PER CAPITA INCOME, UNEMPLOYEMENT AND RURAL POPULATION IN NIGERIA (1986-2023)

¹NNADI PASCHAL CHIBUZO

Email: paschal.chibuzo.196461@unn.edu.ng

Phone: +2347066900426

&

²PROFESSOR ANUMUDU CHARLES NNAMDI

bussychizzy@gmail.com

Phone: 09036415155

^{1&2}Department of Economics, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria

Abstract

In the quest to discovering new knowledge from the Arthur Lewis Structural Theory in today's Nigeria, this study investigated the relationship between rural population and unemployment and per capita productivity in Nigeria, using time series data ranging between 1986 and 2023. The study also utilised dynamic modelling and cointegration techniques in the analysis. Among the various findings, there is a positive and highly significant relationship between rural population and per capita income in Nigeria. Also, migration contributes less to general welfare and productivity in Nigeria, unlike in economically advanced world. In contrast to Adenike (2014), unemployment has a negative and highly significant relationship with per capita income in Nigeria. The result greatly supports the argument against the Arthur Lewis's assumption of surplus labour in rural areas on the grounds that labour migration to urban areas may not have the necessary technical skills needed in today's industrial labour engagements. Migrating to cities does not, on its own, significantly contribute to productivity per capita in the country, especially when general population of people in Nigeria is growing at the same time. On this note, the public sector and Non-governmental Organiations should invest more in education, entrepreneurial and apprenticeship training, specifically in rural areas, which will also help to bring more people out of poverty, more entrepreneurs moving into the formal sector, thereby increasing real economic strength of the nation and productivity.

Keywords: Population, Unemployment, Per Capita Income, Nigeria, Dual-Sector Model.

INTRODUCTION

Background to the Study

Rural population dynamics is a notion many empirical studies in Nigeria have paid less attention to. Statistics have shown that about 70% of poor people in the third world make up the rural population (International Fund for Agricultural Development, IFAD, 2010). The local area is made up of a spatial category of people; there are other characteristics that define a place where people are living and surviving. Every locality defines certain patterns of human relationships and activity. These relationships change continuously due to migrations of people to well-developed regions within and outside their countries and development taking place such as growth of per capita income of households. Supporting this claim, according to

Carr and Raholijao (2014), it is estimated that about half of the population of the world lives in rural areas, an approximate number of 3.3 billion people.

Comparatively, rural population of people in Bangladesh went up by 0.026% from 102,621,003 in 2010 to 102,647,873 in 2015; rural population of people in Brazil, Argentina, Malaysia, Albania, and Algeria recorded gradual decrease as a result of rural-urban migration (Shaari et al, 2021). In the case of Nigeria, World Bank data reveal that, since 1960 till date, rural population of people continues to grow progressively with the urban population but urban population grows more. Supporting this proposition, an interesting statistics reveals that rural population increased to 0.8% in 2019 and decreased to 0.79% in 2020, 0.76% in 2021 and further decreased to 0.73% in 2022 (Nigeria Rural Population, 1960-2023), which implies that ruralurban migration continues to rise since 2020 due to factors such as search for greener pastures, high economic, social and political instability in Nigeria, which cause the loss of socioeconomic welfare among the masses, reduction in real Gross Domestic Product (GDP). In the United States of America, for instance, rural areas in New York are characterised by extensive agricultural production, sprawling open spaces, and many communities with great potentials and strong histories. It is also true that people living in rural communities in New York face many challenges. As population has declined, the median age of people who are still residing in rural counties increased almost twice the rate of the entire New York state from 2011-2021 (DiNapoli, 2023). In some areas, it can be difficult to access educational opportunities and services, and employments.

In another dimension, it can be said that Nigeria is underdeveloped. Although, it appears that controlling population growth can have negative effect on economic growth; however, the quality of life available to a people is vital for further development (Adejumo, 2017). In a time of high rate of fertility and a falling mortality rate, due to perhaps advancement in the health services, an increase in age-dependency ratio is equally expected to occur in a country like Nigeria. For instance, age-dependency ratio increased from 79 percent in 1960 to 83 percent in 1970; in 2000 and 2014, it further increased from 86 percent and about 90 percent (World Bank, 2014). An increase in age-dependency ratio implies a reduction in the working population which, in the long-run, may reduceper capita income and productivity (Aidi, Emecheta, and Ngwudiobu, 2016).

In developing nations, the sources of income of a large part of the economically viable population are coming from economic activities outside the formal sector (Ismail and Adegbemi, 2012). On social grounds, the entire Nigerian society is characterised by high rate of marginalisation, indiscipline, religious and ethnic tension, high rate of unemployment, high crime rate, a week production base, systemic corruption, wastefulness and mismanagement, urban dislocation and rural decay, etc (Ismail and Adegbemi, 2012). It is difficult to take away the fact that the informal sector helps to understand the essence of migration, unemployment, and poverty dynamics in Nigeria, especially from the angle of falling per capita income. One of the significant contributions made by the informal sector on growth and development can be seen in terms of entrepreneurship and apprenticeship trainings (Omisakin, 1999). Despite the current problem of unemployment in Nigeria, entrepreneurship and apprenticeship trainings, especially among the Igbo race in Nigeria, have become strong stimulants of economic growth in the country. The Nigerian economy, already in a challenging situation before the advent of the pandemic period, got itself into recession in 2020 with a GDP

reduction by 1.8%; per capita GDP, adjusted for purchasing power, were 10.9% lower than its value in 2014 at the end of 2020 (United Nations, 2022). United Nations further noted that the rate of unemployment in Nigeria continues to increase from 14.2% in 2016 to 23.1% in 2018; at the end of 2020, it further increased to 33.3%.

However, it can be stated that rapid urbanisation is one of the factors that determine the growth level attained by any country. The case of China is a perfect example to this assertion. China, for example, is in the midst of a period of rapid urbanisation; hundreds of millions of people relocate from rural to urban areas. This process has remained one of the largest migrations in human history, and also represent a chief dimension of China's unimaginable transformation from primitive to modern and prosperous society. International Organisation for Migration, IOM, (2024) identifies different causes of migration such as food and water insecurity, attacks or assaults, lack of information and more importantly financial problems. Due to migration, less than 20% of the Chinese population lived in urban centres (OECD, 2013). In line with the development, the number of administrative areas perceived as cities increased sharply, restrictions on the movement of people were further reduced over time, which led to a greater rise in the movement of people to urban centres. These variations in the Chinese demographic history were accompanied by economic reforms that contributed to a dynamic, modern industrial sector and attractive wage offerings to workers in cities against wages in the agricultural sector mostly in the rural areas. Today, China remains one of the biggest economies in the world with high per capita GDP and a relatively low unemployment level. In these developments, does it imply that a falling rural population also guarantees high per capita growth in Nigeria, just as it happened in China? Does it mean that falling per capita income is also contributed by rising unemployment in Nigeria? These are the type of questions this study intends to answer.

Statement of the Problem

Studies have shown that population growth in Nigeria has remained positive and significant over the years, and real economic growth has fluctuated along the line. With a population of about 200 million in Nigeria, the country has a high proportion of young people; a rising youth unemployment and underemployment (Idowu et al, 2022). Looking back in history, it is clear that the economy has not actually performed to its full potential, particularly in the face of continuous growth of the population. Sanusi (2010) agrees that successive governments in Nigeria have pursued the goal of structural changes in the economy since the country got her independence in 1960; yet, little success has been achieved to control population growth, reduce unemployment and improve human productivity.

The government in Nigeria, as a way of increasing productivity in the agricultural sector, increased budget allocation to the sector from N92 billion in 2017 to N118 billion in 2018 (National Bureau of Statistics, 2018). The agricultural sector, between 2010 and 2020, contributed about N13,048.99b, N13,429.30b, N14,329.71b, N14,750.52billion, N15,380.39billion, N15,952.22billion, N16,607.34billion, N17,179.50billion, N18, 454billion, N18,785billion and N18, 983billion respectively (Yilson et al, 2021). The agricultural sector, in this respect, covers both commercialised and subsistent farming by both the rural and urban population. Yet, the growth of resource allocation in agriculture and other critical sectors and population growth have not solved the unemployment problem and low standard of living in Nigeria (dwindling real income per capita).

Several empirical studies have been carried out on poverty reduction and development in Nigeria, using per capita income as a proxy and dependent variable. For example, Ogbuabor et al (2018) investigated population growth and economic development using a multiple regression approach, with data ranging between 1980 and 2016. Abubakar (2022) further assessed population growth and living standards in Nigeria, using the ARDL and Granger Causality techniques, while Adenike (2014) investigated poverty and unemployment paradox in Nigeria using time series data ranging from 1977 to 2010, with Error Correction and Causality techniques. These various studies lack current information to direct further understanding of how per capita income, rural population, and unemployment can help to give more meaning to the Arthur Lewis Structural theory. It is on this gap that this study draws strength from, using dynamic modelling and co-integration techniques, with time series data ranging from 1986 up to 2023. The specific objectives of this study are: to investigate the impacts of unemployment and rural population on productivity per capita in Nigeria; investigate the long-run relationship between rural population and productivity per capita in Nigeria.

LITERATURE REVIEW

Conceptual Framework

Per Capita Income

Per capita income is a measure of the economic wellbeing of a people. It can also be used to measure poverty and development in a country. This is calculated by dividing the real gross domestic product (real GDP) by the entire population of the country. Eliminating poverty have been the central theme of the debates and struggles in developing countries. Economists argue that poverty is a situation of low income, low production, or low consumption (Akinbobola and Saibu, 2004). Accordingly, nations are taken to be poor when their standard of living (per capita income), in terms of income or consumption, is less than the poverty line, segregating the rich from the poor.

Unemployment

Unemployment has been a major development issue in Nigeria, despite the mammoth economic policies to guide labour absorption and utilisation in the country. Some major reasons for the high level of unemployment have been hinged on the level of human capital development as well as other socio-economic issues (Adejumo, 2017). At micro and macro levels, the Nigerian economy has centered on fighting unemployment through many strategies such high resource allocations to both the health and educational sector, acquisition of skills at both the formal and informal levels, as well as the provision of health and education facilities at private and public levels. Incidentally, statistics revealed that the rate of unemployment questions the vibrancy and productivity of economic activities in Nigeria. It also questions the ability of the Nigerian economy to create jobs for its rising population and teeming labour force. Another worrisome issue, however, may be the productive and innovative ability of the labour force in Nigeria to fit into the dynamic labour market, or the ability of the teeming labout force to create employment for themselves in midst of job scarcity in the country, thereby challenging the viability of human capital in Nigeria.

Rural Population

A consistent comparison of rural and urban areas across societies is desirable for national and international purposes, particularly in the area of checkmating progress related to meeting the UN Sustainable Development Goals, SDGs (Food and Agricultural Organisation, FAO, 2018). Agriculture is most prevalent in a rural society; hence, a society that is transformed from agrarian to industrialisation takes up the characteristics of an advanced or urban society. By definition, rural areas are basically a place where food is produced for a national population, involving some 10.3 million farms in 27 EU countries, utilising 157 million hectares of land for agricultural production (European Parliamentary Research Service, EPRS, 2021). Agriculture is of vital importance to keep rural areas alive, as many other economic activities depend on it both in rural and urban centres.

Empirical Review

As a good start, we take cognizance of the fact that the number of empirical studies available on the impact of rural population and unemployment on per capita income are not just difficult to find for Nigeria; hardly do they have these three core variables together as a topic of discussion. This study moves further to review some studies related to the core variables. Starting with population, Shaari et al (2021) assess the influence of rural population growth on CO2 emissions in nine developing countries, using Ex-post Facto Research design in the study. The yearly data range from 1990 to 2015. The panel ARDL technique is utilised in this study to determine the long-run and short-run relationship between the dependent and independent variables. The findings reveal that energy consumption and high economic growth can increase CO2 emissions, while rural population growth does not cause any change in CO2 emissions all in the long-run. Going further, Abubakar (2022) assesses population growth and living standards in the Nigerian economy in the period 1961-2019. The study utilised trend analysis, the Autoregressive Distributive Lag (ARDL), and granger causality approach in the investigation. Living standards (proxied by GDP per capita) is used as the dependent variable while population growth, inflation and investments are used as the independent variables. The study found a long-run relationship between living standards and population growth in Nigeria. From the correlation analysis, a negative score of -0.9 reveals that population growth contributes negatively to the growth of living standards in Nigeria. From the recommendation, utilising effectively the growing population will help raise per capita incomes in Nigeria thereby improving the people's living standards.

In another dimension, Adenike (2014) investigates poverty and unemployment paradox in Nigeria using time series data ranging from 1977 to 2010. Variables used include the dependent variable (per capita income proxied for poverty), other variables are used as independent such as, public expenditure on capital, investment in human resource. The study employed Error Correction technique and causality test in the investigation. From the findings, there is no causal link between unemployment and per capita income in Nigeria; unemployment has a positive influence on per capita income in Nigeria, and there is a long-run relationship between them. The study recommends that the provision of infrastructures and implementation of appropriate polices in Nigeria should be improved such that a conducive environment is created for the improvement of living standards and level of investments in the country.

Furthermore, Olu et al (2016) investigate the relationship between growth and employment in Nigeria with the main of creating insights into the country's growth paradox in the face of rising poverty and inequality. Results of the decomposition and econometric approaches used showed that economic growth in Nigeria has been followed by high unemployment. Growth is sustained largely by the reallocation of factors rather than real improvement in labour productivity. Labour reallocations have been mainly from the manufacturing and agricultural sectors towards the low productive services sector. Using a descriptive approach, Jato (2023) investigates rising youth unemployment and poverty in Nigeria. Based on the findings, security is important for harmonious economic prosperity, co-existence, and national unity needed for global competitiveness. It is also found that Nigeria's security is gravely hampered by key factors such as, poverty and rising youth unemployment. In order to ameliorate this problem, it is suggested that industries should be revived so as to reduce high rate of unemployment, making agriculture attractive and training youths to be employable and good entrepreneurs. Sajini (2022) adopt the Marxist theory of unemployment and content analysis method to analyse demography and unemployment In Nigeria. In the course of analysis, the study identifies many causes of demographic change in Nigeria such as, urbanisation and urban migration, high fertility rate, and increasing rural. In another dimension, the causes of unemployment in Nigerian include, declining economic growth rate, technical and vocational education structure, unsuitable economic policies, neglect of agriculture and corruption among others.

METHODOLOGY

Theoretical Framework

This study is anchored on the Arthur Lewis' Structural Change or Two-Sector model. The structural change model is one of the well-known early theoretical models of growth and development that focused on the structural transformation of a primarily subsistence economy. This model was formulated by a Nobel laureate, W. Arthur Lewis, in the mid1950s and later modified, formalized, and extended by John Fei and Gustav Ranis (Mankiw, 2006; Todaro and Smith, 2012). According to this model, any underdeveloped economy is made up of two sectors: (1) A traditional, overpopulated rural subsistence sector characterized by zero marginal labour productivity. The theorist classified this as surplus labour which can be withdrawn from the traditional agricultural sector without any loss of output. (2) A highproductive modern urban industrial sector into which labour from the traditional, rural and subsistence sector is gradually transferred. Gabardo et al (2017) adds that there are three sectors such as agriculture, service, and manufacturing sectors in the structural change process that guarantees growth and employment. The primary focus of this theory is on both the growth of output and employment and the process of labour transfer from the rural agriculture to the modern sector. The modern sector is self-sustaining in terms of employment expansion growth (Coccia, 2019). These expansions are assumed to continue until all rural labour surplus is absorbed into the new industrial sectors.

The Lewis two-sector development model is criticised on many grounds. First, the assumption that the rate of labour transfer and employment creation in the modern sector is proportional to the rate of modern-sector capital accumulation. This is not true because capitalist profits could be re-invested in more sophisticated labour-saving capital equipment, rather than just duplicating the existing capital, as is implicitly assumed by Lewis (Todaro and Smith, 2012). Additions to capital stock imply that there is progress in terms of labour-saving technological

advancement which does not guarantee the continuous movement of labour from the rural area to the urban industrialised areas. Economic miracles that happen in countries like China and India with very high growth rates are expected for in a catch-up process, where countries with less technological prowess could benefit from the advanced technological countries without bearing the risks and the costs of developing new knowledge in their local economies (Agbenyo, 2020). This is to say that developing countries could experience accelerated growth if they are able to absorb internationally generated technologies from advanced countries. Hence, countries that are not able to absorb technology will tend to fall behind.

More so, the assumption that surplus labour exists in rural areas while there is full employment in the urban areas is questionable as current studies have shown that surplus labour does not exist in rural areas. According to Todaro and Smith (2012), it is wrong to assume a diminishing return in the modern sector where alternatives to labour input are available in terms of capital accumulation and re-investment.

Another criticism of the two-sector model is the notion of a competitive modern-sector labour market that guarantees the continued existence of constant real urban wages up to the point where the supply of rural surplus labour is exhausted. Development experience has shown that before the 1980s, an enthralling characteristic of urban labor markets and wage determination in most third-world countries was the tendency for these wages to rise substantially over time, both in absolute terms and relative to average rural incomes. This was also accompanied by low or zero marginal productivity in the agricultural sector and the presence of rising levels of open modern-sector unemployment. In various studies, it was discovered that civil service wage scales, institutional factors such as union bargaining power, multinational corporations' hiring practices, all tend to negate competitive forces in modern-sector labor markets in the third-world countries.

Model Specification

The dual sector model emphasizes the importance of rural-urban migration in the process of creating employment and increasing productivity in a country. This is in the sense that surplus labour that migrates to the modern productive sector also does so for the improvement of their standard of living in terms of high real wage and real GDP per capita. At first, the model recognises economic growth or productivity as the result of migration, which can be expressed as:

RGDP = f(labour transfer, employment, capital accumulation) ------ 1.1 Looking at unemployment as a source of poverty and underdevelopment in Nigeria, rural population of the country has been diminishing due to migration and other cases (Nigeria Rural Population, 1960-2023); yet, structural labour transfer and capital accumulation have not been able to improve the welfare of the people and general productivity in Nigeria. Hence, replacing RGDP with per capita income, equating with unemployment and rural population, equation 1.1 can be transformed to account for the above problem, which lead to equation 1.2 below:

RGDPPC = f(RUR, UNEMP) ------ 1.2 RGDPPC = Real Gross Domestic Product per capita or per capita income (PCI). RUR = Rural Population. UNEMP = Unemployment.

Model for Objective One:

Transforming equation 1.2 into econometric form by introducing parameters, error term, logarithm, and a dynamic model, equation 1.3 is given as:

Equation 1.3 above is estimated using the OLS methods. The essence of this econometric estimation model is to understand the dynamic impacts of real economicgrowth in the previous periods on real productivity per capita in the current period. The result from this model will throw more light on the issue being described above. According Gujarati (2013), we may likely encounter some residual diagnostic problems if we dynamically distribute the regressand and other regressors in a model. Hence, population and unemployment variables remain as they are. In a dynamic model such as 1.3, diagnostic problems may still arise, but this can be corrected using the HAC and other appropriate methods.

Objective Two was analysed from our co-integration result.

Variables	PP-Test	Mackinno	PP-Test	Mackinno	PP-Test	Mackin	Order of
	Statistic	n critical	Statistic	n critical	Statistic	non	Integrati
	at levels	value at	at 1st	value at	at 2 nd	critical	on
		5%	Diff.	5%	Diff.	value at	
						5%	
LRGDPPC	-1.5033	-3.5366	-4.2801	-3.5403			1(1)
LRUR	-0.2566	-3.5366	-2.3839	-3.5403	-6.2131	-3.5442	1(2)
LUNEMP	-2.1843	-3.5366	-6.0368	-3.5403			1(1)
LRGDP	-1.4593	-3.5236	-3.9426	-3.5266			1(1)

RESULTS AND DISCUSSIONS Empirical Results

Table 1. Source: Author's computation suing E-views 9

The unit root result in *Table 1* shows that all variables except rural population are integrated of order one 1(1). Estimating variables at their first difference is only useful for short run analysis because there is only short-run information on the parameters (Adenike, 2014). A co-integration result revealled whether a long-run estimation is necessary in a study. It is recommended thata Toda Yamamoto VAR analysis is carried out in a situation where some variables are stationary at 2nd difference (Siddha et al, 2020); the problem for having 1(2) may be that there are structural breaks on the rural population variable; there is more than one unit root on the data. This problem could be resolved by applying a stronger stationarity test, which is outside the scope of this study. However, Johansen's co-integration test carried out further revealled that there are four and two co-integrating equations at trace and maximum eigenvalue respectively, which implies a strong evidence of long-run equilibrium relationship among the variables in a Vector Autoregressive (VAR) equation system.

Purpose	Test	Statistic	P-value	Comment	
Normality	Jarque-Bera	5.3106	0.0702	Normal	
Autocorrelation	Breusch-Godfrey	1.8656	0.1720	No Serial	
	Obs*R-squared			correlation	
Heteroskedasticity	Breusch-Pagan-	6.4955	0.0898	Variance of the	
	Godfrey			residual term is	
	Obs*R-squared			Homoskedastic	
Model Stability	Ramsey RESET	0.6662	0.4204	No	
	F-statistic			Specification	
				Problem	

Diagnostic Test Results

Table 2. Source: Author's computation suing E-views 9

Table 2 reveals that the specified residual in our model did not violate any of the OLS assumptions at 5% level of significance, thereby making our regression result credible for policy purposes.Going further, Cumulative Sum control charts (CUSUM and CUSUM of squares tests) were also carried out at 5% level of significance, which further justifies the Ramsey RESET test on *Table 2* above.

Regression Result and Discussions

Dependent Variable: LRGDPPC Method: Least Squares Date: 07/25/24 Time: 03:09 Sample (adjusted): 1987 2023 Included observations: 37 after adjustments

	Coefficien			
Variable	t	Std. Error	t-Statistic	Prob.
С	-6.655488	1.258372	-5.288966	0.0000
LRUR	0.887019	0.247869	3.578582	0.0011
LUNEMP	-0.083078	0.016394	-5.067579	0.0000
LRGDP(-1)	0.779174	0.060827	12.80968	0.0000
		Mean dep	endent	
R-squared	0.983312var			5.436792
Adjusted R-				
squared	0.981795	S.D. dependent var		0.108425
		Akaike in	fo	-
S.E. of regression	0.014629 criterion			5.509768
				-
Sum squared resid	0.007063	Schwarz criterion		5.335615
		Hannan-Ç	Quinn	-
Log likelihood	105.9307 criter.			5.448371
F-statistic	648.1596	Durbin-Watson stat		1.543179
Prob(F-statistic)	0.000000			

Table 3. Source: Result from E-views 9

PER CAPITA INCOME, UNEMPLOYEMENT AND RURAL POPULATION IN NIGERIA (1986-2023)

At this point, we take a look at the variables individually. First, we see that the parameters estimated (β_i) are jointly significant (F-statistic=0.0000), which means that unemployment, economic growth and rural population changes are significant determinants of welfare in Nigeria. The coefficient of determination (R²) and its adjusted value (98%) reveal that about 98 variations in per capita income is explained by variations in all the regressors, which is a good fit for our model, based on the data used.

Rural population: The coefficient of rural population (0.8870) is positive and significant, which implies that a one percent decrease in rural population will decrease per capita income by 0.88%. The import of this, in respect of the theory adopted, is that urban population growth in Nigeria does not guarantee welfare growth and productivity. The positive relationship between rural population and per capita income can also be looked at from the angle that there are more reasons why people migrate from rural to urban centres outside the theoretical explanation of labour surplus and deficit in the rural and urban sectors respectively. The reasons include, insecurity in rural area, looking for greener pastures, food and water insecurity, attacks or assaults, lack of information and more importantly financial problems. This result greatly supports the argument against the Lewis assumption of surplus labour in rural areas on the grounds that labour migration to urban areas may not have the technical skills needed in today's industrial labour engagements. Labour transfer has also brought about chaos in most cities in Nigeria, especially during the time of Boko Haram bombing in cities, which also disrupts productivity to a large amount. Migration, in today's Nigeria, contributes less to general welfare and productivity, unlike in economically advanced world like China (IOM, 2024).

Unemployment: A negative relationship between unemployment and welfare per person in Nigeria (-0.0830) implies that unemployment growth by 1% reduces per capita income by about 0.08%, and parameter is also highly significant. This is in contrast with Adenike (2014) who found that unemployment has a positive relationship with per capita income in Nigeria. There are several points that support our finding. First, unemployment, in recent times, has become a serious issue that retards growth in Nigeria. Millions of Nigerians are frustrated because they cannot find work to do. Most people who migrate to cities in search of greener pastures, instead of gaining employment in any of the real sectors, they tend to engage in illegal means of survival; there are less industrial companies in cities to take the teaming labour moving to urban centres, and rural labour are much engaged in rural subsistence which is unaccounted for in the informal sector.

Real Gross Domestic Product (-1): A positive (0.7791) and highly significant Growth of the general economy in the previous year leads to the growth of per capita income by 0.77% in the current year. This is expected because real economic growth is one of the determinants of real welfare in a country, so that, keeping population growth constant, a 1% increase in real GDP will add positive value to per capita income, but a decrease in Real GDP does the opposite. In the Nigerian case, Real GDP has been dwindling due to inflation and other measures while population is rising; they join together to worsen the standard of living of Nigerians.

CONCLUSION AND RECOMMENDATIONS

In line with the stated objectives, the following conclusion was reached: Unemployment has a negative and significant impact on productivity per capita in Nigeria. Rural population significantly and positively affects per capita income in Nigeria. There is a long-run relationship between rural population and per capita income in Nigeria.

The following recommendations are given:

(i) Government at all levels are encouraged to make policies that will attract investors, home and abroad, fight insecurity especially in industrial areas, reduce interest rates charged in the banking system, and punishing those in the public and private sectors who fail to adhere to rules of government and societal ethics. These are ways of attracting micro and macro investments, unemployment reduction and growth in productivity.

(ii) Rural-urban migration is not a good solution for growth and development. Nigerians can be productive where they, without relocating to cities where there are no available jobs. Commercializing agricultural productivity in rural areas is one of the big avenues for the fight against current food inflation and insecurity in Nigeria.

(iii) Migrating to cities does not, on its own, significantly contribute to productivity per capita in the country, especially when general population of people in Nigeria is growing at the same time. In the long-run, decreasing rural population caused by migration may no longer be necessary if policies are targeted at developing rural areas so as to improve average productivity. On this note, the public sector and Non-governmental Organizations, while controlling biodiversity loss, environmental degradation and sustainability, should invest more heavily in education, entrepreneurial education and apprenticeship training, specifically in rural areas. This will also help to bring more people out of poverty, more entrepreneurs moving into the formal sector, thereby increasing real economic strength of Nigeria.

REFERENCES

- Abubakar, S. B. (2022). Population Growth and Living Standards in the Nigerian Economy. *Journal of Economics, Management & Social Science,* 8 (1)
- Adejumo, O. O. (2017). The Impact of Human Capital Development in Employment Generation in Nigeria. *African Journal of Economic Review*, V (III)
- Adenike, E. T. (2014). Poverty and Unemployment Paradox in Nigeria. *Journal of Humanities And Social Science*, 9 (5), 106-116
- Akinbobola, T. O. & Saibu, M. O. O. (2004). Income inequality, unemployment, and poverty in Nigeria: a vector autoregressive approach. *The Journal of Policy Reform*, 7 (3), 175-183
- Agbenyo, J. S. (2020). The Structural Change Theory An Analysis of Success and Failures of Technology. *International Journal of Research and Innovation in Social Science*, IV (I)
- Carr, E. R. &Raholijao, N. (2014). *Rural Areas* (ed). Available at: <u>https://www.ipcc.ch/site/assets/uploads/2018/02/WGIIAR5-</u> <u>Chap9_FINAL.pdf</u>(Accessed 20th July, 2023)
- Coccia, M. (2019). Theories of Development. In: A. Farazmand (ed.), Global Encyclopedia of Public Administration, Public Policy, and Governance, Springer Nature Switzerland AG. <u>https://doi.org/10.1007/978-3-319-31816-5_939-1</u>
- DiNapoli, T. P. (2023). *Rural New York: Challenges and Opportunities*. New York State Controller, USA

- European Parliamentary Research Service, EPRS (2021). *EU Rural Development Policy Impact, Challenges and Outlook*. Members' Research Service, PE 690.711 – July 2021
- Food and Agricultural Organisation, FAO (2018). *Guidelines on defining Rural Areas and Compiling Indicators for Development Policy*. Publication prepared in the framework of the Global Strategy to improve Agricultural and Rural Statistics
- Gabardo, F. A., Pereima, J. B. & Einloft, P. (2017). The incorporation of structural change into
growth
*theory:*A
historical
appraisal.
EconomiA,
http://dx.doi.org/10.1016/j.econ.2017.05.003

Gujarati, D. N. (2013). Basic Econometrics (5th Ed.) African Edition. MC Graw Hill Education

- Hakeem, A. O., Emecheta, C. &Ngwudiobu, I. M. (2016). Population Dynamics and Economic Growth in Nigeria. *Journal of Economics and Sustainable Development*, 7 (15)
- Idowu, J. F., Adebayo, I. O., Lateef, O. B.,...,Awotide, B. A. (2022). Impact of Intensive Youth Participation in Agriculture on Rural Households' Revenue: Evidence from Rice Farming Households in Nigeria. *Agriculture*, 12, <u>https://doi.org/10.3390/agriculture12050584</u>
- IFAD (2010) Rural Poverty Report 2011, New Realities, New Challenges: New Opportunities for Tomorrow's Generation. The International Fund for Agricultural Development (IFAD), IFAD, Rome, Italy
- International Organization for Migration, IOM, (2024). Migrant Report Round 50. International Organization for Migration Libya, Hay Al Andalus, Tripoli. <u>https://libya.iom.int</u>.
- Ismail, O. F & Adegbemi, B. O. (2012). Informal Sector and Employment Generation in Nigeria: An Error Correction Model. *Research on Humanities and Social Sciences*, 2 (7)
- Jato, T. P. J. (2023). Rising youth unemployment and poverty in Nigeria: the challenges for national security. *Journal of Social Sciences & Humanities*, 8 (1)
- Mankiw, N. G. (2006). Macroeconomics, 6th ed. New York: Worth.
- National Bureau of Statistics, (NBS) (2016). Annual Socio-Economic Report. NBS.
- Nigeria Rural Population (1960-2023). Microtrends. Available at: <u>https://www.macrotrends.net/countries/NGA/nigeria/rural-</u> <u>population#:~:text=Nigeria%20rural%20population%20for%202022,a%200.79%25%20i</u> <u>ncrease%20from%202019</u>. (Accessed 21th July, 2023)
- Ogbuabor, J. E., Udo, G. C. & Onuigbo, F. N. (2018). Population Growth and Economic Development in Nigeria. *Saudi Journal of Business and Management Studies*, 3 (12)
- Olu, A., Jerome, A. T., David, N. &Alaba, O. A. (2016). *Understanding the relationship between growth and employment in Nigeria*. Development Policy Research Unit, United Nations University
- Omisakin I.S. (1999). *Factors influencing success or failure of an enterprise in informal sector*. NISER Monograph series, 6, 11-54
- Organisation for Economic Co-operation and Development, OECD (2013). *Urbanisation and Green Growth in China*. OECD Regional Development Working Papers, 2013/07
- Sajini, F. I. (2022). Demography and Unemployment In Nigeria: A Geographical Perspective. *Journal of Positive School Psychology*, 6 (6)
- Sanusi, L. S. (2010). Growth Prospects for the Nigerian Economy. *Convocation Lecture delivered at the Igbinedion University Eighth Convocation Ceremony*, Okada, Edo State

Shaari, M. S., Abidin, N. Z., Ridzuan, A. R. & Meo, M. S. (2021). The Impacts of Rural Population Growth, Energy use and Economic Growth on CO2 Emissions. *International Journal of Energy Economics and Policy*, 11(5) 553-561

- Todaro, M. P. & Smith, S. C. (2012). *Economic Development* (11thed). Pearson: United States of America
- United Nations (2022). Common Country Analysis. Available at: <u>https://www.unodc.org/conig/uploads/documents/Common Country Analysis 2022</u> <u>Nigeria.pdf</u>
- Yilson, E. E., Adikaba, I. A., Ngukwarai, I. D., Dom, O. Y. & Lopwus, D. M. (2021). Agriculture and Economic Growth in Nigeria. *Arts and Social Science Research*, 11