Trade openness, Foreign Direct Investment, and Economic Growth in Nigeria

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***Abstract*: The relationship between trade openness and foreign direct investment in the economic growth in Nigeria has been a subject of debate in most economic literature. The study, therefore, looked at the effect of trade openness and foreign direct investment on economic growth in Nigeria within a temporal scope between 1986 and 2021. The study made use of the Solow growth model and thus included the unemployment rate as a moderating variable along with the segregation of exports component of trade openness into oil and non-oil exports. The Autoregressive Distributed Lag (ARDL) was employed as the method of analysis and it was discovered that non-oil export had a positive and significant effect on economic growth while oil export had a positive but insignificant relationship with economic growth. The unemployment rate was found to have an insignificant and negative effect on economic growth in Nigeria. However, foreign direct investment was found to be positive and insignificant. The study also discovered that there is no long-run co-integrating equilibrium relationship between trade openness, FDI, unemployment rate, and economic growth. Thus it was suggested that there was a need for more funds to be allocated to the non-oil productive sector of the economy so as to boost productivity from the sector and as well as to reduce the unemployment rate.**

***Keywords*: Trade openness, Foreign Direct Investment, Economic growth, Solow growth model, Autoregressive Distributed Lag**

I. INTRODUCTION

International trade serves as an exchange of capital, goods, and services across international borders. International trade is known to encourage the economy of a nation and also serves as a key component of globalization (Barisua & Omiete, 2016). According to the Economic Watch (2010), when international trade is practiced in the appropriate manner, it has the tendency to open up available opportunities in the global markets to the entrepreneur of the developing nation. Trade plays an essential role in achieving economic growth in any country, especially developing countries. It also helps to tackle problems of high unemployment and increasing poverty levels, it triggers commerce, industry, and multicultural tastes and lifestyles, it also promotes world peace and integration and also promotes financial development (Barisua & Omiete, 2016). Pradhan, et al. (2017) noted that one of the most important characteristics of economic growth and development in both developing and developed nations is the proper development of the financial system. They further outlined four vital ways through which financial development can spur economic growth which are through efficiency in the roles of financial intermediaries, improvement in allocating resources, increased savings, and promotion of the financial markets.

In the words of Ishola, Ajayi, Onafowokan, and Giwa (2013), Nigeria started international trade during the period of the Trans-Sahara trade in the 16th century and the colonial period saw more trade openness due to the discovery of crude oil in the country in commercial quantity. However, the contributions of trade in the growth process of any economy depend on the specific objective in which it serves. While it has helped a number of countries, especially the East Asian countries to achieve economic growth and development at a faster pace, other developing countries have limited benefits from trade openness (Ishola et al., 2013).

Samuelson & Nordhaus (2010) gave some significance to international trade. According to them, international trade expands trading opportunities as it gives room for countries to enjoy different products produced around the world. Secondly, it regulates the flow of labour, goods, and finance across borders, hence, building on foreign exchange; and thirdly, it encourages international finance and ensures a smooth flow of the exchange of different international currencies. According to the World Bank Report, in 2017, global trade grew by 10.5% although trade in 2016 was contracted by 4%. In 2015, world trade grew by 2% and 3.4% in 2014. International trade contributes about 27% to the global economy. However, due to the prevalence of the COVID-19 pandemic on the world economy, world trade in goods and services for the year 2020 declined by 12% when compared to its value in 2019. The World Trade Organization however opined that world trade in goods and services slowed to 2.1% in the first quarter of 2021 while its year-on-year growth increased by 4.3%. Integration among the world economies has allowed for easy entrance of high-technological innovations for entrepreneurs so as to improve productivity.

According to Sukar & Ramakrishna (2002), external sector openness reduces the barriers to international trade, thus such countries experience a competitively higher Gross Domestic Product (GDP) growth rate. Trade liberalization accelerates productivity and expansion. An increase in the real effective exchange is an indication that local currencies are depreciating relative to foreign currencies. Therefore, a higher real effective exchange rate is associated with higher openness and vice versa.

These palpable weaknesses of openness can be found in the Nigerian economy. Despite the country being the largest economy in Africa, her export base is yet to be diversified (Olaleye, et al., 2015). Nigeria has not considered much depth, exploring opportunities in other sectors of the economy and became an overreliance on oil exports.

Foreign Direct Investment (FDI) connotes investment and direct management of portfolios by foreigners in a domestic economy. FDI increases foreign technological transfer which impacts export competitiveness. Yiner (2011) opined that innovation in research and development can be initiated with higher investment returns and a well-developed patent right.

The low ratio of national savings to finance is one of the fundamental problems of developing countries. Investors constantly need funds, both direct and indirect, to finance their investments. Due to the commercial bank debts crisis in the 1980s, many economies sought other ways of getting funds for their investments. Thus, FDI became the easiest and cheapest way to finance investments without any risks linked to the debt. Agiomirgianakis, Asteriou, & Papathoma, (2003) suggested that FDI is mostly defined as capital flows resulting from the behavior of multinational companies (MNCs).

FDI has substantially increased due to the following factors; rapid technological progress, the emergence of globally integrated production and marketing networks, the existence of bilateral investment treaties, recommendations from multilateral development banks, and positive evidence from developing countries (Asian Development Outlook ADB, 2004). FDI is a fundamental parameter for economic growth and development (Daniel & George, 2017). Julio, Pinheiro-Alves, & Tavares (2013) looked at FDI inflow as a source of economic development, modernization, income growth, employment, and poverty reduction factors. Studies have also shown that FDI inflows can affect the growth of countries both negatively and positively (Gorg & Greenway, 2004; Asiedu & Gyimah-Brempong, 2008).

Economic growth is an important macroeconomic goal of every economy whether it is a developing or developed one. Every government, all over the world, strives to achieve economic stability in its policymaking. It is also important to note that every economy, in its pursuit to achieve economic growth, would increase the volume of international trade as well as attract foreign direct investment. Economic growth is the successive increase in the total quantity of goods and services produced in a country over a period of time. In the case of the Nigeria economy, economic growth and development have been hindered due to a number of factors like insecurity, poor managerial skill, inadequate technological progress, poor infrastructure, and corruption by the political class. Hence, the pace of growth, despite the huge attraction of FDI cannot be said to be commensurate.

Statement of Problem

Schumpeter (1911) examined how financial development affects economic growth and since his study, other scholars Bhattarai (2015); Greenwood and Scharfstein (2013), and Herwartz and Walle (2014) have examined the nexus between financial development indicators and economic growth. Furthermore, other studies have looked at how trade openness and foreign direct investment influence the growth process of a country (Chen & Emile, 2013; Otchere, Soumare & Yourougou, 2016). Using data from the CBN statistical bulletin, it can be seen that there is a steady low value for oil exports in Nigeria since 1986. However, a significant increase was experienced in the oil exports in Nigeria till 2011 with a value of ₦14.3billion before a decline was seen in 2012 to 2015, from ₦14.1billion in 2013 to ₦8.1billion in 2016. Furthermore, in 2018, oil exports were ₦20.48 billion; it fell slightly to ₦19.73 billion in 2019 and further fell to ₦12.00 billion in 2020 due to the effect of COVID-19 on oil prices over the world. Non-oil exports in Nigeria over the years first experienced a rise in 1995. Although there was a drop in 1999, it increased, reaching its peak in 2013 with a value of ₦1.1billion. Non-oil exports in Nigeria for the year 2018 were ₦1.69 billion; it increased to ₦3.79 billion in 2019, falling due to the pandemic to ₦1.74 billion in 2020. However, since 2013, non-oil exports have been decreasing in Nigeria. The growth process of the Nigerian economy has been experiencing a constant rise. A substantial rise in GDP was experienced in 2001 with a value of ₦8.1billion and in 2016, GDP was ₦101.5billion.

This study takes a combination of the economic growth features of trade openness, and foreign direct investment, and examines their impact on a fast-developing country like Nigeria under the following research questions. Could the persistent rise in the GDP of Nigeria be due to the introduction of the Structural Adjustment Programme (SAP) which gave way for trade liberalization? This is a part of the questions the study intends to provide answers to. Other research questions are; what effect does trade openness have on the economic growth of Nigeria since the SAP era? Secondly, what is the relationship between FDI and GDP?

This study contributes to the body of knowledge by separating exports as a ratio of GDP into the oil and the non-oil export components. The study also employs the use Auto-Regressive Distribution Lag, which is a means of measuring instantaneous and long-run effects of trade openness on economic growth. It also serves as a contribution to literatures on economic growth. The main objective of this study, therefore, is to ascertain the effect of trade openness and FDI on economic growth of Nigeria. Specifically, the study looks at the effects of FDI on the economic growth in Nigeria using the auto regressive distributed lag method, Secondly, the study examines the effect of trade openness on gross domestic product, however, the trade openness will be dichotomized into its oil and non-oil components.

II. LITERATURE REVIEW

Conceptual Review

Economic Growth vs. Economic Development

Jhingan (2011) defined economic growth as not just an improvement or increase in the output derived from greater amounts but also greater efficiency while economic development involves changes in the composition of output and in the allocation of inputs by sectors. This means that economic growth does not only mean a sustained increase in output level but also an increase in output per unit of input. A country is said to experience economic growth when there is a sustained increase in per capita income, expansion in the labour force, improvement in consumption, availability of capital for expansion, and improvement in the country's balance of trade. However, development involves growth plus upward movement in the entire social system. It refers to growth plus improved changes in the institutional arrangement, welfare of the people, full employment, infrastructural development, knowledge, reduction in poverty and inequalities.

Trade Openness

About-Stait, (2005) opined that the effects of trade on economic growth are visible by increasing economies of scale, improving allocation of resources, greater inflows of FDI and technology transfer, improved managerial and workers' skills, enhancing capital formation, enhancing job creation and increasing the productivity capacity of the economy. Saibu (2004) measures growth of exports and imports as an indication of openness of an economy. He provided a robust measure of trade openness as share of imports plus exports measured by GDP and in its narrow context, trade openness is the ratio of imports or exports to GDP.

A country with higher degree of openness has a greater ability to use technologies generated in advanced economies, and this capacity leads them to grow more rapidly than a country with low degree of openness (Yaya, 2017). Economic growth and economic development

Foreign Direct Investment (FDI)

According to the United nations 1999 World Investment Report (UNCTAD, 1999) FDI is simply defined as an investment involving a long-term relationship and reflecting a lasting interest and control of a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise, affiliate enterprise or foreign affiliate. According to World Bank 1996; FDI is defined as an investment made to acquire a long term ownership and controlling interest (at least one-tenth of the equity) in a firm operating outside the investors' own country. Foreign direct investment relates to trade in diversionary aspect of regional integration. This occurs when there are location advantages for foreign companies in their home country but the existence of tariffs or other barriers of trade prevent the companies from exporting to the host country. (Daniel & George, 2017).

Investments may take the form of either "greenfield" investment (also called "mortar and brick" investment) or merger and acquisition (M&A), which entails the acquisition of existing interest rather than new investment (Ishola, Ajayi, Onafowokan, & Giwa, 2013). Portfolio investment is different from FDI. Portfolio management deals with the ownership of less than 10% in the investment. FDI can also be in the form of earnings reinvested, capital transfer between companies and their affiliates. IMF (1999) explained FDI as the long-term investment reflecting a lasting interest and control, by a foreign direct investor (or parent enterprise), of an enterprise entity resident in an economy other than that of the foreign investor. FDI comprises not only merger and acquisition and new investment, but also reinvested earnings and loans and similar capital transfer between parent companies and their affiliates. However, despite the perceived need for FDI in the developing countries, the efforts of most countries to attract FDI have been futile. The pattern of the FDI that does exist is often skewed towards extractive industries, meaning that the differential rate of FDI inflow into sub-Saharan African countries has been adduced to be due to natural resources, although the size of the local market may also be a consideration (Morriset 2000; Asiedu, 2001).

Theoretical Review

The Solow Growth Model

The Solow model was built as an alternative to the Harrod-Domar growth model by Robert Solow and Trevor Swan in 1956. On like other growth models, the Solow growth model serves as a measurement of the long-run economic growth of nations through capital accumulation, labour or population growth, and an increase in productivity as a result of technological progress. The model is based on some assumptions that includes the following; one composite commodity is produced in the country; there must be an allowance for capital depreciation before net output is attained; and there is a constant return to scale. Solow postulated that given that inputs of capital and labour can be substituted, there will be a continuous production function linking output to the inputs of capital and labour. There would be a tendency for the capital-labour ratio to adjust itself through time in the direction of the equilibrium ratio given the variable technical coefficient. Solow concluded that for growth to be sustained, the time path of capacity accumulation must be followed if all available labour is to be fully employed. Given that population grows exogenously, the labour force increases at a constant relative rate to population. Solow postulated a continuous production function linking output to the inputs of capital and labour which leads to the steady state equilibrium of the economy.

Empirical Review

Saibu (2004) in his study on trade openness and economic growth in Nigeria; further evidence on the causality issue, investigated the causality between openness variables like total trade as a measure of GDP and economic growth. In his study, he discovered that there is a unidirectional causality from trade openness to economic growth. He also found out that there exist a long-run relationship between economic

growth and openness. On the contrary, Olabanji Olukoya & Okodua (2014) found that there is a unidirectional causal relationship from economic growth to trade (a measure of openness) in their study which was aimed at examining the applicability of the Export-Led Growth hypothesis for Nigeria.

Furthermore, in a study to determine the extent to which liberal policy had benefitted the Nigeria economy, Olaleye et al. (2015) discovered that a unique long-run relationship exist between trade openness and economic growth in Nigeria. Using the Ordinary Least Square for data analysis, the study equally discovered that trade openness impact positively on the economic growth of the country but this impact is significantly small due to the delay in policy implementation. However, Ishola et al. (2013), in their study on trade openness and economic growth in Nigeria (1981-2009) used the Ordinary Least Square to measure the impact of trade openness on GDP in Nigeria. The study employed FDI, total trade, non-oil exports, exchange rate, openness (total trade as a ratio of GDP) and the balance of payment as variables for the study, their study found out that trade openness and FDI and other intervening external sector variables do not determine economic growth in Nigeria.

In other studies, different authors tried to examine the effects of trade openness on economic growth in other developing countries, diverse results were reported. Ofori & Asumade (2017) embarked on an empirical analysis of FDI, Trade and economic growth in Ghana. The study used the Ordinary Least Square to find out the effects of FDI inflows and trade in the economic development process of Ghana. Their study used the real GDP, total productivity factor of the country, inflation rate, foreign aid, and gross fixed capital formation as a ratio to GDP as variables to measure growth in Ghana. The study found out that there is a long-run relationship between GDP growth and trade in Ghana. The study also discovered that FDI has a negative effect on the economic growth in Ghana. Pandhi (2007) looked at the relationship between exports and growth in some selected African nations. The study analyzed the different theories behind the role that exports plays in the growth process of these countries using the regression analysis. The study supports the export-led growth hypothesis. In the study on the relationship between exports and economic growth in the industrial sector in Iran, a developing country, the impact of industrial export on growth of value added in different industries across Iran was the objective of the study. The study used variables such as exports, capital stock, workforce and value added in the study. It was discovered in the study that industrial export has a positive and significant impact on economic growth in nine sigma industries in Iran. Abu & Soufari (2014) examined the relationship between exports and growth in a small developing economy, Jordan from 2000-2012. Using some descriptive statistics, the study found out that there is evidence of unidirectional causality between export and economic growth in Jordan. The direction of this causality runs strictly form economic growth to export.

Oladipo (1998) measured the degree of openness as the ratio of total trade (export plus import) to GDP and as the ratio of export to GDP. Based on a sample period of 27 years (1970 to 1996), Nigerian quarterly data, the results showed that when the export/GDP ratio was used as a measure of openness it correlated positively with GDP growth. But, the conventional broad measure (import plus export) to GDP indicated a negative relationship. Olomola (1998) used the endogenous growth model to explore the long-run relationship between openness and economic growth. He adopted Dickey-Fuller and Augmented Dickey-Fuller test to examine the Stationarity properties of the variables. Openness was proxy by export/GPD and total trade/GDP for sample period of 1960 to 1998, he found that total trade/GDP, has no significant relationship with long-run growth in Nigeria.

III. METHODOLOGY

This study makes use of the ex-post facto research design because the data collected in this study are of a secondary nature. The study is limited to the Nigerian economy and therefore employs data from 1986 to 2021, collecting these secondary data from the Central Bank of Nigeria (CBN) statistical bulletin. This study adopts the Solow growth model as earlier used by Daniel & George (2017) thus; Y_t= f (A, K, L) where A= g (openness, capital, inflation, aid). Where K & L are capital and Labour respectively. The study is analyzed using the auto-regressive distributed lag and the bounds test for the long-run cointegration. The measure for openness in this model was total trade as a percentage of GDP. However, in this study, exports as a percentage of GDP will be used as a proxy for trade openness. This will be segregated into oil and non-oil exports. Consequently, the research model will be;

Y_t = f (OXGDP, NOXGDP, FDI, L).

$GDP= \alpha_0 + OXGDP\beta_1 + NOXGDP\beta_2 + EXCH\beta_3 + FDI\beta_4 + L\beta_5 + \mu$ ……..(i)

Where; OXGDP is oil export as a percentage of GDP, NOXGDP is non-oil export as a percentage of GDP, FDI is foreign direct investment, L is labour variable as proxy by the unemployment rate in Nigeria and μ is the stochastic error term.

ARDLs are standard least squares regressions which include lags of both the dependent variable and explanatory variables as regressors (Greene, 2008). Although ARDL models have been used in econometrics for decades, they have gained popularity in recent years as a method of examining long-run and cointegrating relationships between variables (Pesaran and Shin, 1999).

An ARDL is a least squares regression containing lags of the dependent and explanatory variables. ARDLs are usually denoted with the notation ARDL(), where is the number of lags of the dependent variable, is the number of lags of the first explanatory variable, and is the number of lags of the *k*-th explanatory variable.

An ARDL model may be written as:

$y_t = \alpha + \sum^{p}_{i=1} \gamma_i\ y_{t-1} + \sum^{k}_{j=1} \sum^{qj}_{i=0} X_{j,\ t-1}\ 'β_{j,\ I} + \varepsilon_t$ ……(ii)

Where: p is the number of lags of the dependent variable, q1 is the number of lags of the first explanatory variable and qk is the number of lags of the k-th explanatory variable.

$LGDP_t = \alpha + \sum^{2}_{i=1} \gamma_i\ LGDP_{t-1} + \sum^{2}_{j=1} \sum^{2j}_{i=0} LNOIL + LOIL + LFDI + U_{j,\ t-1}\ 'β_{j,\ I} + \varepsilon_t$ …(iii)

Where:

LGDP is the natural logarithm of gross domestic product,

LNOIL is the natural logarithm of non-oil exports,

LOIL is the natural logarithm of oil exports,

LFDI is the natural logarithm of foreign direct investment, and

U is the unemployment rate.

This study will use secondary data sourced mainly from CBN statistical bulletin and the National Bureau of Statistics. Data relating to the variables contained in the model were obtained from 1986-2020. 1986 was the year in which SAP was introduced which connotes the period of trade and economic liberalization in Nigeria. The auto regressive distributed lag will be employed for data analysis.

IV. DATA PRESENTATION AND ANALYSES

Descriptive Statistic

Descriptive statistics in this study consider important elements such as the mean, standard deviation, skewness and kurtosis for the variables used in the study where the interaction of data are described as given thus.

Table 1 Summary of Descriptive Statistics

Variables	OBS	Mean	Std. Dev	Min	Max
GDP	35	28,720.25	35,400.52	202.43	113,711.6
NOIL_EX	35	280.04	378.69	0.55	1,130.17
OIL_EX	35	4,839.82	5,103.80	8.37	14,323.15
FDI	35	425.62	454.82	0.73	1,360.30
U	35	11.36	7.69	1.8	27.40

Source: Researchers Computation, 2022.

The above presented Table 1 presents the summary of the descriptive statistics for the parameters used specifically Gross Domestic Product, Non-Oil Export, Oil Export (proxies for trade openness), Capital Flight, and Unemployment Rate. Gross domestic product has a mean value of ₦28,720.25 Billion; the average value for the export of non-oil products in the economy is ₦280.04 Billion; oil export has an average value of ₦4,839.82; the mean value for foreign direct investment into the economy is ₦425.62 Billion; while the unemployment rate has an average rate of 11.37% for the period of study.

The gross domestic product has a minimum value of ₦202.43 Billion and a maximum value of ₦113,711.6 Billion; non-oil export is minimum at ₦0.55 Billion and it is highest at ₦1,130.17; oil export stood highest at ₦14,323.15 while it is lowest at ₦8.37; FDI is minimum at ₦0.73 Billion and it is maximum at ₦1,360.30; and the unemployment rate is minimum at 1.8% while the maximum rate is 27.40%.

Correlation Matrix

Table 2 shows the correlation values between the dependent and independent variables and covariance matrix (amongst themselves). The correlation matrix depicts the level of association between and among all pairs of variables given the level of significance.

Table 2 correlation matrix

Variables	GDP	NOIL_EX	OIL_EX	FDI	U
GDP	1.0000				
NOIL_EX	0.93	1.0000			
OIL_EX	0.88	0.93	1.0000		
FDI	0.83	0.85	0.93	1.0000	
U	0.75	0.82	0.89	0.82	1.0000

Source: Researchers Computation, 2022.

From the result of the correlation presented above, gross domestic product and non-oil export have a strong and positive association. This implies that non-oil export and gross domestic product have a direct association such that an increase in non-oil export will lead to an increase in the gross domestic product. Gross domestic product and oil export also have a direct and strong association; a strong and positive correlation is found between FDI and gross domestic product. Unemployment rate is found to be positively correlated with FDI, GDP, non-oil exports, and oil exports.

Non-oil export and oil export have a strong and positive association with each other, a strong association is found between non-oil export and FDI and a positive correlation is found to exist between unemployment rate and non-oil export. FDI and oil export exert positive and strong correlation just as a positive and strong association is found between oil export and unemployment rate.

Stationarity Test

The Augmented Dickey Fuller Unit Root test is observed at level and at first differenced. The summary of the ADF unit root test is given in Table 4.3 below.

Table 3. Summary of the Test of Stationarity at Level and First Difference

Var	t-stat	Cri-val	p-val	Var	t-stat	Cri-val		p-val	Remark
LGDP	-3.52	-2.96	0.0139	-	-	-	-		I(0)
LNOI	-1.7	-2.96	0.40	LNO	-	-2.96		0.00	I(1)

L	2		96	IL	6.45			00	
LOIL	-3.04	-2.96	0.0413	-	-	-		-	I(0)
LFDI	-2.69	-2.96	0.0863	LFDI	-9.04	-2.96		0.0000	I(1)
U	-0.95	-2.96	0.7556	U	-4.47	-2.96		0.0013	I(1)

Source: Researcher's Computation, 2022.

The result of the ADF unit root indicates that gross domestic product is stationary at level, non-oil export is stationary after first differencing, oil export is stationary at level, foreign direct investment is stationary at first difference, and unemployment rate is also stationary at first difference. The result of the stationarity test shows that the variables have mixed levels of stationarity between first difference and level. As such, the study will make use of the Autoregressive Distributed Lag as the method of analysis due to the stationarity of the series employed. However, before the ARDL, the study is subjected to a Vector Autoregressive (VAR) Test to determine the lag length to be used in the study.

Table 4. Summary of the VAR Lag Length Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-104.6205	NA	0.001321	7.560032	7.795773	7.633863
1	11.65170	184.4317*	2.51e-06	1.265400	2.679844*	1.708386*
2	41.38664	36.91233	2.15e-06*	0.938853*	3.532000	1.750994

Source: Researcher's Computation, 2022.

Gujarati (2004) gave some criteria for the selection of lag to be used in a simultaneous equation model such as the Vector Autoregression, Autoregressive Distributed Lag and the Error Correction Model. The two most used criteria are the Akaike Information Criterion (AIC) and the Schwarz Information Criterion (SIC). The criterion with the lower value is chosen at the lag number in which the criteria with the lowest value occurred. According to the result of the VAR Lag Length Criteria, the AIC has the lower value of 0.938853 at lag 2. Therefore, lag 2 is chosen for the study.

Presentation of Result

The Autoregressive Distributed Lag result is presented in the Table 5;

Table 5. Summary of the Regression Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LGDP(-1)	1.418938	0.279525	5.076251	0.0001
LGDP(-2)	-0.505219	0.253491	-1.993049	0.0626
D(LFDI)	0.000988	0.035292	0.028005	0.9780
D(LFDI(-1))	-0.075311	0.047098	-1.599038	0.1282
D(LFDI(-2))	-0.109653	0.036331	-3.018152	0.0077
D(LNOIL)	0.102498	0.036524	2.806271	0.0121
D(LNOIL(-1))	-0.066600	0.039000	-1.707672	0.1059
D(LNOIL(-2))	0.037829	0.033985	1.113090	0.2812
LOIL	0.060408	0.046751	1.292116	0.2136
D(LU)	-0.009717	0.058177	-0.167032	0.8693
D(LU(-1))	-0.089661	0.050557	-1.773477	0.0941
C	0.446951	0.119799	3.730828	0.0017
R-squared	0.999319	Mean dependent var		9.325546
Adjusted R-squared	0.998878	S.D. dependent var		1.766164
S.E. of regression	0.059166	Akaike info criterion		-2.523440
Sum squared resid	0.059510	Schwarz criterion		-1.957662
Log likelihood	48.58988	Hannan-Quinn criter.		-2.346245
F-statistic	2266.672	Durbin-Watson stat		1.977977
Prob(F-statistic)	0.000000			

Source: Researcher's Computation, 2022.

The result of the Autoregressive Distributed Lag (ARDL) model is presented in Table 5. The result of the ARDL reveals that lag values of the gross domestic product show different relationships with the present period gross domestic product. The immediate past value of gross domestic product exerts a positive and significant relationship with the present period gross domestic product. This relationship is such that a percentage increase in the immediate past period GDP will bring about 141 percentage increases in the present period GDP. The relationship between lag 2 periods GDP and the present period GDP is found to be negative and not significant. A 50 percent decrease will be found in the present period GDP if the lag 2 periods GDP is increased by one percent.

Foreign direct investment is found to be a significant factor that influences economic growth only in the lag 2 periods where a percentage increase in FDI will result to a 10.9 percent decrease in GDP. Non-oil exports are also found to be significant in the present period. This indicates that a positive and significant relationship is found between non-oil exports of the present period and gross domestic product. The result reveals that a percentage increase in non-oil exports will bring about a 10.2 percentage increase in gross domestic product. Lag 1 and lag 2 non-oil exports show a negative and positive effect respectively but these relationships are not significant in influencing GDP in Nigeria.

Oil exports in the present period is found to be positive but not significant while unemployment rate also is found to negatively influence GDP at the present period and at lag 1 period.

Coefficient of Determination

The coefficient of determination measures the extent to which the variations in the independent variables cause variations in the dependent variable. In the result of the ARDL test, the coefficient of determination stood at 0.99 meaning that 99% of total variations in gross domestic product are caused by variations in the independent variables such as non-oil export, oil export, foreign direct investment and unemployment rate.

F-Statistics

The F-statistics measures the joint significance of the independent variables. It shows if the independent collectively have significant effect on the dependent variable. From the result of the test, the F-statistics stood at 2,266.672 with a probability value of 0.0000. This indicates that the null hypothesis of no joint significance is rejected and thus, the study states that trade openness components of oil exports and non-oil exports, foreign direct investment, and unemployment rate joint have significant effect on economic growth in the Nigerian economy as measured by the gross domestic product.

ARDL Bounds Test

Table 6. Summary of the ARDL Bounds Test

Test Statistic	Value	k
F-statistic	2.765308	4
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Researcher's Computation, 2022.

The ARDL Bounds test is used to measure the long-run co-integration or long-run equilibrium relationship between the dependent variable and the independent variables. The result of the Bounds test has an F-statistic value of 2.765308 and at 5% level of significance, the I0 Bound critical value stood at 2.86 while the I1 Bound critical value stood at 4.01. It can therefore be said that there is no long-run co-integrating equilibrium relationship between trade openness, capital flight and economic growth in the Nigerian economy within the period of study.

The result of this study is against what was discovered by Saibu (2004); Omiete (2016); Olaleye (2015), who found a long-run co-integrating relationship between trade openness and economic growth. The positive relationship between FDI and economic growth was against what was discovered in the study of Ofori & Asumade (2017). However, the positive relationship between trade openness and GDP is backed up by the study of Oladipo (1998); Olaleye (2015).

V. SUMMARY, CONCLUSION, AND RECOMMENDATIONS

The study has examined the effect of trade openness and foreign direct investment on economic growth in the Nigerian economy. Trade openness comprises of how broad the exports and imports of an economy is but this study examines only the export part of trade openness and also segregated the export into oil and non-oil components. Foreign direct investment may be regarded as the total funds that enter into the Nigerian economy with the intent of controlling at least 10 percent of the investment in which the funds are used for. Unemployment is included in the study variable because the study adopted the Solow growth model.

The study discovers among other things that non-oil export influences economic growth significantly in the present period while oil exports have a positive relationship with economic growth but the relationship is found to be insignificant. Foreign direct investment is also found to be insignificant in affecting the level of economic growth in the Nigerian economy in the present period and lag 1 period but it is a significant factor that influences economic growth in lag 2 periods. Unemployment rate exerts a negative but insignificant relationship with economic growth at both the present period and lag 1 period. It was also discovered in the study that there is no long-run co-integrating equilibrium relationship among the variables as shown by the Bounds test while it was discovered that trade openness, capital flight, and labour productivity jointly influence the rate of economic growth in the Nigerian economy.

The study therefore recommends that there should be diversification of the economy and much concentration and funds needs to be allocated to the non-oil sector of the economy so as to improve the export and also improve the growth of the Nigerian economy. The study also recommends that foreign direct investments should be adequately monitored such that it should be used efficiently to improve productivity and reduce the rate of unemployment in the country. When this is done, there will be a reduction in the rate of unemployment and the value of goods and services produced in the country will be increased.

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