

Brain Drain-Brain Gain Debate: The Missing Link

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Abstract: *The debate on brain drains and brain gain remains central to migration discussions, particularly in Nigeria and Africa. This study explored the missing link between the two by reviewing literature conceptually, theoretically, and empirically. Based in the Neo-Classical Theory of Migration, it highlights migration as a rational response to wage and opportunity gaps while emphasizing circular migration's role in balancing labour markets and fostering development. Key push factors driving migration in Nigeria include poverty, unemployment, insecurity, poor governance, political instability, a weak education sector, corruption, and economic hardship. These factors compel skilled professionals to seek opportunities abroad, leading to brain drain and its negative impacts, such as weakened healthcare and education systems, loss of innovation, and economic stagnation. However, migrants often face challenges in host countries, including underemployment, non-recognition of qualifications, legal hurdles, and socio-economic struggles, forcing many into low-skilled jobs. This study identifies brain circulation as the crucial link between brain drain and brain gain. By facilitating knowledge, skills, and resource exchange between home and host countries, brain circulation enables contributions to development without requiring permanent return. To transform brain drains into an opportunity for growth, Nigeria and Africa should implement strategic policies that harness brain circulation for innovation, economic progress, and sustainable development.*

Keywords: brain drain, migration, unemployment, Nigeria, Africa

INTRODUCTION

The global migration of skilled professionals, often termed as "brain drain," is a phenomenon that has shaped economies, societies, and the development trajectories of nations but has also been a persistent challenge for many nations. This phenomenon often leads to significant human capital losses, depriving the home country of talent vital for its development. In the context of Nigeria, brain drain has been a persistent issue, with significant negative effects on the country's socio-

economic landscape. Conversely, brain gain refers to the benefits countries derive when skilled individuals migrate to acquire education, experience, and networks before returning to contribute to their home country's development. The United States, the United Kingdom, and Canada are prime examples of countries benefiting from brain gain. Between these two extremes (brain drain and brain gain) lies the underexplored concept of brain circulation. Brain circulation describes a dynamic exchange where highly skilled individuals move between countries which contributes to both their host and home nations through knowledge and skills transfer, innovation, investments, and cultural exchange. While brain drain has historically been seen as a loss for Nigeria, brain circulation offers a framework to leverage the diaspora's contributions, transforming challenges into opportunities for national development. Drawing from the foregoing, this study explored brain circulation as the missing link between brain drain and brain gain by focusing on Nigeria and Africa as well as their connections with American, European, and Asian countries such as the United States, Canada, United Kingdom, China, and so on.

LITERATURE REVIEW

Concept of Brain Drain and Brain Gain

The Cambridge Dictionary (2016) defined brain drain as “the situation in which large numbers of educated and very skilled people leave their own country to live and work in another country where pay and conditions are better.” According to Beine, Docquier, and Rapoport (2001), brain drain refers to the large-scale emigration of educated and skilled individuals, which has a dual impact: a potential loss of talent for the home country and a possible gain through remittances or eventual return migration. Stark (2004) viewed brain drain as the phenomenon where skilled individuals leave their home countries to seek better professional and economic opportunities abroad, often resulting in a net loss for the source country's development. Furthermore, Nadja (2009) explained that “brain drain is the preponderance of the migration of highly skilled and educated persons from poor, developing and less industrialized countries to richer, more developed ones”. Docquier and Rapoport (2009) defined brain drain as the emigration of individuals with higher education levels, which can lead to the loss of skilled labor in the source country, affecting its economic and social development. On the other hand, Beine, Docquier, and Rapoport (2001) defined brain gain as the process through which migration prospects and the eventual return of skilled emigrants contribute to knowledge transfer, innovation, and economic growth in the source country. Lowell and Gerova (2004) described brain gain as the advantages countries experience when emigrants return with enhanced skills and knowledge or when diaspora communities contribute economically and intellectually to their home country. Kapur and McHale (2005) see brain gain as the benefits derived by the developing countries when skilled migrants abroad transfer resources, expertise, and networks back to their home country, either directly or through diaspora engagement. According to Docquier and Rapoport (2007), brain gain refers to the return of emigrants or the transfer of knowledge, skills, and resources from the diaspora to the home country, which positively impacts economic and social development.

Factors Driving Migration in Nigeria

1. **Poverty & Unemployment:** With over 40% of Nigerians living below the poverty line and an unemployment rate exceeding 33%, many seek opportunities elsewhere for survival and financial stability. Youth unemployment drives the widespread "Japa" migration trend.
2. **Insecurity & Conflict:** Armed insurgencies (e.g., Boko Haram), communal clashes, and separatist agitations have displaced millions, forcing many to migrate internally or internationally for safety.
3. **Bad Governance & Corruption:** Poor leadership, mismanagement of resources, and systemic corruption hinder development, reducing access to essential services and economic opportunities. This fosters disillusionment, pushing skilled professionals and entrepreneurs abroad.
4. **Political Instability:** Electoral violence, coups, and power struggles create uncertainty, discouraging investment and prompting individuals to leave in search of stability.
5. **Educational Crisis:** Underfunding, frequent strikes, and outdated curricula in Nigerian universities push students to study abroad. Many do not return, contributing to brain drain.

The Effects of Brain Drain on Nigeria and Africa

Brain drain has profound implications for Nigeria and Africa as a whole. While it reflects the pursuit of better opportunities, it creates significant problems that negatively affects economic growth, social development, and innovation. Some of the implications of brain drain are discussed below:

- i. **Economic Consequences:** One of the most direct effects of brain drain in Nigeria and Africa is the loss of human capital vital for economic growth and development. Skilled professionals, including doctors, engineers, scientists, and academics, leave their home countries for higher wages and better working conditions abroad. This talent drain depletes the workforce, reducing productivity and stalling development in key sectors. For example, Nigeria, with a doctor-to-patient ratio of 1:5,000 (far below the World Health Organization recommendation of 1:600), suffers from a healthcare crisis exacerbated by the emigration of medical professionals to European and North American countries. The financial cost of educating professionals who then emigrate is also significant. African governments invest substantial resources in tertiary education, yet they fail to reap the benefits of this investment when graduates leave. For instance, it is estimated that Africa loses over \$2 billion annually due to the emigration of its highly educated workforce. This financial drain reduces the funds available for other developmental priorities.
- ii. **Impact on the Healthcare Sector:** The healthcare sector in Africa is among the hardest hit by brain drain. Many Nigerian healthcare workers, dissatisfied with low wages, inadequate infrastructure, and unsafe working conditions, seek opportunities in developed nations. According to recent statistics, over 5,000 Nigerian doctors practice in the UK alone. This exodus has resulted in severe shortages of healthcare professionals in local hospitals, contributing to higher mortality

rates and inadequate healthcare services. Countries like Ghana and Kenya face similar challenges, with significant portions of their healthcare workforce emigrating. The inability to retain medical professionals undermines efforts to achieve universal health coverage and effectively manage public health crises, such as the COVID-19 pandemic.

iii. Stunted Education and Research Development: Africa's educational institutions also suffer from brain drain, as academics and researchers seek better-funded opportunities in Western countries. The exodus of university professors limits the quality of education offered to students and reduces the capacity for research and innovation. This cycle hampers the development of new technologies, policies, and solutions tailored to Africa's unique challenges. The loss of intellectual resources also means African universities are less competitive globally, struggling to attract international funding and partnerships. This brain drain perpetuates underdevelopment, as the intellectual capital necessary for driving growth remains outside the continent.

iv. Loss of Institutional Capacity: Government institutions, which rely on skilled administrators and policymakers, are weakened by brain drain. Talented individuals leave due to limited career progression, political instability, and corruption in public administration. This weakens governance, reduces policy implementation capacity, and affects the overall efficiency of public services. For example, the loss of experts in environmental policy, energy, and infrastructure development has hindered Africa's ability to address pressing issues such as climate change and urbanization. This diminishes the continent's bargaining power in international negotiations and its capacity to leverage global partnerships effectively.

v. Social and Psychological Effects: Brain drain also affects families and communities left behind. The migration of skilled professionals often separates families, leading to emotional strain and disrupted social networks. Additionally, the perception of limited opportunities at home fosters a sense of hopelessness among those who remain, especially the youth. This contributes to increased emigration aspirations and perpetuate the cycle of brain drain. Moreover, brain drain exacerbates inequality, as those who can afford to emigrate are often from privileged backgrounds. This creates a disparity in opportunities and widens socio-economic gaps within African societies.

vi. Geopolitical Implications: Brain drain affects Africa's geopolitical positioning. The emigration of skilled professionals reduces the continent's ability to influence global policies and negotiate favorable terms in international trade, healthcare, and technology agreements. As the diaspora grows, however, there is an opportunity to leverage their influence for advocacy and lobbying on behalf of their home countries.

Realities of Nigerian and African Migrants at Their Destinations

For many Nigerian and African migrants, the journey to their destination is often fueled by dreams of better opportunities, career advancement, and improved living conditions. However, upon arrival in European, Asian and American countries, the reality they face is often far from their expectations. One of the most significant challenges is their inability to continue in their original professions due to the lack of necessary certifications and professional recognition. This issue affects a wide range of professionals, including doctors, engineers, teachers, lawyers, and skilled

tradespeople, forcing them to take on jobs that are far below their qualifications and expertise. Specifically, a detailed discussion of the realities faced by Nigerian and African migrants at their destinations is provided below:

a. The Certification Barrier (A Structural Challenge): The labor markets in many destination countries require formal certification or licensing for professionals to practice legally. For instance, a doctor from Nigeria must meet rigorous requirements to practice medicine in the United States, including passing exams such as the United States Medical Licensing Examination (USMLE) and completing residency programs. Similarly, engineers, accountants, and teachers often need to pass equivalency exams or undergo additional training to meet the standards of their host countries. These certification processes are often expensive, time-consuming, and complex, creating a significant barrier for migrants. Many find it challenging to navigate these systems due to limited financial resources, lack of information, or the need to prioritize immediate survival by taking up menial jobs. As a result, a highly skilled professional may find themselves working in low-paying jobs in industries such as retail, cleaning, or transportation.

b. Housing and Accommodation Struggles: For many Nigerians and Africans, migrating to other countries is seen as an opportunity to escape poverty, conflict, or limited opportunities and to build a better life for themselves and their families. However, the reality that awaits them at their destinations is often filled with unexpected challenges. One of the most pressing issues faced by these migrants is the struggle to meet their immediate needs, including accommodation. Accommodation is often the first and most urgent need for migrants upon arriving in a new country. For Nigerian and African migrants, finding affordable and suitable housing can be a daunting task due to several factors. First, housing costs in many destination countries, such as the United States, United Kingdom, and Canada, are prohibitively high, particularly in urban areas where job opportunities are concentrated. Migrants often lack the financial resources to secure decent accommodation, leading many to settle in overcrowded and substandard housing. Secondly, African migrants frequently encounter racial and ethnic discrimination in the housing market. Landlords may refuse to rent to them or impose higher rents and stricter terms compared to other tenants. Thirdly, many landlords require proof of employment, credit history, and other documentation that new migrants may not possess, further limiting their housing options. In extreme cases, migrants unable to afford housing may become homeless or rely on temporary shelters and community support networks. The struggle to secure stable housing creates a ripple effect, impacting other aspects of migrants' lives, including their ability to find employment and access essential services.

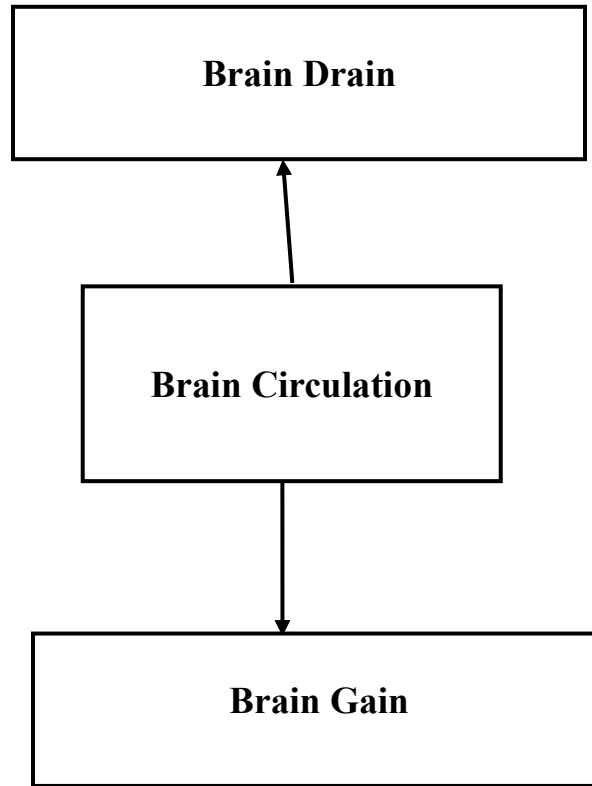
c. Struggles to Find Decent Jobs: Migration is often driven by aspirations for better economic opportunities, improved living conditions, and personal growth. However, for many Nigerian and African migrants, the reality at their destinations is a far cry from these expectations. One of the most significant challenges they face is the inability to find decent, stable jobs that align with their skills, qualifications, and professional aspirations. Instead, a large majority end up working in low-paying jobs such as caregivers, cab drivers, laundry workers, delivery agents, and factory workers. Many Nigerian and African migrants are highly educated and skilled

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professionals in fields such as medicine, engineering, computer, law, and education. However, systemic barriers in their host countries prevent them from entering these fields. Degrees and certifications obtained in African countries are often not recognized in developed nations. Migrants are frequently required to undergo expensive and lengthy re-certification or equivalency processes, which many cannot afford. Also, professions like medicine, law, and engineering require licenses to practice. Migrants often face challenges in meeting these requirements due to high costs, lack of support, and the need to prioritize immediate income. For migrants from non-English-speaking African countries, language proficiency and unfamiliarity with cultural norms in professional settings can hinder their ability to secure jobs in their original fields. As a result, many migrants are forced to abandon their professional aspirations and take on low-skilled jobs to survive. The lack of access to decent jobs often pushes Nigerian and African migrants into low-paying and physically demanding roles. These jobs include: caregivers, cab drivers, laundry workers, delivery agents, factory workers, and many more. These jobs, while providing a source of income, do not offer financial stability or pathways to upward mobility, leaving many migrants stuck in a cycle of underemployment.

d. Legal and Citizenship Challenges: Navigating the legal and immigration systems of host countries is a significant hurdle for many Nigerian and African migrants. Obtaining legal residency, work permits, or citizenship often involves complicated procedures, long waiting times, and high costs. Also, migrants who enter host countries through irregular means or overstay their visas face the constant threat of deportation. Their undocumented status also limits their access to social services and formal employment opportunities. However, in their desperation to regularize their status, some migrants fall victim to scams and fraud perpetrated by agents who promise quick and easy solutions but deliver nothing

Brain Circulation as the Missing link between Brain Drain and Brain Gain



Source: Author's Idea

The migration of skilled professionals from developing countries, particularly in Africa, to developed nations has long been a topic of concern. Traditionally, this phenomenon has been framed as brain drain which reflect the loss of human capital that undermines the growth of home countries while brain gain emphasizes the potential benefits when skilled professionals return home with enhanced knowledge, skills, and connections. However, these two paradigms fail to capture the full dynamics of global talent mobility. This is where brain circulation emerges as a more inclusive and nuanced framework, acting as the missing link between brain drain and brain gain, especially for Nigeria and Africa. Brain circulation refers to the multidirectional flow of talent that allows for knowledge exchange and development between countries, offering a more balanced perspective on migration's impact on both sending and receiving countries. Brain circulation bridges the gap between brain drain and brain gain by fostering continuous engagement between migrants and their home countries, regardless of physical location. For Nigeria and Africa, this involves leveraging the diaspora for knowledge transfer, investment, and collaboration. Through brain circulation, Nigerian and African professionals working abroad can share their expertise with institutions back home via: Virtual platforms for teaching, mentorship, and training,

collaborative research projects that address local challenges as well as participation in conferences and workshops hosted in their home countries.

Theoretical Framework

Theoretically, the Neo-Classical theory of migration pioneered by Hicks (1932) and expanded by Lewis (1954) and Harris and Todaro (1970) explained international labor migration in the light of economic growth and development. According to the theory, the decision to migrate is solely a function of the migrant welfare and not the social welfare of the migrant's household. The core tenet of the Neo-Classical Theory of Migration is that people migrate based on push and pull forces, which determine whether they stay in their country of origin or relocate to a new one. Sjaastad (1962) contends that access to employment and disparate salaries were the primary drivers of labour migration, especially skilled labour across the world. The core of the Neo-Classical theory is built upon two main classes comprising the macroeconomic and microeconomic aspects. At the macro level, Neo-Classical theory assumes that the sole purpose of migration is the exceptional imbalance in the supply of labour, and the demand for labour, which leads to wage discrepancies in different countries across the world.

From the macroeconomic stance, the Neo-Classical theory argues that real wage differences among different economies are the driving force of migration and flow of capital (Lewis, 1954). The developmentalists position on migration and remittances championed by Todaro (1969) is in consonance with the argument of the remittance-optimist school which posits that migration is an important agent of change and innovation. For instance, Englama (2009) argued that developing economies encourage emigration as it is perceived as engine of national development and migrants are described as change agents, innovators and inventors. Again, it is expected that labor migrants would reinvest their earnings substantially in enterprises in their home economies to boost rapid economic growth and development as well as alleviate poverty. The Neo-Classical theory as cited in Ingrida (2017) assumed that migration is brought about as a result of economic comparisons of relative benefits and costs which involves financial and psychological costs. Hence, looking at the Neo-Classical, the theory opined that labour will move from low-wage to a high wage locations. It has been witnessed world over that there is increasing gap between the high-wage countries and low-wage countries as a result of government and resource management which is more practical and accountable in high-wage countries than the low-wage countries. Hence, people particularly those within the labour bracket move from the countries of their origin to high-wage countries for greener pastures.

The Neo-Classical Theory of Migration provides a valuable framework for understanding brain drain, brain gain, and brain circulation. While brain drain represents a loss of talent and brain gain highlights its return, brain circulation captures the dynamic and multidirectional flow of knowledge, skills, and resources between home and host countries. For Nigeria and Africa, brain circulation offers a pathway to mitigate the adverse effects of brain drain while leveraging the

diaspora for national development. This theory views migration as a rational decision made by individuals to maximize their economic well-being. While the theory is primarily associated with labor migration, its principles can be extended to explain the phenomena of brain drain, brain gain, and brain circulation.

Empirical Literature

Eberechukwu and Boris (2023) examined the impact of migration on socio-economic development of Nigeria from 2015 to 2021. The study relied on secondary sources of data collection and data collected were analyzed using content analysis. The study was anchored on Relative Deprivation theory and argued that, poverty is the major driving force for migration of Nigerians to developed countries. The security, economic and political conditions in Nigeria have worsened the surge for people to migrate in search of better living conditions and safety. The study revealed that Nigeria has lost skilled personnel with capacity of transforming the economy through the wealth of knowledge in their disposal to developed countries.

Applying the Ordinary Least Squares (OLS), Oyegoke and Amali (2022) examined the impact of international labour migration and migrants' remittances on economic development in Nigeria between 1977 and 2021. The study employed annual time series data for the empirical investigation over the study period. The results showed evidence of a significant positive effect of international labour migration on economic development in Nigeria. Similarly, the study revealed that remittances contributed positively to promoting economic development in Nigeria during the period under review.

Ojiugo, Chigozie and Eze (2021) examined brain drain and sustainable development in Nigeria. The study identified how the sustainable depletion of healthcare and education professionals through brain drain affects sustainable development as well as examined the measures taken by the Nigerian government to halt the country's brain drain. The study used the push-pull theory of migration as the theoretical framework. The theory establishes that socio-economic conditions have been potent push-factors in the growing phenomenon of brain drain in Nigeria. On the other hand, the pull factors are the prosperity elements in the rich countries, which are nicknamed "greener pastures" by Nigerian professionals who migrate to those countries. The study made use of a secondary method of data collection. The findings of the study revealed that the sustained depletion of the stock of Nigeria's health and educational professionals through brain drain necessarily leads to inefficient health care delivery in Nigeria.

John, Orok and Udoka (2020) focused on migration and diaspora remittances and its effect on economic growth in Nigeria. To achieve the objective of the research, some macroeconomic indicators in the Nigerian economy were evaluated using an ex-post facto research design. The data were collected, analyzed and tested using the Ordinary Least Square (OLS) multiple. From the analysis, it was revealed that there was a significant relationship between total remittances and

gross domestic product in Nigeria. Furthermore, migration was found to have an insignificant effect on gross domestic product in Nigeria.

Ogbenika (2019) examined the effect of brain drain and migration on Nigerian's development. The study was qualitatively reviewed and revealed that national growth and development cannot be realized when there is a high level of migration of experts from Nigeria. The study further exposed the causes of this endemic movement of Nigerians on the basis of corruption which has led to an increase in unemployment and cruel economic state. The study concluded that national development cannot be achieved if this growing trend of migration of competent Nigerians overseas is not curtailed.

METHODOLOGY

This study adopted secondary data (annual time series data). These data were obtained from National Bureau of Statistics (NBS) and World Bank Indicators (WDI) of the World Bank. These data were analyzed using graphs.

FINDINGS

The major findings of this study are highlighted below:

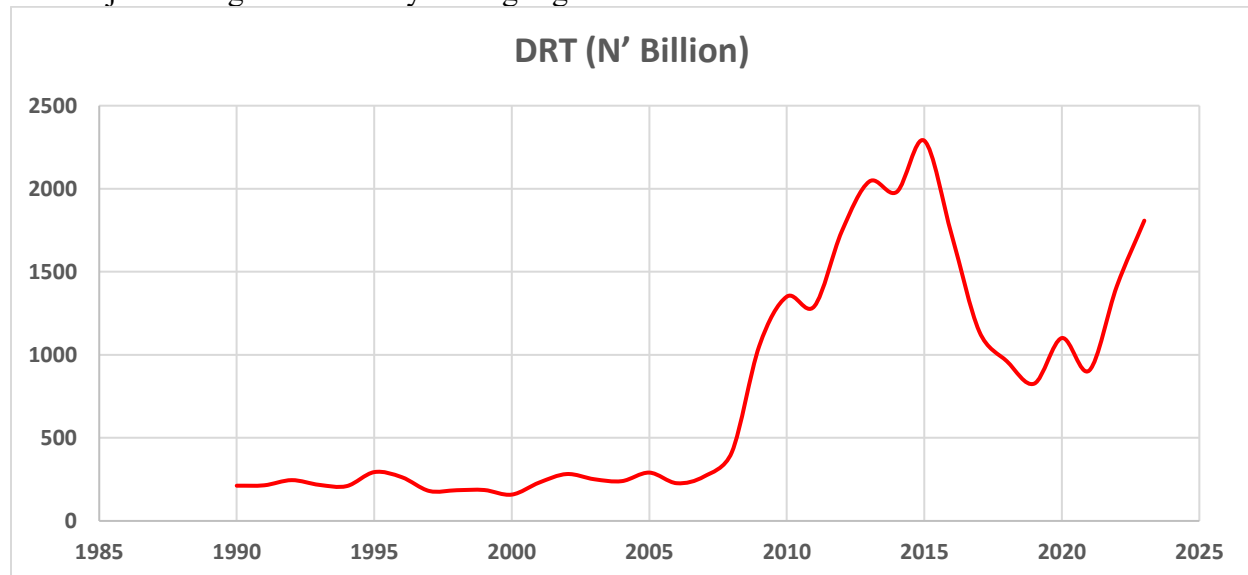


Figure 1: Line Graph Showing the Trend in Diaspora Remittance (DRT)

The figure above shows the trend in diaspora remittance (DRT) from 1990 to 2023. As it can be observed, Nigerian experienced low diaspora remittances from 1990 to 2008, when there was global financial crisis. From 2009 to 2018, huge amount of money was remitted by the Nigerians

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in diaspora but there was a significant reduction in diaspora remittances from 2019 due to COVID-19 and this slightly increased and decreased from 2022 to 2023.

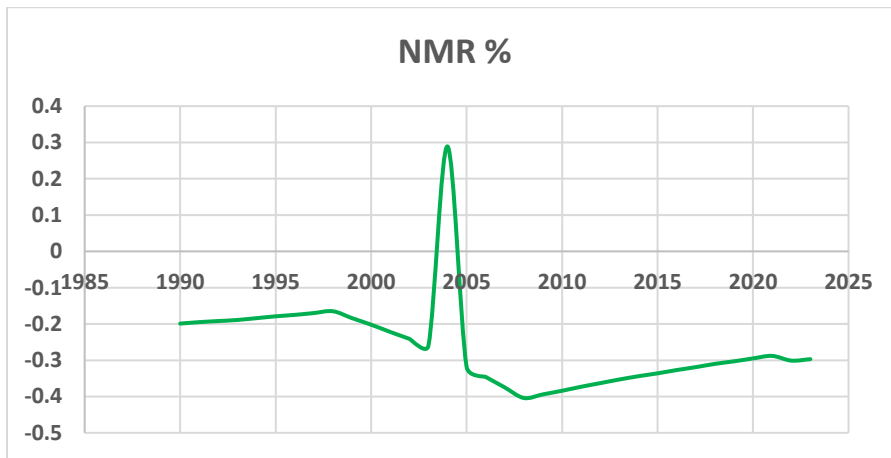


Figure 2: Line Graph Showing the Trend in Net Migration Rate (NMR)

The figure above shows the trend in net migration rate (NMR) from 1990 to 2023. As it can be seen in the graph, except year 2004 that had a positive net migration rate, Nigeria experience negative net migration rates throughout the study period. The implication of this is that more Nigerians moved out of the country than people moving into the country.

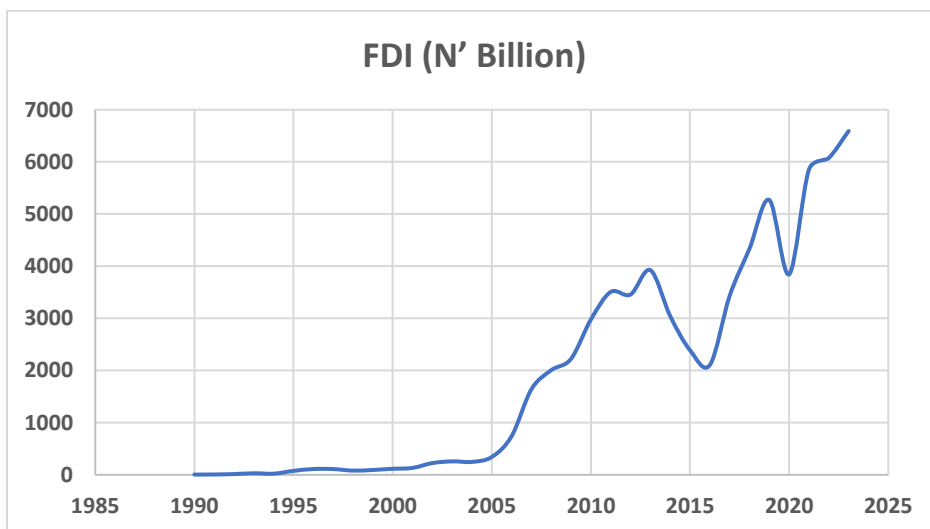


Figure 3: Line Graph Showing the Trend in Foreign Direct Investment (FDI)

The figure above shows the trend in foreign direct investment (FDI) from 1990 to 2023. A technical look at the graph indicates that there was a slight increase in the foreign direct investment in Nigeria from 1990 to 2005. From 2006, Nigerian experience more than double of the foreign direct investment inflow compared to the previous years while the foreign direct investment inflow in Nigeria peaked at 2023.

CONCLUSION AND RECOMMENDATIONS

Brain circulation offers a transformative approach to addressing the challenges of brain drain and enhancing the benefits of brain gain. For Nigeria, leveraging the skills, knowledge, and resources of its diaspora in countries like the US, UK, and Canada can drive significant progress in economic growth, healthcare, technology, and education. Therefore, Nigeria can turn its brain drain challenges into opportunities for national development through creation of an enabling environment and engagement of diaspora communities effectively. In other words, while the phenomenon of brain drain poses significant challenges, this study posited that brain circulation serves as the missing link to bridge brain drain and brain gain. With the focus on the flow of knowledge, skills, and resources between home and host countries, brain circulation can promote contributions to development without necessitating permanent return. Based on the foregoing, the following recommendations are made:

1. Nigeria and Africa should leverage brain circulation through strategic policies as this can help transform the challenges of brain drain into opportunities for innovation, growth, and sustainable development.
2. There should be introduction or expansion of dual citizenship laws to allow migrants to maintain strong ties with both home and host countries. This should include develop special diaspora visas that enable African migrants to frequently visit and work in their home countries without bureaucratic hurdles.
3. Government should negotiate international agreements for the mutual recognition of professional qualifications between African and developed countries.

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