus, the study found that technological innovations from China to Nigeria has not significantly improve digital infrastructure, power and created more jobs and businesses between 2010-2020.

CONCLUSION

This study assessed Nigeria-China economic relations and infrastructural development in Nigeria between 2010-2020. The study explored the nature of this relation in order to find out the level of infrastructural development within the period under review. Infrastructure facilities are not demanded for their own sake, but for what they will help in producing. In all aspects, whether in developed or less developed societies, the capacity and capability necessary for business growth stem from the acquisition of science and technology, culture and the availability of enabling infrastructure. The enabling infrastructures are the major factors which must exist to allow private enterprises to operate and grow. Available infrastructure will make people to be creative, innovative, gainfully employed, self reliant, wealth creators and will ensure security. But it is sad to note that the entire critical infrastructure in Nigeria is in a state of comatose thereby creating developmental crisis. Although Nigeria and China have benefitted from their diplomatic relations, but the relationship is not mutually rewarding, having been tilted towards China. The unequal relationship between the two countries has increased the dependency of the Nigerian economy on China and undermined its economic security.

China is a global model of rapid socio-economic transformation that Nigeria could study to enhance optimal performance for its economy. Despite its abundant natural and human resources, Nigeria will not be able to sustain her current levels of population and economic growth without enhancing her infrastructure. The understanding and acceptance of foreign investors by host countries provide a favourable investment climate for them. Nigeria desperately needs infrastructure growth to realize its maximum economic potential. China has the technological and financial know-how to collaborate with Nigeria to help both countries. It is believed that these infrastructures would enhance the symbiotic relationship between China and Nigeria in education, modern transportation, highways, ports, and other areas. Technology spillovers are an essential factor in advancing the host country's manufacturing capabilities and, as a result, driving economic growth.

The study concludes that China's economic cooperation with Nigeria in areas of education, transportation and technological innovations has created minimal improvement in the said areas. The study also concluded that Nigeria has not fully benefitted from these economic relations. On the aspect of China-Nigeria relation in transportation, it is crucial for the nation to build a global, efficient connection network to transport people and cargo between the states and towards the shore. The landlocked countries would gain a large trade-boosting possibility, while the non-landlocked countries could expand their infrastructure around it (ports, warehouses, services). Infrastructure in general, but the railway branch, in particular, creates new jobs directly and indirectly.

Furthermore, for Nigeria to benefit optimally from its economic relations with China, the country needs to build up its internal productive capacity through regular training of its workforce. Also, the Nigerian government should consolidate and strengthen the investment climate by repositioning investment platforms, thinning out investment barriers, bettering the current economic environment, and relaunching constructive initiatives and policies that will enhance infrastructural development. It is imperative to balance ties between China and Nigeria to ensure that Sino-Nigerian cooperation is sustained.

RECOMMENDATIONS

Amongst the recommendations is that Nigeria should use China's thirst for oil to extract concessions in areas vital to Nigeria's interest. China should be encouraged to strengthen and improve its co-operation with Nigeria in different areas including the effective improvement of the education sector. Nigeria should create an enabling business environment to encourage Chinese and other investors. It must address

basic infrastructural impediments such as provision of electricity, transport and better telecommunication facilities. Nigeria can learn from the trend of reform in China and create policies in such a manner that the economy of Nigeria becomes the focus of development. For instance, during the Chinese years of reform, foreign direct investment inflows to China were subjected to various rules and regulations including extensive plans on technological capacity building of Chinese, stringent local content requirements. For engineering projects, technological cooperation and technology transfer to be optimized in construction projects involving MNCs it is recommendable that policy specifically dealing the same is formulated. Furthermore, oversight bodies need to ensure that technology innovation/transfer is prioritized to ensure that technology transfer is successful.

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