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OPTIMALITY LEVEL OF MACROECONOMIC INDICATORS AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study empirically examined the relationship between optimality of macroeconomic indicators and economic growth in Nigeria. The data used for the analysis was secondary annual time series data covering a period of 1980 to 2024 and were collected from the Central Bank of Nigeria (CBN) annual statistical bulletin and National Bureau of Statistics (NBS). The study employed econometric techniques of Autoregressive Distributed Lag (ARDL) model. The result of the ARDL revealed that inflation has a positive (99,919.158) and insignificant (0.6970) relationship with economic growth in Nigeria, while interest rate has a positive (199,893.2) and significant (0.0113) influence on economic growth in the long run in Nigeria. The result further showed that exchange rate has a negative (-34,967.28) and insignificant (0.0906) impact on economic growth in Nigeria. The study also showed that unemployment rate is positively (686,032.6) and significantly (0.0357) impact economic growth in the long run but in the short run is positive (88,739.13) and statistically insignificant (0.4020) in Nigeria. The study further revealed that poverty rate has a positive (95,468.23) and statistically significant (0.0404) long run impact on economic growth in Nigeria but negatively (-9,134.843) insignificant (0.6937) impact in the short-run in Nigeria. More so the study found that consumption negatively (- , 909.545) and insignificant (0.1577) impact economic growth in the long run, but positively (29.53654) and insignificant (0.9648) impact on economic growth in the short in Nigeria, while Investment revealed a positive (81.12635) and insignificant (0.4658) impact on economic growth in the long run but has positive (501.3648) and statistically significant (0.0384) impact on RGDP in the short run in Nigeria. The result on government expenditure revealed a negative (-869.8982) and insignificant (0.2589) impact on economic growth in Nigeria in the long run but in the short the result has a positive (428.7287) and insignificant (0.1424) impact on RGDP in Nigeria. Lastly, balance of payment has a positive (2.807797) statistically significant (0.0144) impact on economic growth in the long run but in the short run BOP is also positive (0.518763) and statistically insignificant (0.1615) impact on RGDP in Nigeria. The result of ECM CointEq(-1)* (-0.042961) with p-value (0.0000) is less than 1 implying that the model slowly adjusts to a stable long-run relationship or resume to equilibrium after a short-run fluctuation. The study concludes that macroeconomic indicators are not in their optimal level, they have mixed impact on economic growth in Nigeria, specifically, and unemployment, interest rate; poverty rate and balance of payment have significant impact on economic growth in Nigeria; whereas inflation, exchange rate, consumption, investment and government expenditure are not statistically significant. The findings reinforce the argument that macroeconomic indicators are not in their optimal level in Nigeria as clearly shows that inflation is not at optimal level due to persistent high inflation rates in Nigeria history. Unemployment rate is not in its optimal level as high unemployment rates persist in Nigeria. Exchange rate too is not at optimal level base on volatile exchange rate,

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

impacting investment, interest rate also not optimal with high interest rates, limiting access to credit and poverty rate improving, but still high though with significant positive impact on growth. The study therefore concludes that macroeconomic indicators are not in their optimal level due to: structural issues (weak institutions, infrastructure constraint), policy challenges (ineffective policy implementation, corruption), and external factors (global economic trends, oil price volatility). Nigeria's macroeconomic indicators require sustained policy attention to achieve optimal levels and promote sustainable growth. The study therefore recommends that Nigeria economic growth needs targeted policies to address these macroeconomic indicators.

Keywords: Macroeconomic indicators, economic growth and optimality level

1.0 INTRODUCTION

Nigerian economy was judged as the Africa's largest economy at a time based on the nominal Gross Domestic Product (GDP) measured in U.S. Dollars, on the basis of a major "rebasing" exercise in April 2014. This re-calculation, which updated the base year for measuring economic output from 1990 to 2010, significantly expanded the recognized size of the economy to over $500 billion, top oil producer, and been a largest market; is currently facing significant and several macroeconomic challenges that have impacted growth and welfare of citizens. Some of the key issues include: Exchange rate volatility, which has affected the value of the naira and the vulnerability of foreign currency. The naira value has fluctuated significantly, affecting trade, investment and inflation. Nigeria's exchange rate has been volatile due to various factors such as dependence on oil exports which makes it vulnerable to fluctuation in global oil prices. The economy's lack of diversification which makes it difficult to withstand external shocks, weak external reserves, and high demand for foreign exchange, the foreign exchange market is also fragmented with multiple exchange rates and the unification of exchange rates which has led to a temporary rate hike, causing the cost of living to increase (World Bank, 2024). The impact of exchange rate volatility on growth and welfare in Nigeria deterred foreign investors, thereby reducing the inflow of foreign capital, increased cost of imports; devalued naira makes imports more expensive, leading to higher production costs and reduced competiveness as well as economic growth (Kobi, 2024).

Another major challenge facing Nigeria's economy is inflation which reached 32.70% as at September, 2024, the highest level since 2017, thereby eroding purchasing power and reducing savings. High inflation rates in Nigeria have led to a decrease in the value of the naira. The causes of high inflation in Nigeria include excess liquidity, supply shocks, exchange rate depreciation, insecurity, exchange rate unification, subsidy removal. Also monetary policy such as low interest rates lead to increase in money supply while fiscal policy results to increased government spending lead to higher aggregate demand and inflation. Supply shocks or chain disruptions such as those caused by the COVID-19 Pandemic, subsidy removal lead to shortages and higher prices. The impact of high inflation on growth and welfare in Nigeria has led to reduced purchasing powers of consumers especially on those in fixed incomes. It also has created uncertainty, making it difficult for business and individual to plan for the future, high inflation has also exacerbated income inequality, as those who own assets that increase in value during inflation (such as property or stocks) tend to benefit at the expense of those who do not (Fasua, 2023).

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

A third challenge is unemployment which has been high for decades in Nigeria is due to lack of economic diversification. The economy is heavily reliant on the oil sector which has limited job creation potentials, low productivity of the economy which limits its growth potential and competiveness. Nigeria's infrastructural deficits such as inadequate roads, power and electricity makes it difficult to establish and grow business. The impact of high unemployment on growth and welfare has led to reduced economy growth as a significant portion of the workforce is not contributing to the economy. Also high unemployment has led to poverty, as individual and families are unable to earn a sufficient income. Lastly, high unemployment in Nigeria has also led to social unrest, as individuals become frustrated with lack of opportunities (CBN, 2024).

A fourth challenge is fiscal deficits. Nigeria has struggled with significant fiscal deficit which have led to increased borrowing and debt servicing costs. High fiscal deficit in Nigeria has been due to government revenue heavily reliant on oil exports, which has been volatile. Also Nigeria's tax collection efforts are often inadequate, leading to lack of revenue and excessive spending on non- essential items. The impact of fiscal deficits and debt servicing costs has resulted to increased borrowing which leads to high debt servicing costs. It reduced economic growth as government spending is often inefficient and can crowd out private sector investment. Lastly, fiscal deficits also exacerbate income inequality, as those who benefit from government spending (such as contractors and politicians) tend to be wealthier than those who do not.

The Nigerian government has implemented various policies to stabilize macroeconomic variables that include: Exchange rate management where the CBN has operated a multiple exchange rate system to manage the exchange and stabilize the economy with the introduction of flexible exchange rate system to allow the naira to float, and foreign exchange restriction, where the CBN also imposed foreign exchange restriction to conserve foreign exchange reserves and stabilize the economy. The CBN also introduced Naira- Settled Over- the- Counter (OTC) FX Futures to manage exchange rate volatility and stabilize the economy. OTC FX Futures is a financial instrument that allows individuals and businesses to hedge against foreign exchange risks by agreeing to buy and sell a specific amount of foreign currency at a predetermined rate on a future date or OTC FX Futures is a contract between two parties to exchange currencies at a set price on a specific date in the future. This helps to minimize the risks associated with fluctuations in exchanges rates, making it easier for businesses and investors to plan and budget for their foreign exchange needs (CBN, 2024).

The government through the CBN adopted a inflation targeting framework policy measures to stabilize macroeconomic variables and to manage inflation as well as stabilize the economy. Other measures include price controls; the government has implemented price controls to manage inflation through price control on certain food items as well as other monetary policies measures. Another policy measures adopted by government is unemployment reduction measures. The government has introduced job creation initiatives to reduce unemployment and stabilize the economy such as N-power program to create jobs for young graduates, vocational training to equip citizens with skills and reduce unemployment and Entrepreneurship support programs to encourage entrepreneurship and job creation (CBN, 2024).

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

Fiscal Responsibility is another policy measure where government has enacted the Fiscal Responsibility Act to ensure fiscal discipline and responsibility, Medium-Term Expenditure framework to ensure that expenditure is aligned with revenue projections, debt management, and government has also implemented debt management measure to ensure that debt is sustainable and manageable. These are some of the government efforts to stabilize contemporary macroeconomic issues in Nigeria. However, the effectiveness of these measures has been debated, and more need to be done to address the underlying structural issues in the economy (CBN, 2024, Nigeria Development update (NDU) and World Bank, 2024).

Globally, macroeconomic indicators can impact economic growth by influencing global trade and investment flows, affecting currency exchange rates and international competitiveness, shaping global monetary and fiscal policies, impacting commodity prices and resources allocation and influencing global economic trends as well as business cycles. Macroeconomic indicators drive the global economy through implementation of sound macroeconomic policies, investing in human capital and infrastructure, promoting innovation and technological progress, encouraging global trade and investment, as well providing development assistance and capacity building support to developing countries. In summary, macroeconomic indicators play a vital role in driving economic growth in developed nations and globally (World Bank, (2021), IMF (n.d).

Some facts on how macroeconomic indicators drive the global economy include: Influencing investment decisions: Inflation rate – low and stable inflation rates create a favourable business environment, encouraging investment for instance, Singapore's low inflation rate (averaging 1.5% from 2010 to 2020 made it an attractive destination for foreign investors. Reflecting economic performance: GDP Growth rate – A high GDP growth rate indicates a strong economy, attracting investment and talent. India's high GDP growth rate (averaging 7% from 2010 to 2020) made it an attractive destination for foreign investors and skilled workers. Low inflation rates reflect a stable economy, boosting consumer and business confidence. Japan's low inflation rate (averaging 0.5% from 2010 to 2020) helped maintain consumer business confidence, supporting economic growth. Low unemployment rates indicate a healthy labour market, driving economic growth. Germany's low unemployment rate (averaging 3.5% from 2010 to 2020) supported economic growth through increased consumer spending and business investment. Emerging Markets: Economic stability- macroeconomic indicators help emerging markets maintain economic stability, attracting foreign investment. South Korea's inflation rate (averaging 2% from 2010 to 2020) helped maintain economic stability, attracting foreign investment. Growth prospects- macroeconomic indicators influence growth prospects, guiding investment decisions and economic policy. Indonesia's high GDP growth rate (averaging 5% from 2010 to 2020) influenced growth prospects guiding investment decisions and economic policy. Lastly, macroeconomic indicators drive global economy through global competitiveness which affects or impacting emerging markets' ability to attract investment and talent. Malaysia's high ranking in the World Economic Forum's Global Competiveness Index (2019) reflected its attractive macroeconomic indicators, making it a competitive destination for foreign investment and talent (World Bank, (2021)

In a regional or sub-Saharan Africa, macroeconomic indicators equally play a crucial role in driving and contributing to economic growth as in the global sphere. More specifically, they drive economies of sub – Saharan Africa by promoting economic diversification and

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

industrialization, encouraging investment in infrastructure and human capital, improving economic governance and institutional quality, enhancing regional trade and economic integration, supporting private sector development and entrepreneurship as well as addressing poverty and inequality through targeted social policies. Some of the challenges facing sub-Saharan Africa include low economic growth rates, high inflation rates, limited access to finance and credit, dependence on primary commodities, weak institutional capacity and governance, and limited infrastructure and human capital. To address these challenges, policy makers in sub- Saharan Africa need to implement sound macroeconomic policies, invest in human capital and infrastructure, promote economic diversification and industrialization, enhance regional trade and economic integration, support private sector development and entrepreneurship, and address poverty and inequality through targeted social policies (African Development Bank and African Continental Free Trade Area (AfCFTA) Agreement (2020)).

Macroeconomic indicators drive and contribute to the economies of Sub- Saharan Africa via high GDP growth rates as many Sub-Saharan African countries have experienced high GDP growth rates averaging 5% from 2000 to 2020 (World Bank, 2021), According to Africa Development Bank, (2020) GDP growth and investment, a 1% increase in GDP growth rate is associated with a 0.05% increase in investment.GDP growth rates in Sub – Saharan Africa have been associated with significant poverty reduction, with the percentage of people living in extreme poverty declining from 56% in 1990 to 43% in 2015 (World Bank, 2021). Sub – Saharan Africa has experienced relatively high inflation rates, averaging 8% from 2010 to 2020, a 1% increase in inflation rate is associated with a 0.2% decrease in economic growth (IMF, 2020 and World Bank, 2021). Some SSA countries, such as South Africa and Ghana, have adopted inflation targeting framework which have helped to reduce inflation rates and promote economic stability (IMF, 2020). Interest rates in SSA are relatively high averaging 15% from 2010 to 2020; a 1% decrease in interest rates is associated with a 0.5% increase in investment Also regional trade in SSA has increased significantly, with intra- regional trade averaging 10% of total trade from 2010 to 2020. A 1% increase in regional trade is associated with a 0.5% increase in economic growth. Governments in SSA have implemented trade policies to promote exports and reduce trade deficits, such as the African Continental Free Trade Area (AfCFTA) Agreement and SSA has several regional economic communities such as the East African Community (EAC) and the Economic Community of West African States (ECOWAS), which aim to promote regional economic integration and cooperation (AFDB, 2020).

Locally in Nigeria, macroeconomic indicators also play a crucial role in driving economic growth just like in any other country. However, the effectiveness of these indicators in Nigeria is a subject of debate. Nigeria, being a developing country, faces various challenges that affect the impact of macroeconomic indicators and economic growth. In a nutshell, macroeconomic indicators play a pivotal role in driving economic growth in global, regional, and local economy. By understanding the relationship between these indicators and economic growth, policymakers can make informed decision to promote sustainable and inclusive economic growth (World Bank, 2021).

Nigeria's GDP growth rate has been volatile, but it has shown resilience in recent years. A high GDP growth rate attracts foreign investment, stimulates economic growth, and reduces poverty level. For instance, Nigeria's GDP growth rate averaged 2.3% from 2015 to 2020, contributing

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

to a decline in poverty rates. Nigeria has struggled with high inflation rates, which can erode purchasing power and reduce economic growth. However, a low and stable inflation rate can create a favourable business environment, encouraging investment and economic growth. Nigeria's inflation rate averaged 12.1% from 2015 to 2020, which is relatively high compared to other emerging markets. Interest rates in Nigeria are relatively high, averaging 14.2% from 2015 to 2020. High interest rates can make borrowing expensive, but they can also attract foreign investment and support the local currency. The Central Bank of Nigeria has used interest rates as a tool to regulate economic activity and control inflation. Nigeria's unemployment rate has been relatively high, averaging 14.2% from 2015 to 2020. A high unemployment rate can reduce economic growth, increase poverty, and lead to social unrest. However, the government has implemented policies to promote job creation, such as investing in infrastructure and supporting small and Medium-Sized enterprises (SMEs). On balances of payments, Nigeria balance of payments has been volatile, with large trade deficit can reduce economic growth, increase foreign debt, and lead to currency devaluation. Nigeria government has implemented policies to promote economic growth, reduce poverty, and increase employment. However, the country still faces challenges, such as high inflation rates, high interest rates, and a large trade deficit (World Bank, (2021).

Macroeconomic indicators play a crucial role in measuring the performance and growth of an economy. The relationship between macroeconomic indicators and economic growth is complex and multifaceted. GDP growth rate and economic growth – positive correlation, a high GDP growth rate is often associated with high economic growth as it indicates an increase in the production of goods and services. Also a stable GDP growth rates can attract Foreign investment, promote economic stability and reduce poverty GDP growth rate influences investment decisions and consumption patterns which in turn drive economic growth (IMF, 2020). Inflation – Growth Tradeoff – A moderate level of inflation (around 2-3%) is often associated with high economic growth, as it can stimulate spending and investment. High inflation rate greater than (> 10%) can erode purchasing power, reduce savings, and decrease economic growth (Khan and Senhadji, (2021) Extremely high inflation rates can lead to economic instability, reduce confidence in the currency and hinder economic growth (IMF, 2020). Monetary policy –interest rates influence borrowing costs, consumption, and investment, which in turn affect economic growth. Low interest rates can stimulate economic growth by encouraging borrowing and spending but high interest rates can reduce borrowing and spending, slowing down economic growth. Money supply- an increase in money supply can stimulate economic growth by increasing aggregate demand. Unemployment rate and economic growth, according to Okun's law, there is a negative relationship between unemployment rates and economic growth, as high unemployment rates can reduce aggregate demand and economic growth. Policies that promote job creation, such as investing in education and infrastructure, can stimulate economic growth, and a stable labour market with low unemployment rates can attract foreign investment, promote economic growth and reduce poverty.

Despite Nigeria's several policies measures to address macroeconomic indicators challenges, the situation has not change rather worsen. According to Barde (2025) CBN has adopted an aggressive monetary tightening stance, raising the monetary policy rate (MPR) by a cumulative 875 basis points to 27.5% in 2024. This was aimed at reducing excess liquidity in the system and slowing down inflationary pressures. Despite these efforts, inflation remains elevated,

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

reaching 34.8% in December 2024 up from 34.6% in November, reflecting the deep-rooted cost-push pressures in the economy. Key drivers included rising fuel prices, exchange pass-through effects, and supply chain disruptions.

CBN reform on foreign exchange market and management, the unification of multiple exchange rate windows was a major policy shift designed to eliminate arbitrage opportunities and restore investor confidence. However, despite these interventions, the naira remains volatile, fluctuating under speculative pressure largely driven by the activities of currency traders in the parallel market, a key driver of exchange rate instability. A major weakness in Nigeria's FX policy remains the unregulated and unchecked operations of currency traders, whose speculative activities fuel exchange rate devaluation. No economy in the world allows its local currency to be freely traded in the black market at the massive volumes seen in Nigeria. Even more alarming is the fact that Nigeria is the only country where the CBN itself has historically supplied foreign exchange to the black market, thereby legitimizing an inherently corrupt and destructive system (Barde, 2025).

1.1 Statement of the Problem

Objectives of macroeconomic policy have been uniform globally which include price stability, foreign exchange stability, full employment and economic growth. One of the major goals of macroeconomic which can be either objective or policy variables always aimed at achieving economic growth. In developed countries, macroeconomic indicators and economic growth tends to be relatively stable and predictable (World Bank, 2020). These countries (United States, Germany, Japan and United Kingdom) usually have matured financial markets and robust institutions which help manage macroeconomic fluctuations effectively. These countries have well-established financial markets, including stock exchanges, bond markets, and banking systems. These markets provide access to capital, facilitate investment and enable effective risk management. These developed countries have strong institutions, including central banks, regulatory agencies, and judicial systems. These institutions ensure the rule of law, enforce contracts, and maintain financial stability. Also these countries have implemented effective policy frameworks, including monetary and fiscal policies, to manage macroeconomic fluctuations and maintain stability (World Bank, 2020 and IMF, 2020). The IMF also notes that developed countries with effective policy framework and robust institutions tend to have low vitality in macroeconomic indicators and economic growth.

In the case of the developing economies, the relationship between macroeconomic indicators and economic growth is even more complex and precarious. Most developing countries including Nigeria face structural issues such as political instability, weak institutions, and inadequate infrastructure, which exacerbate the effects of macroeconomic indicators. Inflation can be particularly damaging in developing economies where it may lead to serve economic distortions and reduce real income. Interest rates may be high due to perceived risks and inflationary pressures, making borrowing costly and hindering investment. Exchange rate volatility is more pronounced, especially in countries like Nigeria that rely heavily on a few export commodities or faces frequent balance of payment crisis (Jabaru and Jimoh, 2021).

Macroeconomic variables can negatively affect economic growth in several ways. Specially, high inflation, rising unemployment, unfavourable exchange rates, high poverty rate, high

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

interest rate and inadequate general public services can all hinder economic expansion or impede growth. High inflation erodes the purchasing power of money, making it more expensive for businesses to operate and for consumer to buy goods and services. It can also lead to reduced demand, uncertainty in the economy, discouraging or lower investment and ultimately slower economic growth. High interest rate makes it more expensive for businesses to borrow money, which can reduce investment and hinder economic growth. A high unemployment rate indicates that a large portion of the workforce is not contributing to production. This reduces overall output and can lead to decrease in consumer spending, further hindering economic growth. Unfavourable and significant changes in exchange rate fluctuations or overvalued currency can make a country's export expensive or less competitive in the global market, impacting trade or lead to a decline in export revenue and a decrease in overall economic growth. Unpredictable exchange rates can also increase uncertainty for businesses, discouraging investment. Poverty reduces consumer spending and investment, it negativity impact economic growth by reducing the overall purchasing power of the population. This translates to lower demand for goods and services, slowing down economic activity. Additionally, poverty can lead to social unrest and instability, further discouraging investment and growth. Lastly inadequate general public services such as infrastructure (roads, power, communication and security) can significantly hamper economic development. Businesses struggle to operate efficiently when faced with poor infrastructure and security concerns, leading to increased costs, reduced productivity, and ultimately, lower economic growth.

Economic growth in Nigeria as at 2023 slowed from 3.3% in 2022 to 2.9% in 2023 due to high inflation, inflation rose from 15.7% in 2016 to 34.80% in 2024, unemployment rose from 13.9% in 2016 to 33.3% in 2024, interest rate also rose from 14% in 2016 to 27.50% as at December, 2024, while exchange rate rose from ₦305.35/$ to ₦1,609.40/$ (CBN, (2024) Nigeria Economic Outlook (NEO), 2024 and Iheonu, 2024).

In Nigeria, government has introduced several macroeconomic policies since 1980 up till 2024 aimed at shaping the economy and achieve economic growth. Some of these key policies include: Structural Adjustment Program (SAP) 1986) implemented to address economic crisis, promote economic stability, and stimulate growth; National Economic Empowerment and Development Strategy (NEEDS) 2004) which was focused on achieving economic growth, reducing poverty, and improving living standards; Vision 20:2020 (2009) was aimed to make Nigeria one of the world's top 20 economies by 2020; Transformation Agenda (2011) focus was on economic diversification, infrastructure development, and human capital to restore economic growth, improve productivity, and achieve economic diversification; Nigeria Economic Sustainability Plan (2020) focus was on mitigating the impact of Covid-19, promoting economic growth , and ensuring sustainability. Lastly, 2023 major reforms by the Tinubu Administration such as moving towards market – based pricing of gasoline to address the large fiscal cost of subsidized pricing, FX policy reforms resulted in a unified, regulated, and market- reflective official exchange rate, elimination of petrol subsidy, a crucial step in rebuilding fiscal space and restoring macroeconomic stability amongst others. These policies demonstrate Nigeria's efforts to address economic challenges, promote growth, and improve living standard. However, the effectiveness of these policies is subject to ongoing debate and analysis {Nigeria Development Update (NDU), 2024}. Despite the above chronology of macroeconomic policies and Nigeria's rich natural resources and strategic economic position,

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

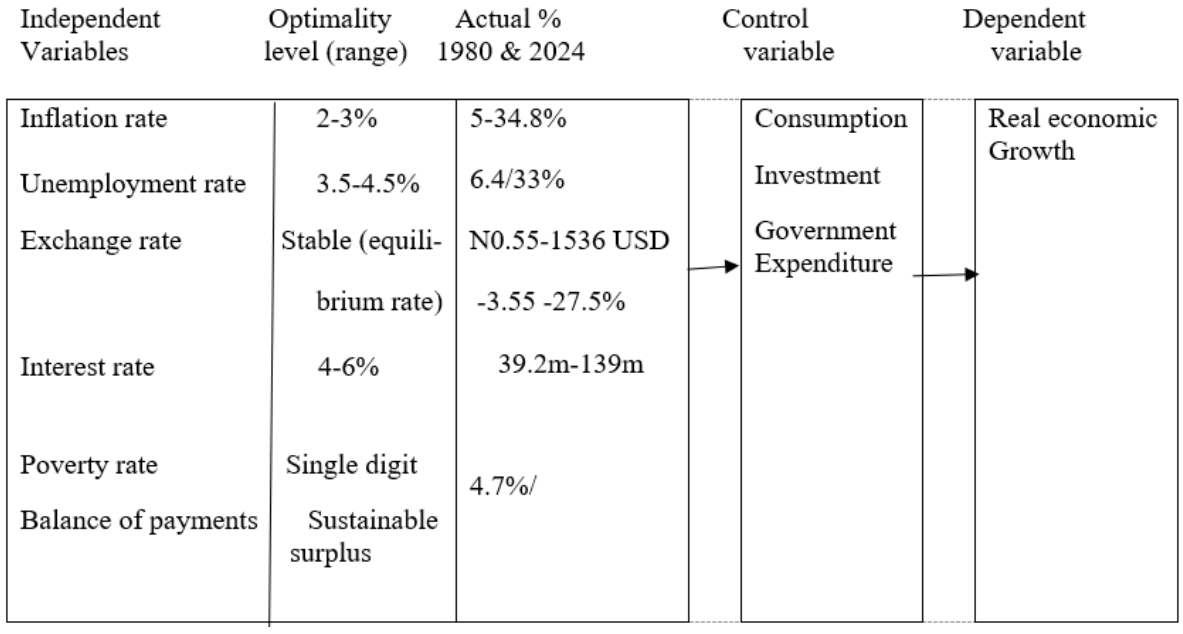
why have the country's macroeconomic indicators consistently shown a worrisome trend (high inflation, rising unemployment, unfavourable exchange rates volatility, high poverty rate, and high interest rate) hindering sustainable economic growth and development and why are macroeconomic indicators not in their optimal level? It is in this premise that the study seeks to bridge the knowledge gap and ascertain the macroeconomic indicators influencing the economic growth in Nigeria.

The specific objectives of the study were, to examine the relationship between inflation and economic growth, determine how unemployment rate affect economic growth, investigate the impact of exchange rate, evaluate the influence of interest rate, and ascertain how poverty rate impact economic growth in Nigeria, examine the impact o consumption on economic growth in Nigeria, evaluate the effect of investment on economic growth in Nigeria, ascertain impact of government expenditure on economic growth, and determine the effect of balance of payment on economic growth in Nigeria. The hypotheses structure for this study includes: There is no relationship between inflation and economic growth in Nigeria, Unemployment rate has no impact on economic growth in Nigeria, Exchange rate has no impact on economic growth in Nigeria, Interest rate has no effect on economic growth in Nigeria, Poverty rate has no impact on economic growth in Nigeria, Consumption has no significant impact on economic growth in Nigeria, Investment has no significant impact on economic growth in Nigeria, Government expenditure has no impact on economic in Nigeria, Balance of payment has no significant impact on economic growth in Nigeria. This research report is divided into 5 sections, viz Introduction, Literature review, Methodology of the study, Results and Discussion, and lastly, Conclusion.

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

Conceptual framework: Macroeconomic indicators and Economic Growth in Nigeria diagram.



Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

Figure 1: Macroeconomic indicators and economic growth in Nigeria diagram

Source: CBN

The conceptual framework illustrates the relationships between macroeconomic indicators and economic growth in Nigeria, considering controlling variables that account for potential impact. Macroeconomic indicators are statistics or data readings that reflect the economic circumstances of a particular country, region or sector. They are used by analysts and governments to assess the current and future health of the economy and financial markets (Collin, 2024). Macroeconomic indicators are metrics used to assess the overall heath and performance of a country's economy. These indicators are crucial for understanding economic growth, and are often collected and analyzed by government agencies or private organizations. The key macroeconomic indicators include: Gross domestic product (GDP) the primary indicator of macroeconomic performance representing the total value of goods and services produced within a country, purchasing managers index (PMI) which measures business confidence and production levels, and it helps to forecast economic expansion or contraction, consumer purchasing index (CPI) tracks inflation by measuring price changes in a basket of consumer goods, interest rates- influence borrowing costs, spending, and economic growth, unemployment rates affects consumer spending, economic growth, and overall economic stability (IMF, World Bank & UN, 2020).

Macroeconomic indicators play a crucial role in driving economic growth at global, regional and country level. They provide insights into an economy's performance and are essential for understanding economic growth globally. Some of the ways in which macroeconomic indicators contribute or affect global, regional or a country economic growth is by exhibiting either of these features- a moderate inflation rate of (2 – 3%) is considered healthy and can stimulate economic growth by encouraging spending and investment, while high inflation can lead to decreased purchasing power, a low unemployment rates indicates a strong labour market and can lead to increased consumer spending and economic growth, while a high rate can lead to decreased consumer spending, low interest rates can stimulate borrowing, spending, and investment while high interest rates can slow down economic growth. A high gross domestic product (GDP) growth rate indicates a strong economy and attracts investment, while a low rate may suggest a slowdown. Favorable trade balance (surplus) can lead to increased economic growth by generating revenue and creating jobs, while deficit may indicate a decrease. Foreign direct investment (FDI) can bring in new technologies, management expertise and capital, promoting economic growth. A high Human development index (HDI) score can indicate a skilled and productive workforce leading to increased economic growth, and institutions are essential for promoting economic growth ensuring property rights, enforcing contracts and providing stable business environment (OECD, 2020).

Macroeconomic indicators are data or mirror that reveals and reflect the past, current and future health economic situation of a state or a nation and are measured using various statistical data and economic metrics.

Optimality level of macroeconomic indicators refers to the ideal range or threshold of indicators like inflation, unemployment, exchange rate, interest rate , that support sustainable economic growth "a sweet spot" where economy perform best. These macroeconomic

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

indicators target range in Nigeria is set by the Central Bank of Nigeria (CBN). These indicators influence economic growth, measured by real gross domestic product (RGDP) IMF (2022), Adebayo and Ohonba (2024).

Controlling variables are included in a statistical model to account for their potential impact on the dependent variable. They help isolate the relationship between the independent variable(s) of interest and dependent variable, reduce omitted variable bias and improve model fit, explanatory power. Control variable are not the primary focus of the study but are controlled because they could potentially affect the outcome. Economic growth a steady rise in the production of goods and services in an economy for a period of time as a result of a rise in the discovery of new use or proper exploitation of abundant or limited natural resources through improved techniques, little wastage which could be utilized for a longer time. Economic growth is measured by GDP growth rate that is influenced by the macroeconomic indicators and controlling variables. This framework suggests that macroeconomic indicators affect or impact economic growth through various channels. Understanding these relationships can inform policies addressing macroeconomic indicators challenges and promoting sustainable economic growth in Nigeria.

2.2 Empirical Review

Agu and Uwaziw (2025) examined the macroeconomic determinants of balance of payment (BOP) disequilibrium in Nigeria, focusing on key variables such as exchange rate, money supply foreign direct investment (FDI), interest rate, external reserves, and trade openness. Given the persistent external sector imbalances and Nigeria's heavy reliance on oil exports, the study aimed to explore the short-term and long-term dynamics driving balance of payment performance. The research question was centered on identifying the key macroeconomic factors influencing balance of payment fluctuations and their implication for policy formulation. To address this, the study employed the Autoregressive Distributed Lag (ARDL) model to analyze data from 1980 to 2022. The findings revealed that that exchange rate, FDI, external reserves, interest rate, and trade openness significantly impacted the balance of payment in the short run, while money supply exhibits a destabilizing effect. Specifically, a 1% increase in exchange rate, FDI, external reserves led to improvements in balance of payment, while a 1% rise in money supply caused a decline. The study also highlighted the rapid adjustment of BOP disequilibrium with an error correction term (ECT) of -0.437, suggesting that past imbalances are corrected at a rate of 43.7%. The study concluded by empirically validating the critical roles played by exchange rate management, FDI and external reserves in stabilizing Nigeria's external sector. The study recommended findings for a focus on exchange rate flexibility, monetary control, FDI attraction, and trade liberalization as strategies to address BOP disequilibrium and promote sustainable economic growth.

Ojima (2025) examined selected macroeconomic indicators and economic well-being in Nigeria. The study focused on the effects of exchange rate fluctuation, inflation, balance of payments, unemployment and literacy rate both short and long run on the well-being of Nigerians. It used econometric analysis on the annual time series data collected from both the Central Bank of Nigeria Statistical Bulletin and World Bank development indicators of 2024. The findings of the study revealed that exchange rate is negative and statistically significant on economic well-being in the long run indicating, that depreciation of the Naira reduces

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

purchasing power and worsens economic conditions. Though inflation has a negative impact, is found to be statistically insignificant, suggesting the presence of economic adaptation mechanisms. Balance of payments was found to have positive and significant effect, demonstrating that an improved trade balance enhances economic well-being. However, unemployment and literacy rates, despite having positive coefficients, are found to be statistically insignificant. This implies that structural labor market inefficiencies and educational mismatch may limit their direct impact on economic well-being. The study concludes that macroeconomic stability, exchange rate management, trade balance improvement and job creation strategies are essential for enhancing economic well-being in Nigeria. The study therefore made the following policy recommendations; ensuring foreign exchange stability measures, export diversification, inflation control policies, labor market reforms, and investments in infrastructure and education. Implementation of these strategies will contribute to sustainable economic growth and improved living standards for Nigerians.

Oji (2025) explored the effect of balance of payments on economic growth in Nigeria. The objectives of the study were to establish the correction between the balance of payments and economic growth. Secondary data were gathered from the Central Bank of Nigeria Statistical Bulletin. The Augmented Dickey-Fuller (ADF) test were used to test for stationary, the results revealed that the variables were statistically at mixed order also the study found that there is cointegration using Autoregressive Distributed Lag (ARDL) method, 99.8 per cent variation in gross domestic product in Nigeria were explained by variation in balance of payment variables. The results found that exceptional financing have positive and significant effect on economic growth, the variables added 0.02 per cent to gross domestic product, capital account have positive but no significant effect and added 0.003, net errors and commission have positive effect and added0.003 while current account have negative and reduced 0.015 to gross domestic product. The study concluded that balance of payment effect variation in economic growth in Nigeria. The study recommended that both Federal and State government should put in place policies that promote industrializations and domestic production in order to promote exportation. This may be done by formulating and implementing dynamic terms of trade and keeping trade openness rate below or at ceiling level in order to ensure economic growth, since capital account has positive effect on economic growth in Nigeria.

Moustfa, Aloulou and Kamel (2024) examined the contribution of macroeconomic indicators to the attainment of economic growth objectives in some western Asian countries. The study looks at how macroeconomic variables affect poverty, unemployment and economic growth in seven western Asian nations between 2003 and 2020 using a generalized moment analysis method. The development and effective implementation of policies to accelerate employment growth were essential to success on a continent that still has an exceptionally high rate of poverty. These policies allowed the continent to address the persistent problem of unemployment and poverty. In developing an appropriate policy, countries need to take into account the universal acceleration of trends towards closer integration of the world economy and the rapid pace of liberalization as national economies move increasingly towards a market economy. The study shows that poverty, unemployment, and economic growth are all significantly impacted by sustainable development indices. The study further reveals that investment and the activity rate are the two primary factors influencing economic growth. Western Asian countries should improve the quality of their institutions and their capacity to

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

adapt and acquire new skills. Trade and globalization should not be considered in isolation and policies are needed to reinforce its impact on economic growth.

Thaddeus, Ngong, Nebong, Akume, Eleazar and Onumere (2024) examined key macroeconomic determinants on Cammeroon's economic growth from 1970 to 2018. Data were obtained from the world Development Indicators and applied on time series data econometric techniques. The autoregressive distributed lag (ARDL) bounds model analyzed the data since the variables had different order of integration. The results showed long and short run's positive and significant connection between economic growth in Cameroon and government expenditure, trade openness, gross capital formation and exchange rate, human capital development, foreign aid, money supply, inflation and foreign direct investment negatively and significantly affected economic growth in the short and long – run. Hence the macroeconomic indicators are death. The study was unable to capture the impact of other macroeconomic variables due to unavailability of data. The study therefore recommended that Cameroon should use proper planning and strategic policy intervention to achieve their sustainable economic growth with human capital development, foreign aid, money supply, foreign direct investment and moderate inflation. Macroeconomic indicators if managed well increase economic growth.

Sani (2024) investigated on how important macroeconomic factors affect certain African nation's economic growth. Those metrics are crucial for the economics' effective development and can be utilized to address the many economic issues that the chosen countries are currently dealing with. 91publications published between 2004 and 2022 were examine using the Scopus database. With an emphasis on five major factors: Gross Domestic Product (GDP), interest rate, exchange rate, inflation, and foreign direct investment. The study evaluated and analyzed the literary elements and themes explored in order to give guidance for future research. The findings revealed that interest rates, inflation, exchange rates and foreign direct investment (FDI) are some of the macroeconomic variables that can affect the selected African economies. Foreign direct investment has been identified as the most important factor in improving industrial prosperity and living standards in developing economies such as Nigeria, South Africa, Egypt, Algeria, and Morocco after stabilizing interest rates, inflation and currency exchange rates. The study findings were supported by material that has been published in previous years. Given that a number of recent economic issues have had an impact on the expansion of the economy, it is necessary to evaluate the ideas using panel data from the past 20 years in order to ascertain whether there are still valid. The report highlights the key macroeconomic factors that may have an impact on five African economies. The study combines a number of economic metrics that have previously been studied separately to assess the trend in the economies it has chosen.

Omebere, Ezenekwe, Uzoechinaand Nwokoye (2024) examined impact of selected macroeconomic variables on economic growth in Nigeria from 1980 to 2022. They state that Economic growth which represented by real gross domestic product (RGDP) is a key indicator of the nation' economic performance. The study employed an econometric technique which includes descriptive statistics, Augmented Dickey Fuller test for unit roots, the autoregressive distributed lag (ARDL) bound test and the diagnostic test to determine the reliability of the models and result obtained. The independent variables considered in the study are inflation rate, exchange rate, interest rate, unemployment rate and gross fixed capital formation. The

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

findings revealed that inflation rate had negative and significant impact on the economic growth in Nigeria while interest rate, exchange rate had positive significant impact on the economic growth in Nigeria. The study recommended that the negative correlation identified between inflation rate and real GDP growth rate underscores the imperative of maintain price stability via proffer fiscal and monetary policies to assist in tackling inflation. The unexpected positive relationship between interest rate and real GDP growth rate underscores the challenges conventional economic assumptions, prompting a reconsideration of the intricate dynamics at play within the Nigeria economic context. The study considered that a state exchange rate environment is crucial for fostering economic growth.

Miftahu (2021) examined effect of unemployment and inflation on economic growth in Nigeria. The study states that the instability of unemployment and inflation has attracted the attention of policymakers especially on how to maintain low and stable unemployment as well as relatively stable prices so as to achieve high economic growth. However, it appears that government intervention has not been able to cure the ills in the Nigerian economy. In view of the aforementioned, the study investigated the effect of unemployment and inflation on economic growth in Nigeria using annual time series data covering the period of 1986 to 2020. To examine the model coefficient, ordinary least square technique is employed. The study findings indicated that the coefficient of unemployment has a negative and significant effect on economic growth in Nigeria, while inflation exerts a positive effect. The study concluded that the nature of unemployment and inflation characterizing the Nigeria economy are structural and cost-push respectively. hence the need by the government and relevant agencies to formulate policies to encourage self- employment and reduce cost of doing business so as to achieve a high, rapid and sustainable economic growth.

Mahmud, Duke, Bal-keffi, Akinboyo, Audu, Ahmad and Ajayi (2021) examined exchange rate management in Nigeria. They state that exchange rate management remains an important tool of macroeconomic policy; however, its application in any economy restores or harms external balance. Nigeria has ensured relative stability, flexible exchange rate having employed at different times, fixed, and managed float and more recently, flexible exchange rate regimes. Against this background, this series highlights and explains exchange rate management in Nigeria. Specifically, various exchange rate related concepts, key macroeconomic implications of exchange rate, and overview of the exchange rate management framework were elucidated. The series discusses the institutional framework for the design and implementations of exchange rate policies, exchange rate practices as well as explains the possible factors that drive exchange rate movements in Nigeria.

Soboye and Ihenetu (2021) evaluated the effect of macroeconomic variables on economic growth in Nigeria. Data were collected from CBN statistical bulletin and World Bank for twenty-five years. Ex-post facto design was employed for the study. The data were subjected to unit root test and the result suggested the use of autoregressive and distributed lag model for the analysis. The findings should that inflation rate, unemployment rate, exchange rate and interest rate had no significant effect on economic growth but the combination of these variables had a negative effect on economic growth at 5% level of significance during the period of the study. Bound test was also conducted to check the co-integration so that the error of the short run could be corrected at the long run but the result still showed no relation. Based

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

on the findings, the study recommended that government should strive to bring these variables under control in order to grow the economy.

Olugbenga and Dada (2020) examine the influence of inflation on economic growth. In an attempt to examine the influence of inflation on the growth prospects of the Nigerian economy, the study employed the autoregressive distributed lag on the selected variables, real gross domestic product (GDP), inflation rate, interest, and exchange rate, degree of economy's openness, money supply, and government consumption expenditures for the period 1980 - 2018. The study funding indicated that inflation and real exchange rate exert a significant negative impact on economic growth, while interest rate and money supply indicated a positive and significant impact on economic growth. Other variables in the model depict on the economic growth of Nigeria. The causality result shows the unidirectional relationships between interest rate, exchange rate, government consumption expenditure and gross domestic product. However, inflation and the degree of openness show no causal relationship with gross domestic product. As a result, the study recommended that a more pragmatic effort is needed by the monetary authorities to target inflation vigorously to prevent its adverse effect by ensuring a tolerable rate that would stimulate the economic growth of Nigeria.

Akomolafe, Agunbiade, and Ndayako (2018) analyzed the impact of macroeconomic policies, unemployment on poverty in Nigeria. They employed ordinary least squares (OLS) method. The variables used were unemployment rate, poverty rate, exchange rate, interest rate, government expenditures and money supply. Akomolafe et al found that unemployment rate causes poverty in Nigeria and increases in unemployment will lead to increases in poverty level. Also government expenditure reduces poverty incidence in Nigeria but money supply increases poverty level in Nigeria which may occur as result of the economy not being able to absorb money in circulation and leads to inflation, thereby making the incidence of poverty inevitable. They concluded that macroeconomic policies such as money supply, government expenditure, exchange rate, unemployment rate and interest rate have statistically significant impacts on poverty level in Nigeria. Hence, recommended that macroeconomic policies such as expansionary fiscal and contractionary monetary policy should be pursued to regulate money supply and reduce poverty level in Nigeria.

According to Johnson, Onakoya and Akeju (2018) examined the relative significance of macroeconomic factors (inflation, interest, exchange and unemployment rate) on current national income. The study sought to ascertain the relative importance of prior income (past GDP) on current national income (current GDP) based on data obtained for the period 1975 to 2015. The study deployed pre- estimation descriptive statistics and stationarity test using the Augmented Dickey -Fuller test and Philip Perron test and Johansen co-integration was applied to establish the long run relationship of the variables. The study also carried out the post estimation tests to confirm the robustness of the estimated model. These include the Breusch – Godfrey test to check for any form of autocorrelation among the variables, the heteroskedasticity test and the impulse response analysis of the dependent variables with respect to shocks in the explanatory variables. The results findings revealed that inflation contributes negatively to economic growth. Interest rate, exchange rate, and unemployment impact economic growth positively. The entire explanatory variables have no short- run effect. The result of Breusch- Godfrey LM and Breuch- Paan- Godfrey test indicated the absence of serial correlation and heteroscedasticity respective. They opined that macroeconomic stability

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

does not guarantee high rate of economic growth in the absence of key institutional and structural measures. The study therefore recommended diversification of the economy and the use of inflation targeting which would be commensurate with the level of economic growth should be pursued by policy makers.

3.0. METHODOLOGY

3.1 Research Design

This study adopted Ex-post facto research design. This is a quantitative research design used to investigate causal relationships between variables after an event or phenomenon that has occurred. It is a non- experimental design where the researchers have no influence or manipulation of the independent variables. It examines past data or events and analyzes existing data without intervention and compares groups or variables to identify relationships. Ex-post- facto research design is used to explore cause – and – effect relationships, identifies patterns and trends, examines existing data, reducing data collection costs as well as provides insights into past events or decisions. Ex-post –facto research design is employ when investigating historical events or phenomena, analyzing existing datasets (archival records), examining policy or program impacts, studying rare or unique events or when exploring complex systems or relationship. In a nutshell ex-post – facto design is useful for exploring complex relationships, identifying patterns and informing decision –making.

3.2 Theoretical Framework

This study anchored on the Harrod – Domar Growth Model developed independently by two economists: Roy Harrod (1939) and Evy Domar (1946) The Harrod- Domar model is a classical economic growth model that explains how economic growth occurs through capital accumulation and savings. The model emphasizes the role of investment in driving economic growth. The Harrod – Domar model states that economic growth is determined by the savings rate (s) and the capital –output ratio (k). The model argues that economic growth occurs when savings are invested in capital accumulation, leading to increased productivity and output. Keynesian economists believed that savings and investment are closely linked to economic growth. These are key elements that, as we'll explore throughout this guide, are central to the Harrod-Domar model. What sets the Harrod-Domar model apart is that it argues that savings and capital investment are the two main and only levers driving economic growth. In Development Economics, Debraj Ray explains why, in the eyes of the Harrod-Domar model, saving and investment are important:

Economic growth is positive when investment exceeds the amount necessary to replace depreciated capital, thereby allowing the next period's cycle to recur on a larger scale. The economy expands in this case; otherwise it is stagnant or even shrinks. This is why the volume of savings and investment is an important determinant of the growth rate of an economy.

The Harrod – Domar economic growth model stress the importance of savings and investment as key determinants of growth. The Harod -Domar growth is a growth model and not a growth strategy. A model helps to explain how growth has occurred and how it may occur again in the future. Growth strategies are the things a government might introduce to replicate the outcome suggested by the model. Basically, the model suggests that the economy's rate of growth

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

depends on the following: The level of national saving (s) and the productivity of capital investment (this is known as the capital- output ratio). If the capital ratio is low, an economy can produce a lot of output from a little capital. If the capital –output ratio is high, then it needs a lot of capital for production, and it will not get as much value of output for the same amount of capital (Riley and Lever, 2023).

The basic Harrod Domar model says Rate of growth of GDP equals savings ratio / capital output ratio. Based on the model therefore the rate of growth in an economy can be increased in one of the two ways: Increased level of savings in the economy (i.e. growth national savings as a % of GDP and, reducing the capital output ratio (ie increasing the quality/ productivity of capital inputs). The overall contribution of the Harrod – Domar model is to provide basic insight into how, through policy interventions by way of savings and investment, economic development and growth could be fostered within economy where capital accumulation becomes a constraint. In a nutshell, the Harrod –Domar model shows that for economic growth, it is savings and investment which are of paramount importance in promotion and raising the economic growth. Unless they raise their rate of savings and channel them into productive investments, economies will attain higher outputs and income over time. However, this model also has its shortcomings – for instance, assumptions of fixed capital output ratios and negating technological progress. Despite all these limitations, the Harrod–Domar model very much continues to be one of the fundamental ideas in understanding the causes of economic growth (Mahata and Mam, 2024).

Mathematical form of Harrod –Domar Model

$Y = S/K$ …… (1)

Where, Economic growth output (Y), S is savings, (K) is incremental capital – output ratio

Economic growth (Y) = saving ratio (s) / incremental capital – output ratio (k)

When we put these three components together we obtain the equation that defines the Harrod – Domar model.

Harrod-Domar model of economic growth, despite it foundational contribution to development economics, has faced criticism and scrutiny from various perspectives. Here is some key criticism: Fixed Capital-Output Ratio Assumption: One of the primary criticisms of the Harrod-Domar model is its assumption of a fixed capital-output ratio in the short run.

Neglect of Technological Progress: Another significant critique is the model's neglect of technological progress as a driver of economic growth.

Unrealistic Full Employment Assumption: The assumption of full employment in the Harrod-Domar model has been criticized for its unrealistic portrayal of labor market conditions.

Simplistic Savings-Investment Identity: Critics argue that the model's emphasis on the savings-investment identity (S = I) oversimplifies the relationship between savings, investment, and economic growth.

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

Lack of Consideration for Income Distribution and Inequality: The Harrod-Domar model typically assumes stable income levels and homogeneous capital, neglecting the distributional effects of economic growth and capital accumulation. The Harrod -Domar model is highly applicable to this study as it can help explain Nigeria's economic growth pattern's including the Impact of savings, investment and capital accumulation on growth. On investment and savings, the model can inform policies aimed at increasing Investment and savings in Nigeria, which is essential for achieving sustainable economic growth. The model highlights the importance of investment in infrastructure and human capital, which is critical for Nigeria's economic growth and development. The model also suggests that increasing savings rate can lead to higher investment and economic growth. It provides insights into the importance of savings, investment, and capital accumulation in driving economic growth (Wikipedia).

3.3 Model for the Study

In order to x-ray the impact of macroeconomic indicators and economic growth in Nigeria, the model for this study is Auto regressive distributed lag model (ARDL). The Autoregressive Distributed Lag (ARDL) model is an econometric model used to analyze the relationships between time series variables, particularly in the context of macroeconomic indicators and economic growth. Or ARDL is a statistical technique used to examine the relationships between economic variables. It's particularly useful for analyzing long-run and short-run dynamics between variables. It allows researchers to examine both short-run and long-run dynamics of these variables, considering lagged values of both the dependent and independent variables. In Nigeria, ARDL models are used to understand how macroeconomic indicators like inflation, unemployment, and interest rates impact economic growth, as well as other factors like government spending and human capital development

3.4 Model Specification

The model of Omebere et-al (2024) was adapted and modified by introducing the main macroeconomic indicators such as inflation rate, unemployment rate, interest rate, exchange rate, poverty rate, balance of payment, and control variables (consumption, investment, and government expenditure), as independent variables and contemporaneously using real gross domestic product growth rate as dependent variable which is an excellent tool for measuring economic growth.

The functional form of GDP in an open economy is:

GDP = C+ I +G + BOP …….. (2.)

Where, C is consumption expenditure, I is gross investment expenditures, G is government spending, Balance of payment is (exports (X) minus imports (M)).

The adapted model and modified model is specified as;

The functional form of the adapted and modified model is specified as;

RGDPgr = f (CONS, INVE, GOVE, BOP, INFR, INTR, UNER, EXCR, POVER,) …… (3)

And the stochastic form of the model which explores the nexus between macroeconomic indicators and economic growth are stated as thus: The econometric equation model become:

RGDPgr = β0 + β1CONS + β2INVE + β3GOVE + β4BOP– β5INFR +β6INTR–β7UNER-β8EXCR + β9POVER+μ…… (4)

Were,

RGDP = Real Domestic Product

β1, β2, β3, β4, β5,β6, β7, β8, β9 = slope coefficients which shows the rate of change in the value of GDP, when there is a unit change in the value of independent variables of (CONS, INVE, GOVE, BOP, INFR, INTR, UNER, EXR, POVER).

Where, CONS = Consumption, INVE = Investment, GOVE = Government Expenditure, BOP= Balance of payment, INFR = Inflation Rate, INTR = Interest Rate, UNER = Unemployment Rate, EXR = Exchange Rate, and POVER = Poverty Rate.

β0 = intercept coefficient which shows the rate at which GDP will change independent variable

μ = Error term which shows other external factors that must affect the magnitude of GDP that are not stated in the model.

Based on the economic a priori criteria, the expected signs of the parameter estimate of relationship of the model below are the following:

RGDPgr = β0 + β1CONS + β2INVE + β3GOVE +β4BOP– β5INFR +β6INTR–β7UNER-β8EXCR –β9POVER+μ…… (5)

β1, β2, β3, β4, β6,>0

β5, β7, β8, β9< 0,

Thus, the parameters such β1, β2, β3,β4β6, according to the theory, is expected to be positive, i.e. greater than one. Whereas, the parameter estimates such as β4, β6, β7, β8 are theoretically negative, i.e. less than one. This implies that CONS, INVE, GOVE, BOP and INTR are expected to exert positive influence on economic growth. On the other hand, other indicators, such as INFR, UNER, EXR and POVER that assume negativity exert negative influence on economic growth, that, they move in opposite directions.

4.0. RESULTS AND DISCUSSION

Table 1: Descriptive Statistics

	RGDP	CONS	INVE	GOVE	BOP	INFR	INTR	UNER	EXCR	POVER
Mean	39053041	2729.913	9124.611	4210.630	1007223.	19.58054	16.80697	16.36044	179.5234	57.86953
Median	28701907	1018.000	8385.960	2068.880	136463.8	14.00000	16.93750	12.60000	118.5669	61.20000
Maximum	76684941	18773.77	15789.67	19251.09	5822589.	72.80000	29.80000	56.10000	1679.260	88.70000

Minimum	16048308	9.640000	5668.870	10.50870	-7905600.	5.400000	7.200000	1.800000	0.600000	27.20000
Std. Dev.	21342333	4030.482	2429.978	4722.318	2573191.	15.44109	4.779420	14.29333	332.9741	15.58342
Skewness	0.523246	2.225637	0.903798	0.982893	-0.479776	1.702700	0.275963	0.951214	3.623322	0.024187
Kurtosis	1.627784	8.233192	3.354359	3.428127	4.825712	5.425387	3.392259	2.858830	16.04304	2.162131
Jarque-Bera	5.459891	84.56690	6.079082	7.420618	7.976186	32.77359	0.859669	6.823434	417.4402	1.261986
Probability	0.065223	0.000000	0.047857	0.024470	0.018535	0.000000	0.650617	0.032985	0.000000	0.532063
Sum	1.72E+09	117386.2	392358.3	185267.7	45325045	881.1245	756.3137	736.2200	8078.554	2488.390
Sum Sq. Dev.	1.96E+16	6.82E+08	2.48E+08	9.59E+08	2.91E+14	10490.80	1005.086	8989.170	4878357.	10199.41
Observations	44	43	43	44	45	45	45	45	45	43

Source: Author's Computation from Eviews 12, 2025.

Table 1, reports the descriptive values for both the controlled variables and the focal indicators employed for the study and which shows that the mean value of real gross domestic product (RGDP) is 39,053,041, consumption (CONS) 2, 729.913, investment (INVE) 9, 124.61, government expenditure (GOVE) 4, 201.630, Balance of payment (BOP) 1,007,223, inflation rate (INFR) 19.58054, interest rate (INTR) 16.80697, unemployment rate (UNER) 16.36044, exchange rate (EXCR) 179.5234, and poverty rate (POVER) 57.86953 respectively. The series that measures the highest level of discrepancy as shown in the standard deviation result is RGDP, while interest rate shows the lowest level. Skewness indicated the rate of asymmetry or discrepancy of the variables. Accordingly, all the controlled variables and focal indicators have long right tail because they exhibit positive values. Kurtosis measures the pawedness and flatness of the series and the result shows that CONS, INVE, GOVE, BOP, INFR, INTR and EXCR are leptokurtic relative to its normal distribution because their value is greater than 3, while the RGDP, UNER and POVER have their kurtosis value lesser than 3. This shows that the peak of their distribution is less than normal, thus, referred as platykurtic distribution. Jarque-Bera statistical test indicates the variables that are normally distributed as its measures the differences in the skewness and kurtosis. The result shows that Jarque- Bera statistics rejects the null hypothesis of no normal distribution for all the variables. Thus, it is concluded that all the variables are normally distributed.

Table 2. Unit Root Test (Phillips-Perron Test Statistic (PP))

Series	Phillips-Perron Test	Critical Value (5%)	P-value	Order of Integration
RDGP	3.148144	-2.933158	0.0305	1(1)
CONS	-3.864300	-2.938987	0.0051	1(1)
INVE	-5.334266	-2.938987	0.0001	1(1)
GOVE	-3.999150	-2.933158	0.0034	1(1)
BOP	-4.917257	-2.931404	0.0002	1(0)
INFR	-3.055736	-2.929734	0.0375	1(0)
INTR	-3.260859	-2.929734	0.0230	1(1)
UNER	-15.00432	-2.931404	0.0000	1(1)
EXCR	-5.691732	-2.931404	0.0000	1(1)
POVER	-10.44358	-2.943427	0.0000	1(1)

Source: Author's Computation from Eviews 12, 2025.

The result in table 2 presents a summary of the unit root test results based on the Phillips – Perron test statistic. The variables used in the analysis are real gross domestic product (RGDP), consumption (CONS), investment (INVE), balance of payment (BOP), inflation rate (INFR), interest rate (INTR), unemployment rate (UNER), exchange rate (EXCR) and poverty rate (POVER). The result shows that variables such as INFR and INTR rate were integrated at order zero or at level I (0) because their p-values were less than 5% critical value. And their p-value of the test statistic is less than the 0.05 significance level. This also means that there is enough evidence to conclude that the null hypothesis (H1) is true. But RGDP, INVE, UNER, CONS, EXCR, GOVE, BOP, and POVER were integrated at first difference 1 (1) when their p-values became less than the 0.05 critical value. A mix of 1(0) and 1(1) variable signifies that different dynamics variables have different orders of integration, indicating varying responses to shocks or each variable has its own underlying factors driving its behaviours. The result of the unit root provides the basis for the study to proceed to co-integration test as well employed the autoregressive distributed lag (ARDL) model for its estimates.

Table 3 ARDL Long-run and Bound Test (Co-integration)

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	8.147390	10%	1.8	2.8
K	9	5%	2.04	2.08
		2.5%	2.24	3.35
		1%	2.5	3.68

Source: Author's Computation from E-views 12, 2025.

The Bound test results in Table 8.3. shows the existence of long-run relationship between variables which was checked and confirmed using the long-run and bound test, F-statistic is compared to the upper critical bound value in the ARDL bound test shown in table 4.3.3 to established whether co-integration exists among the variables. The result therefore shows that the F-statistic 8.147390) is greater than the upper bound critical value (2.08), reject the null hypothesis of no long-run relationship, indicating a significant long-run relationship (co-integration) exists and conclude that there is a long-run relationship between the variables.

Table 4 ARDL Error Correction Mechanism (ECM)

ECM Regression Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(RGDP(-1))	-1.126598	0.128861	-8.742717	0.0003
D(CONS)	29.53654	148.5586	0.198821	0.8502

D(CONS(-1))	712.6471	171.2998	4.160233	0.0088
D(INVE)	501.3648	63.71735	7.868576	0.0005
D(GOVE)	428.7287	71.51709	5.994773	0.0019
D(GOVE(-1))	600.9484	74.99072	8.013636	0.0005
D(BOP)	0.518763	0.059004	8.792056	0.0003
D(BOP(-1))	-2.134811	0.173397	-12.31167	0.0001
D(INFR)	-6263.784	3419.864	-1.831589	0.1265
D(INFR(-1))	-23077.64	4151.061	-5.559455	0.0026
D(UNER)	88739.13	20379.29	4.354378	0.0073
D(UNER(-1))	-269883.0	39104.88	-6.901517	0.0010
D(INTR)	38979.03	14226.83	2.739825	0.0408
D(INTR(-1))	-42344.39	15109.55	-2.802491	0.0379
D(EXCR)	90191.59	9409.443	9.585220	0.0002
D(POVER)	-9134.843	5529.252	-1.652094	0.1594
D(POVER(-1))	-98305.26	9361.421	-10.50111	0.0001
CointEq(-1)*	-0.042961	0.002620	-16.39707	0.0000

R-squared	0.988504	Mean dependent var	1507519.
Adjusted R-squared	0.975476	S.D. dependent var	1610175.
S.E. of regression	252154.5	Akaike info criterion	28.01592
Sum squared resid	9.54E+11	Schwarz criterion	28.83220
Log likelihood	-444.2627	Hannan-Quinn criter.	28.29058
Durbin-Watson stat	2.873009		

* p-value incompatible with t-Bounds distribution.

Source: Author's Computation from E-views 12, 2025.

Why error correction model? Is a crucial component in ARDL model estimation because it captures long –run relationships between variables, allowing for the estimation of the speed of adjustment towards equilibrium. ECM is also essential for co-integration analysis, which determines if variables are co-integrated and have a long-run relationship. ECM provides insights into dynamics (short-run and long-run dynamics) that helps to distinguish between the dynamics and enabling researchers to understand the relationships between variables over different time horizons. The ECM coefficient provides insights into the speed of adjustment towards equilibrium, indicating how quickly variables respond to deviations from the long-run relation. Lastly ECM provides valuable information for policymakers, enabling them to design policies that take into account the long-run relationships and dynamics between variables.

The result in table4 I ndicates that the error correction term ECT (-1) has a value of -0.042961 and with p-value of 0.0000. This result shows that the three basic criteria of less than one (fractional), negative value and, p-value less than 0.05 (significant) exist and this implies a strong corrective force. Thus, the ECM is significant, fractional and negative which justifies the above claim. The estimated coefficient value of ECM -0.042961 has a priori (negative) sign. This is in line with the expectation, and is an indication of the fact that any short-run fluctuation between the dependent variable and the independent variables will adjust to a stable long- run relationship between the variables. The coefficient also means that the speed of adjustment is 4.2%. This is however a slow speed of adjustment from disequilibrium (short-run) to equilibrium (long-run). The error correction model equation is as thus:

EC = RGDP = - 227246190.8013 - 44448.7731*CONS + 1888.3908*INVE - 20248.7570*GOVE + 65.3575*BOP + 230889.8119*INFR + 15968888.4187*UNER +

4652945.0232*INTR - 813938.9588*EXCR + 2222229.1109*POVER - 0.042961ECM ……. (6)

The result further reveals that the R2 is 0.988504 or 98.8504% which indicated that the model is a good fit and adjusted R-squared is 0.975476 or 97.5476%. The study reveals that a high R-squared value 98% implies goodness of fit of the model or the model explains a large proportion (98%) of the variation in the dependent variable and the model is also reliable, good fit to the data, have good predictive power and a strong explanatory variable (independent variables in the model are strong predictors of the dependent variables. It is also observed that the overall test F-statistic p-value (0.0000) is less than 0.05 percent, this means the overall test is significant. The study chooses Akaike Information Criterion (AIC) for selecting optimal lag.

Table 5 ARDL Model Estimation Results (Estimated long-run parameters)

Conditional Error Correction Regression				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-9762626.	3268165.	0.000000	0.0000
RGDP(-1)*	-0.042961	0.078694	-0.545919	0.6086
CONS(-1)	-1909.545	1150.029	-1.660431	0.1577
INVE(-1)	81.12635	102.8007	0.789161	0.4658
GOVE(-1)	-869.8982	683.2663	-1.273147	0.2589
BOP(-1)	2.807797	0.764173	3.674294	0.0144
INFR(-1)	9919.158	24038.89	0.412630	0.6970
UNER(-1)	686032.6	240514.7	2.852352	0.0357
INTR(-1)	199893.2	51122.49	3.910083	0.0113
EXCR(-1)	-34967.28	16710.58	-2.092523	0.0906
POVER(-1)	95468.23	34736.80	2.748331	0.0404
D(RGDP(-1))	-1.126598	0.321966	-3.499124	0.0173
D(CONS)	29.53654	637.0384	0.046365	0.9648
D(CONS(-1))	712.6471	1178.242	0.604839	0.5717
D(INVE)	501.3648	179.6214	2.791231	0.0384
D(GOVE)	428.7287	246.4688	1.739484	0.1424
D(GOVE(-1))	600.9484	319.4174	1.881389	0.1187
D(BOP)	0.518763	0.315935	1.641995	0.1615
D(BOP(-1))	-2.134811	0.571307	-3.736718	0.0135
D(INFR)	-6263.784	10622.01	-0.589698	0.5810
D(INFR(-1))	-23077.64	16165.43	-1.427592	0.2128
D(UNER)	88739.13	96939.78	0.915405	0.4020
D(UNER(-1))	-269883.0	198270.8	-1.361184	0.2316
D(INTR)	38979.03	53466.19	0.729041	0.4987
D(INTR(-1))	-42344.39	48827.57	-0.867223	0.4255
D(EXCR)	90191.59	30150.41	2.991389	0.0304
D(POVER)	-9134.843	21887.08	-0.417362	0.6937
D(POVER(-1))	-98305.26	20341.83	-4.832664	0.0047

* p-value incompatible with t-Bounds distribution.

Levels Equation Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.

CONS	-44448.77	78539.40	-0.565942	0.5959
INVE	1888.391	3519.895	0.536491	0.6146
GOVE	-20248.76	47706.15	-0.424447	0.6889
BOP	65.35753	123.0969	0.530944	0.6182
INFR	230889.8	432242.1	0.534168	0.6161
UNER	15968888	28912144	0.552325	0.6045
INTR	4652945.	8243652.	0.564428	0.5968
EXCR	-813939.0	1640396.	-0.496184	0.6408
POVER	2222229.	4588182.	0.484338	0.6486
C	-2.27E+08	4.51E+08	-0.503908	0.6357

EC = RGDP - (-44448.7731*CONS + 1888.3908*INVE -20248.7570*GOVE + 65.3575*BOP + 230889.8119*INFR + 15968888.4187*UNER + 4652945.0232*INTR -813938.9588*EXCR + 2222229.1109*POVER - 227246190.8013)

Source: Author's Computation from Eviews 12, 2025.

From the ARDL long-run result in table 5 reveals that estimated parameters of consumption (CONS), government expenditure (GOVE), and exchange rate (EXCR) are negatively related to economic growth in Nigeria. This implies that one percent increase in consumption, government expenditure, and exchange rate, of -1909.545, -869.8982, and -34967.28 also brings about a decrease in percent in RGDP respectively. On the other hand, investment (INVE), balance of payment (BOP), inflation (INFR), unemployment (UNER), interest rate (INTR) and poverty (POVER) are positively related to economic growth in Nigeria Also one percent increase in the INVE, BOP, INFR, UNER, INTR, and POVER of 81.12635, 2.807797, 99919.158, 686032.6, 199893.2, and 95468.23 million naira will bring a corresponding increase in RGDP.

From the long-run result, it is observed that inflation rate is insignificant and positively related to economic growth in Nigeria. This implies that 1 % increase in inflation rate will increase RGDP by 9919.158 thousand of naira in the economy. This study did not align with the studies by Iheanachor and Ozegbe (2021), Omebere et-al (2024) that had a significant adverse impact on economic growth in Nigeria. However, CONS in the short run has a positive (29.53654) but insignificant impact on real economic growth. The coefficient of interest rate is significant and positively related to economic growth in Nigeria. This means that 1% increase in interest rate increases the economic growth by 199,893.2 million in the long run. This also agrees with the work by Omebere et-al (2024) on positive significant impact. Also, interest rate is insignificant and positively impact or influence economic growth in Nigeria in a short run. A 1% increase in interest rate leads to an increase in economic growth by 38979.03 thousand naira in short run. The coefficient of unemployment rate is found to be significant (0.0357) and positively (686,032.6) impact on economic growth in Nigeria in the long run and in the short run UNER also has positive (88,739.3) but insignificant (0.4020) impact on RGDP in Nigeria. This implies that 1%increase in unemployment, increases economic growth (RGDP) by 686,032.6 million naira in a long run in economic growth in Nigeria and a percentage increase in unemployment rate, positively impacted or increased economic growth by 88,739.13 in a short run in Nigeria. This is consistent with the studies by Nnachi and Ugochukwu (2023), Idris (2021), and Omar and Nor (2020). Exchange rate coefficient is found to be insignificant (0.0906) and negatively

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

(-34967.28) related to economic growth. A percentage increase in exchange rate leads to -34967.28 decreases in economic growth in Nigeria in long-run, while in the short run, EXCR has a positive (90191.59) and significant (0.0304) impact on RGDP in Nigeria respectively. This study differs with the works of Omebere et al (2024), Achilike and Onoh (2023) whose works showed that exchange rate has significant positive impact on economic growth in Nigeria. But this study aligns with the works of Iheanachor and Ozegbe (2021) whose result also had a negative and insignificant impact. Furthermore, poverty rate from the analysis is found to be significant (0.0404) positively (95468.23) related to economic growth in Nigeria in the long run but in the short-run is insignificant (0.6937) negatively ((-9134.843) impact on economic in Nigeria. This implies that an increase in poverty rate of 95468.23 and -9134.843 leads to increase and decrease in economic growth in Nigeria both in long run and short-run respectively. In the other hand, poverty rate coefficient is found to be significant and positively affect economic growth in Nigeria. This implies that 1% increase in poverty rate leads to an increase in economic by 95468.23 in the long run. And 1% increase in poverty rate of –9,134.843 thousand naira in a short-run leads to the corresponding decrease in economic growth. The negative coefficient suggests that higher poverty rates are associated with lower economic growth. This study is consistent with the works by Ezuwore-Obodoekwo et al (2024).

Lastly, the results of the controlled variables in table (4.3.4 and 4.4) shows that CONS has a negative (-1909.545) insignificant (0.1577) impact on economic growth in a long run but with insignificant (0.9648) positive impact on economic growth in short-run. Whereas INVE of (81.12635) reveals a positive and insignificant impact on economic growth in Nigeria in the long run but INVE in the short run has positive (501.3648) significant (0.038) impact on economic growth in Nigeria respectively. The result of GOVE has a negative (-869.8982) insignificant (0.2589) impact in long run but has a positive (428.7287) and insignificant (0.1424) impact on economic growth in Nigeria in short run respectively. Lastly, the coefficient of balance of payment (BOP) reveals a positive (2.807797) significant (0.0144) impact on RGDP in the long run, but in the short run, BOP exhibit a positive (0.518763) insignificant impact on real economic growth in Nigeria. Therefore, the estimated ARDL model for the study is as stated below:

RGDP= -227246190.8013 - 44448.7731*CONS + 1888.3908*INVE -20248.7570*GOVE + 65.3575*BOP + 230889.8119*INFR + 15968888.4187*UNER + 4652945.0232*INTR - 813938.9588*EXCR + 2222229.1109*POVER ……. …… (8.2)

5.0 DISCUSSION

This study has shown that some macroeconomic indicators can have different impact on the economic growth. The findings of this study contribute to the growing body of literature on the nexus between macroeconomic indicators and economic growth (real GDP).

Precisely the autoregressive distributed lag (ARDL) long-run result for the focal macroeconomic indicators: inflation rate (INFR) reveals insignificant positive relationship with economic growth. This implies that 1% increase in inflation rate will increase RGDP by 9919.158 thousand of naira in a long run. This study did not align or support the works by Omebere et-al (2024), and Iheanachor and Ozegbe (2021), and Adaramola and Dada (2020) whose findings showed that inflation exert a significant adverse impact on economic growth in

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

Nigeria. This study is in line with the study apriori expectation. The positive coefficient suggests a potential complex relationship between inflation and economic growth. Other factors might be driving economic growth and inflation may not be a significant contributor.

Furthermore, interest rate (INTR) from the analysis was found to be significant and positively related to economic growth in Nigeria. This means that 1% increase in interest rate, leads to an increase economic growth by 199,893.2 million naira in a long run. This study aligns with the works of Omebereet-al (2024) whose findings stated that interest rate had positive significant impact on economic growth in Nigeria. This is in line with the study apriori expectation. A positive coefficient and significant p-value ARDL interest rate implies that interest rate has a significant and positive impact on economic growth in Nigeria. The implications of this result means that a higher interest rate may attract foreign investment, leading to increased capital inflows and economic growth. Also, a positive relationship between interest rate and economic growth, suggests that monetary policy can be an effective tool for stimulating economic activity in Nigeria. In the short run, the result reveals insignificant and positive related to RGDP. That is 1% in interest rate leads to increase in RGDP by 38979.03 thousand of naira in the short run.

Exchange rate (EXCR) result found to be insignificant negative impact real GDP in Nigeria. A percentage increase in exchange rate leads to -349667.28 and 90191.59 thousand-naira decrease in real gross domestic product in both long run and short run. Exchange rate coefficient is found to be insignificant and negatively related to economic growth in the long run. A percentage increase in exchange rate leads to -34967.28 and 90191.59 decreases in economic growth in Nigeria both in long-run and short –run respectively. This study differs with the works of Omebere et al (2024), Achilike and Onoh (2023). This study also differs with the works of Iheanachor and Ozegbe (2021), and Adaramola and Dada (2020) whose findings showed that the exchange rate had or exert a significant adverse impact on Nigeria's economic growth. This study is also in line with the study apriori expectation. A negative coefficient of exchange rate with insignificant p-value on economic growth implies that exchange rate is statistically not significant. The implications of this result is that exchange rate volatility hurts economic growth or insignificant negative coefficient indicates that exchange rate volatility can lead to decreased economic growth, making it challenging for policymakers to achieve sustainable economic growth. An unstable exchange rate fluctuation creates uncertainty, deterring investment and hinders economic growth.

The result of unemployment rate (UNER) coefficient is found to be positively significant. This implies that 1% increase in unemployment rate, will increases economic growth (RGDP) by 686032.6 million naira in a long run. This is not consistent with the studies by Nnachi and Ugochukwu (2023), Idris (2021), and Omar and Nor (2020), whose findings showed that the coefficient of unemployment has a negative insignificant effect on economic growth in Nigeria. More so, the study is not in agreement with Nnachi and Ugochukwu (2023) whose finding showed that unemployment is inversely correlated with economic growth. This is also in line with the study apriori expectation. A positive coefficient of unemployment rate with significant p-value on economic growth in Nigeria implies that unemployment has a significant and positive impact on economic growth. This relationship suggests that as unemployment rates increase, economic growth tends to increase. The implication of the result, a higher unemployment rates leads to decreased consumer spending, reduced economic activity, and ultimately, lower economic growth. Also a high unemployment rates can lead to social

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

instability, increased crime rates and decreased overall well-being. In a short run, the analysis also reveals positively and insignificant impacts economic growths by 88739.13 in short run in Nigeria.

Furthermore, the coefficient of poverty rate from the result is significant and positively affects RGDP in a long run. This implies that 1% increase in poverty rate in Nigeria leads to a corresponding increase in economic growth by 95468.23. But, in the short run, poverty rate is insignificant negatively impact economic growth. An increase in poverty rate, leads to a decrease in economic growth by -9134.843 thousand naira in short run. A negative coefficient suggests that higher poverty is associated with lower economic growth. But the result on long run reveals significant and positively related to economic growth in Nigeria. This implies that an increase in poverty rates leads to corresponding increase in RGDP by 95468.23 million naira. The negative coefficient in the short run suggests that poverty rate is negatively related to economic growth, meaning that as poverty rate increases, economic growth tends to decrease. The insignificant p-value indicates that the relationship between poverty rate and economic growth is not statistically significant. Given the lack of statistical significance, policymakers may not have prioritized poverty reduction as a means to boost economic growth.

The coefficients of the control variables indicate that consumption has a negative impact on real gross domestic product in Nigerian. This implies that a 1% increase in consumption leads to a decline or reduction in RGDP by 1909.545 which is statistically insignificant in Nigeria the in long run. This result is not consistent the works of Theaddeus et-al (2024) and Ibali et-al (2022) that found that consumption have a positive and significant impact on economic growth in Cameroon and Kosovo economic growth respectively. The coefficient of investment reveals a positive and insignificant impact on economic growth in Nigeria in the long run. But in short run investment also has a positive and statistically significant impact on real GDP in Nigeria. More so the coefficient of government expenditure shows a negative statistically insignificant impact on the real gross domestic product in Nigeria in the long run. This study did not align with study by Kihwele (2022) who stated that government expenditure have a positive significant impact on economic growth in Tanzanis specifically in the long run. Lastly the slope of balance of payment indicates a positive and statistically significant impact on real gross domestic product (RGDP) in Nigeria in the long run. This study technically aligns with the studies by Akparhuere (2023) and Tom et al (2021) whose works stated that balance of trade and trade openness have positive and significant impact on Bangladesh economic growth. The study further differs or not consistent with work of Alin (2023) who stated that current account balance has a negative and significant impact on gross domestic product (GDP).

The coefficient of determination (R2) and its adjusted counterpart R-squared bar shows a high predictive power of the model with coefficient of 0.988504 and 0.973725 respectively in a long run. The estimated coefficient of error correction term was found to be -0.042961, showing that deviations from long run equilibrium are corrected at 4.2962% annually and converge towards its long –run steady state path. This indicates a signal that long run policy toward macroeconomic indicators has a significant impact on growth.

5.1 Policy Implications

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

The policy implications of the study findings suggest a unique economic landscape for Nigeria, where traditional macroeconomic theories (like the inverse relationship between unemployment and growth are challenged and the policy implications shift from traditional economic theories to addressing structural issues and unorthodox relationships. The policy implications are as follows:

The statistically insignificant p-value and positive coefficient of inflation rate indicates that inflation in Nigeria is currently 'growth-neutral" or level that neither boosts nor hinders GDP. The relationship between inflation and economic growth is not statistically significant. This implies that inflation may not have significant impact on economic growth, other factors might be driving economic growth and inflation may not be a significant contributor.

A positive coefficient of unemployment rate with p-value statistically significant impact on economic growth in Nigeria is counter-intuitive which suggests "jobless growth" scenario or an expansion in the informal sector where labor is underutilized despite rising RGDP or (even in low-productivity jobs) technically adds to real gross domestic product (RGDP). This unexpected result implies that as unemployment rate increases, economic growth tends to increase. This calls for transition from quantity-based employment to quality-based employment policies as unemployment can exacerbate poverty levels as well as social instability, increase crime rate, and decreased overall well-being.

More so, insignificant negative coefficient of exchange rate indicates that volatility can lead to decreased economic growth, making it challenging for policymakers to achieve sustainable economic growth. Exchange rate fluctuations create uncertainty, deterring investment, and hindering economic growth. Also a negative coefficient of exchange rate suggests that a depreciation of the Nigeria currency (naira) can lead to decreased economic growth, possibly due to increased costs of imports, reduced investment and decreased consumer purchasing power. The lack of significance implies that exchange rate fluctuations (depreciation) are not strongly driving output or the growth in Nigeria is not currently driven by currency movements, likely due to a heavy reliance on imports for production.

Furthermore, interest rate with positive coefficient and significant p-value implies that interest is statistically significant and positively impact economic growth. This indicates that higher rates may be attracting investment or reflecting a well-managed monetary environment that spurs growth. Or higher rates are positively driving growth which is counter-intuitive but may suggest that high rates are attracting foreign portfolio investment (FPI); or improving banking sector profitability which filters in RGDP. Also higher interest rate may attract foreign investment, leading to increased capital inflows and economic growth. A positive relationship between interest rates and economic growth suggest that monetary policy can be an effective tool for stimulating economic activity in Nigeria.

A positive coefficient of poverty rate and statistically significant suggests that poverty rate is positively related to economic growth meaning that as poverty rate increases, economic growth also increases. This further suggests that the benefits of RGDP growth are not reaching the poor (inequality). This is critical "red flag' finding. It implies that Nigeria's growth may be driven by sectors that benefit from low-wage labor or that the wealth generated is highly concentrated.

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

The negative and significant coefficient of consumption suggests that the Nigeria economy is likely driven more by external demand (exports) or government activity, or factors other than the domestic household spending such as oil exports.

The positive and insignificant impact of investment on economic growth in Nigeria implies that investment is not currently a strong enough engine for growth or is currently "sub-optimal" while it is in the right direction (positive), but it is not strong enough to move the needle on growth significantly.

Government expenditure with negative and insignificant impact on real economic growth points to 'fiscal drag' or inefficient public spending that fails to stimulate the economy. Or it suggests 'fiscal crowding out' or high level of wasteful and unproductive spending. In nutshell, government spending is not effectively boosting growth may be due to inefficiencies, leakages, government actions (taxes spending) slowing growth.

The result of balance of payment with positive and significant impact on economic growth suggests that Nigeria's growth is heavily tied to its external trade position (likely oil exports) or Nigeria remains an export-dependent economy (oil) where trade surpluses are major engine of growth.

6.0 CONCLUSION

The study concludes that macroeconomic indicators such as inflation, unemployment, interest rate, exchange rate and poverty rate, and the control variables have varied impact on economic growth in Nigeria. Precisely inflation, exchange and on the side of control variables, consumption, investment and government expenditure do not exert a statistically significant long-run impact on economic growth in Nigeria. These macroeconomic indicators have no significant impact on economic growth in Nigeria, suggesting other factors drive growth. On the other hand, unemployment, interest rate, poverty rate and balance of payment have significant impact on economic growth in Nigeria. Poverty rate have significant positive impact on economic growth in Nigeria, possibly due to increased government spending on poverty alleviation and growing informal sector contributions. The study therefore concludes that macroeconomic indicators have a mixed impact on economic growth in Nigeria. Specifically, unemployment, interest rate, poverty rate and balance of payment on control variable side) have significant impact on economic growth in Nigeria; whereas inflation, exchange rate, and control variables consumption, investment and government expenditure are not statistically significant or their impact on economic growth in Nigeria is insignificant. Poverty reduction efforts may be contributing to economic growth, unemployment and interest rate are 'counter-intuitive' whereas inflation currently growth-neutral in Nigeria. Investment on the other hand is currently 'sub-optimal' while government expenditure points to 'fiscal drag' or suggests 'fiscal crowding out'

The findings suggest that Nigeria's economic growth is on the other hand resilient to traditional macroeconomic indicators, but vulnerable to poverty. This implies that economic growth is not solely driven by monetary policy or exchange fluctuations, but rather by the well-being of its citizens. The significant positive impact of poverty rate on economic growth indicates that reducing poverty can be key driver of economic expansion.

Volume: 09, Issue: 02 March - April 2026

ISSN 2582-0176

Based on the findings, macroeconomic indicators and economic growth in Nigeria general observation indicates that macroeconomic indicators (inflation, exchange rate, consumption, investment and government expenditure) shows insignificant impact on economic growth, suggesting: weak macroeconomic management with respect to ineffective policies or structural issues and economic growth is driven by other factors (example oil, and external factors). The study findings have a mixed performance. Macroeconomic indicators are not strongly influencing economic growth in Nigeria, and poverty reduction efforts have significant positive impact on economic growth, indicating effective poverty- targeted interventions.

The findings reinforce the argument that macroeconomic indicators are not in their optimal level in Nigeria as clearly shows that inflation is not at optimal level due to persistent high inflation rates in Nigeria history. Unemployment rate is not in its optimal level as high unemployment rates persist in Nigeria. Exchange rate too is not at optimal level base on volatile exchange rate, impacting investment, interest rate also not optimal with high interest rates, limiting access to credit and poverty rate improving, but still high through with significant positive impact on growth.

The study therefore concludes that macroeconomic indicators are not in their optimal level due to: structural issues (weak institutions, infrastructure constraint), policy challenges (ineffective policy implementation, corruption), and external factors (global economic trends, oil price volatility). Nigeria's macroeconomic indicators require sustained policy attention to achieve optimal levels and promote sustainable growth.

6.1 Recommendations

Based on the study findings, the following recommendation are made for the government or policymakers:

i. As regards inflation rate control, policymakers and Central Bank of Nigeria (CBN) should shift focus from aggressive inflation targeting to supporting output and maintaining prudent fiscal and monetary policies to ensure price stability rather than aggressive contractionary measures, as current inflation level are not the primary bottleneck for growth. Fiscal spending should regulate and fiscal-monetary misalignment should be address.
ii. Of exchange rate management, policymakers or Central Bank of Nigeria (CBN) should maintain and focus on stable exchange rate regime rather than aggressive devaluation or revaluation. The goal should be to reduce uncertainty for importers of capital goods without expecting currency changes to be a primary driver of RGDP. Or instead of heavy market intervention to defend the naira, policy should focus on structural reforms to diversify exports, promote export-oriented policies, and making the economy less vulnerable to external currency shocks.
iii. For unemployment reduction, policymakers should shift from mere 'growth-tracking' to 'inclusive growth' strategies and focus on labor-intensive sectors like agriculture and manufacturing to ensure RGDP growth actually translates into jobs. Also implement job-creating policies, promote entrepreneurship, skills development and unemployment reduction strategies should be reevaluated and targeted.

iv. Interest rate management, policymakers or Central Bank of Nigeria should use the monetary policy rate (MPR) as a primary tool for economic growth stimulation, and monitor the threshold to ensure rates do not become high enough to stifle local borrowing. And to review interest rates structures to stimulate investment, and monetary policy transmission mechanism should be strengthen as well as explored other alternative growth drivers and policy tools.

v. Poverty rate, policymakers should implement inclusive growth policies, shift focus toward 'pro-poor' and scale up poverty-targeted interventions to enhance social safety nets, expand conditional cash transfers programmes, redistributive fiscal policies (progressive taxation), and livelihood support programs and to enhance vocational training, entrepreneurship programs, access to finance, prioritize human capital development, and regional integration to ensure rising RGDP actually reduces poverty rate rather than co-existing with it.

vi. Government should stimulate domestic aggregate demand with policies like personal income tax cuts, or improved consumer credit facilities to help turn consumption in a positive driver of growth or the policies should aim to boost domestic, purchasing power and stimulate aggregate demand to create a more balanced consumption-led growth model.

vii. Policy should improve the 'ease of doing business' provide tax incentives to transition investment from 'insignificant' to a primary driver of RGDP and address structural bottlenecks like power and security to make investments more 'significant in their impact on RGDP.

viii. Government should implement drastic reform of public financial management aimed to eliminate waste and redirect spending toward productive capital projects (infrastructure) rather than recurrent costs or enhance fiscal discipline, shift spending to capital expenditure that have higher multipliers for growth.

ix. Government should prioritize export diversification and import substitution to maintain a healthy surplus and protect the economy from external shocks. and policies should encourage non-oil exports to protect the balance of payment from global oil price volatility.

These macroeconomic indicators with insignificant negative influence on economic in Nigeria should serve as a pointer to the government or policymakers in terms of policy to keep track of the effect of these macroeconomic indicators on economic growth in future to ensure that there is a smooth and predictable outcome when economic decisions are made.

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