EXTERNAL RESOURCES INFLOWS AND ECONOMIC GROWTH IN NIGERIA

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Abstract: The world today exhibits the attribute of a single economic entity. In most instances, scholars refer to it as global economy. Global economy is deepened by increasing activities of producers, traders and financial markets actors beyond national boundaries. Thus, the paper investigates the effect of external resources inflow on the economic growth in Nigeria from 1986 to 2021. The Real Gross Domestic Product (RGDP) served as the dependent variables while foreign direct investment (FDI), foreign portfolio investment (FPI), personal remittances (PRR), official development assistance (ODA) and external debt inflow (EDI) as the explanatory variables to proxy external resources inflow in the economic model. These variables were analyzed using the descriptive statistics, unit root test, bound cointegration test as well as ARDL modelling techniques. Data for the empirical analysis were sourced from secondary sources like World Development Indicator (WDI) and Central Bank of Nigeria (CBN) Statistical Bulletin (Various- Issues). The analyses of the data revealed that foreign direct investment enhance output while foreign portfolio investment does not. Furthermore, it was found that, Personal remittances official development assistance and External debt inflow reduces economic growth too. The paper therefore concludes that external resources inflow have not enhanced the economic growth in Nigerian significantly within the period under review. The paper does recommends that government should encourage FDI inflows by offering tax incentives, infrastructure subsidies, import duty exemptions and other measures will make FDI to boost economic growth in Nigeria. Government should make favourable trade policies and investment conditions friendlier to boost continuous inflow of foreign portfolio investment in Nigeria.

Keywords: External resources inflow, external debt inflow, investment, foreign portfolio investment, foreign direct investment and Economic growth.

1. INTRODUCTION

The world today exhibits the attribute of a single economic entity. In most instances, scholars refer to it as global economy. Global economy is deepened by increasing activities of producers, traders and financial markets actors. These actors’ activities help to bridge the global resources differentials. (Nenbee and Daniel; 2023). Today, there is a huge movement of external resources from one nation to another (Nigeria inclusive). External financial resources inflow to Nigeria has been on the rise for the past two decades according to various government’s accounting books but it seems that the desired quest for economic progress is at low ebb. At the nucleus of this movement lies the fact that foreign capitals augment the gap between desired and domestic investment opportunities. Increased investment opportunities thus can increase revenue, improve management, technological transfer/progress, skilled manpower and more.

According to the report by NESG(2023), a disaggregation of the foreign capital inflows into Nigeria showed a continued concentration in the financial sector, as banking and finance together accounted for 55 percent of total inflows in 2022 (January-August). This situation reflects the dominance of Foreign Portfolio Investment (FPI), which accounted for 52.3
percent of foreign investment inflows during the period 2022. The World Bank (2019) report adds that remittances sent home by migrants from developing countries have maintained a steady and marked upward trend between 1980 and 2018, reaching US$ 624.2 billion in 2018 compared to US$12.0 billion in 1980. Recorded remittances are more than twice as large as unofficial aid, and nearly two-thirds of foreign direct investment flows to developing countries.

In most economic literature, the continued dependence on external resources inflow to cover desired macroeconomic goals like economic growth, poverty reduction, unemployment, etc is mixed (See Bengoa and Sanchez-Robles, 2003), Bende-Nebende, 2002, Moyo 2009; Ngozi 2010; Ndubisi 2013, Musa 2019, Adeola 2017 and others. These scholars have maintained that the influx of external resource inflows is supposed to improve economic growth and the general welfare of the citizen. Howbeit, the reality in which most of them including Nigeria finds herself is a portrait of opposite painting. Economic growth has plummeted over time as the economy slipped into recession in 2016 following two consecutive negative growth rate (NBS, 2016). In the light of these realities, the paper posed the following questions: what extent does external resources inflows promote economic growth in Nigeria? It is in view of this question, this study sets out to empirically examine the impact of external resource inflows on economic growth in Nigeria, between 1986 and 2021. The rest of the paper is organized into 4 Sections. Section 2 focus on review of related literature while section 3 looks at Method of Study. Sections 4 and 5 dwell on results and discussions as well as concluding remarks.

2. LITERATURE REVIEW

The call for nations to promote economic growth and development through the usage of external resources was at the centre of international trade theorists of Mercantilists, Classical and neoclassical writings but with divergent methodological approaches. Today, it is captured in globalization benefits for economic growth literature due largely to international differences in climate, technology and factor endowments of nations. The outcomes of theoretical explanation in economic literature is therefore increasing and calls for further insight. One of such models is the work of Mundell-Fleming Model (MFM).

2.1 MUNDELL-FLEMING MODEL (MFM)

This Mundell–Fleming model is also known as the IS-LM-BoP model, it is an economic model that was first independently promoted by Robert Mundell and Marcus Fleming in early 1960s, to show the link between monetary policy and external balance under floating exchange rate and perfect capital mobility.

The MFM basically relates with the workings of a small economy open to international trade in goods and financial assets, which provides a framework for monetary and fiscal policy analysis. The model explains what causes short-run changes and fluctuations in aggregate income in an open economy.

The MFM assumes among others how small economy are open to international trade in goods and financial assets and provides a framework for monetary and fiscal policy analysis. The model clarifies what cause short-run fluctuations in aggregate income in an open economy. The following are the basic assumption of the model:

1) The domestic rate of interest (r) is equal to the global rate of interest (r*)
2) There is small open economy with perfect capital mobility.
3) It also assumes fixed price level.

The main prediction from the Mundell-Fleming model is that the behaviour of an economy depends mainly on the exchange rate policy it adopts, and this might be either a floating exchange rate system or a fixed exchange rate system. The Open Economy IS Curve: In the Mundell-Fleming model, the market for goods and services is expressed by the following equation:

\[ Y = C(Y - T) + I(r^*) + G + NX(e) \]  \hspace{1cm} (1)

Where all the terms have their usual meanings. Here investment depends on the global rate of interest \( r^* \) since \( r = r^* \) and \( NX \) depends on the exchange rate \( e \) which is the price of a foreign currency in terms of domestic currency.

The Open Economy LM Curve: The equilibrium condition of the money market as expressed in the Mundell-Fleming model is expressed as: \( M = L(r^*, Y) \) since \( r = r^* \).
At this point the supply of money equals its demand and demand for money varies in inverse order with \( r^* \) and in a positive flow with \( Y \). In this model, \( M \) remains exogenously fixed by the central bank.

The model also depicts the general equilibrium of goods market and the money market. The equilibrium income \((Y_0)\) and exchange rate \((e_0)\) are determined simultaneously at point A where the IS and LM curves intersect. In summary, the focus of the Mundell-Fleming model is that the effect of any economic policy be it fiscal, monetary or trade, depends on the exchange rate system of the country under consideration, i.e., whether the country is following a fixed or a floating exchange rate system.

2.2 HECKSCHER-OHLIN MODEL (FACTOR ENDOWMENT THEORY

Eli Heckscher and Bertil Ohlin are Swedish economists which came up with the factor endowment theory in early 1900s. Their theory is also known as Heckscher – Ohlin Model (H-O). The Heckscher-Ohlin theory empathized that countries should produce and export goods that require resources (factors) that are abundant and import goods that require resources in short supply. It differs from the theories of comparative advantage and absolute advantage since those theories focus on the productivity of the production process for a particular good. On the contrary, the Heckscher-Ohlin theory states that a country should specialize in production and export using the factors that are most abundant, and thus the cheapest. This came as an alternative to the Ricardian model of basic comparative advantage.

The H–O model makes the following core assumptions:

i. Labor and capital flow freely between sectors equalizing factor prices across sectors within a country.

ii. The amount of labor and capital in two countries differ (difference in endowments)

iii. Technology is the same among countries (a long-term assumption)

iv. Tastes are the same upon countries.

2.3. REVIEW OF EMPIRICAL LITERATURE

Sulaiman and Azeez (2012) using Error Correction Method conclude that external debt has contributed positively to the Nigerian economy between 1970 and 2010. In the same vein, Eravwoke and Oyovwi (2013) using Ordinary least squares model concluded that a long-run relationship exists, and that economic growth responded positively to rise in external debt burden, foreign direct investment, inflation and export. On the other hand, they claimed that the use of concessional debt with lower interest rate and debt relief would save Nigeria from the problem of debts.

Abdullahi, Aliero and Addullahi (2013) examined the relationship between external debt and economic growth in Nigeria”. They studied the relationship between external debt and economic growth in Nigeria using the unit root test, co-integration test and Granger causality test. They tested GDP on external debt and other determinants’ economic growth. They found that there is non-existence of long run relationship between external debt and economic growth in Nigeria, which indicates that increase in external debt could result in a decrease in GDP.

Abdullahi, Aliero and Addullahi (2013) examined the relationship between external debt and economic growth in Tanzania. They tested GDP on external debt and debt servicing. Their result revealed that that external debt has a positive effect on GDP while debt service has a negative effect. The result indicated that they also did not find a long run relationship between the external debt and GDP.

Joseph (2014) applied VECM estimation technique and time series data for the period 1970-2012 to investigate the ODA-Growth relationship. Solow growth model was used to establish a link between theory and empirics. The findings from the study show a long run causality running from ODA, private external resource flows, gross domestic capital formation, final government consumption expenditure, trade openness, broad money, and inflation; to GDP growth per capita. While ODA seems to contribute to economic growth in the short run, its effect is not statistically significant. A statistically significant negative effect in the short run of private external resource flows and trade openness was established. The results also suggest that previous year’s GDP growth per capita, gross domestic capital formation, and broad money (as a measure of financial depth) are the important factors that stimulated economic growth over the study period in the short run. It could be concluded that Kenya should focus on internal factors to induce economic growth rather than depending on external factors especially in the short run.
Adeyeye (2016) study focused on the impact of foreign direct investment on economic growth in Africa. The study examined the effect of foreign direct investment on the economy of five (5) which include South Africa, Egypt, Nigeria, Kenya and Central African Republic using secondary data covering from 1980 to 2013. The ordinary least square and generalized method of moments (GMM) methods was used in estimating the model which consist of variables such as gross domestic product (the measure of economic growth), foreign direct investment, human capital, labour force, international technology transfer, and gross capital formation. The empirical analysis showed that foreign direct investment stimulated economic growth in South Africa, Nigeria, Kenya and Egypt, but not in Central African Republic. Furthermore, it was revealed that the magnitude of impact foreign direct investment had was different across the countries as increase in foreign direct investment enhanced economic growth by 0.12 percent in South Africa, 0.05 percent in Egypt, 0.03 percent in Nigeria, 0.02 percent in Kenya, and 0.01 percent in Central African Republic.

Munir, et al., (2016) studied the impact of personal remittances on economic growth in case of Pakistan for the time period 1980-2014. For this purpose, Foreign Direct Investment (FDI) and Human Capital are used as control variables. Using Augmented Dickey Fuller (ADF) and Philips-Peron (PP) unit root tests, all the variables came stationary at order one or I (1). Johansen Cointegration showed a long run relationship between personal remittances, FDI, human capital and economic growth. The results showed a positive long run impact of personal remittances, FDI and human capital on economic growth of Pakistan. Similarly, ECT (-1) term was -0.04 and also significant. Granger causality also showed a unidirectional causality running from personal remittances to economic growth. Moreover, the diagnostic tests showed normality of residuals, no autocorrelation and stationarity of residuals at level. Government should formulate such policies that encourage remittances in Pakistan by formulating reliable and efficient transfer mechanism to cheap transfer cost.

Sunde (2017) in his paper employed the autoregressive distributed lag (ARDL) bound test, error correction model and vector error correction mechanism (VECM) granger causality approach to examine how foreign direct investment and exports share of gross domestic product affect economic growth in South Africa. In analysing the relationship between economic growth and the chosen determinants, the investigation was facilitated by the use of annual data covering from 1990 to 2014. The ARDL bound test which was used for cointegration testing confirmed that the variables chosen have identical long run trend. Following the estimation of the long run model, it was revealed that an influx of foreign direct investment into South Africa stimulated their economy by as much as 0.4929 percent. Though the enhancing effect of foreign direct investment on the economy of South Africa was observed in the short run, the effect was barely significant. Exports was found to promote economic growth in the long- and short-run, but the growth effect of increased exports was higher in the long run compared to the magnitude of change in the short run. The empirical results relating to causality indicated that foreign direct investment predicted economic growth as estimation there was evidence of unidirectional causality from foreign direct investment to economic growth. Also, the study reported that both foreign direct investment and economic growth granger cause exports.

Ubi and Essien (2018) followed a macroeconomic approach by modeling their work in line with exogenous growth function to examine the relationship between remittances and economic development in Nigeria. The study which applied quantitative and descriptive techniques, used data covering the period from 1980 to 2016 and the single equation autoregressive distributed lag (ARDL) method. The human development index was adopted as a measure of economic development and regressed on remittances, foreign direct investment, labour force and domestic savings gap. In the long run, remittances influx prompt economic development as the acceleration in economic development emanating from increased remittances was statistically significant. Their empirical results revealed that the economic development accelerating effect of remittances was obtainable in the short run. Another factor recognized as prompting economic development in the long run was labour force and foreign direct investment. While both are economic development facilitators, the ARDL result indicated that only labour force was significant in enhancing economic development. They found that widening domestic savings gap led to decline in economic development, with the effect found to be significant. The evidence of domestic savings gap dampening economic development also manifested in the short run.

Omodero and Alpheaus (2019) examined the influence of Nigerian foreign debt on economic development over a 21-year period using ordinary least squares and secondary data. The findings revealed a considerable negative association between foreign debt and economic growth, but foreign debt servicing and economic growth have a strong and significant positive relationship. Under this situation, the other elements were insignificant in explaining economic growth.
Okoro, Nzotta and Alajekwu (2019) while studying Nigeria used annual frequency data from 1986 to 2016 and the cointegration and ordinary least square (OLS) methods. Their work focused on how international capital inflows impact on economic growth. The international capital inflows which they focused on were foreign direct investment, personal remittances, official development assistance and external debt stock. Hinging on the Harrod-Domar model, the Johansen cointegration test revealed that international capital inflows and economic growth have long run relationship. From the OLS estimation result, their research indicated that foreign direct investment appeared with the right sign. Increasing foreign direct investment led to long run economic growth in Nigeria. Official development assistance, from the estimation, failed to stimulate economic growth despite appearing with the theoretical positive sign. The effect was reported to be statistically insignificant. The empirical result revealed remittances significantly enhanced long run economic growth. They reported negative relationship between exchange rate and economic growth, indicating that naira appreciation significantly improved the production level in the long run.

Adjei, Bo, Nketiah, Adu-Gyamfi and Obuobi (2020) included seven West African countries (Nigeria, Guinea, Mali, Togo, Guinea-Bissau, Burkina-Faso, and Ghana) in a panel dynamic model as they attempt to analyse the connection between remittances and economic growth. They employed advanced econometric methods such as panel unit root, panel cointegration, Granger causality, and generalized method of moments (GMM). The verified the presence of cointegration between the variables. The empirical results of the generalized method of moments indicate that the economy of the West African countries increased following influx of remittance. They identified investment and real exchange rate as import sources of economic growth, noting that increase in investment and real exchange rate propelled economic growth by approximately 1.3213 percent and 2.3446 percent, respectively. Unlike these variables, trade openness influenced economic growth negatively causing production level to fall as the degree of openness increased. Similarly, domestic savings, the GMM result showed, caused decline in production level in the West African countries, though the contraction in production level emanating from increased domestic savings was not statistically significant.

Ajayi and Oke (2012) in their work, they considered the “the effect of external debt on economic growth and development of Nigeria” used the O.L.S regression analysis. They tested national income on debt service payment, external reserves, and interest rate. They found that external debt burden had an adverse effect on the national income.

Joseph (2014) applied VECM estimation technique and time series data for the period 1970-2012 to investigate the ODA-Growth relationship. Solow growth model was used to establish a link between theory and empirics. The findings from the study show a long run causality running from ODA, private external resource flows, gross domestic capital formation, final government consumption expenditure, trade openness, broad money, and inflation; to GDP growth per capita. While ODA seems to contribute to economic growth in the short run, its effect is not statistically significant. A statistically significant negative effect in the short run of private external resource flows and trade openness was established. The results also suggest that previous year’s GDP growth per capita, gross domestic capital formation, and broad money (as a measure of financial depth) are the important factors that stimulated economic growth over the study period in the short run. It could be concluded that Kenya should focus on internal factors to induce economic growth rather than depending on external factors especially in the short run.

Alvarado, Iñiguez and Ponce (2017) studied the relationship between foreign direct investment and economic growth within the Latin America context. The research focused on nineteen (19) Latin America countries, using panel data covering from 1980 to 2014. They followed an income approach as they disaggregated the entire sample into high-income countries, upper middle-income countries and lower middle-income countries based on national per capita income levels. The high-income countries consist of Uruguay and Chile, with the upper middle-income countries numbering eleven (11) countries of Brazil, Colombia, Argentina, the Dominican Republic, Mexico, Peru, Panama, Cost Rica, Ecuador, Paraguay and Colombia. The lower middle-income countries were Guatemala, Bolivia, Belize and El Salvador. The authors specified a production function with real gross domestic, foreign direct investment, labour force, physical capital, exports, fertility, trade, agriculture, manufacturing, service and urbanization as variables, estimated using the fixed effect method. The fixed effect result revealed that the effect of foreign direct investment on economic growth was different in respect of per capita national income. In the full sample or Latin America as a whole, foreign direct investment had a positive sign indicating it stimulated economic growth, but the impact was found to be insignificant. When the upper middle-income countries model was estimated, foreign direct investment negatively affected economic growth, with the effect non-significant. In the lower
middle-income sample, the effect of FDI was mainly negative and significant, revealing that production level in the countries is not driven by FDI inflows. The researchers attributed these difference FDI had on production level to the absorption capacity of the countries studied.

Alabi (2019) specified a model of five (5) variables of real gross domestic product (economic growth measure), foreign direct investment, interest rate, domestic investment, and real exchange rate in trying to study the relationship between foreign direct investment and economic growth in Nigeria. The data employed for the study spanned from 1986 to 2017 and the preferred method was the ordinary least square (OLS). In the long run, the result indicated that increased FDI inflow had a significant positive effect on economic growth, causing an increase in production level by approximately 0.6335 percent. It was also revealed that, a policy of exchange rate depreciation could increase production activities in Nigeria as significant positive relationship was found existing between exchange rate and economic growth. In the same manner, the empirical result revealed that domestic investment and interest rate exerted positive effects on growth, but only insignificantly.

Anetor (2019) employed data covering from 1981 to 2017 and the autoregressive distributed lag (ARDL) method examined the remittances led growth hypothesis by analyzing the long- and short-run relationship between remittance, financial development and economic growth in Nigeria. Recognizing that there are certain local conditions that may inhibit or ramp up the relationship between remittances and economic growth, the study also examined the role of financial development in trying to unravel if financial sector development plays significant role in the remittance-growth relationship. In the study, financial development was measured using M2 as a percentage of gross domestic product. In the study, remittance was interacted with financial development to determine if financial development compliment the impact of remittances on economic growth. In addition, the study controlled for the effect of trade openness, inflation, government expenditure, domestic investment (measured using gross capital formation), and population growth. The ARDL result indicated higher remittances was not productive as the remittances failed to engender economic growth. It was revealed from the estimation that, remittances had significant negative impact on economic growth. Individually, the result on financial development was similar to that of remittances as production level fell as M2 increased as a percentage of GDP. When remittance was interacted with the proxy of financial development, the estimation result showed that efficient financial development is necessary to engender positive effect of remittances on economic growth in Nigeria. Higher level of inflation, as shown from the estimation result, negatively affected the economy of Nigeria and the effect was found to be significant. Shockingly, increased level of domestic investment hampered significant growth of the Nigerian economy in the long run, the ARDL result showed.

Olayungbo, Olanjii and Ojeyinka (2020) used Nigerian data from and the non-linear autoregressive distributed lag (NARDL) method to decompose remittances into positive and negative components in order to examine the asymmetric effect of remittances on economic growth. The model which was patterned to follow the Solow growth model incorporated real gross domestic product (the measure of economic growth), gross fixed capital formation (measure of capital), labour force participation rate (labour proxy), remittances, inflation, trade openness, financial development (with domestic credit to private sector as measure), and exchange rate. The data on these variables used spanned from 1981 to 2018. The evidence of long run relationship between the variables of interest was provided using the bound test method. Their investigation using the NARDL method was able to show that economic growth responded asymmetrically to variations in remittances, as both increase and decrease in remittance flow into Nigeria produced the same effect on economic growth. The result showed that rising and declining remittance inflows caused a decline in the long-run productive base of the country. The short run results were different in terms of how rising and declining remittances inflows affect the Nigerian economy. An increase in remittances retarded economic growth in the short run, whilst decline in remittances into Nigeria accelerate economic growth. This result is related to the pessimistic position on remittances denoting that it is a source of brain drain rather than brain gains.

3. METHOD OF STUDY

3.1 DATA REQUIRED AND SOURCES

The data for this paper were sourced mainly from secondary sources like Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS).
3.2 MODEL SPECIFICATION

3.2.1 EXPLANATION OF VARIABLES IN THE MODEL

(a) Economic Growth For this paper, real gross domestic product (GDP) is serves as a proxy for economic growth. Real gross domestic product refers to the inflation adjusted value of gross domestic product. It is arrived at by deflating gross domestic product by the GDP deflator for each period from 1986 to 2021 formed the four models that was employed for this study.

3.2 INDEPENDENT VARIABLES

i. Foreign Direct Investment (FDI): This refers to the long-term involvement of a source country’s management, joint venture, transfer of technology and expertise in a particular host country. In other words, it refers to the situation whereby individual(s) of a particular country (source country) obtain ownership of investment in another country (recipient or host country) for production control and distribution purposes and other related activities of a firm found in the recipient country. The theoretical argument in favor of foreign direct investment as a source of external finance is that boost productivity, aid transfer of knowledge and technology, enhance competitiveness, which propels economic growth and development (Yeboua, 2019). For this study, foreign direct investment is measured using inward flow of foreign direct investment as percentage of gross domestic product. Theoretically, an increase in foreign direct investment is expected to stimulate economic growth, implying that the expected relationship between foreign direct investment and economic growth is positive. Thus,

\[ \frac{\partial ECG}{\partial FDI} > 0 \]

ii. Foreign Portfolio Investment (FPI): Investment in a domestic country may come in various forms such as investment in acquiring substantial long-term stake in a country or short-term investment in financial assets. Foreign portfolio investment measures investment by foreign in Nigeria financial assets or in asset traded on the Nigeria Stock Exchange. Foreign portfolio investment denotes investment undertaken by foreigners in Nigerian financial assets. It is the purchase of financial securities (such as stocks, government and corporate bonds, and other debt instruments) and other financial assets in Nigeria by foreign investors. It denotes the market value of Nigeria’s financial assets held by foreigners. This type of source of external finance are done not with the intents of managing the companies that issues such instruments or with the intention to have direct control over the assets of the business or company. Theoretically, the expected relationship between foreign portfolio investment and economic growth is positive. Hence:

\[ \frac{\partial ECG}{\partial FPI} > 0 \]

iii. Personal Remittances (REM): In the literature, remittance is gaining traction as a source of external finance for developing countries. Remittances refers to value of monetary transfers sent home (the recipient country) by individuals (either citizens of the recipient country staying abroad or by individuals that were former citizens of the recipient country but gained citizenship in a foreign country either through naturalization or other legal means) residing abroad. Remittances play significant role as a source of household income, especially in developing countries, and have become a stable source of income. Remittances may be used to increase national savings, capital accumulation, reduce pressure on the domestic exchange rate, build up foreign exchange and catalyze economic growth and development. In economic theory, a positive relationship is expected between remittances and economic growth. Thus,

\[ \frac{\partial ECG}{\partial REM} > 0 \]

iv. Official Development Assistance (ODA): Globaleconomy.com defined Official development assistance (ODA) as form of foreign which consists of disbursements of loans made on concessional terms (net of repayments of principal) and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of
discount of 10 percent). Net official aid refers to aid flows (net of repayments) from official donors to countries and territories in part II of the DAC list of recipients: more advanced countries of Central and Eastern Europe, the countries of the former Soviet Union, and certain advanced developing countries and territories. Economic theory suggests a positive and significant relationship between economic growth and official development Assistance, Thus:

$$\frac{\partial \text{ECG}}{\partial \text{ODA}} > 0$$

v. **External Debt Inflow (EDI).** Further search on globaleconomy.com clears the air on the meaning of EDI. Total external debt stocks to gross national income. Total external debt is debt owed to nonresident’s organization or individuals, and it us repayable in currency, goods, or services. Total external debt is the sum of public, publicly guaranteed, use of IMF credit, and short-term debt. Short-term debt includes all debt having an original maturity of one year or less and interest in arrears on long-term debt.

$$\frac{\partial \text{ECG}}{\partial \text{EDI}} < 0$$

### 3.2.2 ANALYTICAL FRAMEWORK

The model for this paper is functionally defined and intends to follow that expressed in the works of Okoro, Nzotta and Alajekwu (2019). The model is based on the theoretical foundation of the two-gap model. The theory and model both relate external sources such as foreign direct investment and foreign portfolio investment to economic growth.

Specifically, Okoro, Nzotta and Alajekwu (2019) in their work used the model below:

$$\text{RGDP} = f(\text{FDI}, \text{ODA}, \text{REM}, \text{EXTDS}, \text{EXR})$$  \hspace{1cm} (2)

Where:

- **RGDP** = real gross domestic product.
- **FDI** = foreign direct investment.
- **ODA** = official development assistance.
- **REM** = personal remittances.
- **EXTDS** = total external debt stock; and
- **EXR** = real effective exchange rate.

In order to have a robust analytical framework, the present study deviates from the earlier work of Okoro, Nzotta and Alajekwu (2019). First, this paper extended the scope of 1986 to 2016 to cover 1986 to 2021. It is expected that the additional six (6) years will offer valuable insight on the relationship between the variables. The functional form of the model therefore is:

$$\text{RGDP} = f(\text{FDI}, \text{FPI}, \text{PRR}, \text{ODA}, \text{EDI})$$  \hspace{1cm} (3)

The mathematical form of the model takes the form of:

$$\text{RGDP} = \beta_0 + \beta_1\text{FDI} + \beta_2\text{FPI} + \beta_3\text{PRR} + \beta_4\text{ODA} + \beta_5\text{EDI}$$  \hspace{1cm} (4)

The linear econometric form of the model is expressed as:

$$\text{RGDP} = \beta_0 + \beta_1\text{FDI} + \beta_2\text{FPI} + \beta_3\text{PRR} + \beta_4\text{ODA} + \beta_5\text{EDI} + \mu$$  \hspace{1cm} (5)

Where:

- **RGDP** = Output proxied by real gross domestic product
- **FDI** = Foreign direct investment
FPI = Foreign portfolio investment
PRR = Personal remittances
ODA = Official development assistance
EDI = External debt inflows
RGDP, FDI, FPI, PRR, ODA and EDI are as earlier defined while \( \beta_0, \alpha_0, \delta_0 \) and \( \gamma_0 \) = intercepts or the constant terms Again, \( \beta_1, \beta_2, \beta_3, \beta_4 \), and \( \beta_5 \), are the slopes of the explanatory variables.

It is expected that increase in external resources inflow will enhance economic growth, reduce unemployment, reduce poverty and reduce inflation. Thus, a priori expectations are \( \beta_1, \beta_2, \beta_3, \beta_4, \) and \( \beta_5 > 0. \)

3.3 METHOD OF DATA ANALYSIS

In the investigation of the link between external finance sources and economic growth in Nigeria, this paper employed descriptive statistics, unit root test, bound cointegration, and Autoregressive Distributed Lag (ARDL) methods of analysis. Specifically, the descriptive statistics showed the behavior of the data.

Thereafter, the unit root test was based on the Augmented Dickey Fuller (ADF) test so as to check whether each data series is integrated and has a unit root. It is now a common practice to examine the time series properties of economic data as a guide to a subsequent multivariate modeling and inference. If we discover that the variables are integrated of order greater than or equal to one, then it could be the case that these variables are co-integrated. The Augmented Dickey Fuller tests take the unit root as the null hypothesis \( H_0: \phi = 1 \). Since explosive series do not make much economic sense, this null hypothesis is tested against the one-sided alternative \( H_1: \phi < 1 \). The null hypothesis of a unit root is rejected against the one-sided alternative if the t-statistic is less than the critical value.

Another estimation conducted was that of cointegration test to investigate the existence of a long-term relationship between external resources inflow and economic growth. Here, the paper assumes that if the variables that we are using in this research work are found to be co-integrated, it will provide statistical evidence for the existence of a long-term relationship. We employed the maximum likelihood test procedure as established by Johansen (1991) and Juselius (1990).

Having conducted the cointegration test and confirmed the presence of long run relationship between the variables, the paper looked at possible impacts of the independent independent ones on the dependent using the Autoregressive Distributed Lag (ARDL) Model (Bound Test Approach) for the model is specified as follows:

\[
\Delta RGDP_t = \beta_0 + \Delta RGDP_{t-1} + \sum \beta_1 \Delta FDI_{t-1} + \sum \beta_2 \Delta FPI_{t-1} + \sum \beta_3 \Delta PRR_{t-1} + \sum \beta_4 \Delta ODA_{t-1} + \sum \beta_5 \Delta EDI_{t-1} + \sum \mu + U_t
\]

\( \beta_0 \) is the constant terms, RGDP, FDI, FPI, PRR, ODA and EDI are as earlier defined, \( \beta_1 - \beta_5 \) are the coefficients of independent variables while \( \mu \) is the error terms, \( \Delta = \) first difference of the variable, \( U_t = \) white noise disturbance error term.

4. RESULTS AND DISCUSSION

4.1 DESCRIPTIVE STATISTICS TEST RESULTS

The result of the descriptive statistics in Table 1 shows that RGDP has a mean value of 4.189444 with a standard deviation of 3.943366. The skewness value of RGDP is positive (0.521587), meaning that RGDP has a long-right tail while the kurtosis value of RGDP is 3.318273 (i.e. about 3), meaning that it is mesokurtic. That is, it has a normal distribution, meaning that the series has values close to the mean sample.

TABLE 1: DESCRIPTIVE STATISTICS RESULTS

<table>
<thead>
<tr>
<th></th>
<th>RGDP</th>
<th>FDI</th>
<th>FPI</th>
<th>PRR</th>
<th>ODA</th>
<th>EDI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.189444</td>
<td>1.628611</td>
<td>-0.538611</td>
<td>3.005556</td>
<td>0.734722</td>
<td>37.41028</td>
</tr>
<tr>
<td>Median</td>
<td>4.240000</td>
<td>1.415000</td>
<td>-0.165000</td>
<td>2.525000</td>
<td>0.505000</td>
<td>37.76000</td>
</tr>
<tr>
<td>Maximum</td>
<td>15.33000</td>
<td>5.790000</td>
<td>1.000000</td>
<td>8.330000</td>
<td>4.890000</td>
<td>120.8400</td>
</tr>
<tr>
<td>Minimum</td>
<td>-2.040000</td>
<td>0.180000</td>
<td>-3.940000</td>
<td>0.000000</td>
<td>0.110000</td>
<td>4.950000</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>3.943366</td>
<td>1.244203</td>
<td>1.081573</td>
<td>2.463443</td>
<td>0.939922</td>
<td>31.23049</td>
</tr>
<tr>
<td>Skewness</td>
<td>0.521587</td>
<td>1.710097</td>
<td>-1.511819</td>
<td>0.302442</td>
<td>3.607475</td>
<td>0.718425</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>3.318273</td>
<td>5.873580</td>
<td>5.017247</td>
<td>1.829172</td>
<td>15.22534</td>
<td>2.806331</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>1.784263</td>
<td>29.93279</td>
<td>19.81752</td>
<td>2.605084</td>
<td>302.2715</td>
<td>3.153071</td>
</tr>
<tr>
<td>Probability</td>
<td>0.409781</td>
<td>0.000000</td>
<td>0.000050</td>
<td>0.271840</td>
<td>0.000000</td>
<td>0.206690</td>
</tr>
<tr>
<td>Sum Sq. Dev.</td>
<td>544.2548</td>
<td>54.18143</td>
<td>40.94303</td>
<td>212.3993</td>
<td>302.9090</td>
<td>34137.028</td>
</tr>
<tr>
<td>Observations</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
<td>36</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation (2023)

Table 1 shows that FDI has a standard deviation of 1.244203 with a mean value 1.628611. The skewness value of FDI is positive (1.710097), meaning that FDI has a long-right tail while the kurtosis value of FDI is 5.873580 which is greater than 3, meaning that it is leptokurtic. This means that the series has more values higher than the sample mean, that is, it has a peak distribution or surface. Again, FPI has a mean value of -0.538611 with a standard deviation of 1.081573. The skewness value of FPI is negative (-1.511819), meaning that FPI has a long-left tail while the kurtosis value of FPI is 5.017247 (i.e. greater than 3), meaning that it is leptokurtic. This means that the series has more values higher than the sample mean, that is, it has a peak distribution or surface.

PRR has a mean value of 3.005556 with a standard deviation of 2.463443. The skewness value of PRR is positive (0.302442), meaning that PRR has a long-right tail while the kurtosis value of PRR is 1.829172 (i.e. less than 3), meaning that it is platykurtic. This means that the series has a lower value below the sample mean, that is, it has a flat distribution or surface. Furthermore, ODA has a mean value of 0.734722 with a standard deviation of 0.939922. The skewness value of ODA is positive (3.607475), meaning that ODA has a long-right tail while the kurtosis value of ODA is 15.22534 (i.e. greater than 3), meaning that it is leptokurtic. This means that the series has more values higher the sample mean, that is, it has a peak distribution or surface.

EDI has a standard deviation of 31.23049 with a mean value of 37.41028. The skewness value of EDI is positive (0.718425), meaning that EDI has a long-right tail while the kurtosis value of EDI is 2.806331 which is less than 3, meaning that it is platykurtic. This means that the series has a lower value below the sample mean, that is, it has a flat distribution or surface. Again, one important observation in this table is the Jarque-Bera statistics of the variables. It shows that the values of FDI, FPI, and ODA are greater than 5.99, meaning that they do not have a normal distribution while RGDP, PRR and EDI has a value less than 5.99, suggesting that they have a normal distribution.

Based on these observations, it is therefore necessary to test for the stationarity of the variables and the long run relationship since using the variables at level might give a spurious result. The unit root test is conducted so as to make the variables stationary. The study adopts the Augmented Dickey Fuller (ADF) unit root test procedure.

4.2. UNIT ROOT TEST RESULT

Tables 2 presents the results of the stationarity test for each of the variables used in model one (that is, output model). Table also shows the unit root result using the Augmented Dickey Fuller (ADF) test. The results were conducted with intercept only.
TABLE 2: ADF UNIT ROOT TEST RESULT

<table>
<thead>
<tr>
<th>Variable</th>
<th>ADF at Level</th>
<th>ADF at 1st Difference</th>
<th>Status</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>RGDP</td>
<td>-2.147798</td>
<td>-10.46148</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>FDI</td>
<td>-3.943004</td>
<td>-</td>
<td>I(0)</td>
<td>Stationary</td>
</tr>
<tr>
<td>FPI</td>
<td>-5.353153</td>
<td>-</td>
<td>I(0)</td>
<td>Stationary</td>
</tr>
<tr>
<td>PRR</td>
<td>-1.866826</td>
<td>-6.098002</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
<tr>
<td>ODA</td>
<td>-4.307771</td>
<td>-</td>
<td>I(0)</td>
<td>Stationary</td>
</tr>
<tr>
<td>EDI</td>
<td>-1.111567</td>
<td>-6.032861</td>
<td>I(1)</td>
<td>Stationary</td>
</tr>
</tbody>
</table>

Critical Values

- 1% level: -3.639407
- 5% level: -2.951125
- 10% level: -2.614300

Source: Authors’ Computation (2023)

The result of the unit root test in Table 2 reveals that FDI, FPI and ODA variables were stationary at level while RGDP, PRR, and EDI were stationary at 1st difference. The result depicts that the independent variables used in model one were integrated of both order zero and one, that is I(1) and I(0) and the dependent variable is integrated of order one, that is, I(1). Since the ADF results indicate that the series are of mixed order of integration, we cannot use the Engle-Granger and Johansen co-integration tests but rather the appropriate test to use in this study is the Bounds co-integration test. According to Giles (1975), Perasan, Shin and Smith (2001), Jawaid and Waheed (2016) and Salisu (2016), when the series used in any study are of different order of co-integration, the appropriate test to use is the bound co-integration test.

4.3 BOUND TEST CO-INTEGRATION RESULT

The result of the Bound Co-integration test is presented in Table 3. From the Table 3, the result of the bound co-integration test shows that the calculated f-statistic value of 4.789744 falls higher than the theoretical critical value for the upper bound I(1) at 5 percent level. This means that there is a co-integration, hence, a long run relationship exists between FDI, FPI, PRR, ODA, EDI and RGDP in Nigeria within the period under review.

Since there is a long run relationship among the variables, we now proceed to estimate the short run dynamics and long run models based on the ARDL approach.

TABLE 3: ARDL BOUND TEST CO-INTEGRATION RESULT

<table>
<thead>
<tr>
<th>F-Statistics</th>
<th>4.789744</th>
</tr>
</thead>
<tbody>
<tr>
<td>% Critical Levels Significance</td>
<td>Critical Value for Bond Test</td>
</tr>
<tr>
<td></td>
<td>1(0) Bond</td>
</tr>
<tr>
<td>10%</td>
<td>2.26</td>
</tr>
<tr>
<td>5%</td>
<td>2.62</td>
</tr>
<tr>
<td>2.5%</td>
<td>2.96</td>
</tr>
<tr>
<td>1%</td>
<td>3.41</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation (2023)

4.4 LONG RUN ESTIMATION RESULTS

Table 4 shows the estimated coefficients of the long run relationship between the variables in the model.

Table 4 equally indicates that the result of the long run estimation shows that FDI has a positive (2.475106) relationship with RGDP, suggesting that a unit increase in FDI increases RGDP by 2.475106 units in Nigeria. The positive sign of FDI on RGDP confirm to a priori and therefore is in line with economic theory. The positive sign of FDI on RGDP is statistically significant at 5 percent level. The study therefore rejects the null hypothesis that there is no significant relationship between FDI and RGDP but do not reject the alternative hypothesis.
TABLE 4: ARDL LONG RUN ESTIMATION RESULT

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDI</td>
<td>2.475106</td>
<td>0.845150</td>
<td>2.928598</td>
<td>0.0070</td>
</tr>
<tr>
<td>FPI</td>
<td>0.081159</td>
<td>0.629619</td>
<td>0.128902</td>
<td>0.8984</td>
</tr>
<tr>
<td>PRR</td>
<td>-2.112452</td>
<td>0.607517</td>
<td>-3.477188</td>
<td>0.0018</td>
</tr>
<tr>
<td>ODA</td>
<td>0.552070</td>
<td>0.869776</td>
<td>0.634727</td>
<td>0.5312</td>
</tr>
<tr>
<td>EDI</td>
<td>-0.194723</td>
<td>0.047567</td>
<td>-0.093678</td>
<td>0.0004</td>
</tr>
<tr>
<td>C</td>
<td>13.496720</td>
<td>2.833929</td>
<td>4.762547</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation (2023)

FPI in Table 4 has a positive (0.081159) relationship with RGDP, suggesting that a unit increase in FPI increases RGDP by 0.081159 units in Nigeria. The positive sign of FPI on RGDP confirm to a priori and therefore conform to economic theory. The positive sign of FPI on RGDP is not statistically significant at 5 percent level. The study therefore rejects the null hypothesis that there is no significant relationship between FPI and RGDP.

In Table 4, PRR has a negative (-2.112452) relationship with RGDP, suggesting that a unit increase in PRR decreases RGDP by 2.112452 units in Nigeria. The negative sign of PRR on RGDP does not confirm to a priori and therefore not in line with economic theory. The negative sign of PRR on RGDP is statistically significant at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between PRR and RGDP but do not reject the alternative hypothesis.

ODA has a positive (0.552070) relationship with RGDP, suggesting that a unit increase in ODA increases RGDP by 0.552070 units in Nigeria. The positive sign of ODA on RGDP confirm to a priori and therefore is in line with economic theory. The positive sign of ODA on RGDP is not statistically significant at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between ODA and RGDP. Another observation in Table 4 is that EDI has a negative (-0.194723) relationship with RGDP, suggesting that a unit increase in PRR decreases RGDP by 0.194723 units in Nigeria. The negative sign of EDI on RGDP does not confirm to a priori and therefore not in line with economic theory. The negative sign of EDI on RGDP is statistically significant at 5 percent level. The study therefore rejects the null hypothesis that there is no significant relationship between EDI and RGDP but do not reject the alternative hypothesis.

4.5 SHORT RUN ESTIMATION RESULTS

The results of both the short run dynamics and long run estimation of the model is presented in Table 5.

From Table 5 the result shows that the ECM included in this model has the right sign (i.e. negative) and is statistically significant at 5 percent level. The coefficient indicates a high adjustment speed of about 89.9 percent. This adjustment implies that 89.9 per cent of errors are corrected within one year since that data were annual series. The ECM also reveals that a long run relationship exists between the regressors (FDI, FPI, PRR, ODA and EDI) and the response variable (RGDP) in this model. The findings confirmed that a short run relationship exist among the variables in the model.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>D(FDI)</td>
<td>0.779208</td>
<td>0.737380</td>
<td>1.056439</td>
<td>0.3005</td>
</tr>
<tr>
<td>D(FPI)</td>
<td>0.073029</td>
<td>0.572412</td>
<td>0.127581</td>
<td>0.8995</td>
</tr>
<tr>
<td>D(PRR)</td>
<td>-0.905752</td>
<td>0.631487</td>
<td>-1.434317</td>
<td>0.1634</td>
</tr>
<tr>
<td>D(ODA)</td>
<td>0.496768</td>
<td>0.797194</td>
<td>0.623146</td>
<td>0.5386</td>
</tr>
<tr>
<td>D(EDI)</td>
<td>-0.175217</td>
<td>0.054135</td>
<td>-2.366687</td>
<td>0.0033</td>
</tr>
<tr>
<td>ECM (-1)</td>
<td>-0.899828</td>
<td>0.191285</td>
<td>-4.704130</td>
<td>0.0001</td>
</tr>
</tbody>
</table>
| Adj-R²   | 0.340034    | F-Stat. = 3.189724 (F-probability Value = 0.0117); DW = 2.112809

Source: Authors’ Computation (2023)

Furthermore, the calculated Adj-R² is 0.340034 in Table 5 too. This means that about 34 per cent of the total variations in RGDP are caused by the explanatory variables FDI, FPI, PRR, ODA and EDI. Thus, the remaining 66 per cent of variations
is caused by exogenous factors to the model but covered by the error term. Also, the F-statistics calculated of 3.189724 with an F-stat probability value of 0.0117 which is less than 0.05 level, means that the overall model is significant at 5 per cent level. The value of the D.W is 2.112809 suggests that there is minimal serial autocorrelation in the model.

From Table 5 the result of the short run estimation shows that FDI has a positive (0.779208) relationship with RGDP, suggesting that a unit increase in FDI increases RGDP by 0.779208 units in Nigeria. The positive sign of FDI on RGDP confirm to a priori and therefore is in line with economic theory. The positive sign of FDI on RGDP is not statistically significant at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between FDI and RGDP in the short run.

The positive relationship of foreign direct investment (FDI) with RGDP agrees with the work of Obi (2017), Sunde (2017), Alabi (2019), Younisi, Bechtini and Kehmili (2021) but disagrees with the findings of Ashraf, Yong, Afzal and Kun (2019) who found that foreign direct investment (FDI) been negatively related to RGDP. The insignificant effect of foreign direct investment on Nigeria’s economic growth/output in the short run but positive suggests perhaps that the positive content of foreign direct investment, which includes knowledge spillover, technological transfer and so on, has not been fully utilized in Nigeria. This may be attributed to the fact that most FDI in Nigeria are concentrated in the oil sector, which employs a very few parts of the labour force. Although there has been some diversion of FDI into the communication sector, the positive effect of this step on the living standard of Nigerian, are yet to be seen as indicated by our findings. Hence, if the government should encourage FDI inflows by offering tax incentives, infrastructure subsidies, import duty exemptions and other measures will make FDI to boost economic growth in Nigeria. The policy implication is that despite the volume of FDI inflow into Nigerian, it has not resulted to the appreciable level of economic prosperity in Nigeria.

In the short run, FPI has a positive (0.073029) relationship with RGDP, suggesting that a unit increase in FPI increases RGDP by 0.073029 units in Nigeria in Table 5. The positive sign of FPI on RGDP confirm to a priori and therefore is in line with economic theory. The positive sign of FPI on RGDP is not statistically significant at 5 percent level. The study therefore rejects the null hypothesis that there is no significant relationship between FPI and RGDP. The positive effect of foreign portfolio investment (FPI) on output (RGDP) confirm to a priori and therefore in line with economic theory. The positive effect of foreign portfolio investment (FPI) on output (RGDP) is not statistically significant both in the short run and in the long run at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between foreign portfolio investment (FPI) and output (RGDP) both in the short run and in the long run. The positive effect of foreign portfolio investment (FPI) on output (RGDP) agrees with the work of Okonkwo (2016), Ezeanyije and Maureen (2019) who found foreign portfolio investment (FPI) to be positively related to output (RGDP). The policy implication is that the volume of FPI into Nigerian economy has not impacted the economic prosperity in Nigeria.

In the short run, PRR has a negative (-0.905752) relationship with RGDP, suggesting that a unit increase in PRR decreases RGDP by 0.905752 units in Nigeria. The negative sign of PRR on RGDP does not confirm to a priori and therefore not in line with economic theory. The negative sign of PRR on RGDP is not statistically significant at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between PRR and RGDP in the short run. The negative effect of personal remittances (PRR on output (RGDP) agrees with the work of Anetor (2019), Oteng-Abayie, Awuni and Adjeidjei (2020) to be negatively related to output (RGDP) but disagrees with the findings of Olusuyi, Adebayo, Agbolade and Ebun (2017), Garba, Adekunle and Adeniyi (2020), Adjei, Bo, Nketiah, Adu-Gyamfi and Obuobi (2020) who found that remittances is positively related to output (RGDP) and the economy.

In the short run as shown in Table 5, ODA has a positive (0.496768) relationship with RGDP, suggesting that a unit increase in ODA increases RGDP by 0.496768 units in Nigeria. The positive sign of ODA on RGDP confirm to a priori and therefore is in line with economic theory. The positive sign of ODA on RGDP is not statistically significant at 5 percent level. The study therefore accepts the null hypothesis that there is no significant relationship between ODA and RGDP in the short run. The positive effect of official development assistance (ODA) on output (RGDP) agrees with previous such as Jilenga, Xu and Gondje-Dacka (2016), Younisi, Bechtini and Kehmili (2021) who found official development assistance (ODA) to be positively related to output (RGDP).

In the short run, EDI has a negative (-0.175217) relationship with RGDP, suggesting that a unit increase in PRR decreases RGDP by 0.175217 units in Nigeria. The negative sign of EDI on RGDP does not confirm to a priori and therefore not in line with economic theory. The negative sign of EDI on RGDP is statistically significant at 5 percent level. The study
therefore rejects the null hypothesis that there is no significant relationship between EDI and RGDP but do not reject the alternative hypothesis. The negative effect of external debt inflow (EDI) on output (RGDP) agrees with the work of Atique and Malika (2012), Ajayi and Oke (2012), Abdullahi, Alierio and Addullahi (2013), Kasidi and Said (2013) to be negatively related to poverty (POV) but disagrees with the findings of Ogunmuyiwa (2011), Udeh, Ugwu and Onwunka (2016), Jilenga, Xu and Gondje-Dacka (2016) who found that external debt inflow (EDI) is positively related to output (RGDP) and on the economy.

4.6 POST ESTIMATION TESTS RESULTS

The researcher also conducted a diagnostic test to ascertain whether or not the series are free from autocorrelation (Breusch-Godfrey Serial Correlation LM Test), heteroscedasticity (Breusch-Pagan-Godfrey Test). The result of the diagnostic test is presented in Table 6.

From Table 6, the results of the diagnostic test shows that the serial or autocorrelation test using Breusch-Godfrey Serial Correlation LM Test shows that the f-statistic is 0.206935 with a Chi-Square probability value is 0.8145. This indicates that the probability value of about 53 percent (0.8145) is greater than 5 percent (0.05) critical value; hence we confirm no serial correlation in the model.

The result of the heteroscedasticity test using Breusch-Pagan-Godfrey test shows that the f-statistic is 0.461943 while the Chi-Square probability value of 0.8714. The result suggests that there is no evidence of heteroskedasticity in the model since the probability Chi-square value is more than 5 percent (P >0.05). So, residuals do have constant variance which is desirable in regression meaning that residuals are Homoscedastic

<table>
<thead>
<tr>
<th>TABLE 6: SERIAL CORRELATION LM TEST AND HOMOSCEDASTICY TEST RESULTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ramsey RESET Test</td>
</tr>
<tr>
<td>F-Statistic</td>
</tr>
<tr>
<td>-------------</td>
</tr>
<tr>
<td>2.591716</td>
</tr>
</tbody>
</table>

<p>| Breusch-Godfrey Serial Correlation LM Test                      |</p>
<table>
<thead>
<tr>
<th>F-Statistic</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.206935</td>
<td>0.8145</td>
</tr>
</tbody>
</table>

<p>| Breusch-Pagan-Godfrey Heteroskedasticity Test                  |</p>
<table>
<thead>
<tr>
<th>F-Statistic</th>
<th>Prob. Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.461943</td>
<td>0.8714</td>
</tr>
</tbody>
</table>

Source: Authors’ Computation (2023).

5. CONCLUSION

This paper examines the effect of external resources inflow on Nigeria’s economic growth from 1986 to 2021. In other to achieve the objective, annual time series data of the dependent variable- economic growth independent variables – foreign direct investment (FDI), foreign portfolio investment (FPI), personal remittances (PRR), official development assistance (ODA) and external debt inflow (EDI) were collected from secondary sources and analyzed using the econometrics technique of Autoregressive Distributed Lag (ARDL) method of analysis. The outcome of the analysis revealed that Foreign direct investment enhanced economic in Nigeria in the long run but does not in the short run while Foreign portfolio investment, Personal remittances, Official development assistance and External debt inflow all retarded economic growth both in the short and long run in Nigeria. The paper does conclude that external resources inflows have not really enhanced the performance of Nigeria’s economic growth significantly within the period under review. The policy implication is that external resources inflow have not attracted appreciable level of economic prosperity in Nigeria but if properly managed especially FDI will trigger economic growth. The paper does suggests that the government should encourage FDI inflows by offering tax incentives, infrastructure subsidies, import duty exemptions and other measures will make FDI to boost economic growth in Nigeria. This can be achieved if policy makers in Nigeria are more committed to provide a better investment climate so as to facilitate further inflows of FDI from developed countries, by creating conducive business environment.

REFERENCES


