MACROECONOMIC VARIABLES AND ECONOMIC DEVELOPMENT: THE NIGERIA EXPERIENCE (2007-2021)

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ABSTRACT

This paper examined the effect of some macroeconomic variables on economic development of Nigeria. The macroeconomic variables were proxied by inflation, unemployment and real gross domestic product while the economic development was proxied by human development index. The study used ex-post-facto research design. Secondary data was sourced from central bank of Nigeria statistical bulletin. Ordinary Least Square (OLS) method and the Grander Causality test were used to analyses the data. the findings using OLS revealed that Inflation rate and unemployment negatively but insignificantly predicts economic development in Nigeria while Real GDP positively and significantly predicts economic development in Nigeria. The Granger causality tests showed unidirectional causality exists flowing from RGDP and unemployment to HDI in Nigeria, whereas no causality exists between HDI and INFR. Recommendations of the authors from the findings is that the government and monetary authorities should come up with policies that boost real economic productivity in Nigeria, adopt monetary policy measures to reduce inflation to a level that is supportive of economic development in Nigeria and that Government should increase adoption of schemes to improve the rate of unemployment in Nigeria.

Keywords

Inflation, unemployment, macroeconomics, GDP, development, HDI

Introduction

The term "macroeconomics" is not all that old (going back to the 1940s), many of macroeconomics core concepts have been the study focus for much longer. Topics like unemployment, prices, growth, and trade have concerned economists since the beginning of the discipline in the 1700s. Elements of earlier work from Adam Smith and John Stuart Mill addressed issues that would now be recognized as the domain of macroeconomics.

In its modern form, macroeconomics is often defined as starting with John Maynard Keynes and his book The General Theory of Employment, Interest, and Money in 1936. Keynes explained the fallout from the Great Depression when goods remained unsold, and workers were unemployed. Before the popularization of Keynes' theories, economists did not generally differentiate between micro- and macroeconomics. The same microeconomic laws of supply and demand that operate in individual goods markets were understood to interact between individual markets to bring the economy into a general equilibrium, as described by Leon Walras.

One of the major goals of macroeconomic policy is to achieve sustainable economic growth and development. Yakubu, Baffour and Shehu, 2013 stated that the government tries to influence the performance of the national economy through fiscal and monetary policies such as changing the level of taxation, controlling government spending, the supply of money or credit to the economy.

Macroeconomics is the branch of economics that studies the behavior and performance of an economy as a whole. It focuses on the aggregate changes in the economy such as unemployment, growth rate, gross domestic product and inflation. There are 4 main areas of macroeconomics, it focuses on the performance of economies – changes in economic output, inflation, interest and foreign exchange rates, and the balance of payments. Poverty reduction, social equity, and sustainable growth are only possible with sound monetary and fiscal policies. Macroeconomics connects together the countless policies, resources, and technologies that make economic development happen. Without proper macro management, poverty reduction and social equity aren't possible.

Understanding Macroeconomics as the term implies, macroeconomics is a field of study that analyzes an economy through a wide lens. This includes looking at variables like unemployment, GDP, and inflation. In addition, macroeconomists develop models explaining the relationships between these factors. These models, and the forecasts they produce, are used by government entities to aid in constructing and evaluating economic, monetary, and fiscal policy. Businesses use the models to set strategies in domestic and global markets, and investors use them to predict and plan for movements in various asset classes. Properly applied, economic theories can illuminate how economies function and the long-term consequences of particular policies and decisions. Macroeconomic theory can also help individual businesses and investors make better decisions through a more thorough understanding of the effects of broad economic trends and policies on their own industries.

Three main differences separate micro and macroeconomics. Firstly, microeconomics studies individual components of the economy, while macroeconomics studies the economy as a whole. Secondly, controversy aside, government involvement in microeconomics is relatively small, and relegated to public goods, regulation, and welfare. But controversy notwithstanding, government involvement in macroeconomics is rather substantial, nearly total; it is only government that makes and enforces monetary and fiscal policies. And thirdly, whereas microeconomics has been around since the mid eighteenth century, macroeconomics began only as a reaction to the Great Depression of the 1930s. Changing macroeconomic policies affect national income, prices, interest rate and exchange rates all of which influences economic development (Ariode and Ogunbadejo 2014). Macroeconomic stability is achieving using different objectives of monetary and fiscal policy (Ojede 2013).

Macroeconomy is still an evolving science but the goals of macroeconomic policy have been uniformed globally. These include price stability, money supply, stable inflation rate, real gross domestic product, foreign exchange stability, full employment, balance of trade, balance of Payment equilibrium, economic growth and development. Although these policies are very important, they could not be pursued simultaneously because of their conflict with one another. Therefore, there is always a trade-off between these various objectives hence a country pursues a policy which is relevant to its stage of development at different times and in different circumstances (Ebikila, Agada and Lucky 2018).

Macroeconomy is often seen as a study of the economy as a whole. Understanding macroeconomy requires understanding it's terms because macroeconomic systems are complex becoming models that represent the interaction of the important component of the economy. These models depend on key macroeconomic variables with the greatest influence in the economy. Macroeconomic variables are used to measure the economy's current state and forecast where it is going, identifying potential risk along the way. The negligence to checkmate such variables may spell doom for the economy as they direct the economic situation. The main causes of unsustainable development include high inflation, rising foreign debts, unstable exchange rate, policy somersault, trade imbalance (Paul and Akindele 2016).

The influence of macroeconomic variables on the economic development over the years has remained grossly insufficient to meet the expanding social political and public spending required in the fostering of economic growth. The emergence of structural adjustment programs

 (SAP) in 1986, opened the Nigerian economy to the problems of high inflation and unstable economic growth and development, trade imbalance, unstable exchange rate and high interest rate which had adversely affected economic development in Nigeria (Abdul and Mawan 2013).

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Economists differs on which policies that could enhance long- run growth and development, (Antwi, Mills and Zhao 2013) argued that macroeconomic policies are necessary for long term development, (Gatawa, Akinola, and Muftau 2017) asserted that monetary variables are more effective and dependable than fiscal variables in affecting changes in economic activities. This paper applied human development index to proxy economic development and proxy macroeconomic with inflation, gross domestic product and unemployment so as to better portray the effect of macroeconomic variables on Nigeria economy.

The remaining parts of this study was therefore arranged as follows; Review of related literature, Theoretical framework, Empirical reviews, Methodology, Results and Discussions and finally

Review of Related Literature
Conceptual Reviews

Macroeconomic Variables - Macroeconomic variables refer to factors that are pertinent to the broad economy at the regional or national level and affect a large number or population rather than a few individuals. Macroeconomic variables are indicators or main signposts that signal trends in the economy. Also, within the economic factors are some key elements that adhered to economic growth and dominantly determined economic health include government expenditures, and government investment.

From a growth perspective, their volume has a dynamic impact on the economic growth of a country and can influence economic growth asymmetrically (Nwagu, 2023). Although, the literature has contradictory views regarding the role of other economic factors, e.g., inflation, government expenditures, etc., in determining economic growth.

The Maastricht Criteria highlighted five indicators that measure a country's macroeconomic stability to include low and stable inflation rate (within 3%), low currency fluctuation (within 3%), low long-term interest rate (within 9%), low budget deficit relative to GDP (within 3%) and low government debt relative to GDP (within 60%). Analogously, these variables are the main indicators of macroeconomic stability. The major goals of macroeconomic stability include; controlling inflation, restoration of fiscal balance and elimination of current accounts deficits.

Economic Development are programs, policies or activities that seek to improve the economic well-being and quality of life for a community. Economic development also implies economic growth plus progressive changes in certain important variables which determines the well -being of people. In terms of growth, it relates to the number of goods and services produced in an economy over a period of time. Economic growth is an increase in the production of goods and services in an economy.

Increases in capital goods, labor force, technology, and human capital can contribute to economic growth. Economic growth is the amount that the level of output within an economy increases over

a given time period (again usually measured over a year). Economic growth is extremely desirable because it means that, in general, the people within an economy are getting richer. Economic growth can be increased in a number of ways, such as technological improvement, an increase in the demand for goods and services, and an increase in the size of the workforce (a fall in unemployment).

Gross domestic product: This is the total monetary or market value of all finished goods produced within a country's borders in a specific time period. Gross Domestic Product (GDP) is the broadest quantitative measure of a nation's total activity. It represents the monetary value of all goods and services produced within a nations' geographic borders over a period of time especially one year (Aroriode & Ogunbadejo, 2014). Gross Domestic Product (GDP) is a measure of the total value of goods and services produced within a country's borders in a specific time period, typically a year. It is often used as an indicator of a country's economic performance and can be used to compare the economic output of different countries.

GDP is calculated by adding up the value of all final goods and services produced in an economy during a given period. This includes everything from consumer goods like cars and clothing, to services like healthcare and education, to investments in businesses and infrastructure. Since the level of prices for goods and services in an economy is increasing over time. It is typically expressed as a percentage change in the price level from one period to another, usually on an annual basis.

Inflation is the amount that the cost of goods and services within an economy has **increased** over a given time period (usually measured over a year). In most nations, this is measured using the Consumer Price Index **(**CPI**)**. Inflation is damaging to an economy and this means that policymakers tend to try and keep inflation **low.** Inflation in an economy can be the result of an increase in aggregate demand that is not accompanied by an increase in aggregate supply. A rise in any component of aggregate demand can bring about demand-pull inflation. Inflation can also result from a decrease in aggregate supply that occurs when businesses find that production inputs prices have risen.

It may come in the form of **Cost-push inflation** which is caused by the **costs of production** for firms **increasing**, forcing them to put their **sale prices up** or **Demand-pull inflation** -caused by

growing **demand for goods** that firms produce, allowing firms to **increase prices to gain more profit**. Bittencourt (2011) also reported the adverse effect high and volatile inflation rate have on financial development and investment. Thus, higher inflation rate is associated with higher inflation variability, greater stock return variability, less long-run financial activity, lower long-run levels of real economic activity and slower long-run growth rates.

Unemployment: This is the condition of one who is capable of working actively seeking work but unable to find any work. It refers to a state where a large number of able-bodied persons of working age who are willing to work but cannot find work at the current wage levels (Dauda, 2017). Unemployment rate is the percentage of total workforce who are unemployed and are looking for a paid job. Unemployment rate is one of the most closely watched statistics because a rising rate is seen as a sign of weakening economy that may call for cut in interest rate. A falling rate, similarly, indicates a growing economy which is usually accompanied by higher inflation rate and may call for increased interest rate. Idumange, (2004) stated that Nigerian youths have preference for white collar jobs thereby they discriminate against jobs that are more of technical and vocational training.

People who are either unfit for work for physical or mental reasons, or don't want to work e.g., Sadhus, are excluded from the category of the unemployed. Some scholars posit that unemployment rate measures the percentage of employable persons in a country's work force who are over the age of 16 and who have either lost their jobs or have unsuccessfully sought for jobs in the last month and are still actively seeking for work.

It can come in the form of Frictional unemployment - caused by the search for a new job or a transition between jobs; Structural unemployment - caused by the decline of an industry, e.g., type-writing or coal mining; Seasonal unemployment - caused by the time of year, e.g., working on a Christmas tree farm is undesirable during summer; Cyclical unemployment - caused by a recession (a reduction in the level of output within an economy).

Human Development Index (HDI): This is a statistic compiled and developed by the United Nations to measure various countries levels of social and economic development. The HDI is a summary measure of human development. The HDI is a summary composite measure of a

country's average achievement in three basic aspects of human development: health knowledge and standard of living.

Theoretical framework
The Solow's Model

This study is anchored on Solow growth model. Robert Solow and Swan introduced the Solow's model in 1956. Their model is also known as Solow-Swan model or simply Solow's model. Solow growth model is an economic growth model in which the growth of total GDP is explained by population increase, technical progress, and investment. In this model there is full employment, with an aggregate production showing constant returns to scale. In analyzing the process of economic growth, the supply and demand sides of the economy should be put together to generate economic growth.

In Solow's model, other things being equal, states that saving, investment and population growth rates are important determinants of economic development. Higher saving, investment rates, lead to accumulation of more capital per worker and hence more output per worker. On the other hand, high population growth has a negative effect on economic development simply because a higher fraction of saving in economies with high population growth has to go to keep the capital-labour ratio constant. In the absence of technological change and innovation, an increase in capital per worker would not be matched by a proportional increase in output per worker because of diminishing returns. Hence capital deepening would lower the rate of return on capital.

Solow's neoclassical growth model is an extension of the theory of Cobb Douglas, explaining that the output or gross domestic product (GDP) depends on the technology, number of employees, amount of physical capital, the amount of human capital, as well as the amount of natural resources.

Empirical Review
Holden and Sparman (2013) studied macroeconomic determinants of economic growth in Nigeria. The study examines the macroeconomics determinants of economic growth in Nigeria measured by real gross domestic product (RGDP). time series data obtained from CBN for a period of 26 years that is 1986 to 2012. Augmented Dickey-Fuller (ADF) test was used for the unit root test

and Johansen's co-integration test was also conducted to establish short and long run relationships between economic growth and its macroeconomics determinants. The result shows six co-integrating equations which establish the existence of long run relationship among the variables. Ordinary Least Square statistical technique was used to assess the degree of influence the variables have on each other. The results show that gross fixed capital formation, foreign direct investment and total government expenditure are the main determinants of Nigeria economic output under a stable inflationary rate.

Ifionu (2015) studied macroeconomic variables and money supply: evidence from Nigeria. The results revealed that all variables were stationary at various lags and there exists a long run relationship between variables employed and it was discovered that apart from inflation having an inverse significance with Money supply (M2) and Exchange Rate (EXR), all other variables such as Gross Domestic Product (GDP) were found to have a positive impact on Money Supply. It was therefore recommended that Nigeria Banks should be committed to the mission of price stability as well as improving the regulatory and supervisory frameworks to secure a strong financial sector for efficient intermediation in other to avoid the inflationary impacts government should control the excessive expansion in broad money supply in Nigeria.

Alush (2016) studied the impact of macroeconomic factors in economic growth. The aim is to define and explain the connection between macroeconomic indicators with specific emphasis: the public debt, budget deficit and inflation on economic growth with a targeted time period of research from 2004 to 2014. The model that best represents the link between macro-fiscal indicators on economic growth is the linear regression as an econometric model. The overall results emerged in accordance with theoretical discussions presented, while the relationship did not turn out to be very strong because the coefficients acquired did not have great explanatory skills for economic phenomena.

Adaramola and Dada (2020) studied the impact of inflation on economic growth evidence from Nigeria. The study employs the autoregressive distributed lag on the selected variables, i.e., real gross domestic product (GDP), inflation rate, interest rate, exchange rate, degree of economy`s openness, money supply, and government consumption expenditures for the period 1980–2018. The study findings indicate that inflation and real exchange rate exert a significant negative impact on economic growth, while interest rate and money supply indicate a positive and significant

impact on economic growth. Other variables in the model depict no influence on the economic growth of Nigeria. The causality result shows the unidirectional relationships between interest rate, exchange rate, government consumption expenditures and gross domestic product. However, inflation and the degree of openness show no causal relationship with gross domestic product. As a result, the study recommends that a more pragmatic effort is needed by the monetary authorities to target the inflation vigorously to prevent its adverse effect by ensuring a tolerable rate that would stimulate the economic growth of Nigeria.

Ojo (2022) studied the effect of selected macroeconomic variables on the Nigeria economy. The impact of some selected macroeconomic variables on the Nigeria economy was examined using the gross domestic product (GDP) to represents the economy. At 5% significance level, only exchange rate and population growth rate significantly affects the Nigeria economy within the study periods. Unemployment rate (X1) and crude oil exports (X7) were found to be collinear, likewise exchange rate (X3) and foreign direct investment in Nigeria (X4). The error terms of the fitted model are positively autocorrelated while the error term of crude oil exports (X7) is not normally distributed. This paper recommends to future researchers, transformation or increase in sample sizes of those variables that did not conform to multiple regression assumptions.

Obidike, Onyeka and Nduka (2022) explored the effect of selected macroeconomic variables on the Nigeria economy. The main objective of the study is to examine the effect of selected macroeconomic variables on the Nigerian economy. Specifically, the study examines the effect of exchange rate, interest rate, inflation rate, trade openness, foreign direct investment and money supply on the Nigeria in economy. Time series data covering 34 years, from 1987 to 2020 were analyzed with econometric techniques including Descriptive Statistics, Augmented Dickey Fuller Tests for Unit Roots, The Autoregressive Distributive Lag (ARDL) and the Diagnostics Tests to determine the reliability of the models in the study. The Diagnostics analyses carried out are the Normality Test, Serial Correlation, Multicollinearity Test, Heteroskedasticity, and Ramsey RESET Tests. Our findings revealed that inflation rate, trade openness, foreign direct investment and money supply have positive and significant effect on real gross domestic product in the short run while exchange rate and interest rate had insignificant effect on real gross domestic product in the short run. The study therefore concludes that selected macroeconomic variables have been an effective short run policy instrument that largely affects Nigeria in economy.

Methodology

This study uses an ex-post facto research design in conducting the research. This research design uses data which has already happened and is therefore suitable for this study which uses the time series data in the statistical examination. The secondary time series data was sourced from central bank of Nigeria statistical bulletin. Macroeconomic variables was proxied by Real Gross domestic product, Inflation and Unemployment while Economic development was proxied by Human Development Index (HDI). The time series data on the study variables were analyzed using the Ordinary Least Square (OLS) method and the Grander Causality test.

Model Specification

This study adopted a model similar to the one used in the study of Obidike et al. (2022). In their study, Obidike et al. (2022) expressed GDP as a function of exchange rate, interest rate, inflation rate, trade openness, foreign direct investment and money supply. However, this study expressed, Human Development Index (HDI) as a function of Inflation Rate (INFR), Unemployment Rate (UMPR) and Real Gross Domestic Product (RGDP). The functional model for the study is expressed as equation 1;

HDI = f(INFR, UMPR, RGDP)   eq1

The functional model is restated in econometric terms to include the econometric properties such as the intercept (α_0), the regression coefficients (α_1, α_2, α_3 and α_4) and the error term (ε_t). The econometric model is expressed as equation 2;

HDI = $\alpha_0 + \alpha_1$INFR + α_2UMPR + α_4RGDP + ε_t eq2

HDI = Human Development Index

INFR = Inflation Rate

UMPR = Unemployment Rate

RGDP =Real Gross Domestic Product

Data Table

Table 4.1: Trends of HDI, INFR, UMPR and RGDP

Years	HDI	INFR (%)	UMP (%)	RGDP (₦ Billions)
2007	0.479	5.38	12.7	42922.4
2008	0.485	11.58	14.9	46012.5
2009	0.49	11.54	19.7	49856.1
2010	0.484	13.72	21.4	54612.3
2011	0.494	10.84	23.9	57511.0
2012	0.512	12.22	27.4	59929.9
2013	0.519	8.48	24.7	63218.7
2014	0.524	8.06	25.1	67152.8
2015	0.527	9	10.4	69023.9
2016	0.53	15.7	21.6	67931.2
2017	0.532	16.5	18.8	68491.0
2018	0.534	12.1	23.1	69799.9
2019	0.539	11.4	33.3	71387.8
2020	0.542	13.2	31.4	70014.4
2021	0.535	16.98	32.5	72393.7
2022	0.536	18.8	33.1	74639.5

Source: *Central bank of Nigeria Statistical Bulletin (2022) World Bank Indicators and the Bureau of Nigerian Statistics*

Results

Descriptive Statistics

	HDI	UMP	INFR	RGDP
Mean	0.516375	23.37500	12.21875	62806.07
Median	0.525500	23.50000	11.84000	67542.01
Maximum	0.542000	33.30000	18.80000	74639.47
Minimum	0.479000	10.40000	5.380000	42922.41
Std. Dev.	0.022307	7.107039	3.573081	9903.928
Skewness	-0.562974	-0.176731	0.055634	-0.777056
Kurtosis	1.701015	2.149989	2.474730	2.302269
Jarque-Bera	1.970080	0.564969	0.192193	1.934729
Probability	0.373424	0.753908	0.908376	0.380084
Sum	8.262000	374.0000	195.5000	1004897.
Sum Sq. Dev.	0.007464	757.6500	191.5036	1.47E+09
Observations	16	16	16	16

Source: *Osakwe (2022)*

The Table above revealed the average values of HDI, unemployment rate, inflation rate and RGDP are 0.516, 23.38%, 12.21% and ₦62,806.07bn respectively each year. The descriptive statistics further shows that over the reviewed period, Nigeria has recorded its lowest inflation rate of 5.38 while recording a minimum unemployment rate of 10.4% and a maximum of 33.3%. The results also revealed that, with Jarque-Bera probabilities above 0.05, all the variables are normally distributed.

Ordinary Least Square Regression Result

Dependent Variable: HDI

Method: Least Squares

Date: 12/05/23   Time: 11:31

Sample (adjusted): 1 16

Included observations: 16 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFR	-0.000924	0.000653	-1.415158	0.1847
UMP	-0.000198	0.000341	-0.581379	0.5727
RGDP	1.75E-06	3.86E-07	4.530785	0.0009
C	0.408870	0.021182	19.30271	0.0000

R-squared	0.937557	Mean dependent var	0.516375
Adjusted R-squared	0.914851	S.D. dependent var	0.022307

S.E. of regression	0.006509	Akaike info criterion	-6.980916
Sum squared resid	0.000466	Schwarz criterion	-6.739482
Log likelihood	60.84733	Hannan-Quinn criter.	-6.968553
F-statistic	41.29044	Durbin-Watson stat	1.594189
Prob(F-statistic)	0.000001		

Source: *Osakwe (2023)*

The result shown in table above revealed that Inflation rate negatively but insignificantly predicts economic development in Nigeria. With a coefficient of -0.000924and a p-value of 0.1847, every percentage increase in the inflation rate in Nigeria would coincide with an insignificant decline of 0.001 in the Human development index in Nigeria, unemployment rate negatively but insignificantly predicts economic development in Nigeria. With a coefficient of -0.000198 and a p-value of 0.5727, every percentage increase in the unemployment rate in Nigeria would coincide with an insignificant decline of 0.0002 in the Human development index in Nigeria. The result also reveals that Real GDP positively and significantly predicts economic development in Nigeria. With a coefficient of 1.75×10^{-05} and a p-value of 0.009, every trillion naira increase in the Real GDP of Nigeria would coincide with a significant increase of 0.00175 in the HDI in Nigeria.

The F-statistic is 41.29 and with a probability of 0.0000, the overall prediction of the independent variable on the dependent variable is significant. The R-squared value of 0.937557 indicates that about 94% of the changes in HDI can be predicted by the combined variations in the independent variables (inflation rate, unemployment rate and real GDP).

Granger Causality Test

Granger Causality Test Result for HDI and RGDP

Pairwise Granger Causality Tests

Date: 12/06/23   Time: 08:07

Sample: 1 25

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
RGDP does not Granger Cause HDI	14	7.42488	0.0125
HDI does not Granger Cause RGDP		0.49321	0.6262

Source: Osakwe (*2023)*

Table 4.4 reveals that the p-value for the first null hypothesis is 0.0125 which is less than 0.05. This indicates that the first null hypothesis is rejected; RGDP Granger Causes HDI. However, the p-value for the second null hypothesis is 0.6262 which is greater than 0.05. This indicates that the second null hypothesis is accepted: HDI does not Granger Cause RGDP. This implies that a unidirectional causality exists flowing from RGDP to HDI in Nigeria.

Granger Causality Test Result for HDI and INFR

Pairwise Granger Causality Tests

Date: 12/06/23   Time: 08:06

Sample: 1 25

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INFR does not Granger Cause HDI	14	0.56118	0.5893
HDI does not Granger Cause INFR		2.02787	0.1875

Source: Osakwe (*2023)*

Table 4.5 reveals that the p-value for the first null hypothesis is 0.5893 which is greater than 0.05. This indicates that the first null hypothesis is accepted; INFR does not Granger Cause HDI. On the other hand, the p-value for the second null hypothesis is 0.1875 which is also greater than 0.05. This indicates that the second null hypothesis is accepted: HDI does not Granger Cause INFR. By implication, no causality exists between HDI and INFR

Granger Causality Test Result for HDI and UMP

Pairwise Granger Causality Tests

Date: 12/06/23   Time: 08:08

Sample: 1 25

Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
UMP does not Granger Cause HDI	14	6.02768	0.0228
HDI does not Granger Cause UMP		0.21317	0.8120

Source: *E-views 11 Granger Causality Test Result, 2023*

This table revealed that the p-value for the first null hypothesis is 0.0228 which is less than 0.05. This indicates that the first null hypothesis is rejected; UMP Granger Causes HDI. However, the p-value for the second null hypothesis is 0.8120 which is greater than 0.05. This indicates that the second null hypothesis is confirmed: HDI does not Granger Cause UMP. As a result, a unidirectional causality flows from UMP and HDI.

Results and Discussions

The Ordinary least square regression Tests revealed that Inflation rate negatively but insignificantly affects economic development of Nigeria. likewise, unemployment rate, it negatively but insignificantly affects economic development in Nigeria. The Granger causality tests. On the other hand, the OLS tests reveal that Real GDP positively and significantly predicts economic development in Nigeria. With a coefficient of 1.75×10^{-05} and a p-value of 0.009, every trillion naira increase in the Real GDP of Nigeria would coincide with a significant increase of 0.00175 in the HDI in Nigeria.

The granger causality test revealed a unidirectional causality exists flowing from Real Gross Domestic Product to HDI in Nigeria, it also showed no causality exists between HDI and Inflation and further indicates that there is a unidirectional causality flows from Unemployment and HDI that proxy economic development.

The study examined the effect of macroeconomic variables on the economic development of Nigeria. Particular attention was paid to macroeconomic variables such as inflation rate, real gross domestic product and unemployment rate in Nigeria. On the other hand, economic development was represented by Human Development Index. The data was analyzed using the Granger Causality test to examine effect and the complementary ordinary least square regression analysis.

The result of the Granger causality test revealed that real gross domestic product had significant effect on economic development of Nigeria. However, economic development of Nigeria did not have significant effects on the real GDP in Nigeria. This indicates that increase in economic productivity caused significant changes in the level of economic development in Nigeria. The results of the OLS regression revealed that RGDP positively and significantly predict economic development in Nigeria which implies that real GDP has a positive and significant effect on the economic development in Nigeria. By implication, each time the real output of Nigeria increases,

the Nigerian economy records significant development. According to Ismaila and Imoughele (2015) real GDP represents a very significant determinant of economic growth and development.

The result of the Granger Causality Test revealed that inflation rate has no significant effect on economic development in Nigeria. This indicates that inflation rate in Nigeria has been inconsequential to the pace of economic development in Nigeria. Adaramola and Dada (2022) also found that inflation rate showed no causal relationship with economic growth. The OLS regression however revealed that there was a negative prediction between inflation rate and economic productivity in Nigeria. This shows that in the periods when inflation rate has been relatively higher, the Nigerian economy has recorded slower development. This is a strong indication that the macroeconomic conditions that cause increase in inflation rate in Nigeria are actually the same conditions that lead to decline in economic development.

The Granger causality test further revealed that economic growth has been significantly affected by the unemployment rate in Nigeria. The findings indicate that the level of economic development responds significantly to the level of employment in the country. The complementary results of the Ordinary Least square regression showed a negative and insignificant prediction between unemployment rate and economic development in Nigeria. Ojo (2022) also found that unemployment rate has a negative relationship with income per capita in Nigeria. This indicates that economic development is negatively affected by unemployment rate in Nigeria. By implication, an increase in the unemployment rate in Nigeria will cause a decline in the level of economic development. Ojima (2019) also found that unemployment has negative effect on economic development of Nigeria. Olalekan and Kamorun (2021) also found a collinear relationship between unemployment rate and economic development in Nigeria. This is an indication that the level of economic development is largely dependent of the level of employment in Nigeria.

Conclusion and Recommendation

The findings of the study points to the conclusions that the economic development of Nigeria is largely dependent on certain macroeconomic variables which anchor on the concepts of full employment and productivity. Specifically, the development of the Nigerian economy is significantly affected by output productivity and availability of employment outlet. The slow

economic development recorded in Nigerian can therefore be attributed to a high rate of unemployment as well as a slow pace of output productivity. Furthermore, the factors and conditions that cause an increase in the rate of inflation has also coincided with a decline in economic development as a negative relationship has been found between inflation rate and economic variables even though inflation does not have direct effect on the economic development of Nigeria. Based on the findings, the following recommendations were raised:

1. The government and monetary authorities should come up with policies that boost real economic productivity in Nigeria. Such policies could include making capital available for productive sectors. This will ultimately prompt economic development in Nigeria.
2. The monetary authorities should adopt monetary policy measures to reduce inflation to a level that is supportive of economic development in Nigeria. This value has often been suggested to be within single digits from 3% to 7%
3. Government should increase adoption of schemes to improve the rate of unemployment in Nigeria so as to empower the workforce of the nation and spur economic development.

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