



THE IMPACT OF BRAIN DRAIN AND UNEMPLOYMENT ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT: *Economic growth, which is the consistent rise in national income or output, which mostly entails an expansion of an economy's flow of goods and services—determines a country's capacity to withstand fierce competition on the international market. The main objective of this study is to examine the impact of brain drain and unemployment on economic growth in Nigeria. This study is anchored on neoclassical micro theory. This study examines the impact of brain drain and unemployment on economic growth in Nigeria by using the ordinary least square method. As regards the first objective, the study discovered that the major cause of brain drain in Nigeria is poor remuneration which is rampant in professions in Nigeria. Regarding the second objective, the study found out that brain drain is detrimental to the economic growth in Nigeria. As regards the third objective, the study found out that brain drain and unemployment hinders economic growth in Nigeria. The emigration of skilled professionals from Nigeria, poses a dangerous risk that can undermine the government's efforts to develop the country. This study would contribute to the wealth of literature by examining the moderating effect of unemployment on the nexus between brain drain and economic growth.*

KEYWORDS: Brain drain, Unemployment, Nigeria, Net migration rate, Skilled labor, Unskilled labor, Human capital flight, Human capital, Labour force, Government, Professionals, Economic growth.



INTRODUCTION

Economic growth, which is the consistent rise in national income or output, which mostly entails an expansion of an economy's flow of goods and services—determines a country's capacity to withstand fierce competition on the international market. One of the major problems facing the emerging world is unemployment. An economy's low level of output and income is reflected in an increase in the unemployment rate. This further illustrates the low living standards of the populace in the economy (Impin & Kok, 2021).

People who live in a nation benefit from economic growth. A decrease in poverty, better health, longer lifespans, higher living standards, more jobs being created, decreased unemployment, political stability, etc. are all possible outcomes of positive economic growth. Economists frequently link high unemployment and poverty rates to weak economic growth (Impin & Kok, 2021).

The availability of a trained human resource base to fuel a country's economic growth and development is debatably dependent on its economic growth. However, the growth of an economy can be depressed due to brain drain and unemployment factors. The exodus of human capital and unemployment continue to affect Nigeria's economic growth. The problem is said to have been exacerbated by the movement of Nigerian talents out of the continent as a result of lack of job opportunities. Unemployment is an important macroeconomic indicator that helps to check the health and growth of an economy.

According to Akinyele, Oloba and Mah (2022), Nigeria is characterized as one of the world's youngest population, which has the potential for enhancing economic growth and economic development, but the reverse is the case because Nigeria experience both brain drain and unemployment, which depletes the human capital and also reduce the labor force of the country.

Brain drain refers to the emigration of skilled workers or professionals who are seeking better living conditions, higher salaries, access to advanced technology, and political stability in various locations around the world. The emigration of skilled professionals depletes the quality and quantity of the labor force in any country.

According to Shah and Ali (2022), brain drain refers to the phenomenon of more skilled individuals leaving a country than coming in. This is especially prevalent in developing nations, where factors such as low wages, poor living conditions, and limited career prospects dissuade highly-qualified individuals from staying. The emigration of skilled individuals poses a risk to the economic progress of nations as it diminishes the levels of human capital and competitiveness. The migration of talent is influenced by a multitude of factors such as social, economic, demographic, and political drivers.

Developing countries across the globe consistently experience a significant loss of educated and skilled professionals (commonly referred to as brain drain or human capital flight) to developed nations. This loss usually results in a negative externality on developing countries. This emigration of individuals is a result of various factors that often require several years to address adequately in certain nations. The capacity of a nation to grow is hampered by the emigration of highly skilled individuals. Several factors contribute to individuals choosing to relocate to foreign countries, including limited resources, inadequate scientific and



technological facilities, insufficient wages, and the undervaluation of talented and intellectual individuals, as well as political instability and corruption (Nnoruga & Osigwe, 2023).

Nigeria has experienced significant economic devastation from terrorism, leading to a lack of security for its citizens and foreign investors who wish to invest in the country. This situation has also resulted in the emigration of skilled and unskilled labor due to poor governance and high level of insecurity.

Unemployment is regarded as one of the worst conditions that any country may encounter, given its multifaceted effects. The social consequences of unemployment include depression, a lack of self-respect, and other vices like prostitution and thievery, while the economic consequences of unemployment involve the country losing out on tax revenue in the form of income tax, the waste of productive hours, the flight of human capital to mention a few. According to Ouardighi and Munier (2019), unemployment permanently undermines a person's welfare, implicates depression with a lost touch over one's own life, and leaves the person feeling ill and unhappy (Helliwell & Huang, 2014). This has an impact on a person's or society's degree of contentment and generally shifts the perspective on economic prosperity.

The average unemployment rates in Nigeria since 1996 till date has been high ranging from 3.90% in 1996, 3.85% in 2001, 3.8% in 2006, 3.77% in 2011, 4.55% in 2016 and 5.76% in 2022 respectively. This shows that there is a need to curb the high unemployment rate in Nigeria so that economic growth can be achieved (World Bank, 2022).

Almost all sub-Saharan African countries suffer from brain drain and unemployment menace, and it is more pronounced in Burkina Faso, Niger, Nigeria, Guinea, Mali, Guinea Bissau and Senegal. Nigeria over the last three decades has not experienced positive net migrants; this same trend was experienced by most countries in sub-Saharan Africa (Multi-resolution filter bank, 2020). Education or skill, which is an investment in human capital, is normally more affordable in poorer, labor-rich countries because it is typically a labor-intensive activity. Those with the necessary skills or education immigrate to industrialized countries, where their human capital is more valuable.

Against this background, the present study intends to examine the impact of brain drain and unemployment on economic growth in Nigeria.



LITERATURE REVIEW

Conceptual Review

Brain Drain

The term “brain drain” describes the movement of highly skilled individuals from developing nations to other countries, leading to a depletion of talent in their home countries. Brain drain occurs when a country loses its talented, skilled, and highly educated citizens to another country through migration, typically from developing nations to developed nations. According to Nechad (2018), it is “the flight of human capital.” This frequently results in a severe shortage of skilled labor, which makes it challenging for certain developing nations to meet their citizens' fundamental needs.

Shaikh (2018) stated that human capital flight can be classified as organizational, industrial, or geographical. Professionals may leave one organization for another due to unfavorable circumstances or uncertainty, which is known as organizational brain drain. Attrition from one industry (such as health care, mining, and education, among others) to others that can offer greater pay or better working conditions is known as industrial brain drain. Geographical brain drain refers to the movement of professionals from one geographical area to another, such as from a country experiencing political unrest or economic hardship to a country offering better job prospects, security, or overall quality of life.

Unemployment

Unemployment refers to the disparity between the number of people employed under prevailing wages and working conditions at a specific time and the number of people who are not hired at these levels. According to the International Labour Organization, individuals who are currently not employed but actively seeking employment are categorized as unemployed (ILO, 2022). An individual who is not working and not actively seeking employment is not considered as unemployed. The standard measure to gauge unemployment in a nation is the unemployment rate, which represents the percentage of unemployed individuals in relation to the entire labor force (Mankiw, 2000).

Economic Growth

Economic growth is the increase in estimation of specific products that the economy produces during a given period of time; it is calculated as the rate of GDP growth (Afshan & Sabeen, 2017). According to Todaro (2011), economic growth is the steady process by which the productive capacity of an economy increases steadily over time to bring about a rising level of national income. Koc (2013) defines economic growth as the growth or expansion in commodities and merchandise manufactured in a country. It can also be described as the steady rise in the per capita gross domestic product (GDP per capita).

Economic growth is a measure of the gross value added by resident producers within an economy that changes in material output are a component of economic growth, and they often occur within a year. According to economic theory, economic growth refers to an increase in the value of material production on an annual basis, as measured by the GDP or national income growth rate (World Bank, 2021). IMF (2013) defines economic growth as the rise or improvement in the market value of the goods and services generated by an economy within a



given fiscal year. Traditionally, statisticians have calculated growth as a percentage rate of real gross domestic product, or real GDP.

On the other hand, Solow and Swan (1956) defined economic growth as largely a function of the stock of capital (capital formation/accumulation), together with the growth rate of the labor force and technical advancement. Romer (1986) addressed the endogenous part of economic growth, and according to him, investment in human capital, innovation, and knowledge is known as economic growth.

Conceptual Framework on Brain Drain

BRAIN DRAIN

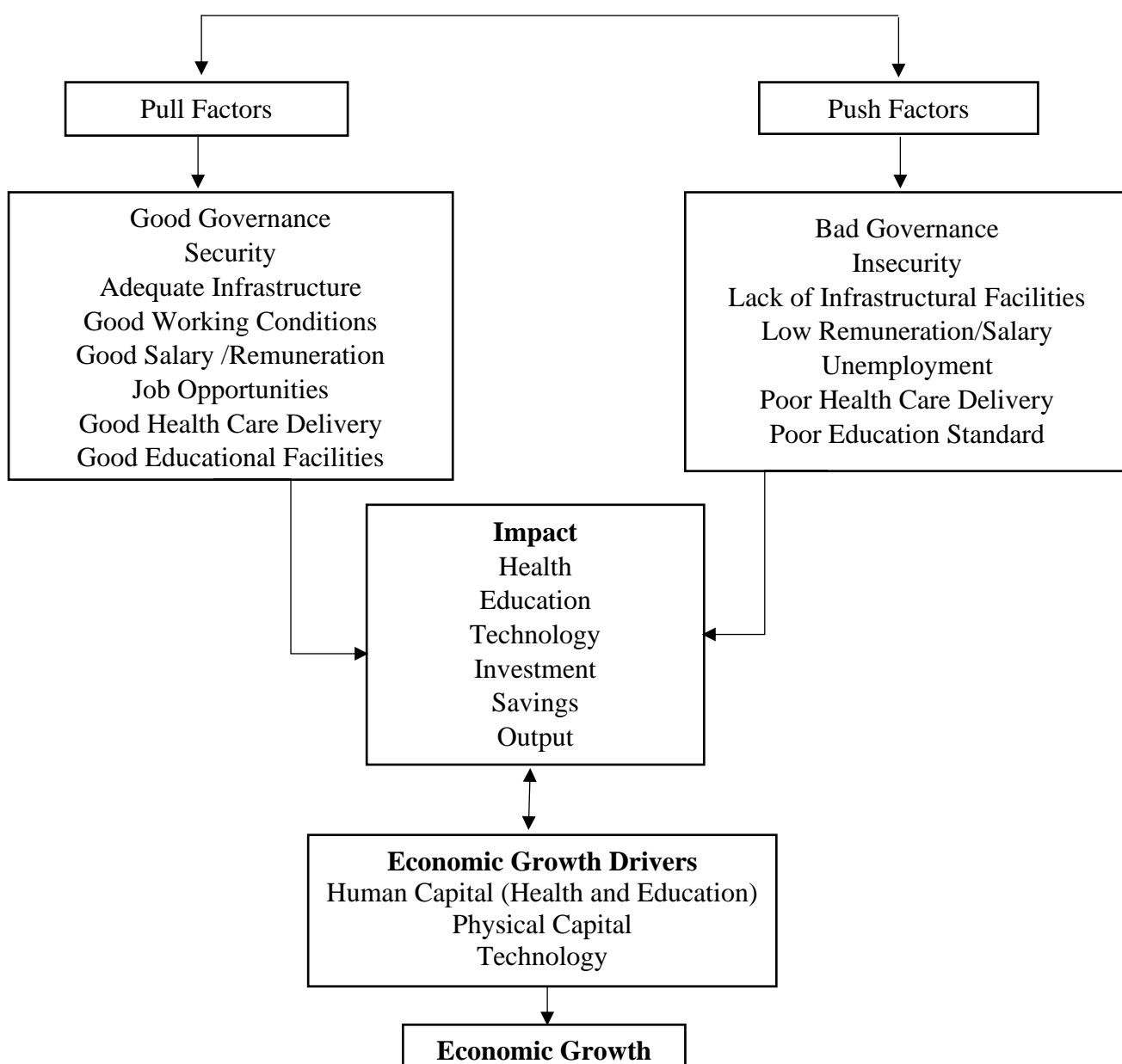


Figure 1: Conceptual framework on brain drain and unemployment on economic growth.

Source: Author's Schematization, (2024)

From the figure above, brain drain can be linked to two essential factors which include the pull factors and the push factors. The pull factors include good governance, security, access to adequate infrastructural facilities, good and conducive working conditions, good salary, job opportunities, good health care services/ delivery and good educational facilities. All of this entails the reasons why people emigrate from their home country. On the other hand, the push factors that push skilled labor from their home country are bad governance and corruption, insecurity, inadequate infrastructure, bad working conditions, low salary, unemployment, poor health care services/ delivery and poor educational delivery (Wilfred & Iheonu, 2021).

These pull and push factors affect the SSA countries because it affects health, education, technology, investment, and output. This is because it causes shortage of skilled labor and professionals, loss of innovative ideas, loss of confidence in the quality of education, loss of confidence in health care services which in turn reduces the life expectancy rate, drastic fall in the standard of education which leads to reduction in school enrolment rate at all levels, reduces the productivity of labor, and eventually leads to the retardation of economic growth. This further widens the gap between the developed and underdeveloped countries (Ogbu, 2019).

The stock of productive capital in an economy that takes the shape of machines and other tangible and intangible assets employed to carry out economic production is known as physical capital. It is essential to include the buildup of physical capital because it is a factor of production in many growth models (assuming the economy is not yet at a steady state). However, a country's workforce's cumulative talents are measured by its human capital. The endogenous theory states that human capital (health and education) is essential for economic growth to be achieved, therefore, the knowledge acquired by this human capital will lead to technical innovation and creativity and also enhance population growth which will boost economic growth in the country.

Stylized Facts

Trends of Economic Growth



Figure 2: Nigeria's Economic Growth

Source: World Bank (2023); Authors' Schematization

Trends of Economic Growth in Nigeria

The trend above shows that economic growth in Nigeria has been unstable since 2003 till date. This fluctuation is accrued to either economic expansion or contractions. The cause of the fluctuation is as a result of poor macroeconomic performance, high debt, devaluation of currency, brain drain and high unemployment rate. The emergence of the COVID – 19 pandemic also contributed to the decline in economic growth which led to the flight of skilled workers from Nigeria.

Trends of Net Migration (proxy for brain drain)

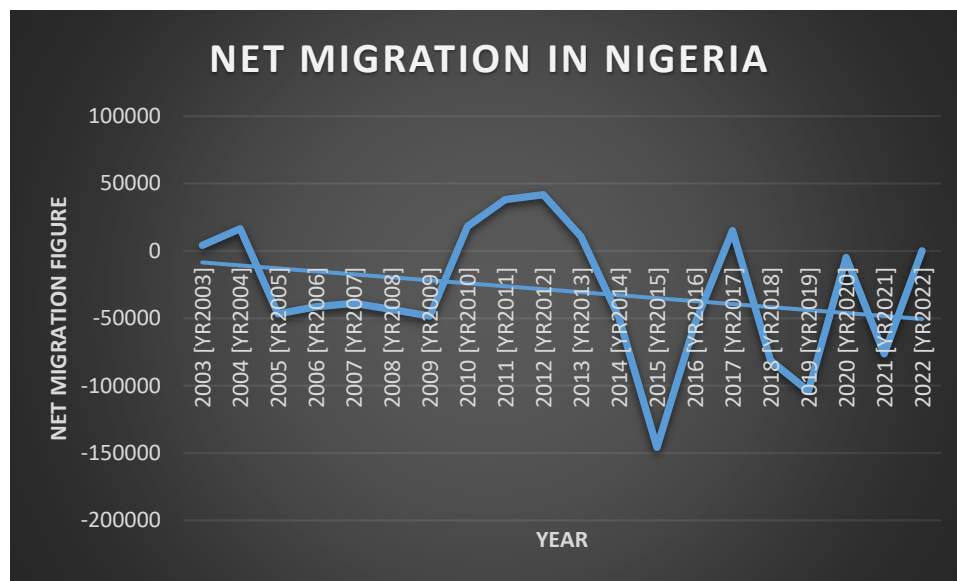


Figure 3: Nigeria's Net Migration (proxy for brain drain)

Source: World Bank (2023); Authors' Schematization

Trend of Net Migration

The net migration trend above shows that the outflow of skilled workers is on the high side in Nigeria. This trend shows that more people are leaving Nigeria for developed countries. This revealed that the net migration rate increased due to economic reasons such as difference in per capita income between Nigeria and the destination countries. The majority of this migrant emigrated because of economic pull factors such as high wage rate, job opportunities, access to social amenities in destination countries while the push factors are reduction in income and wages, high rate of unemployment, poverty and lack of basic social amenities and insecurity.

Trends of Unemployment in Nigeria

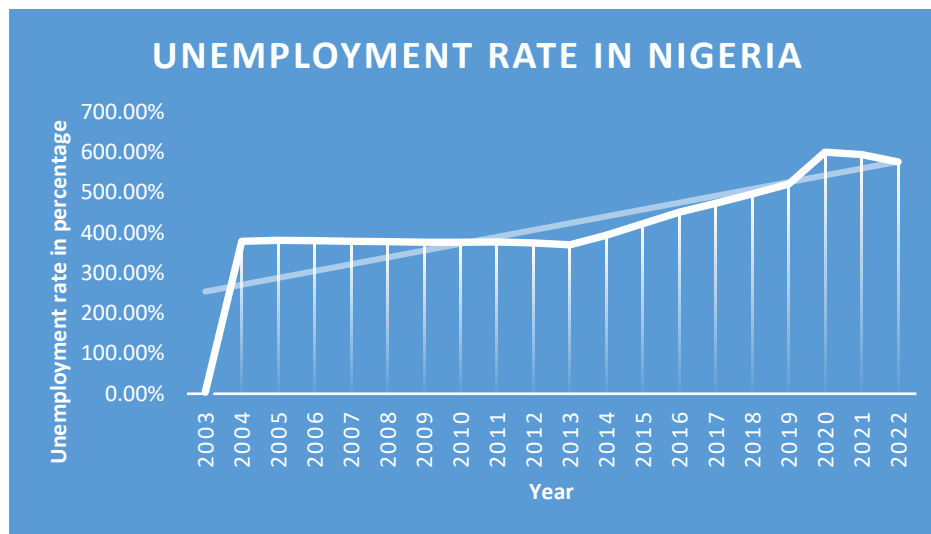


Figure 4: Nigeria's Unemployment Rate

Source: World Bank (2023); Authors' Schematization

Trend of Unemployment in Nigeria

The causes of the high unemployment rate in Nigeria are corruption, environmental degradation, overpopulation, inflation, low-quality education, disregard for agriculture and other natural resources, and a decline in economic value.

THEORETICAL REVIEW

Neoclassical Economics: Micro Theory

A microeconomic model of individual choice corresponds to the macroeconomic model (Sjaastad, 1962; Todaro, 1969; Todaro & Maruszko, 1987). Individuals are rational beings who choose to migrate in this way because a cost-benefit analysis leads them to expect a positive net return, generally monetary, from relocation. International migration is viewed as a type of human capital investment. People choose to relocate to areas where they can be most productive given their skills; however, before they can reap the benefits of higher wages associated with higher labor productivity, they must make certain investments, which include the material costs of traveling, the costs of maintenance while moving and looking for work, the effort involved in learning a new language and culture, the difficulty experienced in adapting to a new labor market, and the psychological costs of cutting old ties and getting new ones.

The decision making process can be summarized with the use of this equation:

$$ER(0) = \int_0^n [P_1(t)P_2(t)Y_d(t) - P_3(t)Y_o(t)]e^{-rt} dt - C(0)$$



$ER(0)$ is the expected net return to migration calculated just before departure at time 0; t is time; $P_1(t)$ is the probability of avoiding deportation from the area of destination (it is 1.0 for legal migrant while it is < 1.0 for illegal migrant), $P_2(t)$ is the probability of employment at the destination; $Y_d(t)$ is earnings if employed at the place of destination; $P_3(t)$ is the probability of employment in the community of origin; $Y_0(t)$ is earnings if employed in the community of origin; r is the discount factor; and $C(O)$ is the sum total of the costs of movement (including psychological costs). If the quantity $ER(0)$ is positive for some potential destination, the rational actor migrates; if it is negative the actor stays; and if it is zero, the actor is indifferent between moving and staying. In summary this theory is based on the following assumptions:

Firstly, international movement is caused by international differences in wages and employment rates, the product of which determines predicted earnings (the prior model, in contrast, assumed full employment). Secondly, individual human capital attributes that raise the possibility of pay or employment in the destination relative to the sending country (e.g., education, experience, training, language abilities) will increase the likelihood of international mobility, everything else being equal. Thirdly, individual attributes, societal conditions, or technological advancements that reduce migration costs improve the net returns to migration and, as a result, the likelihood of international mobility. The fourth assumption is that individuals within the same nation may have quite varied dispositions to move due to factors such as individual attributes, societal conditions or technological advancement. The fifth assumption states that aggregate migration flows across nations are just the sums of individual migrations made based on individual cost-benefit estimates. The sixth assumption is that there is no international migration if there are no disparities in incomes and/or employment rates across nations. Migration continues until predicted earnings (the product of earnings and employment rates) are equalized worldwide (net of moving expenses), and migration does not cease until this product is equalized. Seventhly, the amount of the projected return difference impacts the extent of the international migration flow between nations. Eighthly, migration decisions are influenced by disequilibria or discontinuities in labor markets; other markets have no direct impact on migration decisions. Ninthly, if recipient nations' conditions are psychologically appealing to prospective migrants, migration costs may be negative. In this instance, a negative earnings disparity may be required to prevent cross-border migration.

Conclusively, governments primarily control immigration through policies that affect expected earnings in sending and/or receiving countries, such as seeking to reduce the likelihood of employment or increasing the risk of underemployment in the destination area (via employer sanctions), seeking to raise incomes at the origin (via long-term development programs), or seeking to increase the costs (both psychological and material) of migration.

Okun's Law

According to Okun (1962), it establishes a relationship between the rate of economic growth (GDP) and the rate of unemployment. This rate is dependent on each country's economic condition, it is due to two important factors that are growth of the labor force and the productivity of labor. In general, Okun's findings demonstrated that when unemployment falls, the production of a country will increase. Similarly, a 3 percent increase in economic growth from its long-run level is associated with a 1 percent decrease in unemployment.



METHODOLOGY

The model for this study is anchored on the neoclassical micro theory. The dependent variable is Gross domestic product while the independent variable is net migration and unemployment. The data spans from 2003 to 2022, this is due to data availability. All the data were sourced from world development indicators. The ordinary least squares method will be used to analyze the data. Economic growth will be measured using the real gross domestic product, brain drain will be proxy by net migration rate and unemployment will be measured by the unemployment rate in Nigeria.

We therefore specify the model as follows:

$$RGDP = F(NMR, UMR)$$

RGDP means gross domestic product

NMR means net migration rate

UMR represents unemployment rate

We therefore specify the functional model as follows:

$$RGDP_t = \beta_0 + \beta_1 NMR_t + \beta_2 UMR_t + \varepsilon_t$$

Where

β_0 stands for constant

$\beta_1 - \beta_2$ represents coefficient

$RGDP_t$ means gross domestic product at time t

NMR_t means net migration rate at time t

UMR_t represents unemployment rate at time t

ε_t represents the error term at time t

ANALYSIS AND DISCUSSION OF RESULT

Table I: Ordinary Least Square Result

VARIABLES	COEFFICIENT	P-VALUES
1GDP	0.399***	0.000
NMR	-0.543	0.175
UMR	-0.477**	0.005
_cons	8.482	0.000
R- squared	0.567	
Adj R - squared	0.476	

Source: Authors' Schematization (2023).



The empirical result in table 1 above shows that there is a negative relationship between unemployment and economic growth, as well as net migration and economic growth. This shows that net migration hinders economic growth in Nigeria. Unemployment hampers economic growth in Nigeria.

If net migration increases by 1 unit, economic growth reduces by 54.3% units keeping other factors constant. If unemployment increases by 1 unit, then GDP decreases by 47.7% units keeping other factors constant. Unemployment variable Prob value is significant because it is less than 0.05 while that of net migration is insignificant because the prob value is more than 5% or 0.05.

The Prob value of the f-statistics is less than 0.05, therefore the combined effect of the independent variables (net migration and unemployment) on the dependent variable (gross domestic product) is significant or considerable.

The R^2 measures the goodness of fit and shows 36% of the variation in the net migration and unemployment. That is net migration and unemployment will forecast 36% true value of GDP.

The implication of these empirical findings is that brain drain and unemployment hamper economic growth in Nigeria. This is because brain drain decreases the labor force in Nigeria. Brain drain also leads to the loss of the skills, talents, knowledge and expertise acquired by human capital in Nigeria. Thus, this affects all the sectors in Nigeria as the exodus of professionals from Nigeria reduces the standard of the educational and health sector in the country. This causes depreciation in the stock of professionals in the country. Empirical evidence confirms that unemployment has been one of the major causes of brain drain in Nigeria. This has dampened economic growth as it leads to the flight of human capital, therefore, the government tends to lose all her investment in human capital. This has over the years reduced Nigeria's economic productivity and reduction in resources generated from human capital (tax).

SUMMARY OF FINDINGS, CONCLUSION, AND RECOMMENDATION

As regards the first objective, the study discovered that the major cause of brain drain in Nigeria is poor remuneration which is rampant in professions in Nigeria. Regarding the second objective, the study found out that brain drain is detrimental to the economic growth in Nigeria. This is because brain drain reduces economic growth in Nigeria. As regards the third objective, the study found out that brain drain and unemployment hinders economic growth in Nigeria. This is because both brain drain and unemployment have a negative relationship with gross domestic product.

The emigration of skilled professionals from Nigeria, (medical practitioners, lecturers, artisans, able-bodied individuals, technicians, and others), poses a dangerous risk that can undermine the government's efforts to develop the country. This phenomenon is a reality and has not been effectively addressed by the current government. Every day, countless Nigerians leave in large numbers to other parts of the world, driven by the belief that life will be more promising elsewhere. Unfortunately, it appears that the government has not recognized the detrimental impact this trend can have on Nigeria's economic and social expansion.



The study recommends that the government should implement more policies to curb brain drain, as well as using restrictive migration policies. The study recommends that the wages of workers in Nigeria need to be reviewed in a way that would be favorable for both skilled labor and unskilled labor.

LIMITATIONS AND SUGGESTIONS FOR FURTHER STUDIES

Due to data availability, this study data span from 2003 to 2022. Furthermore, future studies may carry out cross-country analysis to provide comparative analysis among countries where brain drain is on the high side.

REFERENCES

- Abbas, A., and Zarrin, S. G. (2023). Brain Drain and Economic Growth: An ARDL Analysis. *Journal of Policy Research*, 9(1).
- Ali, A., and Saif, S. (2017). Determinants of economic growth in Pakistan: a time series analysis. *European Online Journal of Natural and Social Sciences*, 6(4), 686.
- Helliwell, J. F., and Huang, H. (2014). New measures of the costs of unemployment: Evidence from the subjective well-being of 3.3 million Americans. *Economic Inquiry*, 52(4), 1485- 1502.
- Impin, P. D., and Kok, S. C. (2021). The effect of inflation rate, interest rate and unemployment rate on the economic growth of Malaysia. *Malaysian Journal of Business and Economics (MJBE)*, 8(1), 125-140.
- ILO (2018). *ILO global estimates on migrant workers: Results and methodology*. International Labour Office, Geneva: ILO.
- Koc, M. (2013). Student teachers' conceptions of technology: A metaphor analysis. *Computers & Education*, 68, 1-8.
- Mankiw, N. G. (2000). The savers–spenders theory of fiscal policy. *American economic review*, 90(2), 120-125.
- Nechad, A. (2018). A geo-economic approach to brain drain in Morocco. *Journal of economic and social development*, 5(1), 58-68.
- Nnoruga, J. N., and Osigwe, C. N. (2023). Brain Drain in Nigeria: A Challenge to Human Capital Development. *NIGERIAN JOURNAL OF AFRICAN STUDIES (NJAS)*, 5(2).
- Ogbu, E. (2019). Migration and the philosophy of brain drain in Nigeria. *Journal of African Studies and Sustainable Development*, 2(4).
- Ouardighi, J. E., & Munier, F. (2019). *Inflation, Unemployment and Happiness: empirical evidence of the contribution of Economic Growth*. Bureau d'Economie Théorique et Appliquée, UDS, Strasbourg.
- Romer, P. M. (1986) “Increasing Returns and Long-Run Growth,” *Journal of Political Economy* 94, 1002-1037.
- Sjaastad, L. A. (1962). The costs and returns of human migration. *Journal of political Economy*, 70(5, Part 2), 80-93.



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- Solow, Robert M. (1956). A Contribution to the Theory of Economic Growth. *Quarterly Journal of Economics*, 70(1).
- Todaro, M. P., and Maruszko, L. (1987). Illegal migration and US immigration reform: A conceptual framework. *Population and development review*, 101-114.
- Todaro, M. P. (1969). *A model of labor migration and urban unemployment in LDCs*. *American Economic review*, 59(1969), 138–148.
- Wilfred, N. E., and Iheonu, C. (2021). Medical Brain Drain in Nigeria and its Impact on Sustainable Development Goal 3. *Southern Voice* <https://southernvoice.org/medical-brain-drain-in-nigeria-and-its-impact-on-sustainable-development-goal-3/Sept, 20>.
- World Bank (2022). Indicator. Available at <https://data.worldbank.org/indicator>.