



IMPACTS OF FOREIGN DIRECT INVESTMENT AND OTHER MACROECONOMIC VARIABLES ON ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

The study investigates the impact of foreign direct investment (FDI) on economic growth in Nigeria from 1980 to 2020. The study specifically, determined the relationship between foreign direct investment and real gross domestic product (proxy for economic growth) in Nigeria, and also, examined the effects of macroeconomic variables – inflation rate, exchange rate, lending interest rate and gross capital formation on real gross domestic product (proxy for economic growth) in Nigeria. The study employed multiple regression techniques and result shows a long run relationship among the variables, there exists a positive and significant relationship between previous RGDP and current year real gross domestic, a negative and insignificant relationship between foreign direct investment and real gross domestic product, a negative and insignificant relationship between inflation rates and real gross domestic product, a positive and insignificant relationship between real effective exchange rate and real gross domestic product, a positive and significant relationship between lending interest rate and real gross domestic product, and finally, a negative and insignificant relationship between gross capital formation and real gross domestic product. The following recommendations are therefore drawn from the findings of the study: Nigeria government should improve their efforts to increase foreign direct investment so as to increase economic growth; Nigeria economy should establish growth inclined inflation rate threshold that will enhance economic growth; Nigeria government should maintain effective exchange rate that will speed up her economic growth; Nigeria government should use reduced lending interest rate to improve investment and enhance economic growth; and finally, Nigeria economy needs to improve her gross capital formation so as to increase economic growth.

Keywords: *Foreign direct investment, inflation rate, exchange rate, lending interest rate, gross capital formation, and real gross domestic product.*

1.0 INTRODUCTION

The role of Foreign Direct Investment on economic growth has been vigorously debated in the literature. Some studies are of the view that Foreign Direct Investment (FDI) contributes positively to the growth of the economy (Adegbite and Ayadi, 2011; Koojaroenprasit, 2012; Onu, 2012; Adeleke, Olowe and Fasesin, 2014; John, 2016; and Ali and Hussain, 2017), while some are of the view that FDI only contributes small and it is not significant (Akinlo, 2004; Louzi and Abadi, 2011). However, the attributes of FDI in any economy of the world cannot be over-emphasized. FDI refers to an investment made by an investor either corporate bodies or individuals in a country other than the domestic country of origin of the investor in creating

business or buying an asset in the country. (John, 2016) posits that foreign direct investment is seen as a process of moving technology and capital from a nation either developed or developing countries to another nation. (Farrell, 2018) posits that foreign direct investment refers to the package of technology, capital, management, and entrepreneurship that firm uses to operate and provide goods and services in a foreign market. In Africa, Nigeria is the third host economy for FDI, behind Egypt and Ethiopia. Some of the investing countries in Nigeria are the USA, United Kingdom, China, the Netherlands and France (UNCTAD, 2018). Nigeria FDI flows in 2017 dropped by 21% to reach 3.5 billion USD which could be as a result of political instability, lack of transparency widespread corruption

The relevance of FDI cannot be overemphasized. Its significant influence on the provision of new technologies, products, management skills and competitive business environment, overtime has been a strong impetus for economic growth. Many countries of the world, especially emerging economies favor policies that encourages the inflow of FDI because of its positive spillover associated with the provision of funds and expertise that could help smaller companies to expand and increase international sales and transfer of technology thus, forming new varieties of capital input (i.e. flow of services available for production from the stock of capital goods e.g. equipment, structures, inventories etc.) that cannot be achieved through financial investments or trade in goods and services alone.

Nigeria is one of the economies with great demand for goods and services and has attracted many FDI over the years since the discovery of crude oil. According to the World Bank, from 1970 to 1979, Nigeria recorded an average ratio of FDI net inflow of about 1.579 to GDP while from 1980 to 1989, the average ratio of FDI net inflow to GDP recorded stood at 1.947. Thus, in 1994 and 1993, the country made a remarkable record of 8.28 and 6.3 respectively. Since 1993 and 1994, the record was not an issue to contend with. To the greatest dismay, from 1995 to 2010, FDI, net inflow as % of GDP in Nigeria has not gone beyond 4.0 except in 1996, 1997, 2005 and 2009 the country made a record of 4.51, 4.25, 4.44 and 5.08 respectively. World Bank research contained in global development finance 2008 shows that Thailand attracted \$9.6 billion in 2007 while Nigeria attracted just about \$6.03 billion. Also, CBN (2010) annual report also indicated that total FDI inflow into the Nigerian in 2010 was about \$5.99 billion. The breakdown of the amount according to the report shows that FDI portion was just 12.2 percent or \$668 million. This represents a 78.1 percent drop from \$3.31 billion in 2009. In light of the

above, many Nigerians are lost in guesses of the likely causes of the insignificant inflow of FDI into the country. This has been a source of worry to both policy makers and government authorities. Asiedu (2022) asserted that the level of FDI attracted by Nigeria is indifferent compared with the resource based and potential need, taken into cognizance of the fact that Nigeria is the 8th ranked most populous nation and 32nd biggest economy in the world (CIA World fact book) with the endowment to do better than its counterpart South Africa as the Africa biggest economy following the statement of investment giant Morgan Stanley.

The Nigerian economy has long been in existence, it is as old as the nation itself. The value and quality of productive investments, especially since the early 1980s, raise concern, (Garba, 1958). As such, several governments in Nigeria have at one time or the other put forth different economic policies aimed at gaining economic independence through improved production capacity. Such policies include: Industrial Inspectorate Act 1970, National Industrial Property Act 1979, National office for technology Acquisition and Promotion (NOTAP) 1992 and so on. In order for the government to achieve her aim of economic independence, the government thought it wish to encourage FDI into the country, although it has often been alleged that FDI brings along possible balance of payment (BOP) problem but their great potential for accelerating the pace of economic progress of developing countries (Nigeria included) cannot be over emphasized. For instance, FDI brings about capital, technological know-how and foreign exchange which this country lacks so much. However, among economists and policy makes a likes, there are disagreements as to the benefit of FDI in the developing countries while some fashion attest to its developmental role others see it otherwise. This study broadly examined the impact of FDI on economic growth in Nigeria. The study specifically:

- i. Investigates the relationship between foreign direct investment and real gross domestic product (proxy for economic growth) in Nigeria.
- ii. Examine the effects of macroeconomic variables – inflation rate, exchange rate, lending interest rate and gross capital formation on real gross domestic product (proxy for economic growth) in Nigeria.

After the introduction, the remaining parts of the study are as follows: literature review, methodology, data analysis and interpretation and finally, summary of findings, discussion, conclusion, and policy recommendations.

2.0 LITERATURE REVIEW

This section entails conceptual, theoretical, and empirical reviews of the relevant literatures to this study.

Conceptual Review:

Foreign Direct Investment

Foreign direct investment is an investment made by an individual or a company (investor) in a country which is not the country of origin of the investor, in the form of either establishing business or acquiring business assets in the country. FDI is the extra resource a country needs in order to achieve economic growth. It is a combination of technology, marketing, capital and management. It provides a firm with new markets, marketing channels, easy admittance to new technology, skills, product, financing and production facilities. Foreign direct investment can be defined as a foreign investment that is a part or share of GDP which grows rapidly, it is turning into the largest origin of capital moving from developed countries to developing countries.

Economic Growth

The concept of economic growth usually refers to the increase in the inflation-adjusted market value of goods and services produced by an economy over a period of time. It is measured as the percentage rate of increase in real GDP usually in per capita terms. Growth usually is calculated in real terms i.e. inflation-adjusted terms. Economic growth also means increased growth in the level of output produced by a country over time and it crucially measures the economic performance of a country.

Foreign Exchange

An escalation in the value of a country's currency will have a favourable effect on the economy. The higher the value of a country's currency the more foreigners would like to invest in that country and vice-versa.

Interest Rate

Higher interest increases the value of a given country's currency. In this sense, higher interest rates can attract foreign investment because foreign investors would be attracted to the higher interest rate because they will receive a better return on the investment that they will get from the local market.

The determinants of capital formation

Capital formation is the main key to economic growth. It reflects effective demand and, on the other hand, it creates productive efficiency for future production. However, the level of impact of capital formation on economic growth depends on the intensity of its determinants. Thus, these determinants could be savings, foreign direct investment (FDI), gross domestic product (GDP), interest rate, population growth, money supply, exchange rate. In the opinion of most economists, it is believed that changes in any of these factors, affect capital formation either positively or negatively, which in turn affect the economy as a whole (Anyanwu, 1993).

Relationship between FDI and Economic Growth

There is an agreement which states that FDI has serve as an advantage to local firms by increasing growth which leads to productivity and efficiency. Developed nations have agreed that productivity has been the key to domestic firms. The FDI's importance in export promotion is said to be debatable and it relies on it solely for the purpose of investment. The main agreement is that FDI spill over depends on the capacity of the host country in order to absorb the type of investment nature and also foreign technology. The relationship between economic growth and FDI is tagged conditional depending on the country it is passing through. It has been asserted the extent to which FDI contributes to growth depends on economic and social conditions or in short the quality of the environment of the recipient country (Zhang, 2001).

Thus, employment opportunities are created through FDI in the hosting countries and this is done through direct employment in the domestic economy for operations, for forward and backward connections, leads to more employment creation in the economy due to growth. Growth can be generated through FDI and a steady state of growth over a period of time reduces poverty (Ajayi, 2006).

Foreign Direct Investment in Nigeria

According to UNCTAD (2019) report, Nigeria is the one of the popular economy for FDI in Africa. The nation is part of the encouraging bodies for growth in Africa and leads investors to the sector of hydrocarbon, energy, building, etc. the nation experiences impact of oil counter stun. UNCTAD indicated that FDI streams Nigeria totalled USD 1.9billion in 2018 and demonstrated a decline when estimated to last years (USD 3.5 billion in 2017) under the effects of austerity measures. Estimated at USD 99.6billion in 2018, the total shock of FDI represents 25.1% of the country's GDP. The important countries that invest in Nigeria include China, USA, Netherlands, United Kingdom and France. Nigeria has the intention of the diversifying its economy by staying away from oil and building a competitive manufacturing sector which would encourage interaction into global value chains and productivity. The recent merging of trade, investment and industry under the scope of the federal ministry of industry, trade and investment mirrors Nigeria's aim to successfully manage between these three key areas to increase its trading and investment mirror Nigeria's aim to successfully manage between these three key areas to increase its trading and investment condition. A portion of the country's advantages are a partially privatised economy, a good taxation system, abundant natural resources and low cost of labor. Problems such as political instability, corruption, lack of transparency and poor quality of infrastructure are restricting the country's FDI potential. In 2019, business report published by world bank ranked Nigeria as the 146th once drop compared to 2018 report. However, Nigeria has been attracting strong inflows from big American companies like Uber, Facebook as well as emergent payments and Meltware group. China has also been investing in the country especially in the aerospace, automobile and textile industries.

Theoretical Review:

Classical Theory

In broad terms, the classical theory claims that FDI and multinational corporations (MNCs) contribute to the economic development of host countries through a number of channels. These include the transfer of capital, advanced technological equipment and skills, the improvement in balance of payment, expansion of tax base and foreign exchange earnings, creation of employment and the integration of the host economy into international markets. These claims about FDI has been amplified by the phenomenal economic growth of the newly industrialized

countries like; Hong Kong, Taiwan, Singapore and South Korea especially in the 1980s and early 1990s (Muchlinski 1995) and more recently by china`s impressive growth. With its emphasis on the importance of FDI and limited state role, the classical doctrine has been propagated in recent years by international institutions and organizations like the United Nations (UN), the World Bank and the International Monetary Fund (IMF).

The Dependency Theory

Drawing from the experience of Latin America, proponents of this theory argue that relations of free trade and foreign investment with the industrialized countries are the main causes of under-development and exploitation of developing economies (Wilhelm and Witter, (1998). This theory focuses largely on the relationship between center and periphery. Well developed and industrialized countries are deemed to constitute the center and the least developed countries the periphery. In this regard, FDI is seen as a conduit through which the center exploits the periphery and perpetuates the latter`s state of underdevelopment and dependence.

Instead of promoting economic development, foreign investment strangles such development and perpetuates the domination of weaker states. MNCs are accused of being exploiters. These views are largely informed by the fact that multinationals have often been involved in the exploitation of natural resources with no corresponding benefits for host economies (UNCTAD, 1999). The dependency theory is very much a reaction against this “extractive nature” of FDI.

The Intervention/Integration/Middle Path Theory

The intervention or integrative school attempts to analyze FDI from the perspective of the host country as well as that of the investor. It incorporates arguments from both classical and dependency theorists. The theory posits that foreign investment must be protected but only to the extent of the benefit it brings the host state and the extent to which foreign investors have behaved as good corporate citizens in promoting the economic and social objectives of the host country. The theory calls for a mixture of intervention and openness in dealing with foreign investment and cautions against too much regulation or intervention. The theory recognizes that there are instances where the market is better placed to act and other instances where government intervention is necessary. What is needed therefore is a balancing act between those activities that can best be handled by the market and those that can be done by the government.

The Purchasing Power Parity Theory

According to this theory, the equilibrium rate of exchange is determined by the purchasing power of two inconvertible paper currencies being equal. It means that the internal price levels of two countries influence the rate of exchange between two inconvertible paper currencies. According to the Absolute Version, the rate of exchange equals the ratio of outlay required to buy a particular set of goods at home as compared with what it would buy in a foreign country while according to the Relative version, the equilibrium rate of exchange in the current period (R_1) is determined by the equilibrium rate of exchange in the base period (R_1) and the ratio of price indices of current and base period in one country to the ratio of price indices of current and base periods in the other country.

The Balance of Payments Theory

The balance of payments theory of exchange rate maintains that rate of exchange of the currency of one country with the other is determined by the factors which are autonomous of internal price level and money supply. It emphasizes that the rate of exchange is influenced, in a significant way, by the balance of payments position of a country.

Harrod-Domar Growth Theory

This theory was named after two famous economists, Sir Roy Harrod of England and Professor Evesey of United State of America who independently formulated the model in the early 1950's. This basic model assumes that it is a closed economy and that there is no government, no depreciation of existing capital so that all investment is net investment, and all investment (I) comes from savings (S). The model describes the economic mechanism by which more investment leads to more growth. For a country to develop and grow, it must divert part of its resources from current consumption needs and invest them in capital formation. Diversion of resources from current consumption is called saving. While saving is not the only determinants of growth, the Harrod-Domar model suggests that it is an important ingredient for growth. Its argument is that every economy must save a certain proportion of its national income if only to replace worn-out of capital goods. The model shows mathematically that growth is directly related to saving and indirectly related to capital output ratio. Suppose we define national income as Y , growth as G , capital output ratio as K , saving as S , and investment as I , and average saving

ratio as s , and incremental capital output ratio as k , then we can construct the following simple model of economic growth.

$$S=Y \quad (1)$$

Saving (S) is some proportion of national income (Y)

$$I = \Delta k \quad (2)$$

Investment (I) is defined as the change in capital stock (K)

$$G = \Delta Y/Y \quad (3)$$

Growth is defined as change in national income (ΔY) divided by the value of the national income.

But since the total stock, K , bears a direct relationship to total national income, or output Y , as expressed by the capital/output ratio k , then it follows that

$$K/Y=k \quad (4)$$

$$\text{Or } \Delta K/ \Delta Y = K \quad (5)$$

Finally, since total national saving (S) must equal total investment (I), we can write this equality as;

$$S=I \quad (6)$$

But from Equation (1) above we know that $S=Y$ and from Equations (2) and (3) we know that $I=\Delta K =k\Delta Y$. It therefore follows that we can write the identity of saving equaling investment shown by Equation (6) as

$$S=Y= k\Delta Y= \Delta k= I \quad (7)$$

$$\text{Or simple as } S.y = K\Delta y \quad (8)$$

$$\Delta Y/Y =G =s/K \quad (9)$$

The simplified version of the famous Harrod –Domar equation in the theory of economic growth implies that the rate of growth of GNP ($\Delta y/y$) is determined jointly by the national saving ratio, S , and national capital/output ratio, k . More specifically, it says that the growth rate of national income will directly or positively be related to saving ratio (the more an economy is able to save-and invest-out of given GNP, the greater will be the growth of that GNP) and inversely or negatively; relate to the economy's capital/output ratio (the higher the K , the lower

will be the rate of GNP growth). In order to grow, an economy must save and, therefore invest, a certain proportion of their GNP. The more an economy can save, the more it can grow for any level of the rate of growth depends on how productive the investment is (Bakare, 2011).

Empirical Review:

Oyegoke and Aras (2021) in their study says magnitude of the effect however does not entirely depend on the direct investment alone, other economic, social, political, and institutional structure affects the performance of FDI in the host country. It is pertinent to also note that FDI is an integral part of trade, hence policies that promote foreign investment and at the same time protect, supplement domestic production and investment, as well as complements the development goals of the host countries should be encouraged. The study recommends that for all FDI inflow into the country, at least 80% local content should be emphasized and closely monitored to ensure compliance, thereby strengthening the domestic markets and stimulating a sustained economic growth.

Susilo (2018), examined the impact of Foreign Direct Investment on Economic Growth in the United States, using multiple linear regression model and its estimation using ordinary least squares (OLS). This research classifies all the sectors to be 10 sectors. This research uses data for the period 2000 –2017 and suggests that not all forms of foreign investment seem to be beneficial to host economies. Some sectors provide positive correlation to economic growth and some provides negative effect. Nevertheless, it is significant yet, this is because there is different characteristic between developed and developing countries. Economic growth in the U.S is mostly driven by personal consumption.

Ugochukwu, Okoro and Onoh (2013) in their study on the impact of FDI using the ordinary least square method and granger causality test reached a conclusion that FDI has a positive and significant impact on economic growth. Interest rate was found to be positive and insignificant while exchanged rate positively and significantly affect the growth of the Nigerian economy.

Adeleke, Olowe and Oluwafolakemi (2014) also using the same methodology reached the conclusion that economic growth is directly related to inflow of FDI.

Okon, Jacob and Chuku (2011) using single and simultaneous equation systems pointed out that foreign direct investment and economic growth are simultaneously determined in Nigeria and there is positive feedback from FDI to growth and from growth to FDI.

Anfomum, Gambo and Suleiman (2013) in their study on the impact of FDI in Nigeria using

ordinary least square equation which was disaggregated into five equations, a co-integration and granger causality techniques concluded that foreign direct investment is a positive measure of economic growth.

Matthew and Johnson (2013) using ordinary least square (OLS) method in their paper “Accelerating Economic Growth in Nigeria, the Role of Foreign Direct Investment: A Reassessment” reached a result that foreign direct investment and domestic savings make significant contribution to the growth economy of Nigeria. In another study of theirs on the impact of FDI on employment generation in Nigeria also using ordinary least square regression, granger test, Dickey-Fuller and Augmented Dickey-Fuller (ADF) unit root test ascertained that FDI has a positive impact on employment generation.

Olumuyiwa (2013) in his study on the impact of FDI inflow on economic growth in a pre and post deregulated Nigeria economy covering the period 1970 to 2010 using Granger causality test ascertained that there is a causality relationship in the pre-deregulation era that is (1970-1986) from economic growth (GDP) to FDI inflow which means GDP causes FDI, but there is no causality relationship in the post-deregulation era that is (1986-2010) between economic growth (GDP) and FDI inflow which means GDP does not cause FDI. However, between 1970 to 2010 shows that there is a causality relationship between economic growth (GDP) and FDI inflow. That is, economic growth drives FDI inflow in the country and vice versa.

Onuoha and Oregwu (2013) using ordinary least square regression in their study on the determinant of FDI and the Nigerian economy reached a result that GDP does not bring about foreign direct investment. Transportation and communication exhibit positive relationship with FDI and the openness of trade are not significant.

Adaramolo and Obisesan (2015) in their study on the impact of FDI on the Nigerian capital market development using ordinary least square, ADF unit root test, and Johansen co-integration test reached a conclusion that Foreign Direct Investment impact positively and significantly on market capitalization.

Danja (2012) utilizing ordinary least square regression in his study on FDI revealed that FDI has a positive relationship with Gross Fixed Capital Formation and index of industrial production but FDI has not contributed much to the growth and development of the Nigerian economy.

Oyatoye , Adebisi, Anogundade, and Oluwakayado (2011) study on FDI, exports and economic growth in Nigeria resulted a positive relationship between foreign direct investment and grossdomestic product and a positive relationship between foreign direct investment and export. This result was reached using ordinary least square regression.

Akinlo (2004) investigates the impact of foreign direct investment on economic growth in Nigeria using data for the period 1970 to 2001. His error correction model (ECM) results show that both private capital and lagged foreign capital have small significant impact on export and economic growth.

Njogu (2013) examined the determinants of FDI in pre and deregulated Nigerian economy using multiple regression model, unit root test, co-integration and granger causality test in her analysis revealed that, exchange rate, inflation, and degree of openness in pre deregulated Nigerian economy had a negative and non-significant impact on foreign direct investment. While market size had a positive and non-significant impact on foreign direct investment. In deregulated Nigerian economy, exchange rate and degree of openness had a negative and non-significant impact on foreign direct investment. Inflation rate had a positive and non-significant impact and market size had a positive and significant impact on foreign direct investment in the Nigerian economy.

Bruno and Easterly (1998) investigated possible relationship between inflation and economic growth using cross country data. They found that inflation has negative effect on medium to long term economic growth and showed that the relationship is influenced by countries with extreme values (either very high or very low inflation). They argued that inflation rates in excess of a critical value of 40 per cent are inimical to growth and went ahead to investigating only cases of discrete high-inflation (40 per cent and above) crises. This yielded very robust empirical result that growth falls sharply during high inflation episodes and recovers rapidly as inflation falls to moderate levels.

Examining the non-linear relationship between inflation and economic growth, Burdekin (2000) showed that the effects of inflation on growth reverses substantially as the inflation rate rises. He concluded that the threshold at which inflation first begins to negatively affect growth is around 8 per cent for industrial economies and 3 per cent or less for developing countries. Also, Mallik and Chowdhury (2001) empirically examined the relationship between inflation and GDP growth for four South Asian countries (Bangladesh, India, Pakistan and Sri Lanka) using co-integration

and error correction models. They found evidence of a long-run positive relationship between GDP growth and inflation. They also discovered significant feedbacks between inflation and economic growth and concluded that the sensitivity of inflation to changes in growth rates is larger than that of growth to changes in inflation rates. This study puts the countries on a knife edge as they struggle to achieve non-inflationary growth. The challenge for them, therefore, is to find a growth rate that is consistent with a stable inflation rate, rather than beat inflation first to take them to a path of faster economic growth.

Li (2005) used data for 90 developing countries and 28 developed countries over the period 1961 – 2004 and found evidence of a nonlinear relationship between inflation and economic growth. He further showed that the form of nonlinearity in the inflation-growth relationship for developed countries differ from that of the developing ones. While two thresholds were found for the latter, only one threshold was detected for the former. He also studied the transmission channel through which inflation affects economic growth in a nonlinear manner. Based on theory and empirical findings, he identified two major transmission channels, which are the capital accumulation channel and the total factor productivity channel. He noted that inflation has been documented to affect economic growth either directly or via the behavior of the financial intermediaries. He opined that high and unstable prices affect the financial market and developments in the financial markets in turn affect the level and efficiency of investment and ultimately output growth. He concluded, through his empirical work, that for both developing and developed countries, the total factor productivity is the channel through which inflation adversely and nonlinearly affects economic growth.

Ewuabare and Ushie (2022) examined the relationship between exchange rate and economic growth in Nigeria between 1981 and 2020. The specific objectives are to determine the effects of exchange rate, inflation and interest rate on gross domestic product (GDP). The findings showed that exchange rate and inflation negatively impacted on economic growth. This finding indicates that increase in exchange rate and price level is detrimental to the growth of the Nigerian economy. There is evidence of a significant positive effect of interest rate on GDP growth.

Alasha (2020) examined the relationship between exchange rate fluctuations and its impact on the Nigerian economic growth using exchange rate, interest rate, inflation rate and trade balance as variables and data sourced from the Central Bank of Nigeria statistical bulletin and

publications from the National Bureau of statistics. Using the classical least regression model and ordinary least square method (OLS) and other techniques such as the Augmented Dickey Fuller test, Cointegration and Granger Causality test to analyze the data. The findings indicated that inflation rates and exchange rates negatively impacts GDP while interest rates have positive impact on GDP.

Akinwale (2018) examined the relationship between bank lending and economic growth in Nigeria between 1980 and 2016. Data sourced from the various issues of Central Bank of Nigeria Statistical Bulletin was analyzed through Dynamic Ordinary Least estimation technique. Data treatment was done through stationarity and cointegration tests. The unit root test showed that the variables were integrated at order on $I(0)$ except rate of bank lending, inflation and real exchange were integrated at order on $I(1)$. The result of cointegrated showed a long run relationship among the variables. The Results proved that a unit percent decrease in bank lending rate will bring about 118% increase in economic growth. Furthermore, the findings of Greenwood and Jovanovic Hypothesis established that as bank lending rate decreased, economic growth tend to increase and it is statistically significant at 1% level. The study concluded that a decreased in bank lending rate increased economic growth during the study period.

Eregha (2010) explored variations in interest rate and investment determination in Nigeria for the period 1970-2002 using dynamic model of two equations and found that inverse relationship exists between interest rate and investment.

Udoka and Anyingang (2012) investigated the effect of interest rate fluctuation on the economic growth of Nigeria. Ex-post facto research design was adopted for this study. Data for the study were obtained from the Central Bank of Nigeria statistical bulletin. Data collected were analyzed and tested using the ordinary least square multiple regression analytical technique. The result of the findings revealed that: there existed an inverse relationship between interest rate and economic growth in Nigeria, meaning that increase in interest rate will decrease GDP of the country, thus retarding growth of the real sector.

Nweke, Odo, and Anoke (2017) examined the effect of capital formation on economic growth in Nigeria. The study adopted co integration and vector error correction model in the analysis of the variables specified in the model in addition to VEC granger causality test. The result of the data analyzed showed that; Stable long run relationship exists between the dependent and independent variables as indicated by two (2) co integrating equations. In the VECM, it was found that gross

capital formation (GCF) has a positive insignificant impact on real gross domestic product (RGDP) in the short run and the long run.

Bakare (2011) studied capital formation and economic growth in Nigeria. The study covered 1979 – 2009 which is a period of thirty (30) years. The ordinary least square multiple regression analytical method was used to examine the relationship between capital formation and economic growth. The study tested the stationarity and co integration of Nigeria's time series data and used an error correction mechanism to determine the long-run relationship among the variables examined. Econometric results suggested the need for the government to continue to encourage savings, create conducive investment climate and improve the infrastructural base of the economy to boost capital formation and promote sustainable growth.

Summary of Literature

The literatures revealed that foreign direct investment has a positive impact on economic growth (see Ugochukwu, Okore and Onoh (2013); Ijeoma (2012); Chuku, Jacob and Umoh (2011); Anfofum, Gambo and Suleman (2013); Johnson and Mathew (2013); Adebisi, Arogundade, Oluwakayado and Oyatoye, Osaghale and Amenkhieman (1987), while others revealed a negative or inconclusive impact (Danja (2012)

Different studies were done on the determinant of FDI and some of the variables revealed to have significant impact on FDI include Transport, Communication, Trade openness, Market size, stability of the current, deregulation and exchange rate (see Njogo (2013). Finally, Susilo (2018) concluded that not all forms of foreign investment seem to be beneficial to host economies. Some sectors provide positive correlation to economic growth and some provides negative effect.

Bruno and Easterly (1998) investigated possible relationship between inflation and economic growth using cross country data. They found that inflation has negative effect on medium to long term economic growth and showed that the relationship is influenced by countries with extreme values (either very high or very low inflation). Burdekin (2000) showed that the effects of inflation on growth reverses substantially as the inflation rate rises. Mallik and Chowdhury (2001) and found a long-run positive relationship between GDP growth and inflation. Li (2005) used data for 90 developing countries and 28 developed countries over the period 1961 – 2004 and found evidence of a nonlinear relationship between inflation and economic growth. Ewuabare and Ushie (2022) examined the relationship between exchange rate and economic

growth in Nigeria between 1981 and 2020. The study showed that exchange rate and inflation negatively impacted on economic growth. Alasha (2020) examined the relationship between exchange rate fluctuations and its impact on the Nigerian economic growth using exchange rate, interest rate, inflation rate and trade balance and found that inflation rates and exchange rates negatively impacts GDP while interest rates have positive impact on GDP. Eregha (2010) explored variations in interest rate and investment determination in Nigeria and found that inverse relationship exists between interest rate and investment. Udoka and Anyingang (2012) revealed a negative relationship between interest rate and economic growth.

Nweke, Odo, and Anoke (2017) examined the effect of capital formation on economic growth in Nigeria and found that gross capital formation (GCF) has a positive insignificant impact on real gross domestic product (RGDP) in the short run and the long run.

Bakare (2011) studied capital formation and economic growth in Nigeria and Econometric results suggested the need for the government to continue to encourage savings, create conducive investment climate and improve the infrastructural base of the economy to boost capital formation and promote sustainable growth.

Contribution to the Study

We observed from the reviewed literatures that many authors focused more on investigating the relationship between foreign direct investment and economic growth – using gross domestic product as proxy for economic growth. However, this research work examines the impact of foreign direct investment on economic development – using gross national income per capita as proxy. The study captured a period of 31 years (1990 to 2020). The variables involved in this study are: dependent variable – real gross domestic product, while the following represent explanatory variables: Foreign direct investment (BoP, current US\$); Gross capital formation (constant 2010 US\$); Inflation rate (annual %); Real effective exchange rate index (2010 = 100); and Lending interest rate (%). This study enabled policy and decision makers to know how foreign direct investment impacts the development of a host country. Finally, this study added value to the body of knowledge and scholars in social sciences and other related areas.

3.0 RESEARCH METHODOLOGY

Research design

The study adopted the quantitative and ex- post facto research design in obtaining, analyzing and interpreting data relating to the objectives of the study. The ex- post facto design is most suitable in studies in which the investigation starts after the fact has occurred without interference from the researcher. The choice of this type of design allowed the researcher the privilege of observing variables over a long period of time.

Sources of Data

This study used secondary source of data. The periods of study covered thirty one (31) years from 1990 to 2020. Time series data were used in this study, and sourced mainly from the World Development Indicators (WDI) World Bank, Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS). Data were sourced for the following variables real gross domestic product as a proxy for measuring economic growth, while the following represent explanatory variables: Foreign direct investment; net inflows (BoP, current US\$); Gross capital formation (constant 2010 US\$); Inflation rate (annual %); Real effective exchange rate index (2010 = 100); and Lending interest rate (%).

Model Specification

This study is based on the classical and dependency theories as stated earlier. With some modification, the study adopted the work of Susilo (2018), which examines the impact of Foreign Direct Investment on Economic Growth in the United States using multiple linear regression model and its estimation using ordinary least squares (OLS).

This research adopted multiple regression model with five explanatory variables -. foreign direct investment (FDI), inflation rate, real effective exchange rates, lending interest rates and gross capital formation. While real gross domestic product (RGDP) formed the dependent variable.

Thus, the model specified in functional form as follows:

$$RGDP = f(FDI, IFLR, REXCR, LIR, GCF) \text{ ----- (3.1)}$$

In linear form, equation (3.1) can be transformed as:

$$RGDP = \beta_0 + \beta_1 FDI + \beta_2 INFR + \beta_3 REXCR + \beta_4 LIR + \beta_5 GCF \text{ ----- (3.2)}$$

Equation 3.2 above is the mathematical form of the equation. The econometric form of the equation can thus be written as follows:

$$RGDP = \beta_0 + \beta_1 FDI + \beta_2 INFR + \beta_3 REXCR + \beta_4 LIR + \beta_5 GCF + \mu \text{ ----- (3.3)}$$

In equation 3.3 the error term (μ) is a random variable that has well defined probabilistic Properties, which assumed to capture other exogenous factors that are capable of influencing investment growth.

Hence, the variables as depicted by the model are defined as follows:

RGDP - Real Gross Domestic Product (%)

FDI - Foreign Direct Investment (units)

INFR - Inflation rates (%)

REXCR - Real Effective Exchange (%)

LIR - Lending Interest Rates (%)

GCF - Gross Capital formation (units)

μ - random error while β_0 – Intercept; and β_1 to β_5 are parameters representing coefficients of the independent variables.

Apriori expectation: $\beta_1 > 0$; $\beta_2 < 0$; $\beta_3 < 0$; $\beta_4 < 0$; $\beta_5 > 0$

Null Hypothesis: $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = 0$

Method of Data Analysis

Impulse response analysis were performed on all the variables for proper understanding of the graphical distribution of the variables. Augmented Dickey Fuller unit root test used to test for stationarity of the data, in order to ascertain if the data will be stationary or not as it follows the assumptions of the classical linear regression model and also to determine the basis upon which further analysis of the data will be carried out. The ARDL Bound testing used to check for the existence of long run relationship between the variables. The Auto Regressive Distributed Lag (ARDL) estimating technique was adopted as developed by Pesaran and Shin (1999).

SECTION FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Impulse Response of the Variables from 1990 - 2020



Figure 4.1: Generalized Impulse of all variables

Source: Author's computation from E-view 10 software

4.2 Unit Root Test

Table 4.1: Augmented Dickey-Fuller Test

Variables	Level	1 st Difference	Order of Integration
RGDP	-2.745846 (-3.568379)	-4.053755*** (-3.587527)	I (1)
FDI	-3.898589** (-3.568379)		I (0)
INFR	-2.700541 (-3.568379)	-3.936454** (3.574244)	I (1)
REXCR	-2.470190 (-3.568379)	-7.942561*** (-3.632896)	I (1)
LIR	-4.013258*** (-3.568379)		I (0)
GCF	-5.192162*** (-3.574244)		I (0)

Source: Author's Computation from E-View 10 Software (*** represent 1% probability level and ** represent 5% probability level).

Table 4.1 shows that Foreign Direct Investment (FDI), Gross Capital Formation (GCF), and Lending Interest Rate (LIR) are stationary at level, while Real Gross Domestic Product (RGDP), Real Effective Exchange Rate (REXCR) and Inflation Rate (INFR) are stationary at first difference. The foregoing unit root tests indicate that the estimated model for this study is not spurious.

4.3 ARDL F-Bound Test

Having obtained the results of unit roots for all variables to be stationary at levels and first differences, we conduct bound co-integration test in order to know if there is a long run relation among the variables.

Table 4.2 F-Bound Test

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	6.869707	10%	3.8	3.8
k	0	5%	4.6	4.6
		2.5%	5.39	5.39
		1%	6.44	6.44

Source: Author’s Computation from E-View 10 Software

Table 4.2 showed that F-statistic is greater than lower and upper bound critical values at 5% and 1% respectively, therefore we can state that there exists a long run relationship among the variables. Thus, the variables will eventually attained a state of equilibrium or stable state.

4.4 Optimal Lag Length

Table 4.3

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1791.377	NA	2.75e+46	123.9570	124.2399	124.0456
1	-1719.286	109.3786*	2.42e+45*	121.4680*	123.4482*	122.0882*
2	-1687.813	34.72888	4.70e+45	121.7802	125.4578	122.9320

Source: Author’s computation from E-view 10 software

Table 4.3 shows that the maximum lag for the model is 1, owing to the fact that high numbers of lag selection criterion supported lag 1, which is indicated by (*).

4.5 ARDL Result and Interpretation

Table 4.4: ARDL Result – dependent variable (RGDP)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDP(-1)	0.506585	0.182152	2.781107	0.0109
LOG(FDI)	-0.331976	0.685141	-0.484537	0.6328
INFR	-0.073014	0.045838	-1.592897	0.1255
REXCR	0.004915	0.014729	0.333665	0.7418
LIR	0.522658	0.289003	1.808485	0.0842
LOG(GCF)	-7.222062	7.350997	-0.982460	0.3366
C	176.2998	178.5984	0.987130	0.3343
@TREND	0.198204	0.156674	1.265074	0.2191
R-squared	0.505059	Mean dependent var		4.456191
Adjusted R-squared	0.347578	S.D. dependent var		3.863441
S.E. of regression	3.120603	Akaike info criterion		5.337108
Sum squared resid	214.2396	Schwarz criterion		5.710761
Log likelihood	-72.05662	Hannan-Quinn criter.		5.456643
F-statistic	3.207111	Durbin-Watson stat		1.887733
Prob(F-statistic)	0.016919			

*Note: p-values and any subsequent tests do not account for model selection.

Source: Author’s computation from E-view 10 software

The R-square is 0.505059 and adjusted R-square is 0.347578, the foregoing results show that approximately 50% of the explanatory variables explained the dependent variable – real gross domestic product (RGDP). While the F-statistic value is 3.207111 at 1 % level of probability. The Durbin-Watson value is 1.887733 (approximately 2), which showed that the equation is not spurious and devoid of serial correlation.

Lag RGDP

The coefficient of previous year real gross domestic product (RGDP) is 0.506585, and significant at 1% level of probability. Thus, 100% increases in previous year real GDP leads on average to 51% increase in current year real gross domestic product. There exist a positive and

significant relationship between previous RGDP and current year real gross domestic (proxy for economic growth) within the period of study.

Foreign Direct Investment (FDI)

The coefficient of foreign direct investment is (-0.331976), and insignificant. Thus, 100% increases in direct investment leads on average to 33% decrease in real gross domestic product.

There exist a negative and insignificant relationship between foreign direct investment and real gross domestic product (proxy for economic growth) within the period of study.

Inflation Rates (INFR)

The coefficient of inflation rates is (-0.073014), and insignificant. Thus, 100% increases in inflation rates leads on average to 7.3% decrease in real gross domestic product. There exist a negative and insignificant relationship between inflation rates and real gross domestic product (proxy for economic growth) within the period of study.

Real effective Exchange Rate (REXCR)

The coefficient of real effective exchange rates is 0.004915, and insignificant. Thus, 100% increases in real effective exchange rate leads on average to 0.5% increase in real gross domestic product. There exist a positive and insignificant relationship between real effective exchange rate and real gross domestic product (proxy for economic growth) within the period of study.

Lending Interest Rate (LIR)

The coefficient of lending interest rate is 0.522658, and significant at 10% level of probability. Thus, 100% increases in real effective exchange rate leads on average to 52% increase in real gross domestic product. There exist a positive and significant relationship between lending interest rate and real gross domestic product (proxy for economic growth) within the period of study.

Gross Capital Formation (GCF)

The coefficient of gross capital formation is (-7.222062), and insignificant. Thus, 1% increases in gross capital formation leads on average to 7.22% decrease in real gross domestic product.

There exist a negative and insignificant relationship between gross capital formation and real gross domestic product (proxy for economic growth) within the period of study.

Residual Diagnostic:

Table 4.5: Correlogram Q statistic

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob*	
. * .	. * .	1	-0.091	-0.091	0.2734	0.601
. **	. **	2	0.298	0.292	3.3173	0.190
. * .	. * .	3	-0.202	-0.172	4.7679	0.190
. *	. *	4	0.204	0.115	6.2986	0.178
. .	. .	5	-0.063	0.054	6.4530	0.265
. *	. .	6	0.166	0.054	7.5570	0.272
. * .	. .	7	-0.077	-0.018	7.8025	0.350
. **	. *	8	0.250	0.199	10.540	0.229
*** .	*** .	9	-0.352	-0.354	16.217	0.062
. .	. * .	10	0.022	-0.140	16.241	0.093
. ** .	. .	11	-0.260	-0.020	19.654	0.050
. .	. * .	12	0.003	-0.193	19.654	0.074
. * .	. * .	13	-0.173	-0.070	21.353	0.066
. * .	. * .	14	-0.073	-0.084	21.669	0.086
. * .	. .	15	-0.133	-0.063	22.805	0.088
. * .	. * .	16	-0.120	-0.173	23.795	0.094

Source: Author's computation from E-view 10 software

Table 4.5 showed the correlograms of Q statistic which can be used to check autoregressive conditional heteroskedasticity (ARCH) in the residuals. We confirmed that in the estimated equation/model there is ARCH in the residuals, the autocorrelations and partial autocorrelations are not zero at all lags and the Q-statistics are significant.

Table 4.6: Correlogram of residual squared

Autocorrelation	Partial Correlation	AC	PAC	Q-Stat	Prob*	
. * .	. * .	1	-0.131	-0.131	0.5724	0.449
. .	. .	2	0.061	0.045	0.7017	0.704
. * .	. * .	3	-0.080	-0.068	0.9316	0.818
. .	. .	4	-0.018	-0.039	0.9430	0.918
. * .	. * .	5	-0.151	-0.155	1.8168	0.874
. .	. * .	6	-0.027	-0.072	1.8470	0.933
. * .	. * .	7	-0.141	-0.155	2.6766	0.913
. * .	. * .	8	0.150	0.095	3.6590	0.887
. .	. .	9	0.031	0.057	3.7016	0.930
. .	. * .	10	-0.061	-0.113	3.8793	0.953
. ** .	. ** .	11	0.276	0.265	7.7405	0.736
. * .	. * .	12	-0.108	-0.080	8.3608	0.756
. .	. * .	13	-0.060	-0.097	8.5669	0.805
. .	. * .	14	0.045	0.103	8.6895	0.850
. .	. .	15	0.026	0.065	8.7332	0.891
. .	. .	16	-0.047	-0.000	8.8827	0.918

Source: Author's computation from E-view 10 software

Table 4.6 showed the correlogram of the residual square and we confirmed that in the estimated equation/model there is ARCH in the residuals, the autocorrelations and partial autocorrelations are not zero at all lags and the Q-statistics are significant.

5.0 SUMMARY OF FINDINGS, DISCUSSION, CONCLUSION, AND POLICY RECOMMENDATIONS

Summary of findings

There exist a positive and significant relationship between previous RGDP and current year real gross domestic (proxy for economic growth) within the period of study.

There exist a negative and insignificant relationship between foreign direct investment and real gross domestic product (proxy for economic growth) within the period of study.

There exist a negative and insignificant relationship between inflation rates and real gross domestic product (proxy for economic growth) within the period of study.

There exist a positive and insignificant relationship between real effective exchange rate and real gross domestic product (proxy for economic growth) within the period of study.

There exist a positive and significant relationship between lending interest rate and real gross domestic product (proxy for economic growth) within the period of study.

There exist a negative and insignificant relationship between gross capital formation and real gross domestic product (proxy for economic growth) within the period of study.

Discussion

The negative and insignificant relationship between foreign direct investment and real gross domestic product within the period of study is contrary to apriori expectation of positive relationship between real gross domestic product and foreign direct investment. The foregoing result is contrary to the works of Ugochukwu, Okoro and Onoh (2013), Ijeoma (2012), Adeleke, Olowe and oluwafolakemi (2014), Okon, Jacob and Chuku (2011), Anfofum, Gambo and Suleiman (2013), Adebisi, Anogundade, Oluwakayado and Oyatoye (2011), Osaghale and Amenkhieman (1987) and Adaramolo and Obisesan (2015), which concluded that FDI has a positive and significant impact on economic growth. While the foregoing result supports the works of Onuoha and Oregwu (2013), and Danja (2012), which stated a negative relationship between foreign direct investment and economic growth.

The negative and insignificant relationship between inflation rates and real gross domestic product within the period of study agreed with the apriori expectation of negative relationship between real GDP and inflation rate. The foregoing result agreed to the works of Bruno and

Easterly (1998), Burdekin (2000), and Li (2005), which found that inflation has negative effect on medium to long term economic growth. However, the result is contrary to the work of Mallik and Chowdhury (2001) and found a long-run positive relationship between GDP growth and inflation.

The positive and insignificant relationship between real effective exchange rate and real gross domestic product. The foregoing result supports apriori expectation that effective exchange rate has positive relationship with real gross domestic products. Also, the foregoing result agreed to the work of Ewuabare and Ushie (2022), while the works of Alasha (2020) and Eregba (2010) disagreed by stated that inflation rates and exchange rates negatively impacts GDP.

There exist a positive and significant relationship between lending interest rate and real gross domestic product (proxy for economic growth) within the period of study. The foregoing result is contrary to apriori expectation which stated that a negative relationship exists between interest rate and real gross domestic product. The works of Akinwale (2018), Eregba (2010), as well as that of Udoka and Anyingang (2012) agreed with the foregoing mentioned result, which found an inverse relationship between interest rate and economic growth. Thus, the increase in interest rate will slow down investment and output of goods and services which will negatively influence real sectors of the economy.

There exist a negative and insignificant relationship between gross capital formation and real gross domestic product (proxy for economic growth) within the period of study. The foregoing result is contrary to the apriori expectation which stated a positive relationship between gross capital formation and real gross domestic product. This finding is contrary to the works of Nweke, Odo, and Anoke (2017), and Bakare (2011) which stated a positive impact of gross capital formation on real gross domestic product (RGDP) in the short run and the long run.

Conclusion

In an attempt to investigate the relationship between foreign direct investment and real gross domestic product (proxy for economic growth) in Nigeria, this study concluded that there was a negative and insignificant relationship between foreign direct investment and real gross domestic product (proxy for economic growth).

In addition, the study examined the effects of macroeconomic variables – inflation rate, exchange rate, lending interest rate and gross capital formation on real gross domestic product

(proxy for economic growth) in Nigeria. The study concluded negative relationships between economic growth and foreign direct investment as well as gross capital formation respectively. While the study also concluded positive relationships between exchange rate and lending interest rate respectively and economic growth in Nigeria.

Policy recommendations

The following recommendations are therefore drawn from the findings of the study.

- i. Nigeria government should improve their efforts to increase foreign direct investment so as to increase economic growth.
- ii. Nigeria economy should establish growth inclined inflation rate threshold that will enhance economic growth.
- iii. Nigeria government should maintain effective exchange rate that will speed up her economic growth.
- iv. Nigeria government should use reduced lending interest rate to improve investment and enhance economic growth.
- v. Nigeria economy needs to improve her gross capital formation so as to increase economic growth.

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