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Foreign Capital Inflows, International Trade, and Economic Growth in Nigeria: A Dynamic ARDL Approach

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Abstract: *The mixed performance of the Nigerian economy despite various deliberate policies and programmes by successive governments has long been a matter of concern to all including policymakers, and academics. Different scholars attributed the mixed performance to different reasons and thus proffer varying suggestions. Those that blamed the performance on insufficient investment suggested a deliberate effort to attract more foreign capital inflow, while proponents of openness were of the view that more external trade is required to spur economic growth. Both groups contend that robust domestic investment, foreign capital inflow, and international trade have the potential to enhance economic growth. This study attempts to examine the impact of both investment inflow and international trade on economic growth in Nigeria covering the period of indirect monetary policy by the Central Bank of Nigeria from 1993Q1 to 2022Q3 using the Dynamic Autoregressive Distributed Lag approach. The study also explores the impact of the global financial crisis on the relationship by further disentangling the study period into two ("pre-GFC" and "post-GFC" eras). The study finds that while foreign capital inflows is an important determinant of economic growth in Nigeria during the study period, international trade only positively affects growth after the global financial crisis. The study recommends that the Nigerian government should make efforts to attract more foreign investments, particularly in the non-oil economy.*

Keywords: ARDL, economic growth, foreign capital inflow, international trade

1. Introduction

Nigeria relied largely on agriculture as a source of economic growth after independence in 1960. Agriculture provided food and employment for the teeming population, raw materials for the infant industries, and revenue for the government as well as foreign exchange. With the discovery of oil and the rise in the crude oil price in the 1970s, the focus shifted to oil as the main source of fiscal revenue and foreign exchange for Nigerian governments as well as a source of growth (Chete, Adeoti, Adeyinka, & Ogundele, 2013). As the oil industry controls the majority of the economy, agriculture received less attention.

Considering the capital-intensive nature of the sector, however, the contribution of the oil sector to economic growth has been insignificant. This poses a substantial challenge to the government. Thus, the government began to put in place a number of policy measures to

stimulate growth. Prominent among these policy measures are national development plans[1], the introduction of the structural adjustment program (SAP), the trade liberalization policy, the establishment of the National Economic Reconstruction Fund (NERFUND), the development of the National Economic Empowerment and Development Strategy (NEEDS), the establishment of development finance institutions such as the Bank of Industry in 2000 and the Small and Medium Enterprise Equity Investment Fund in the same year, and Vision 2020, amongst many others.

Despite these policy measures, however, the performance of the economy is still mixed. While the economy occasionally generates significant growth, in most other times, the growth was underwhelming, and sometimes the economy witnessed recession. For instance, the nation's GDP growth rates were negative in both the first and second quarters of 2016 (i.e., -0.36% in Q1 and -2.06% in Q2). The collective effort of the Central Bank of Nigeria (CBN) and the federal government resulted in a sluggish recovery from the recession in 2016Q3. The recovery was however short-lived as the country again slid back into another recession in 2020Q2 and Q3 recording negative GDP growth rates of -6.10 % and -3.62% in 2020Q2 and Q3, respectively.

This development was blamed on a lack of foreign capital inflow (FCI)and subpar international trade performance (Yaaba, 2011). Analysts emphasized the significance of FCI and international trade in a country's economic growth process as described in the neoclassical and the endogenous growth theories, which regard capital accumulation and technological development as being extremely important to not only economic growth but also economic development (Mankiw, Romer & Weil, 1992; Grossman & Helpman, 1991). Thus, they submitted that for sustainable economic growth to evolve rapidly, there should be a focus on attracting FCI consisting of foreign direct investment (FDI), foreign portfolio investment (FPI), foreign aid, as well as the promotion of international trade that is capable of engendering learning that could lead to what scholars popularly termed “Trade-Led Growth Hypothesis” or “Exports-Led Growth Hypothesis” (Ehigiamusoe & Lean, 2019).

They further argued that manpower is abundantly available in Nigeria and another thing lacking is the domestic capital arising from inadequate domestic savings that could fund growth (Ehigiamusoe & Lean, 2019). In other words, they submitted that improvement in FCI can close the saving-investment gap (Lipsey, 1999) and that technological advancement, technological know-how, managerial skills, technology transfer, innovative capabilities, and knowledge spillovers which accompany the FCI has the tendency of making the resultant growth sustainable and enduring (Mankiw, Romer & Weil, 1992).

This conversation around the growth dilemma in Nigeria focuses on these factors, and as a result, policymakers, policy analysts, and academics pay more attention to them. Thus, the concept of FCI and trade as important conduits for growth increasingly become popular in Nigeria. However, there seems not to be a consensus on the connection among FCI, international trade, and economic growth in the extant empirical literature. For instance, while some scholars believe that there is a positive relationship among the variables (Durham, 2004; Dalgaard, et al., 2004; Li & Liu, 2005; Gomanee, Girma, & Morrisey, 2005; Albulescu, 2015; Ehigiamusoe & Lean (2019)), others contend that international trade has no meaningful positive relationships with growth (Akinlo, 2004; Jensen & Paldam, 2005; Dreher, 2006;

[1] These include the First National Development Plan (1962 to 1968), the Second National Development Plan (1970 to 1974), the Third National Development Plan (1975 to 1980), and the Fourth National Development Plan (1981 to 1985).

Hameed et al., 2008; Doucouliagos & Paldam, 2009; Gunby, Jin, & Reed, 2017; Goh, Sam, & McNown, 2017). Similarly, while a positive relationship was established between global commerce/trade and economic growth, other researchers argued that there isn't one between FCI and growth (David & Yaaba, 2011).

These divergent findings from previous studies are mostly due to differences in methodology, variable measurement and proxy, data type, and/or frequency, and the period covered by the studies. The majority of studies on Nigeria used annual data. Therefore, it makes sense to assert that a distinct pattern of the link between FCI, international trade, and economic growth in Nigeria has not yet been established. Therefore, the ongoing debate among academics in Nigeria with a variety of specialties and the lack of a mutually accepted pattern of the link between the three factors—foreign capital influx, international trade, and economic growth in Nigeria—make this study necessary. Specifically, the study is meant to examine the impact of FCI and international trade on economic growth in Nigeria. It will also help to determine if the global financial crisis of 2007 affected the relationship.

To achieve these objectives, the study is structured into 5 sections including this introduction. Section 2 highlights the theory underpinning the concept of economic growth and its determinants. Section 3 details the methodology and data-related issues, while section 4 analysis the results and discusses the findings. The last section draws conclusions and proffers relevant policy recommendations.

2. Theoretical Framework and Literature Review

2.1 Theoretical Framework

Solow's growth theory is the first neo-classical model developed by Robert Solow and later improved upon by Harrod-Domar. The theory recognises the contribution of human capital and innovation in technology in the process of production. If we assume that production function is of Cobb-Douglas form, then:

$$Y = AK^{\alpha}L^{\beta} \qquad (1)$$

$\alpha + \beta = 1$

Where *Y* is output, *A* stands for total factor productivity (TFP), *K* denotes capital, *L* connotes labour, the superscripts α and β are the proportions of capital and labour used in the production process. Output per head is derived as:

$$Y = AK^{\alpha} \qquad (2)$$

Where y = Y/L (output per head/stock per head). With the assumption of competitive equilibrium, the identity of income-expenditure will hold in the following equilibrium condition.

$$Y = C + I \qquad (3)$$

Where *Y* is output, *C* stands for consumption, and *I* stand for investment (part of which come from capital flows). This happens under the budget constraint of the consumer given as:

$$Y = C + S \qquad (4)$$

Where *S* is savings, and *Y* and *C* are as defined above. The equilibrium, therefore, becomes:

$$I = S + sY \qquad (5)$$

The accumulation of capital, part of which is imported through capital inflows and trade, takes the form of:

$$K' = (1 - d)K + sY \qquad (6)$$

The accumulation of capital per worker therefore becomes:

$$(1 + g)K' = (1 - d)k + sy = (1 - d)k + saf(k) = (1 - d)k + sak^b \qquad (7)$$

At the steady state, capital per worker becomes constant and thus given as:

$$K' = k \geq (1 + g)k = (1 - d)k + sak^b \qquad (8)$$

Consequently, in the steady states, the contribution of capital per worker and the value of output per worker is:

$$k^* = \left(\frac{sa}{g + d}\right)^{\frac{1}{1-b}} \qquad (9)$$

Where *s* represents savings rate, *g* stands for population and *d* denotes capital consumption rate. Modifying equation (1) to accommodate the components of the endogenous growth theory and Trade-Led Growth Hypothesis as encapsulated in Medina-Smith (2001), we have:

$$Y = AK^{\alpha}G^{\gamma}T^{\lambda}L^{\beta} \qquad (10)$$

Where *G* and *T* are government expenditure and International Trade, respectively. The superscripts γ and λ represents the share of government expenditure and trade, respectively in influencing the production process. The *G* is a proxy for a 'component of the endogenous growth theory' while the *T* is to proxy Trade-Led Growth Hypothesis. Ordinarily, government expenditure can be said to be part of the capital (*K*) but it is separated in this case to distil separately its influence in the overall growth process. Remember that the sum of superscripts is equal to one (i.e., $\alpha + \gamma + \beta + \lambda = 1$).

While the *A* in equation (1) or (10) simply implies total factor productivity and can be proxy by gross fixed capital formation, the *K* in the equation can be further broken down to FCI (comprising of FDI, FPI, and remittances) and domestic investment (DI). Thus, breaking further down equation (10) and presenting in an econometrics format yield:

$$y_t = \delta_0 + \delta_1 GFCF_t + \delta_2 FCI_t + \delta_3 DI_t + \delta_4 L_t + \delta_5 T_t + \delta_6 GE_t + \mu_t \qquad (11)$$

Where *GFCF* stands for gross fixed capital formation, *FCI* is foreign capital inflow which comprises of FDI, FPI, and remittances, *DI* denotes domestic investment, *T* represents international trade, L is labour force and GE connotes government expenditure. The δ_0 is a constant term, δ_1 to δ_6 are estimated coefficients of the parameters, the subscript *t* is time, and μ is an error term.

It can be deduced from Solow's growth model that if different countries have similar/same population (*g*), similar/same savings rate (*s*), and the same capital consumption rate (*d*), they are likely to observe similar steady states, implying conditional convergence. Conversely, with variations in saving rate (*s*) across countries, growth is expected to be sluggish in countries with relatively lower capital at the outset. This is why FCI and trade become necessary to spur growth in capital deficient countries like Nigeria.

The neo-classical model is however criticized for its inability to explain the reason behind different level of investment of countries compare to their GDP (i.e., investment as a ratio of GDP), it also fails to recognise structural issues particularly infrastructural deficit that distract investment from some developing countries. Thus, the need for modification to incorporate government expenditure to represent not only effort of the government at closing infrastructural gaps but also to incentivise the private sector to, for instance, commit more resources in research and development (R&D) that can lead to innovations capable of enhancing the level of production. It also provides the basis for argument in favour of the incorporation of FCI and trade to cover the domestic gap in technology (The Endogenous Growth Model and Trade-Led Growth Hypothesis, respectively).

2.2 Empirical Literature

Several studies exist that explore the nexus between FCI and economic growth, as well as international trade and growth. These are reviewed in sub-sections 2.2.1 and 2.2.2.

2.2.1 Foreign Capital Inflow-Economic Growth Nexus

Starting with the work of Gui-Diby (2014), implemented in the spirit of Blundell and Bond (1998), applied a System Generalized Methods of Moments (S-GMM) on panel data of fifty (50) African countries to examine the response of economic growth to changes in FDI. The data spanned the period 1980 to 2009. The variables utilised includes GDP per capita, population, school enrolment ratio, and foreign and domestic investment. The author divided the data into namely: 1980 to 1994; and 1995 to 2009. Overall, the results provide evidence in support of significant impact of FDI inflows on the growth of the sampled African countries. The findings further indicate that between 1980 and 1994 the impact of FDI on growth of Africans countries was negative and significant, implying that FDI retarded growth of African countries, while the relationship turned positive when the period between 1995 to 2009 was considered, indicating that FDI spurred growth in African countries during the period. Thus, the study advised policy makers to formulate policies that will attract foreign investors and that governments should also make deliberate effort to enhance the skills of the indigenous workforce, as well as improve on the business environment.

In exploring the nexus between FCI and economic growth in Kenya, Ojiambo & Ocharo (2016) adopted Autoregressive Distributed Lag (ARDL) approach. The study used data from 1970 to 2014 and variables which covers, real GDP, inflation, foreign aid, migrant remittances, final government consumption expenditure, FDI and trade openness. The results shows that there is a unidirectional causality from GDP to FDI and remittances and foreign aid are inimical to growth in the short run, especially when other macroeconomic variables were not accounted for. The study submits that FCI improve growth only in the face of sound macroeconomic policies and therefore recommends that the government of Kenya should incentivise FDI inflows but should not neglect sound domestic macroeconomic policy that provides the foundation with which FCI will be efficient and effective in generating growth.

Chorn & Siek (2017) in an Ordinary Least Square (OLS) framework, examine effect of FCIs on economic growth of 77 developing countries between 1997 and 2012. The countries cut across South Asia, Sub-Saharan Africa, Middle East, North America, Latin America, Caribbean, Europe, Central Asia, East Asia and Pacific. The variables considered in the model include, per-capita real GDP growth, FCI, debt service on external debt, inflation rate, trade openness, real interest rate and human development index. The study reveals that FCIs consisting of FDI, and Official Development Assistance (ODA) positively influence growth. Although, the magnitude of the impact of FDI outweighs that of the ODA. Narrowing down to Malaysia, Alzaidy, Ahmad, & Lacheheb (2017) use ARDL approach on Malaysian annual data from 1975 to 2014. Considered in the model are per-capita real GDP, FDI, financial deepening, general government final consumption expenditure, gross fixed capital formation, and population. The results indicates that FDI positively influence Malaysia's GDP during the period. Similarly, the interaction of between FDI and financial development also yield a positive and statistically coefficient implying that FDI in the presence of a highly developed financial system is more beneficial to the Malaysian economy. The study thus recommend that the financial sector of Malaysia should be further developed and deepen to further make FDI more effective and enhancing growth.

Anthony-Orji, Ogbuabor & Nwosu (2018) applied ARDL and Unrestricted ECM on quarterly data to estimate the impact of FCIs on unemployment in Nigeria. The study utilised quarterly from 1977Q1 to 2013Q4. The variables used in the study include FDI, unemployment, FPI, remittances, real exchange rate, and openness of the economy. The findings reveal that capital inflows, which comprised of foreign private investment, FDI, and trade openness provide favourable environment for unemployment rate and thus enhances growth. The study therefore canvassed for investor-friendly economic policies that can attract FPI to facilitate job creation and consequently improve on growth.

In the spirit of Pesaran, Shin and Smith (2001), Adegboyega, Odusanya & Popoola (2020) applied ARDL approach on Nigeria's annual data to investigate the relationship between capital inflows in economic growth from 1980 to 2015. The model adapted real GDP per capita, growth rate of labour force, capital accumulation, trade openness, and FDI. A long run cointegrating relationship was confirmed among the variables and a one-way causality was established from all independent variables to economic growth. The study proposes deliberate government effort at improving the business environment to make the country more attractive to both multinational and domestic investors. According to the authors, this can stimulate economic growth. Adams, Klobodu & Lamptey (2017) in an ARDL framework examine the effects of capital flows on economic growth in Senegal from 1970 to 2014 and found that remittances positively affect economic growth in Senegal in the long run. Detrimental to growth, however, is external debt as it yields a negative coefficient. Therefore, the study suggests that the Central Bank of Senegal should evolve innovative financial products that will ease remittances inflow to enhance GDP growth rate in the country.

Nwosa, Ugwu & Ehinomen (2022) applied ARDL to examine the nexus between economic growth and capital inflows for Nigeria from 1986 to 2018. Variables that are included in the model are labour force, real output, domestic capital stock, FDI, human capital, and FPI. The study found that FPI volatility hampered economic growth while volatility in FDI does not. The study suggested the need for robust management of economic policies as effective monetary policy decisions and sound prudential regulation that will enhance the soundness of the financial system to engendered confidence and consequently attract foreign investment.

2.2.2 International Trade-Economic Growth Nexus

Empirical studies on the trade-led growth hypotheses, particularly for developed and emerging market economies, abounds but have not succeeded in yielding a conclusive result. While some studies confirmed the validity of the hypothesis, some of the studies yielded results that invalidate the hypothesis. For instance, Malefane & Odhiambo (2018) adapted ARDL to South African data spanning the period 1975 to 2014. Included in the model are per capita real GDP, investment, government consumption expenditure, trade openness, financial development, and consumer price index. The study shows that trade openness enhances growth both in the short-and-long-run. The study suggests the continuous promotion of policies that enhance external trade in South Africa as it has the capacity to improve the country's economic growth. In the same year, Ahmed (2019) used the same ARDL to study the phenomenon for Uganda using data covering real GDP, trade, inflation, import, FDI, and export spanning the period 1988 to 2019. The study encourages policymakers to incentivise exports-oriented domestic companies while discouraging the import of finished products but factor inputs that can be used in further production process. In the case of Nwamuo (2019), who applied Johansen Cointegration method for Nigeria using data from 1981 to 2018. The results indicate that export, import and exchange rate aid economic growth of Nigeria during the study period, while trade openness inversely impact on growth, hence the authors encouraged the adoption of policies that will strengthen the manufacturing sector so as not only boost manufacturing output but to also to enhance the output quality. This will increase the market share of the of Nigerian manufacturing products in the international market and therefor makes the country highly competitive. There is also the need, according to the study, for diversification of exports away from oil.

Utilising an Ordinary Least Squares technique, Tang, Tregenna, & Dikgang (2019) study the trade-growth nexus for Mauritius from 1963 to 2013. The variables used in the study include real GDP, degree of openness to trade, gross capital formation, secondary school enrolment, labour, real effective exchange rate and infrastructure development. The study established that degree of openness boosts economic output in the country and thus suggests the need to strictly monitor developments in the foreign exchange market.

One of the studies on Lesotho was conducted by Malefane & Odhiambo (2019). The study uses ARDL and annual data over the period 1979 to 2013. The variables cover per capita GDP, domestic investment, trade openness, and inflation rate. The findings shows that trade openness plays a positive role in generating economic growth. The study therefore recommends that policymakers should adopt human capital boosting policies as well as rapid development of infrastructural facilities to enable manufacturers in increasing their capacity utilisation which will in-turn lead to optimal output that will support growth. With high manufacturing output, the country can also enhance her export capacity and the circle continues. Similar study was conducted for Tanzania by Nguto (2020) who applied OLS technique on Tanzania data from 1988 to 2018. Among the variables considered in the model are GDP, interest rate, exports, inflation rate, and imports. The study found positive impact of goods and service exports on the economic growth of Tanzania during the study period. However, goods and services imports, inflation and exchange rate tend to retard growth. The study advice government of Tanzania to encourage export but should consider import substitution strategy as well as reinforce investment in science and technology to make the country more competitive in the international market.

Effiong & Okon (2020) in an ARDL framework, used Nigeria data from 1981 to 2018 covering government expenditure, real income per capita, trade openness, inflation, and exchange rate.

The study reported a non-remarkable influence of external trade on economic growth and therefore recommends, among others, diversification of the economy, contending that the monocultural nature of the exports is culpable for inconsequential contribution trade to growth. Using the same ARDL technique, Muhammad & Hayat (2020) examine trade-growth nexus for Brunei Darussalam from 1989 to 2018. The variables used in the study are real GDP, human capital, natural resources, trade openness, and investment. The study found that the nexus between trade openness and economic growth in the country is positive. Further, the study also submitted that natural resources complimented by domestic investment play a remarkable positive role on the country economic growth. Therefore, the authors suggest that the country should further liberalise the economy, embark on diversification and encourage domestic investment to fast track the growth process in a sustainable way.

Relying on the same ARDL technique, and Toda-Yamamoto Granger causality test, Islam (2021) explore the hypothesis that trade leads growth for the Kingdom of Saudi Arabia from 1985–2019. The findings validate the existence of trade led-growth hypothesis for the Kingdom during the study period. The authors therefore advice the Kingdom to further open up her economy for international trade to enhance economic growth. Using the same ARDL technique, Rasoanomenjanahary, Cao, & Xi (2022) studied the validity of the same hypothesis for Madagascar using data from 1993 to 2020 covering variable such as economic growth, trade openness, export, import, Labour force, FDI, and inflation. The study confirms long-run cointegration among the variables, but trade openness returns a negative and statistically significant coefficient implying that it retarded Madagascar's economic growth during the period. However, FDI, inflation, and Labour force positively affect growth of the country.

From the foregoing wide review of past literature cutting across developed, emerging markets and developing countries and covering different methodologies, it is clear that abundant literature exists on the subject matter. The scope of the data for the study is also very wide but vary largely from one country to the other. In the case of Nigeria, different techniques including ARDL were deployed to study the phenomenon. However, a few things are lacking in all of the studies on Nigeria that makes this study unique and novel. First, none of the studies covers the whole period of indirect monetary policy adopted by the Central Bank of Nigeria (i.e., 1993 to date), secondly, this study utilizes quarterly data from 1993Q1 to 2022Q3 as against annual data used by all the studies reviewed on Nigeria, and the study examines whether the relationship is affected by the GFC by dividing the data into two periods: "pre-GFC" (1993Q1 to 2007Q4) and "post-GFC" (2008Q1 to 2022Q3).

3. Data Issues and Methodology

3.1 Data Issues

The data used for the study spans the whole period of indirect monetary policy adopted by the Central Bank of Nigeria (CBN). Prior to 1993, the CBN used direct instruments of monetary control which includes credit rationing to priority sectors, credit ceiling, interest rate control, etc but the use of indirect instruments of monetary control such as open market operations (OMO), reserve requirement, monetary policy rate (MPR), special lending and deposit facilities, etc started in the first quarter of 1993. The study therefore utilizes quarterly data from 1993Q1 to 2022Q3. In examining the impact of the global financial crisis on the relationship, the study divided the data into two periods, namely, "pre-GFC" (1993Q1 to 2007Q4) and "post-GFC" (2008Q1 to 2022Q3). The data were drawn from the 2021 edition of the Statistical

Bulletin of the Central Bank of Nigeria, the Statistics Database[2], and the National Abstract of the Nigerian National Bureau of Statistics.

3.2 Methodology and Implementation Procedure

The study applies a Dynamic Autoregressive Distributed Lag approach developed by Pesaran, Shin & Smith (2011). The choice of the model is for several reasons, prominent among which are, first, it accommodates I(0), or I(I) or a mixture of both (Pesaran, Shin & Smith, 2011). Second, it yields an unbiased estimate of the long run and robust t-statistics even in the presence of endogenous repressors (Harris & Sollis, 2003; Yaaba, 2018, 2019; Salihu, Yaaba & Hamman, 2018). Third, it accommodates small sample size and fourth, both the long and short-run components of the model can be retrieved simultaneously, hence eliminate the problem of omitted variable bias as well as autocorrelations (Narayan and Narayan, 2003).
Following Pesaran & Pesaran (1997), and Pesaran, Shin & Smith (2001), the ARDL format of equation (11) is formulated as:

$$\Delta LY_t = \delta_0 + \sum_{i=1}^{\rho} \delta_1 \Delta LY_{t-i} + \sum_{i=0}^{\rho} \delta_2 \Delta LGFCF_{t-i} + \sum_{i=0}^{\rho} \delta_3 \Delta LFCI_{t-i} + \sum_{i=0}^{\rho} \delta_4 \Delta LDI_{t-i} + \sum_{i=0}^{\rho} \delta_5 \Delta LT_{t-i} + \sum_{i=0}^{\rho} \delta_6 \Delta LLF_{t-i} + \sum_{i=0}^{\rho} \delta_7 \Delta LGE_{t-i} + \beta_1 LY_{t-1} + \beta_2\, LGFCF_{t-1} + \beta_3 LFCI_{t-1} + \beta_4 LDI_{t-1} + \beta_5 LTT_{t-1} + \beta_6 LLF_{t-1} + \beta_7 LGE_{t-1} + \mu_t \quad (12)$$

Where *Y* denotes real GDP, *GFCF* stands for gross fixed capital formation, *FCI* connotes foreign capital inflow, *DI* is domestic investment, *TT* represents total trade, *LF* is labour, and *GE* stands for government expenditure. The δ_0 stands for the constant time, Δ is a first difference operator, ρ indicates the optimal lag, *L* denotes natural logarithm, δ_1 to δ_7 are the short run coefficients, β_1 to β_7 are the long run parameters, μ is error term and the subscript *t* is the time dimension.

The estimation of equation (12) involved two stages. First, the null hypothesis of the non-existence of the long-run relationship among the variables is defined by Ho: $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=0$. Ho is tested against the alternative of H_1 (H_1: $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq0$) not Ho by conducting Wald test. If the calculated F-statistics lies above the upper level of the critical bound as tabulated in Pesaran, Shin & Smith (2001), the null hypothesis is rejected, implying that there is cointegration, if however the F-statistics lies below the lower bound, the null cannot be rejected, and this implies that there is no cointegration and if the F statistics lies in between the two bounds, the result is said to be inconclusive.

If cointegration is confirmed, then a conditional ARDL of the long-run model of equation (12) is estimated in the form of:

$$LY_t = \delta_0 + \sum_{i=1}^{\rho} \beta_1 LY_{t-i} + \sum_{i=0}^{\rho} \beta_2 LGFCF_{t-i} + \sum_{i=0}^{\rho} \beta_3 LFCI_{t-i} + \sum_{i=0}^{\rho} \beta_4 LDI_{t-i} + \sum_{i=0}^{\rho} \beta_5 LTT_{t-i} + \sum_{i=0}^{\rho} \beta_6 LLF_{t-i} + \sum_{i=0}^{\rho} \beta_7 LGE_{t-i} + \mu_t \quad (13)$$

[2] http://statistics.cbn.gov.ng/cbn-onlinestats/DataBrowser.aspx

The error correction version of the ARDL model is formulated as:

$$\Delta LY_t = \delta_0 + \sum_{i=1}^{\rho} \delta_1 \Delta LY_{t-i} + \sum_{i=0}^{\rho} \delta_2 \Delta LGFCF_{t-i} + \sum_{i=0}^{\rho} \delta_3 \Delta LFCI_{t-i} + \sum_{i=0}^{\rho} \delta_4 \Delta LDI_{t-i} + \sum_{i=0}^{\rho} \delta_5 \Delta LTT_{t-i} + \sum_{i=0}^{\rho} \delta_6 \Delta LLF_{t-i} + \sum_{i=0}^{\rho} \delta_7 \Delta LGE_{t-i} + \Omega ECT_{t-1} + \mu_t \quad (14)$$

Where *ECT* is the error correction term and Ω shows the speed of adjustment towards equilibrium, and it is expected to be negative and statistically significant. All other variables are as defined under equations (11) and (12). The long run parameters are derived as:

$$\beta_2 = {}^{-\beta_2}/_{\beta_1};\ \beta_3 = {}^{-\beta_3}/_{\beta_1};\ \beta_4 = {}^{-\beta_4}/_{\beta_1};\ \beta_5 = {}^{-\beta_5}/_{\beta_1};\ \beta_6 = {}^{-\beta_6}/_{\beta_1};\ \beta_7 = {}^{-\beta_7}/_{\beta_1}$$

To avoid interpreting a spurious regression, the study carries out a Cumulative Sum (CUSUM) of recursive residual test and Cumulative Sum of Squares (CUSUMSQ) of recursive residual test. The estimated equation and parameters are said to be stable if the sum of recursive errors falls within the critical lines.

Equations (12) to (14) are estimated three times. The first estimation covers the entire dataset and refers to as "all-period" (1993Q1 to 2022Q3), while the second estimation covers the pre-GFC period (1993Q1 to 2007Q4), and the third estimation considers the post-GFC period (2008Q1 to 2022Q3). The study considers this approach more plausible than using dummy to demarcate the pre-and post-GFC periods.

4. Results and Discussion

In carrying out a multivariate analysis of this nature, it is essential to explore the data using descriptive statistics and correlation analysis in addition to the determining the level of stationarity of the variables. Thus, the descriptive statistics of the variables are reported in Table 1. The result indicates that there are one hundred and eighteen (118) observations per each variable. While real gross domestic product (*RY*) recorded a mean and median observations of ₦11,135.93 billion and ₦10,918.63 billion[3], respectively, that of GFCF stands at ₦2,772.80 billion and ₦1,279.83 trillion, respectively. The mean and median observations of FCI were US$1,940.00 billion and US$1,760.00 billion, respectively. The average and median observations for DI and TT were ₦9,996.66 billion and ₦5,635.13 billion, and ₦4,179.60 billion and ₦3,133.56 billion, respectively. The labour force (LF) and general government expenditure (GE) recorded a mean of 55.88 million and ₦6,531.63 trillion and medians of 49.54 million and ₦5,394.44 trillion, respectively.

[3] ₦ implies Nigerian currency called naira.

Table 1: Summary Statistics

	RY	GFCF	FCI	DI	TT	LF	GE
Mean	11,135.93	2,772.80	1,940.00	9,996.66	4,179.60	55.88	6,531.63
Median	10,918.63	1,279.83	1,760.00	5,635.13	3,133.56	49.54	5,394.44
Maximum	20,670.11	15,379.96	8,490.00	29,670.08	51,987.50	90.47	19,208.47
Minimum	66.94	96.92	75.77	659.31	36.33	34.42	235.78
Std. Dev.	5,259.28	3,697.51	1,860.00	9,676.10	5,506.70	18.63	5,504.29
Skewness	-0.09	1.94	1.16	0.50	5.62	0.71	0.48
Kurtosis	1.82	5.94	3.91	1.69	48.84	1.97	2.05
JB	7.04	116.41	30.62	13.53	11044.44	15.22	9.04
Prob.	0.03	0.00	0.00	0.00	0.00	0.00	0.01
Obs.	118	118	119	119	119	119	119

Source: Author's computation using EViews 12.
Note: RY is real gross domestic product, GFCF stands for gross fixed capital formation, FCI represents foreign capital inflow, DI denotes domestic investment, TT connotes total trade, LF is labour force and GE stands for general government expenditure. JB is Jarque-Bera, Prob. stands for probability and obs. represents number of observation.

The minimum and maximum observations for RY, GFCF, FCI, DI, TT, LF and GE stand at ₦66.94 billion and ₦20,670.11 billion; ₦96.92 billion and ₦15,379.96 billion; US$75.77 million and US$8,490.00 billion; ₦659.31 and ₦29, 670.08 billion; ₦36.33 billion and ₦51,987.50 billion, 34.42 million and 90.47 million; and ₦235.78 billion and ₦19,208.47 billion, respectively. Overall, the data is positively skewed except for RY that yields a negative skewness of -0.09. Since the probability values of all the variables are less than 1.0%, it can be concluded that data is normally distributed.

The results of the unit root test reported in Table 2 shows that most of the variables are I(1) based on Augmented Dickey-Fuller (ADF), considering AIC and Phillips-Perron (PP), except for LGE which is stationary at level. LRY, LTT and LGE are reported as I(0) under PP unit root test. Under ADF, LRY, LGFCF, LFCI, LTT and LLF are all stationary at first difference and significant at 1.0%, while LDI is significant at 5.0%, and LGE is returned level stationary and significant at 10.0%. In the case of PP, LGFCF, LFC, LDI and LLF are stationary at first difference and significant at 1.0%, while LRY and LGE are stationary at level with 1.0% level of significance. LTT also stationary at level but significant at 5.0%.

Table 2: Unit Root Test Results

Variables	Augmented Dickey-Fuller based AIC			Phillips-Perron		
	Level	*1st Diff.*	*Remark*	*Level*	*1st Diff.*	*Remark*
LRY	-0.340261	-4.54953***	I(1)	-9.82577***	-11.02066	I(0)
LGFCF	-2.967161	-11.2252***	I(1)	-3.13544	-11.2259***	I(1)
LFCI	-2.090191	-11.6149***	I(1)	-1.998856	-11.6532***	I(1)
LDI	-1.360618	-3.76093**	I(1)	-1.35796	-11.5499***	I(1)
LTT	-2.803951	-8.57864***	I(1)	-3.627695**	-22.68669	I(0)
LLF	-2.306645	-11.7363***	I(1)	-2.254464	-11.7854***	I(1)
LGE	-2.63941*	-1.430915	I(0)	-3.90625***	-3.176541	I(0)

Source: *Author's computation using EViews 12.*
Note: **,** and *** implies significance at 10.0, 5.0 and 1.0 percent respectively. LRY is the log of real gross domestic product, LGFCF stands for the log of gross fixed capital formation, LFCI represents the log of foreign capital inflow, LDI denotes the log of domestic investment, LTT connotes the log of total trade, LLF is the log of labour force and LGE stands for the log of general government expenditure. Unit root test is conducted with logged series since regression is carried out with all variables logged.*

The study also adopted the Zivot and Adrews unit roots test with structural break to determine the presence and timing of structural break and the result is reported in Table 3. The timing of the break varies across the models. For instance, in the case of the break in intercept model, the timing of the break is mostly 2007Q1 except for LLF and LGE that reported 2014Q1 and 2007Q2, respectively. In the case of the model with break in trend, the break time is 2007Q4 for LRY and LGFCF, 2007Q2 for LFCI, 2008Q1 for LDI, 2006Q4 for LTT, 2014Q3 for LLF and 2008Q2 for LGE. The same thing applies to the model with both intercept and trend. In a nutshell, despite the variation in timing of the break, the model with intercept seems to favour 2007Q1 with only LLF having a different break date. Overall, it can be concluded that none of the variables is I (2). Hence, it is justified to use the ARDL model.

The cointegrating relationships between the dependent and independent variables is determined through Wald test. Error Correction model was thereafter applied to obtain the short-run dynamics. Table 4 shows the result of the Wald test. From the table, it is found that the calculated F-statistics for "All Period" (i.e., 1993Q1 to 2022Q3) is 10.54 which indicates that the null hypothesis of no co-integration among the variables can be rejected at 1.0% since it is higher than the upper bound critical value of 4.43 for *k* equals 6, as tabulated in Pesaran *et al.* (2001). Similarly, for "Pre-GFC" regression period (i.e., 1993Q1 to 2007Q4), the calculated F-statistics is 7.68 which is above the upper bound of 4.43. In the same vein, the "post-GFC" period yields a value of F-statistics (5.53) which is above the upper bound of 4.43. Overall, the results of the bounds tests reveal that there is cointegration among the variables in all the three periods.

Table 3: Zivot - Andrews Unit Root Test

Variables	Break in Intercept			Break in Trend			Break in both Intercept and Trend		
	Test Statistics	Break Date	Remark	Test Statistics	Break Date	Remark	Test Statistics	Break Date	Remark
LRY	-5.5952912***	2007Q1	I(0)	-5.580234***	2007Q4	I(0)	-5.559026**	2007Q1	I(0)
LGFCF	-11.47428***	2007Q1	I(1)	-11.19896**	2007Q4	I(1)	-3.822004**	2007Q4	I(0)
LFCI	--6.819228***	2007Q1	I(0)	-11.69079**	2007Q2	I(1)	-6.871619***	2007Q1	I(0)
LDI	-5.192533***	2007Q1	I(0)	-5.150949***	2008Q1	I(1)	-5.744286***	2008Q2	I(0)
LTT	-6.863749***	2007Q1	I(1)	-4.526782**	2006Q4	I(0)	-7.77850***	2007Q1	I(1)
LLF	-9.804968**	2014Q1	I(0)	-12.07173*	2014Q3	I(0)	-10.53271***	2014Q1	I(0)
LGE	-3.331370**	2007Q2	I(0)	-3.255327*	2008Q2	I(1)	-3.653796***	2008Q1	I(1)

Source: Author's computation using EViews 12.

*Note: *,** and *** implies significance at 10.0, 5.0 and 1.0 percent respectively. LRY is the log of real gross domestic product, LGFCF stands for the log of gross fixed capital formation, LFCI represents the log of foreign capital inflow, LDI denotes the log of domestic investment, LTT connotes the log of total trade, LLF is the log of labour force and LGE stands for the log of general government expenditure. Unit root test is conducted with logged series since regression is carried out with all variables logged.*

The estimated long-run results are reported in Table 5. The table consist of three (3) sections. While the first section reported the result of the long run parameters for "All-Period", the second section presents the results for "pre-GFC" period and the last section displays the result of the "post-GFC" period. Cursory examination of the table shows that all the three models are well-fitted as the independent variables exert about 99.0%, 99.0% and 98.0% (R^2) influence on dependent variables.

Table 4: F-Bounds Tests

	All Period: (1993Q1- 2022Q3)	Pre-GFC: (1993Q1- 2007Q4)	Post GFC: (2008Q1-2022Q3)	Signif.	I(0)	I(1)	Remark
F-statistic	10.5400	7.6865	5.5350	10%	2.12	3.23	Cointegration at 1%
K	6	6	6	5%	2.45	3.61	
				2.5%	2.75	3.99	
				1%	3.15	4.43	

Note: The number of independent variables (k) for each of the 3 periods estimated (i.e., All period, Pre-GFC and Post GFC) is 6, namely: Gross Fixed Capital Formation (GFCF), Foreign Capital Inflow (FCI), Domestic Investment (DI), Total Trade (TT), Labour Force (LF) and General Government Expenditure (GE). I(0) and I(1) are the lower and upper critical bounds as tabulated in Pesaran et al (2001).

Starting with the "All-period" model, the coefficients of all variables are in line with *apriori* expectation, and statistically significant, except for GFCF and LF. For instance, FCI is positively related to GDP and statistically significant at 1.0%. A 1% increase, for instance in FCI leads to about 0.0314 percent increase in real GDP. This result is consistent with those of Ahmed (2019) for Uganda which used data from 1988 to 2019, Faruk (2016) for Nigeria, Ogbokor & Meyer (2016) for Namibia, and Boakye & Gyamfi (2017) for Ghana. The result also agrees with that of Rasoanomenjanahary, Cao, & Xi (2022) for Madagascar.

Domestic investment (DI) is also positive and statistically significant at 1%. This reveals that 1% increase in DI, for instance, bring about 0.20% rise in GDP. This result is in conformity with those of Altaseb & Singh (2018) for Ethiopia, Tang, Tregenna, & Dikgang (2019) for Mauritius, Muhammad & Hayat (2020) for Brunei, Mohamed, Singh & Yee Liew (2013) for Malaysia, and Mbulawa (2015) for Zimbabwe. Other studies that reported similar finding includes those of Tang, Tregenna, & Dikgang (2019) for Mauritius, and Rasoanomenjanahary, Cao, & Xi (2022) for Madagascar

Table 5: Estimated Long-Run Results

Dependent Variable: **LRY**

All Period ARDL (3, 4, 0, 0, 4, 0, 2)				**Pre-GFC ARDL (4, 2, 2, 2, 2, 1, 4)**			**Post-GFC ARDL (4, 3, 4, 4, 4, 2, 2)**		
Variable	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic	Coefficient	Std. Error	t-Statistic
LGFCF	0.0115	0.0254	0.4537	0.2740	0.3700	0.7403	0.5443	0.3338	1.6305
LFCI	0.031383***	0.0085	3.6745	0.004941***	0.0017	2.9018	0.045312***	0.0146	3.0946
LDI	0.195237***	0.0172	11.3701	0.045266*	0.0223	2.0331	0.171655**	0.0703	2.4403
LTT	-0.088544**	0.0374	-2.3693	-0.8016	1.0649	-0.7528	0.044386**	0.0167	2.6653
LLF	0.0715	0.0649	1.1015	0.0047	0.001746**	2.6658	0.0620	0.2102	0.2949
LGE	0.176015***	0.0453	3.8871	0.2280	0.0367***	6.2112	0.2413	0.0975	2.4737
R^2 = 0.995; Adj.R2 = 0.993; DW = 1.7810				R2 = 0.992; Adj.R2 = 0.992; DW = 2.095			R2 = 0.981; Adj.R2 = 0.958; DW = 2.216		
AIC = -3.5522; SBC = -3.0695; HQC = -3.3563				AIC = -8.3714; SBC = -7.4792; HQC = -8.0283			AIC = -4.1779; SBC = -3.0729; HQC = -3.7518		

Source: Author's computation using EViews 12.

Note: *LRY is the log of real gross domestic product, LGFCF stands for the log of gross fixed capital formation, LFCI represents the log of foreign capital inflow, LDI denotes the log of domestic investment, LTT connotes the log of total trade, LLF is the log of labour force and LGE stands for the log of general government expenditure. DW stands for Durbin Watson statistics, AIC is Akaike Information Criterion, SBC stands for Schwarz Bayesian Criterion and HQC is Hannan-Quinn Criterion.*

Following the same pattern, the GE also has a positive and statistically significant relationship with GDP. This implies that a 1% increase in GE leads to about 0.2% increase in GDP. This result is in line with those of Togo (2018) for Mali, and Tang, Tregenna, & Dikgang (2019) for Mauritius.

Table 6: Estimated Short-Run Results - Error Correction Model

Dependent Variable: **ΔLRY**

All Period	All Period	Pre-GFC	Post-GFC
C	6.7721***	20.6902***	7.5037***
ΔLRY(-1)	-0.0216**	0.3236**	-0.4692***
ΔLGFCF	0.1235***	0.0319***	-0.0266
ΔLFCI			0.0453***
ΔLDI		0.0107**	0.1717***
ΔLTT	0.043***	0.0051**	0.0318**
ΔLLF		4.162	0.2413***
ΔLGE	0.0233	0.0664**	0.2847
ECT (-1)	-0.6194***	-0.0229***	-0.4061***
R^2	0.61	0.94	0.95
Adj.R^2	0.55	0.92	0.92
Durbin Watson	1.781	2.094604	2.215595
AIC	-3.65842	-8.597829	-4.400136
SBC	-3.320514	-7.928673	-3.516143
HQC	-3.521301	-8.340504	-4.059214

Note: *ΔLRY is the first difference of the log of real gross domestic product, ΔLGFCF stands for the first difference of the log of gross fixed capital formation, ΔLFCI represents the first difference of the log of foreign capital inflow, ΔLDI denotes the first difference of the log of domestic investment, ΔLTT connotes the first difference of the log of total trade, ΔLLF is the first difference of the log of labour force and ΔLGE stands for the first difference of the log of general government expenditure. DW stands for Durbin Watson statistics, AIC is Akaike Information Criterion, SBC stands for Schwarz Bayesian Criterion and HQC is Hannan-Quinn Criterion.*

Astonishingly however, TT, against *apriori* expectation, turns out to be negative and statistically significant at 5%. This shows that GDP declines as total trade improves. Put succinctly, a 1% increase in total trade leads to decline in GDP by about 0.09%.

Interestingly, the results of the "pre-GFC" and "post-GFC" periods are very similar. The signs of coefficients of all variables are the same except for LTT and LLF variables. Moreso, the magnitude of the coefficients and levels of significance are different for all variables.

For TT, the reason behind the significant positive relationship with GDP in the "post-GFC" can largely be attributed to the review of trade policy by the government after the GFC. For instance, CBN banned access to official foreign exchange window by some forty-one (41) finished products (CBN, 2015). This was meant to discourage the importation of finished goods and incentivise capital inputs that can be used for further production, hence the positive and significant contribution of total trade to GDP in the "post-GFC" period. In the case of LF, as against "pre-GFC" both "post-GFC" and "all-period" were positive but not significant. The probable reasons for changes in the relationship is likely to be the increasing emphasis of government to transform agriculture and manufacturing sectors as well as the rising prominence of services sector in total GDP. For instance, the CBN introduced various intervention programmes in the agricultural sector to aid mechanisation. These initiatives include but not limited to Accelerated Agricultural Development Scheme (AADS), Commercial Agriculture Credit Scheme (CACS), Agri-Business, Small and Medium Enterprise Investment (AGSMEIS), Anchor Borrowers Programme (ABP), among many others.

The error correction model (ECM) is presented in Table 7. In line with *apriori*, the coefficients of the ECT were all negative and statistically significant. For instance, the ECT for "all-period" regression is -0.6194 (i.e.,61.94%) and significant at 1.0%. Similarly, those of "pre-GFC" and "post-GFC" periods were -0.0229 (2.29%) and -0.4061 (40.61%), respectively and both are statistically significant at 1.0%. These entail that, in case of distortions, the speed of adjustment towards equilibrium is 61.94% for "all-period", 2.29% for "pre-GFC" period and 40.61% for the "post-GFC" period. Consequently, while it takes less than two quarters for equilibrium to be re-established in the case of "all-period", it takes more than forty-three quarters to re-establish equilibrium in case of the "pre-GFC" period and less than three quarters for "post-GFC" period.

Considering the magnitude of the R^2 (i.e., 0.995, 0.995 and 0.981 for "all-period", "pre-GFC" and "post-GFC" regressions, respectively) and the fear of making inference from spurious regressions, the study carries out both serial correlation and heteroskedasticity tests using Breusch-Godfrey Serial Correlation LM and ARCH tests. Table 7 presents the results of serial correlation and heteroskedasticity tests. The probability values of both Breusch-Godfrey Serial Correlation LM and ARCH tests show that there is no evidence of both serial correlation and heteroskedasticity.

Table 7: Diagnostic Test

		BG	ARCH		BG	ARCH		BG	ARCH
	F-statistic	1.7963	0.3483		0.7896	0.7715		1.7963	0.3483
All	Prob. F.	0.1894	0.5577	**Pre-**	0.4961	0.3840	**Post-**	0.1894	0.5577
Period	Obs*R-squared	7.5803	0.3595	**GFC**	11.0436	0.7901	**GFC**	4.5782	0.3595
	Prob. Chi-Square	0.0226	0.5488		0.004	0.3741		0.1014	0.5488

Note: BG is Breusch-Godfrey Serial Correlation LM Test; ARCH is Heteroskedasticity Test: ARCH

The cumulative sum (CUSUM) of recursive residual and cumulative sum of squares (CUSUMSQ) of recursive residual were further used to test the stability of the equations and of the estimated parameters (Yaaba, 2016; 2017 & 2018). Both CUSUMs and CUSUMSQs (Figures 1 to 6) indicate that the parameters of the estimated equations are stable given that the recursive errors lie in between the 0.05 critical lines.

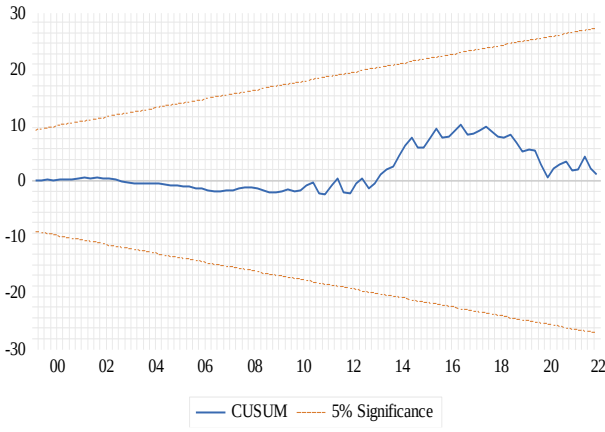

Figure 1: Cumulative Sum of Recursive Residual Test Recursive for "all-period" Regression

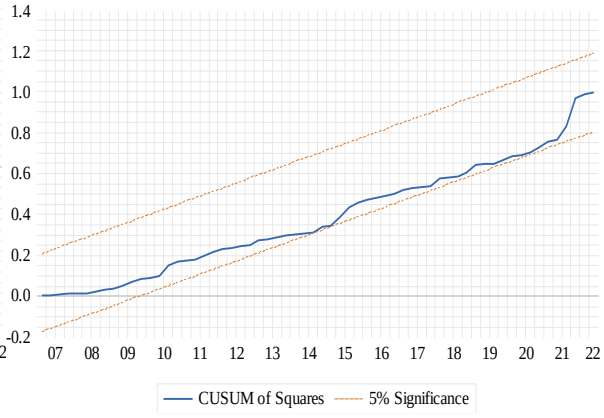

Figure 2: Cumulative Sum of Squares of Residual Test for "all-period" Regression

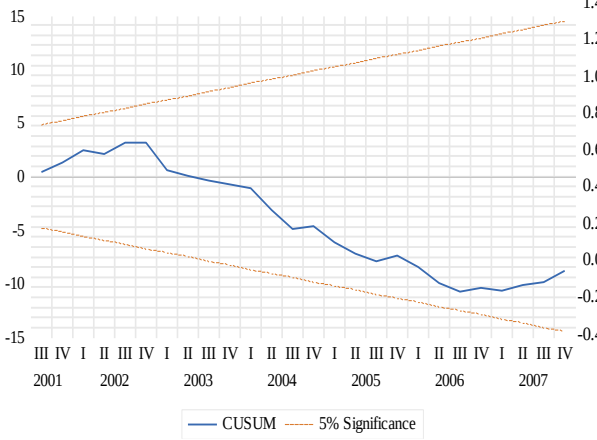

Fig. 3: Cumulative Sum of Recursive Residual Test for "pre-GFC" Regression

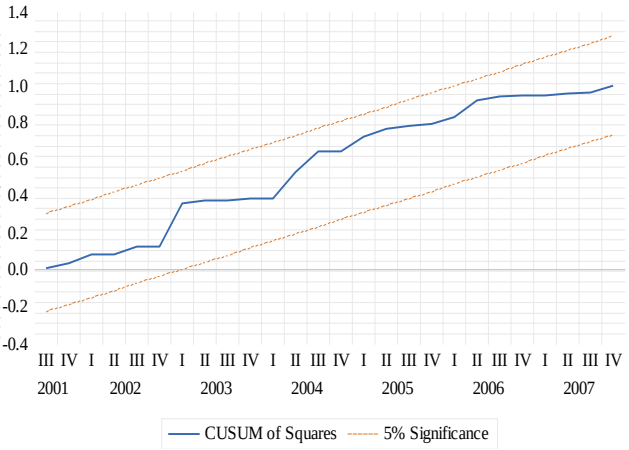

Fig. 4: Cumulative Sum of Squares of Recursive Residual Test for "pre-GFC" Regression

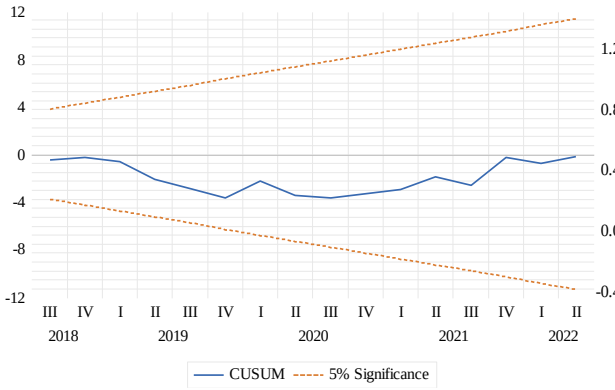

Fig. 5: Cumulative Sum of Recursive Residual Test for "post-GFC" Regression

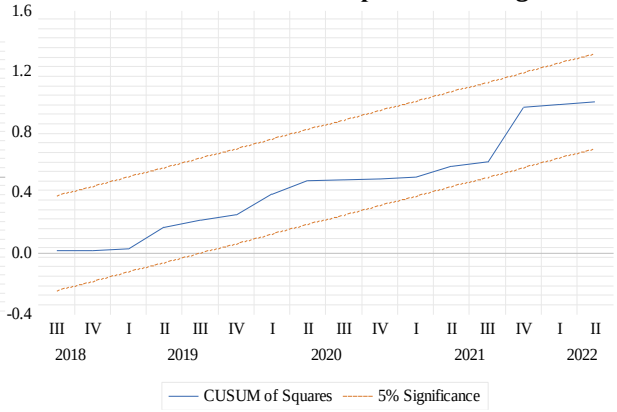

Fig. 6: Cumulative Sum of Squares of Recursive Residual Test for "post-GFC" Regression

5. Conclusion and Recommendation

The disappointing performance of Nigerian economy in terms of economic growth despite numerous efforts by successive governments has long been a matter of concern Nigerians. This mixed performance is attributed to different reasons including paucity of FCI (Durham, 2004; Dalgaard, Hansen, & Tarp, 2004; Li & Liu, 2005; Gomanee, Girma, & Morrisey, 2005; Albulescu, 2015; Ehigiamusoe & Lean (2019), and insufficient international trade (David & Yaaba, 2011). This study therefore attempts to examine the relationship between FCI, international trade and economic growth in Nigeria. The study differs from earlier ones as it covers the entire period of indirect monetary policy adopted by the CBN and uses quarterly data from 1993Q1 to 2022Q3. The study also explores the impact of GFC on economic growth by further disentangling the study period into two, namely: the "pre-GFC" era and "post-GFC" era. The study adopts a highly robust cointegration techniques in the form of a dynamic ARDL developed by Pesaran, Shin and Smith (2001) to carry out the estimation.

The study finds that FCIs, domestic investment, and general government expenditure are the consistent determinants of economic growth in Nigeria. Total trade, against *apriori* expectation, rarely aid economic growth except during the "post-GFC" period. The study recommends that Nigerian government should provide tax incentives to large multinationals that are interested in investing in Nigeria to attract FCIs. This can be negotiated bilaterally with intending investors and the tax incentive granted on case-by-case basis with emphasis on investment flow into non-oil sectors. There is the need for more export processing zones, commercial zones, and economic corridors as well as industrial estates. There are presently

thirty-four (34) licensed export processing zones in Nigeria. This number is inadequate particularly when compared to what obtains in other jurisdictions. For instance, there are 320 exports processing zones in North America alone, 41 in Central America, 51 in the Caribbean, and another 41 in South America. Asia has over 225 EPZs as of 1997[4]. Dominican Republic, a country of only eleven million people has about 35 EPZs. Malaysia, with a population of about 32.7 million has 22 free industrial zones, 18 free commercial zone, and 5 regional economic corridors (UNCTAD, 2019)[5]. There is also the need for more investment in education and training to upscale labour skills. It is a well-known fact that some industries require higher skilled labour to operate and thus will prefer to invest where these skills are available. Multinationals will prefer to invest in countries where labour is cheap, and labour productivity is high perhaps due to higher skills.

Other recommendations include provision of more transport and infrastructural facilities, policy effort to enhance the stability of exchange rate and straightening of Intra-African trade.

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