

How Nigeria's Poor Economic and Social Infrastructure Fail to Realize its Demographic Dividend

Yuan Hong *

Nanjing Foreign Language School, Nanjing, China

* Corresponding Author Email: moudaye806@outlook.com

Abstract. Nigeria is a country with rich populational resources, especially people of young age, and thus is thought to be an ideal choice for building an “world factory”. But recently Nigeria is facing a gap between its economic situations and its estimated populational dividend, which will be tributed to its poor infrastructure. Generally, the longly poorly-developed history has left Nigeria backward means of manufacturing and a lack of systematic infrastructure to minimize the cost of operating, both making Nigerian products and services less competitive in the global market. Also, its young population, due to generally education levels and traditional cultural influence, cannot serve as efficient labour force to support the development of modern industries. This article focuses on the generalization of various factors blocking the further development of Nigeria, each corresponding to a specific sector. Based on former researches and available data, the current demographic and economic patterns of Nigeria are shown, and their further impact is evaluated.

Keywords: demographic dividend, employment, Nigeria.

1. Introduction

As the largest economic matter in sub-Saharan Africa, Nigeria is a country with large quantities of young population, from which it is traditionally to be thought of to benefit by maintaining stable productivity regardless of the global situations. However, Nigeria actually happens to be quite vulnerable to global economic shocks, and its GDP can even decline nearly by half. This feature arises from Nigeria's poor sector distribution, which generally limits its productivity and stability. Conclusively, this is a leftover problem by the longly poorly developed history of Nigeria, which includes the poor infrastrucure, low education level of the labour force, out-of-date equipments for manufacturing, and the paucity of support by the government. Certain factors constrain the labour force paticipation rate of especially the young population, and others make the labour who are actually working operate at low efficiency. Poorly educated Nigerian people are mostly constrained to engage in solely low productivity job positions, while even more qualified labour force are hard to enter as good enterprises due to the paucity of attainable loans made by the local government to support the emergence and development of start-up private companies. The poor infrastructure, consisting of the transportation system and the power provision capability, force companies to lift the cost of operating. This could in turn lead to higher prices of their products and the relative heavy burden on their funds current. To compensate for the cost, many Nigerian compoanies have to sell their products at relatively higher prices, which, together with their rekatively low quality as a result of crude equipments, make Nigerian final products less attarctive in the global market. Presently, Nigeria imports mainly include final products, while exports are mostly crude natural resources. This can lead to to further evaluation of whether Nigeria should supervise its foreign exchange so as to provide chances for domestic brands and to maintain a balance in the governmental budget.

2. The analyzes of specific industries

2.1. Agriculture: backward manufacturing methods lead to low efficiency

Traditionally, Africans rely heavily on agriculture. The lack of rich natural resources and the desire not to leave themseleves starving have driven large populations to feed on agriculture. For now, agriculture generates 25% of the total GDP; at the same time, about 70% of the total population

engage in the industry. These numbers, altogether, might signal that agriculture in Nigeria works at low efficiency, generating exceptionally low GDP per capita. Several reasons can contribute to this.

First, agriculture in Nigeria rely heavily on manpower instead of large-scale specialized machines, as those common in North America. Specifically, about 70% of the work is done by humans, 20% to be done by livestock and only 10% to be conducted by machines. According to recent data, Nigerian people on average owns only about ten tractors per 100 acres of farmland, while the average level of other countries that depend on agriculture, taking Indonesia which is another developing country as an example will be as high as 241 tractors [1]. This can lead to serious paucity of power in the processes such as tilling. It is reported that Nigeria has only 0.027 horsepower per hectare of land, far lower the recommended level of 1.5 hp [2]. In fact, as an African country, Nigeria has a landscape distribution surprisingly suitable to grow crops: 70% of the area can be used as farmland or ranches, and totally unsuitable land only account for 4%. With insufficient power, however, the rich arable land sources are being underused: while the total area that is considered arable is 34 million hectares, ranking eighth around the world, only 40% percent is being cultivated and 10% is optimally cultivated [3] [4].

Besides, on cultivated land people work at relatively low efficiency as well. Many of the population, up to about 70%, engage not in large-scale commercial farming but in subsistence farming. Subsistence farming is the most basic means of agriculture, which focuses solely on family-scale planting, its yield to be just enough to feed the family themselves. Subsistence farming typically contain fewer commercial crops than food crops. While the yield of dominant domestic commercial crop like cocoa beans only reaches 0.3 million tons, Nigeria's cassava production in 2023/24 is expected to hit 6 million metric tons [5] [6]. Despite the necessity of the supply of food crops, this might lead to a prevalent stage of low productivity in terms of value created.

The backward way of farming in some parts of Nigeria badly harm the environment and consequently worsen the case. In the eleven states in northern Nigeria, which is closet to the edge of the Saharan desert, sand dunes enroach about 30 hectares of land annually. [7] Adeyemi's 2019 study shows that over 40 million people, mainly composed of the poor who have generally low productivity, have most directly led to and suffered from the environmental degradation. Over 12 million people suffers from food paucity, yet the percentage is still growing from 5.9% in 2008 to 7% in 2015[8]. When farming is heavily reliant on man power, this actually leads to a vicious circle.

2.2. Industry: high operating costs make products less competitive

Industry usually serves as the dominant sector in developing countries, but in Nigeria it remains at a minor part of the economy. Manufacture generates 18% of the total GDP in Nigeria, while it just accounts for 12% of the population. Certain limitations constrict its development: in fact, the development rate of Nigerian industry has fallen from 2.40% in 2021 to 0.48% in late 2023, and for the third quarter of 2022 it for once even contracted for 8% [9].

First is the paucity of energy supply. Recently the domestic electricity generated is gradually declining to just below 3.9 GW, while the demand is already 3.6 GW, and the number is still growing [10]. Were all the plants working at full speed, the number might even increase to as high as 8.2 GW, twice the attainable energy. If Nigeria is to increase its reliance on industry, it definitely faces a shortage of energy. Wale's 2020 study mentions that, Nigerian households and businesses waste almost US\$ 22 billion annually in fuel costs alone (IFC, 2018), deriving from the high cost of using standby generators to counteract the effect of potential power shortcuts. Though the government tried to solve the problem by practising a market reform in the sector, the plan eventually failed [11].

Second, Nigeria has a too poorly developed transportation system to reduce the cost of carrying the materials and products. For conclusively freight and passenger transportation, 96% rely on road transportation, the most basic means which is not so suitable for large-scale transmission. By contrast, more efficient means, such as pipelines used to transport petroleum are no longer used, and that petroleum transportation adds to the pressure on the already congested road system. Inner waterways and overseas transportation have the potential of reducing such pressure, but they are being underused

as well, mainly because the facilities are becoming old and unreliable [12] Plus, Nigerian harbours due to their geographical distribution can be appropriate choices for carrying out many overcontinental transportation missions, but their infrastructure and poor management have prevented such chances of extra income. Even in the case of road transportation, it is reported that only 15% of the whole federal roads stay in good conditions, while 30% of them are exceptionally poorly constructed so as not to be capable of allowing trucks go through.

Conclusively, the cost up setting up well-prepared industry in Nigeria is exceptionally high, ranging from the utilities and the equipments. Ifeoma in his 2022 study discovered that, CPI and exchange rate have a significant negative relationship with the domestic imports demands, while it is opposite the case for domestic income. [13] With the recent inflation rate as high as 32.15% in Aug 2024, the equipments purchasing business is undergoing significant challenges. With products of sustantially lower quality as a consequence of out-of-date machinery and the higher price due to the cost of power and transportation, products made in Nigeria are hard to outcompete others in the global market, and manufacture accounts for a minor part of the export sales. Instead, Nigerian exports rely heavily on pristine natural resources, with 82.5% coming from crude petroleum and 9.11% from petroleum gases [14] In recent years, the global oil price is udergoing a period of instability, and the Nigerian exports undoubtfully suffered from great shocks. In fact, its total output generated by exporting is actually facing a contraction in 2022. Moreover, it is calculated in Samuel's study that per 1 percent of growth in trade will block the growth of GDP per capita by 0.02%, opposing the Heckscher–Ohlin trade theory and classical theory of trade that postulated that trade promotes economic growth, possibly a result of the situation that Nigerian imports mainly include equipments, but its exports are mainly crude materials [15]. Along with the global decrease in gasoline prices and the increasing price, it might now seem a better choice to closely monitor the types of goods its domestic companies purchase from overseas: while the enterprises should still be encouraged to introduce high-level professionals and equipments, the government should tax the import of finished products , which will force foreign enterprises to lift their prices to preserve the domestic market shares to ensure that local companies can better develop. Plus, the Nigerian government is facing a deficit in its budget, so this might help with the trade deficit.

2.3. Services: domestic labour force not equal to the requirements to develop

Services serve as the dominant industry in Nigeria, which signals that despite the generally poor development, as a newly developing country Nigeria still managed to improve its sector distribution. In 2023, services generated 58% of the total GDP and took up 45% of the population. Key contributors within this sector include Information and Communication (16.06%), Financial and Insurance services (6.57%), and Real Estate (5.29%) [16]. Dominant as it is, when the ratio of GDP created and population engaged in of it is compared to that of industry, services does not seem that efficient. This gap can be tributed to several reasons. First is the general poor domestic average education level. Out-of-school children account for 25.3 percent of primary and lower secondary school-age children. Meanwhile, the gross enrollment ratio in pre-primary education is 37.8 percent and the gross intake ratio to the last grade of lower secondary school is 68.8 percent. According to Jacob, though Nigeria has in 1999 released a basic education program providing 9 years of basic education for domestic children and aiming at improving the literacy rate, its degree of success was determined by the abundance of local funding [17].

Different from industry, where an average worker only requires short, specific training, the education level directly forces many people to engage in informal sector, characterized by low wages and low productivity. According to Amaka's 2021 analyses, the informal sector currently accounts for over half of global employment and as much as 90% of employment in some of the developing countries like Nigeria. More productive sectors, such as Information and Communications Technology (ICT) and financial services are poorly developed due to a high degree of skills mismatch [18].

Second, micro private enterprises often find it hard to get started due to a lack of credits. Nigeria is among the 25 priority countries that are part of the World Bank Group's Universal Financial Access 2020 initiatives, whose goal is to extend access to financial services to all adults by 2020. In 2014, 66% of adults in Nigeria (55 million adults) didn't have access to a transaction account, according to the World Bank's Global Findex data.

Finally, Nigeria lacks the money current to recreate value through consumption and investment. While money can be recreated according to the marginal propensity to consume, the low salaries of average Nigerians just enough to feed their family prevent them from actively engaging in economic activities. According to Tsenkwo, the Nigerian people's marginal propensity to save, though is consistent with the Keynes earlier proposition in terms of its range ($0 < MPC < 1$), is instable, with 40% of the population not consuming at all, which does not agree with the model. Meanwhile, the research also shows a tendency that the MPC might rise over 1 [19]. Disturbed by the growing deficit in the national economy, coupled with low level of saving and investment in Nigeria, the government are urgent to make relative policies to discourage consumption and promote production.

2.4. Quaternary and quinary sectors: poor governmental management

Nigeria's quaternary and quinary sectors account for only a tiny portion (e.g. utilities 0.62%, public management 1.29%) in its total GDP, signaling that it might lack of function of leading the overall construction frame in its development. This can not only derive from the general poor infrastructure and the lack of funds as listed before, but also derive from a disagreement within the Nigerian government, which in turn leads to less support to be provided for the services and manufacturing sectors. Studies conducted by Samuel show that, with each 1% increase in gross capital formation GDP per capital significantly reduced by 1.33% [20]. Moreover, the corruption that happens within the management of monetary affairs eat up the income made by private companies. According to Ribadu (2013), the nation's oil cash cow, the Nigerian National Petroleum Corporation (NNPC) is being milked to death by a few persons put in charge of watching over national patrimony. John Ugoani's 2020 study supports the opinion that the reported N16 trillion revenue lost in 10 years was close to federal government's capital votes in 10 years, signaling that the more output Nigeria earns through its petroleum exports the worse the situation will actually be. The money just flows into the pocket of several relative officials, not into private companies or becomes used as the government budget [21].

2.5. Other factors: culture negatively shock the labour force market

Higher labour force participate rate does not necessarily lead to economic well-being. Yubuku's research reveals that in Nigeria the labour force participant rate is negatively correlated with the development in economy. This can be tributed to the consequently higher unemployment rate and the existence of gender inequality in labour selection. According to the data, the labour force participate rate of Nigerian males is just 65.9%, that of females to be as low as just 52.2%. In terms of the index of gender equality, Nigeria only ranks 123 in the 146 researched countries revealing its extremely serious gender inequality and possible discrimination against women [22]. Teophilus in his study reveals that discrimination against female workers do exist and is exceptionally more serious in rural areas than in urban areas, and that conclusively women receive on average 31.34% less money while working. This can be further explained by the sorts of labour people are engaged in. 48% of male workers and 52% of the female workers in rural areas practice none-pay job positions, a sign of its low productivity. For now, one possible reason why discrimination exists might be the historically low productivity and the low status of females, whose main responsibility then was then to give birth to their descendents and whose productivity was constrained by their physical limitations. The longly existed lower status of women today lead them to go on engaging less in work, and make females seem less productive today. But now that the physical limitations do not prevent woman from becoming efficient workers, it can be now the case that the government must first force families to let women receive high level education as well as decreasing the fertility rate, given that poor

education situations and often pregnancy are the existing factors that prevent women from actively engaging in the labour force. As time goes by, females will prove that they can do as well as males do.

3. Conclusion&Suggestions

Based on the statistics listed above, Nigeria's gap between its populational potential and its poorly developed fact is mainly a result of its low quality of its labour force and its poor economic infrastructure, including backward manufacturing facilities and lack of the provision of funds and appropriate administration. This can in turn lead to the status of domestic products and services being relative less competitive in the global market due to their higher prices to cover the higher costs and relatively lower quality as a result of a paucity of modern equipments and experienced workers/engineers. Moreover, the backward physical situations lead to some negative cultural patterns, such as the high fertility rate deriving from the wish to have enough labour force for cropping in the future and the discrimination against females which generally reduces the labour force participate rate.

To address the problem, the Nigerian government must first focus its attention on a certain field to basically vacillate the current status of Nigeria, which is considered backward and not competitive all the way along. Then, the government should base on the improved sector to benefit and compensate for the deficit in its budget, and finally turn to improve other sectors. These sectors should be improved so as to become an outstanding industrial representation in the global market, making the country an ideal choice when looking for new "world factories". More specific suggestions are listed above, each corresponding to the current problems.

References

- [1] <https://venturesafrica.com/how-10000-tractors-to-nigerian-farmers-will-boost-agricultural-productivity/>.
- [2] <https://punchng.com/nigerias-agricultural-mechanisation-among-lowest-globally-says-fg/>.
- [3] <https://knoema.com/atlas/Nigeria/topics/Land-Use/Area/Arable-land-as-a-share-of-land-area>.
- [4] <https://www.indexmundi.com/facts/indicators/AG.LND.ARBL.HA/rankings>.
- [5] <https://www.fao.org/nigeria/fao-in-nigeria/nigeria-at-a-glance/en/>.
- [6] <https://businessday.ng/agriculture/article/nigerias-largest-cassava-producer-status-increases-investment-opportunities/>.
- [7] <https://ccij.io/article/an-encroaching-desert-intensifies-nigerias-farmer-herder-crisis/>.
- [8] Ogundipe, Adeyemi A./Obi, Sophie et. al. (2020). Environmental degradation and food. security in Nigeria. In: International Journal of Energy Economics and Policy 10 (1), S. 316 - 324.
- [9] Nigeria GDP Growth Rate (tradingeconomics.com).
- [10] Prabhakar A C. Driving Economic Prosperity: Fostering Job-Oriented Sustainable and Inclusive Development in India [J]. Open Journal of Business and Management, 2024, 12 (4): 32. DOI: 10.4236/ojbm. 2024. 124147.
- [11] Wale Arowolo a, Yannick Perez , Market reform in the Nigeria power sector: A review of the issues and potential solutions, Energy Policy, Volume 144, September 2020, 111580.
- [12] Chinyelu Onokala1*, Chidinma Joy Olajide2, PROBLEMS AND CHALLENGES FACING THE NIGERIAN TRANSPORTATION SYSTEM WHICH AFFECT THEIR CONTRIBUTION TO THE ECONOMIC DEVELOPMENT OF THE COUNTRY IN THE 21st CENTURY Patiencl, 2020.
- [13] Chinasa Ifeoma, Price and Income Elasticity of Import Demand in Nigeria, OBI, 2022, International Academic Journal of Management and Marketing, ISSN: 2384 - 5849. Volume 7, Number 1, Pages 279 - 294 (April, 2022).
- [14] <https://nigerianstat.gov.ng/elibrary/read/1241376>.

- [15] The impact of government policies on Nigeria economic growth (case of fiscal, monetary and trade policies), Olufemi Samuel Adegboyero*, Sunday Anderu Keji and Oluwadamilola Tosin Fasina Adegboyero et al. *Futur Bus J* 2021, 7 (1): 59 <https://doi.org/10.1186/s43093-021-00104-6>.
- [16] <https://africa.businessinsider.com/local/markets/breakdown-of-nigerias-recent-gdp-growth-as-reported-by-the-nbs/gyrhllw>.
- [17] Jacob, Higher Education in Nigeria: Challenges and the Ways Forward, *Electronic Research Journal of Behavioural Sciences*, Volume 3 (2020).
- [18] Employment in the informal sector in Nigeria: implications for sustainable economic development, Amaka, 10.36108/unizikjb/1202.40.0160 Vol. 4 Issue 1 (2021).
- [19] *Journal of Innovative Research in Management and Humanities* 2 (1), April, 2011. ISSN: 2141 - 8217. <http://www.grpjournal.org/Journal/Category/JOIRMAH.aspx>.
- [20] Adegboyero et al. *Futur Bus J* 2021, 7 (1): 59 <https://doi.org/10.1186/s43093-021-00104-6>.
- [21] John Ugoani, Poor Public Management and Public Governance Failure: Nigerian Experience on Oil Resource Curse or Blessing Debate, 2020, IGI global.
- [22] <https://www.weforum.org/publications/global-gender-gap-report-2023/in-full/benchmarking-gender-gaps-2023/>.