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Effect of Financial Globalisation on Economic Growth: A Comparative Evidence from Ghana and Nigeria

[1] Muftau Adesina Abayomi, and [2]Justus Adeniyi George
[1 2]*Department of Economics, School of Logistics and Innovation Technology*
Federal University of Technology, Akure, Nigeria

Abstract
Experts have argued that financial globalisation facilitates domestic investment and economic growth. However, findings from various studies on the effect of financial globalisation on economic growth in developing countries have been mixed. Hence, the main objective of this study was to compare the effect of financial globalisation on economic growth in Ghana and Nigeria. Variables used in the study such as real gross domestic product growth rate (as dependent variable), net foreign assets, foreign direct investment, domestic credit provided by the banking sector, capital formation, labour force, trade openness and inflation rate were obtained from the world development indicators, while data on government effectiveness were sourced from the world governance indicators. The study tested for stationarity and found the variables amenable to autoregressive distributed lag (ARDL) model. It also established cointegration among the variables before adopting the ARDL model. Findings from the study revealed that net foreign assets had a significant positive effect on economic growth in Ghana whereas it exerted a significant negative effect on growth in Nigeria, which indicated poor net foreign assets management in the latter. Although foreign direct investment exerted a significant negative effect on economic growth in Nigeria, its effect on Ghanaian economy was negative but insignificant; these findings were attributed to poor infrastructure. The study also revealed that the immediate past growth rate impedes current growth rate in both countries, which might be partly due to the dominance of primary products in the basket of exports from both economies. It was also found that trade openness was not beneficial to both economies, which may be attributed to dumping of goods in both countries. This study concluded that financial globalisation matters in economic growth and it should, therefore, be accorded adequate attention to ensure its proper management with a view to accelerating economic growth in both countries. Finally, the study recommended, among others, that the monetary authorities in both countries should institute policies that would ensure financial development and a regular review of the structure and management of net foreign assets and foreign direct investment. The governments of both countries should also ensure aggressive infrastructural development, and continual value addition to tradable goods with a view to minimising price shocks, while instituting policies that would ensure selective inflow of goods beneficial to both economies in order to reap the gains of trade openness and financial globalisation.

Keywords: *Autoregressive Distributed Lag Model, Cointegration, Economic Growth, Financial Globalisation, Ghana, Nigeria.*

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I. Introduction

The increased debate as to whether or not financial globalisation is beneficial to developing countries has generatedrenewed research interest on the subject. Although financial globalisation is not a new phenomenon as it began towards the end of the nineteenth century, it slowed down following the commencement of the First World War until the third quarter of the 20thcentury (Adeyanju, 2017). Thereafter, the pace of globalisation picked up rapidly from the fourth quarter of thatcentury while a rapid integration of world financial markets started in 1973 after the Dollar crisis of 1971. The Bretton Woods Institutions such as the World Bank and the International Monetary Fund (IMF) subsequently began to recommend privatization and deregulation, among others, to developing countries towards resolving their economic problems.Financial globalisation is defined as the linking of domestic financial markets withthe rest of the world. It can also be defined as the integration of financial markets of all countries of the world into one (Arestis*et al.*, 2005).On the other hand, economic growth is a consistent increase in the value of goods and services produced in an economy over a long period of time (Jhingan, 1997).

A surge in capital flows among industrial countries and between industrial and developing countries marked the recent wave of financial globalisation since the mid-1980s. The volume of international financial

flows in Sub-Saharan Africa which accounted for US$966.73 million in 1985 and US$4.53 billion in 1995 rose substantially to US$19.49 billion in 2005 and US$27.15 billion in 2010 (IMF, 2011). However, the recent international financial flows have been adversely affected by the 2008 financial crisis as well as the COVID-19 pandemic.

Furthermore, these capital flows have been associated with high growth rates in some developing countries whileother countriesin the same category have experienced epileptic growth rates and significant financial crises over the same period.It is also remarkable that not all developing countries such as Ghana and Nigeria have attracted these inflows in equal proportions. Hence,the relationship between financial globalisation and economic growth is not yet clear in developing countries such as Ghana and Nigeria, where many economic reforms aimed at accelerating economic growth have yielded mixed results. This throws up the question: What is the effect of financial globalisation on economic growth in Ghana and Nigeria?Hence, the main objective of the study was to investigate the effect of financial globalisation on economic growth in Ghana and Nigeria. The specific objectives of the study were to: analyse the trends of financial globalisation indicators and economic growth in Nigeria and Ghana; examine the long run relationship between financial globalisation and economic growth; compare the effect of financial globalisation on economic growth in both countries; and determine the directional flow of causality between financial globalisation and economic growth in the study areas. Findings from the study would assist the national governments by providing insights on how they can effectively harness the benefits of financial globalisationfor driving economic growth in both countries. This study would also contribute to the body of knowledge by providing comparative empirical evidence from both countries with a view to enriching the literature on financial globalisation-economic growth nexus.

The study used data covering the period 1996 – 2019. The base year of 1996 was chosen mainly because reliable data on government effectiveness required for the study became available from that year. Ghana and Nigeria were purposively selected because the two countries generate 75% of Gross Domestic Product of all States in the West Africa sub region (ECOWAS, 2021). Financial globalisation in this study was captured using *de facto* (quantity-based) measures because they are widely believed to be more accurate as they induce less endogeneity problems.

II. Empirical Review

A number of studies have been carried out on financial globalisation-economic growth nexus at both country and regional levels.

Recent studies show that some prerequisites must exist as regards a minimum level of institutional quality, financial market development, and macroeconomic stability before financial globalisation can further improve financial market and institutional development (Eichengreen, 2001; Klein, 2005; Alfaro *et al.*, 2004). The absence of these supporting conditions exposes countries withopen economies to international capital market shocks.Stulz (2005) focused on institutional quality and concludes thatglobalisation alleviates some agency problems by reducing the cost of external finance, thereby creating incentives for firms enjoying such finance to enhance their corporate governance.

Gourinchas and Jeanne (2005) argue that financial globalisation can improve the benefits of good macroeconomic policies and galvanise political support forreforms while Bartolini and Drazen (1997) contend that an enhanced financial openness may encourage acountry's commitment to better macroeconomic policies.

Using ordinary least squares on a panel of 71 countries, Klein (2005) hinges the effectof capital account liberalisation on economic growth on institutional quality. He also reports a strongcorrelation between institutional quality and income per capita, while emphasizing that upper-middle-income countries mostly benefit meaningfully from capitalaccount liberalisation.

Wei (2006) using a panel OLS for 179 countries, report that financial globalisation did not lead to an automatic improvement in many developing countries. He states that recent evidence suggests that better institutional quality in a capital-importing country may lead to a more favourable composition of capital inflows into the country.

Egbetunde and Akinlo (2015) investigated the relationship between financial globalisation and economic growth in Sub Saharan Africa, using panel cointegration tests and panel vector error correction model. The analysis of the result reveals that financial globalisation (lag 1) had a negative and significant effect on economic growth in the study area. This implies that financial globalisation has not improved economic growth in Sub-Saharan Africa; this they attributed to weak institutions in the economies.

In a study carried out by Eregha (2012), hereports that foreign direct investment inflow crowds out domestic investment in theECOWAS region and suggests a selective attraction of only beneficial foreign direct investments.This assertion is corroborated by the findings of Inekwe (2013)which states that foreign direct investment in the service sector had a positive and significant relationship with economic growth in Nigeria while the reverse is the case withforeign direct investment in the manufacturing sector.

Adeyanju (2017) opines that the recent wave of financial globalisation in Nigeria accelerated following the recapitalization and consolidation in the banking industry. Kose *et al.* (2009b), using descriptive statistics, establish a positive association between financial globalisation and economic growth. They further report that emerging market economies experienced far higher cumulative growth since 1970 than other developing countries or even industrialcountries.

In another study,Friedrich *et al*. (2010) contend that the European transition region benefited much more strongly from financial integration interms of economic growth than other developing countries since the late 1990s. The effect of financial globalisation on growth isnot only statistically significant, but also economically important. Hence, the experience of emerging Europe seems to conformto neoclassical growth theory, which predicts that openness to foreign capital should allow countries to grow faster towards theirsteady state income levels (Egbetunde & Akinlo, 2015).

On the other hand, Aryeetey and Ackah (2011) posit that the global financial crisis exerts a negative and significant effect on many African economies, albeit indirectly via its influence on the real sector of the affected countries. It has led to a reduction in aggregate output principally due to the structures of these economies. They also report significant variations in the impact of the crisis across countries largely driven by institutional quality as well as the prevailing prerequisite conditions in those economies.

In a related study carried out by Anyanwu (2014) on the determinants of economic growth in Africa using five non-overlappingthree-year averages of cross-sectional data between 1996 and 2010, he finds that domestic investment, education, government effectiveness, metal prices, net official development assistance inflows and urban population exert a significantpositive influence oneconomic growth in the study area.

Maduka, Madichie and Eze, (2017) examined the impact of globalisation on economic growth in Nigeria, employing the autoregressive distributed lag model within the framework of the Pesaran *et al.* (2001). Using annualized secondary time series data from 1970 to 2015, the study reveals that trade openness; foreign direct investment and financial integration exert a significant positive effect on economic growth in Nigeria.

Ofori-Atta (2017) carried out a study on the effect of globalisation on the manufacturing sector of Ghana. While the study used foreign direct investment (FDI) as a proxy for globalisation, it employed the ordinary least squares regression technique on a data set spanning 1985 - 2013. He reports that FDI exerts a significant negative effect on the manufacturing sector.

Amaefule (2020) investigated the impact of the dynamic nature of Foreign Direct Investment (FDI) inflow and Official Development Assistance (ODA) inflow on growth and trade indicators in Ghana and Nigeria. Using secondary data obtained from the World Development Indicators for a period spanning 1970 – 2017 and the Nonlinear ARDL Bounds Test, establishes a long-run relationship between global capital inflows, economic growth and trade. He further reports that an increase in FDI inflow exerts a positive effect on economic growth in Ghana and a negative effect on growth in Nigeria. Also, an increase in ODA inflow causes a positive impact on growth in Ghana and Nigeria and vice versa.

Duodu and Baidoo (2020) examined the effect of capital inflows on economic growth in Ghana. Using annual time series data, spanning 1984–2018 and the autoregressive distributed lag model, they show that remittances exert a positive impact on economic growth, while external debt and foreign direct investment impact economic growth negatively in the long run. They also report that foreign aid exerts an insignificant effect on economic growth both in the short and long run. When external debt interacted with institutional quality, it exerted a positive and significant impact on economic growth in the study area in the long run. Also, when remittances interacted with institutional quality, it exerted a positive and significant effect on economic growth in the long run.

Theoretically, it is contended that opening up financial markets can promote financial growth (Mishkin, 2006), thereby stimulating development (Svrtinov *et al.*, 2013). At a more advanced stage of development, trade and financial globalisation are expected to allow for enhanced specialisation (Kose *et al.*, 2009a) thereby exposing middle-income developing countries to industry-specific shocks and higher output volatility (Kose *et al.*, 2004). In the light of these views in addition to the varying empirical findings as well as divergent prevailing conditions in Ghana and Nigeria, it is pertinent to compare the effect of financial globalisation on economic growth between both countries.

III. Methodology

Theoretical Framework

This studywas anchored on the neoclassical growth Model. This model considers two-factor production function with capital and labour as determinants of output. Besides, it adds exogenously determined factor, technology, to the production function. Thus, theneoclassical growth model could be stated as follows:

$$Y = A\,f\,(K, L) \ldots (1)$$

Where, Y is Gross Domestic Product (GDP), K is the stock of capital, L is the amount of unskilled labour and A is exogenously determined level of technology. It should be noted that change in the exogenous variable,

technology, will cause a shift in the production function. However, there are two ways in which technology parameter A is incorporated in the production function. One way is to assume that technology is labour-augmenting and accordingly the production function is written as follows:

$$Y = f(K, AL) \ldots (2)$$

Here, labour-augmenting technological change implies that it increases productivity of labour. The second important way of incorporating the technology factor in the production function is to assume that technological progress augments all factors (both capital and labour in the production function), and not just augmenting labour alone. This study adopted the latter assumption.Hence, the production function is written asin equation (1).

Where A in equation (1) represents total factor productivity (that is, productivity of both factor inputs). When we empirically estimate production function specified in this way, then contribution of A to the growth in total output is called Solow residual (Solow, 1956).

Unlike the fixed proportion production function of Harrod-Domar model of economic growth, neoclassical growth model considers unlimited possibilities of substitution between capital and labour in the production process. With these assumptions, the neoclassical growth model focuses its attention on supply side factors such as capital and technology for determining rate of economic growth of a country. The model emphasises economic growth through capital accumulation and this growth process ends in a steady state equilibrium.

Equation (1) can be re-stated as follows:

$$Y = AK + AL \quad \ldots (3)$$

If y = Y/A, then k=K/A, and ⌊ =L/A, then equation (3) can be explicitly re-stated as follows:

$$y_t = \beta_0 + \beta_1 k_t + \beta_2 ⌊_t \ldots (4)$$

Where; y represents output, k stands for capital, ⌊ is labour force and $_{it}$ stands for country i in period t. Capital can be subdivided into financial and non-financial capital. Hence, in this case, financial capitalis represented by the flow of net foreignassets (nfa)and foreign direct investment (fdi) into an economy, which suggests that financial globalisation could lead to flows of capital from capital-rich economies to capital-poor ones because, in the latter, the returns on capital should be higher. In theory, these financial flows should complement limited domestic saving in capital-poor economies thereby reducing the cost of capital and facilitating domestic investment. The non- financial capital is proxied by capital formation (caf) in the country. However, the output in an economy is expected to be influenced in one way or another by a vector of other variables such as financial development in a country which can be proxied by domestic credit provided by the banking sector (dcb), institutional quality proxied by government effectiveness (gef), trade openness (trd), and inflation rate (inf), among others. Hence, there is need to incorporate them into the model as follows:

$$y_{it} = \beta_0 + \beta_1 nfa_{it} + \beta_2 fdi_{it} + \beta_3 ⌊_{jt} + \beta_4 caf_{it} + \beta_5 dcb_{it} + \beta_6 gef_{it} + \beta_7 trd_{it} + \beta_8 inf_{it} \ldots (5)$$

Model Specification

The main focus of this study was to compare the effect of financial globalisation on economic growth in Ghana and Nigeria. In order to achieve the objectives of the study, both descriptive (graphs) and inferential statistics (specifically econometrics techniques) were employed. In achieving the first objective, descriptive statistics (graph) was used to show the trend while econometric techniques were used to analyse the other objectives. Panel data covering a period of 24 years each for both Ghana and Nigeria were used.

The model, anchored on the neoclassical growth model, used to analyse the relationship is implicitly specified as follows;

$$RGDPGR_{it} = f(NFA_{it,} FDI_{it}, LF_{it,} CAF_{it,}, DCB_{it}, GEF_{it}, TRD_{it,}, INF_{it}) \ldots (6)$$

The model is explicitly stated as follows:

$$RGDPGR_{it} = \beta_0 + \beta_1 NFA_{it} + \beta_2 FDI_{it} + \beta_3 LF_{it} + \beta_4 CAF_{it} + \beta_5 DCB_{it} + \beta_6 GEF_{it} + \beta_7 TRD_{it} + \beta_8 INF_{it} + \varepsilon_{it} \ldots (7)$$

Where;

$RGDPGR_{it}$ = Real GDP growth rate (proxy for economic growth) of country i over a period t.

NFA_{it} = Net foreign assets which serves as financial globalisation indicator of country i over a period t.

FDI_{it}= Foreign Direct Investment as financial globalisation indicator of country i over a period t.

CAF_{it} = Capital formation as a proxy for non-financial capital of country i over a period t.

LF_{it} =Labour force of country i over a period t.

DCB_{it} = Domestic credits provided by the banking industry of country i over a period t.

GEF_{it} = Government effectiveness as a proxy for institutional qualityof country i over a period t.

TRD_{it}= Trade openness of country i over a period t.

INF_{it} = Inflation rate in country i over a period t.

*"β_o"*denotes the intercept term, that is, the mean or average effect on dependent variable of all the variables excluded from the model, especially when all the explanatory variables are set at zero values.
"$\beta_1 \ldots \beta_8$" are the parameters or partial regression coefficients of the model, measuring the change in the mean value of the change in real GDP per unit change in individual explanatory variable, while holding the values of others constant.
"ε_{it}*"* is the stochastic disturbance term representing all factors that have influence on the model but which are not explicitly taken into account and also have well-defined probabilistic properties over the study period.

Method of Data Analysis

This study adopted the Autoregressive Distributed Lag (ARDL) model. The model was originally introduced by Pesaran and Shin (1999) and further extended by Pesaran, Shin and Smith (2001). A major feature of this technique is that both the long run and short run relationships among variables can be estimated together. The analysis began with the prior examination ofthe order of integration of the time series, using the unit root test, in orderto avoid the spurious regression problem.The Augmented Dickey Fuller (ADF) statistic was used to test the null hypothesis of non-stationarity at 5% level. In a general form, the unit root test of a time series to be tested $[y_y]_t^T = 1$ is as follows:

$$\Delta Y_{it} = a + \varphi_{it} + \rho Y_{it-1} + \sum_{i=1}^{n} \delta \Delta Y_{it-1} + \varepsilon_{it} \quad \ldots (8)$$

Where Y_t is the level of the dependent variable considered, t represents time trend, and ε_i is the error term which is assumed to be normally and randomly distributed with zero mean and constant variance. Using Eviews 10, the study employed the Akaike information criterion (AIC) to select the optimal lag length. The stationarity test was to ensure that ARDL model could be used becausethe series should either be I(0) or I(1) but not I(2) to be so amenable. The distributed lag model is takes the following form:

$$\Delta RGDPGR_{it} = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta RGDPGR_{it-i} + \sum_{i=1}^{n} \beta_2 \Delta NFA_{it-i} + \sum_{i=1}^{n} \beta_3 \Delta FDI_{it-i} + \sum_{i=1}^{n} \beta_4 \Delta LF_{it-i} + \sum_{i=1}^{n} \beta_5 \Delta CAF_{it-i} + \sum_{i=1}^{n} \beta_6 \Delta DCB_{it-i} + \sum_{i=1}^{n} \beta_7 \Delta GEF_{it-i} + \sum_{i=1}^{n} \beta_8 \Delta TRD_{it-i} + \sum_{i=1}^{n} \beta_9 \Delta INF_{it-i} + \alpha_1 RGDPGR_{it-1} + \alpha_2 NFA_{it-1} + \alpha_3 FDI_{it-1} + \alpha_4 LF_{it-1} + \alpha_5 CAF_{it-1} + \alpha_6 DCB_{it-1} + \alpha_7 GEF_{it-1} + \alpha_8 TRD_{it-1} + \alpha_9 INF_{it-1} + \varepsilon_{it} \quad \ldots (9)$$

Here, n is thelag length, t represents the time,ε_i is the disturbance term and ß's and α's are the coefficients for short run and long run relationships respectively.

If the ARDL (Bounds Test) indicates the existence of a long run relationship among the variables, then the Error Correction Model (ECM) can be estimated. Theerror correction term (ECT) can them be estimated from the ECM. The ECT(-1) shows the speed of adjustment of a departure from long run equilibrium. The greater the coefficient of the parameter (which should normally besignificant and negative), the higher the speed of adjustment. The Error Correction model is represented as follows:

$$\Delta RGDPGR_{it} = \beta_0 + \sum_{i=1}^{n} \beta_1 \Delta RGDPGR_{it-i} + \sum_{i=1}^{n} \beta_2 \Delta NFA_{it-i} + \sum_{i=1}^{n} \beta_3 \Delta FDI_{it-i} + \sum_{i=1}^{n} \beta_4 \Delta LF_{it-i} + \sum_{i=1}^{n} \beta_5 \Delta CAF_{it-i} + \sum_{i=1}^{n} \beta_6 \Delta DCB_{it-i} + \sum_{i=1}^{n} \beta_7 \Delta GEF_{it-i} + \sum_{i=1}^{n} \beta_8 \Delta TRD_{it-i} + \sum_{i=1}^{n} \beta_9 \Delta INF_{it-i} + ECT(-1) \quad \ldots (10)$$

Where the ECT(-1) is the speed of adjustment.
The *a priori* expectations were as follows:
a) $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ *and* $\beta_8 > 0$, while $\beta_9 < 0$
b) $\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6, \alpha_7$, *and* $\alpha_8 > 0$, while $\alpha_9 < 0$

Data Sources and Measurement of Variables
The sources of data as well as the measurement of variables used in this studyare as detailed in Table 1.

Table 1:Data Sources and Measurement of Variables

Variables	Indicator	Variable Description	Measurement	Source
RGDPGR	Real gross domestic product growth rate	RGDP growth rate used as proxy for economic growth.	Growth rate of real gross domestic product in percentage	World Development Indicators, 2020

NFA	Net foreign assets	Net foreign assets are the sum of foreign assets held by monetary authorities and deposit money banks, less their foreign liabilities. Used as proxy for financial globalisation.	Measured as a percentage of GDP	World Development Indicators, 2020
FDI	Foreign direct investment	Total value of controlling ownership in a business in one country by entities based outside the country. Used as proxy for financial globalisation.	Measured as a percentage of GDP	World Development Indicators, 2020
CAF	Gross capital formation	Gross capital formation consists of outlays on additions to the fixed assets of the economy plus net changes in the level of inventories. Used as a proxy for nonfinancial capital.	Measured as a percentage of GDP	World Development Indicators, 2020
LF	Labour force	Population growth rate as proxy for labour force.	Growth rate of population in percentage.	World Development Indicators, 2020
DCB	Domestic credit provided by the banking industry	Total value of domestic credits provided by the banking industry. Used as proxy for financial development.	Measured as a percentage of GDP	World Development Indicators, 2020
TRD	Trade openness	Total exports plus total imports divided by the GDP.	Measured as a percentage of GDP.	World Development Indicators, 2020
GEF	Government effectiveness	Government effectiveness captures the quality of public services and the degree of its independence from political pressures, thus fostering a benign context for private investment. Used as proxy for institutional quality.	Government effectiveness index ranges from 0.1 to 1.0.	World Governance Indicators, 2020 as compiled by Kaufmann *et al.*(2010)
INF	Inflation rate	Inflation rate proxied by Consumer Price Index.	Year-on-year inflation rate measured in percentage.	World Development Indicators, 2020

IV. Results and Discussion

Trend Analysis

The trends of the growth rate of real Gross Domestic Product (RGDP) for Ghanaian and Nigerian economies are shown in Figure 1. The graphs reveal that the rate of economic growth in Ghanahas been higher than in Nigeria over the study period. The upward linear trend demonstrated by the Ghanaianeconomy is a reflection of favourable government's fiscaland its apex bank's monetary policiesin the country.However, a sharp drop in RGDP growth rate in 2009 in both economies can be attributed to the spillover effects of the global financial crisis which started in 2007. Subsequently, both countries began to recoveras their growth rates picked up and peaked in2011 for Ghana and 2012 for Nigeria respectively. Whereas both countries exhibited a downward trend in RGDP growth between 2018 and 2019, the Ghanaian economy began to recover in 2019.

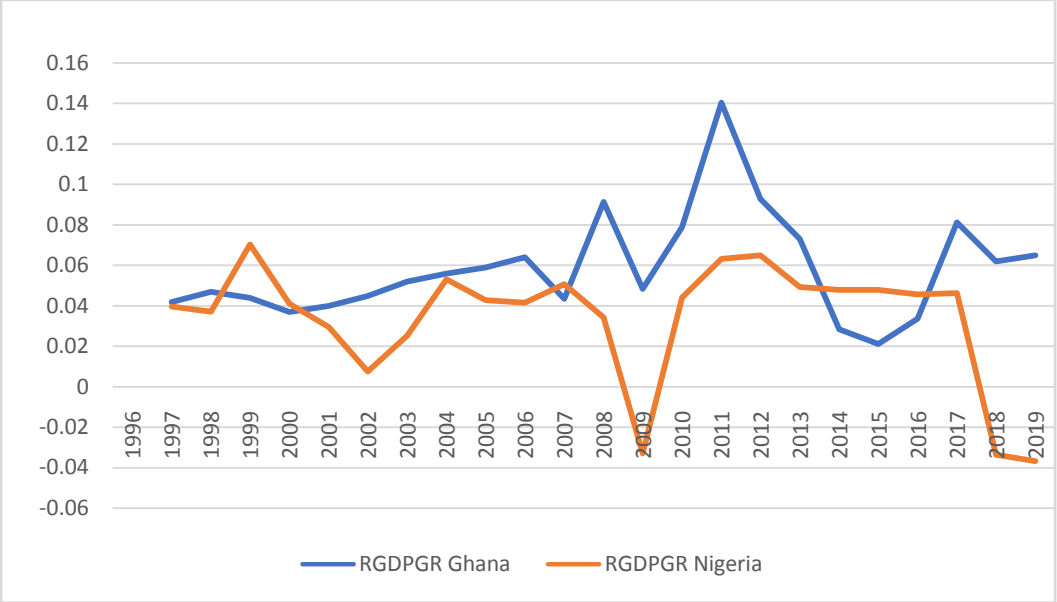


Figure 1: Trends of Economic Growth in Ghana and Nigeria (1996-2019)
Source: Authors' Computation, 2021

Figure 2 shows that net foreign assets as a percentage of GDP in Nigeria exhibited a linear upward trend until it peaked in 2008 and thereafter dropped up till 2010. But it started rising till 2012 after which it fell up till 2015. However, the net foreign assets as a percentage of GDP grew consistently up till 2018 after which it dropped in 2019. However, thenet foreign assets as a percentage of GDP in Ghana exhibited a linear, relatively low but stable trend over the study period.

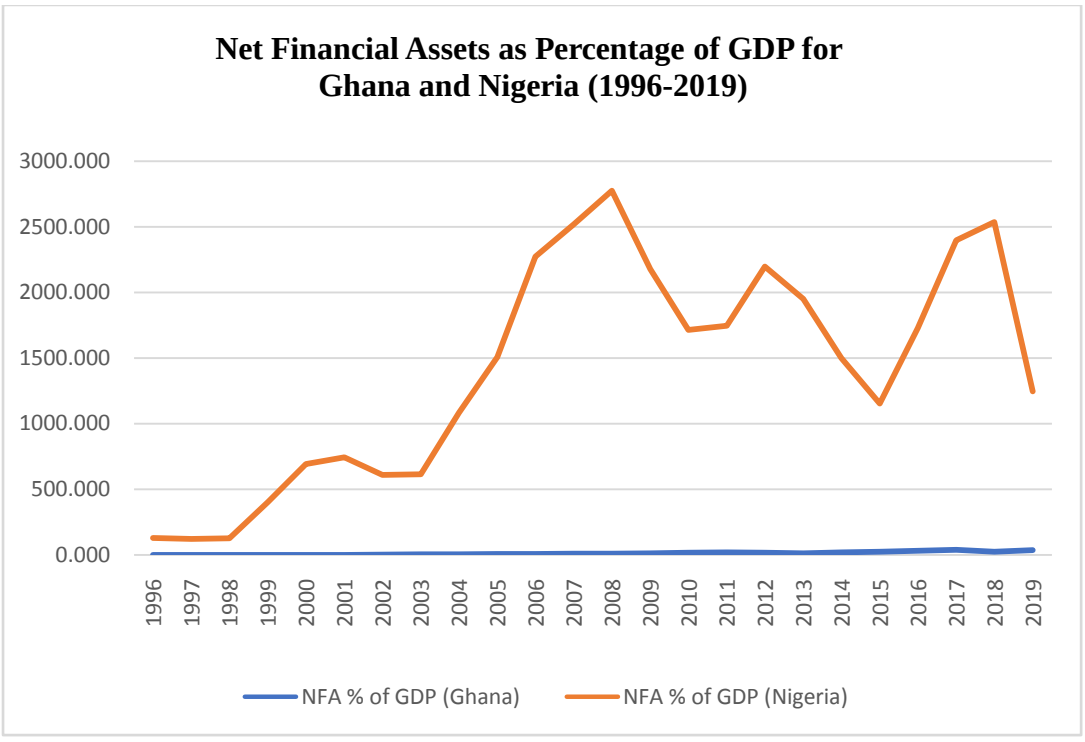


Figure 2: Trends of Net Financial Assets in Ghana and Nigeria (1996-2019)
Source: Authors' Computation, 2021

Except for years 2002 and 2005, foreign direct investment (FDI) as a percentage of GDP in Ghana was generally higher than in Nigeria over the study period (Figure 3). This implies that FDI concentration in terms of GDP was generally higher in Ghana than in Nigeria. However, in absolute terms, FDI in Nigeriawas higher for most parts of the period than in Ghana. For instance, the FDI in 1996 was USD499 million and

USD120million in Nigeria and Ghana respectively, while same was USD8.56 billion and USD2.37 billion in 2009 for the two countries respectively.

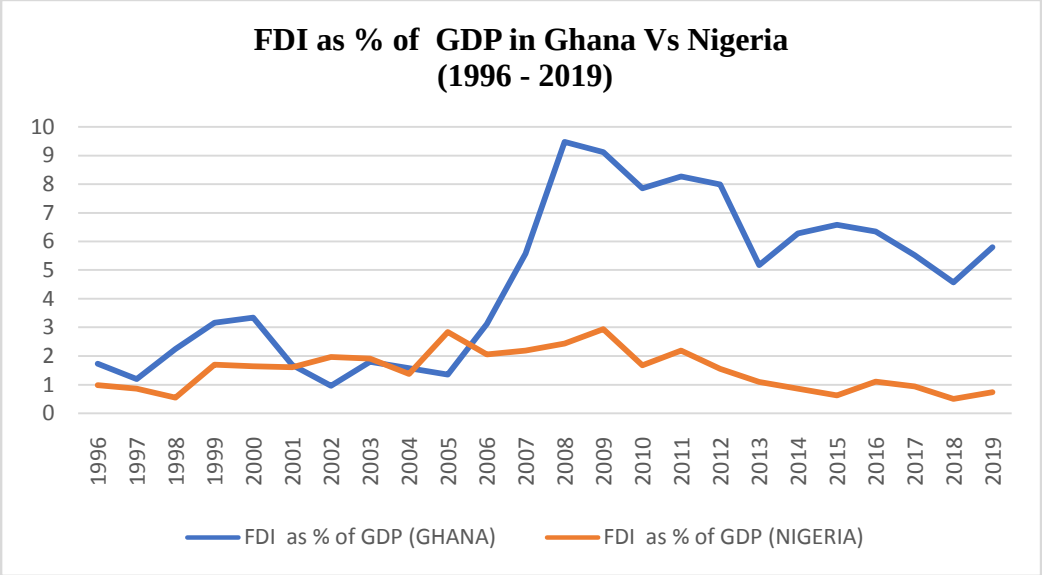


Figure 3: Trends of FDI as a Percentage of GDP in Ghana and Nigeria (1996-2019)
Source: Authors' Computation, 2021

Unit Root Test Result

The unit root test was carried out using theADF - Fisher Chi-Square Test and the result is presented in Table 2. The result shows that three variables are stationary at level while six are stationary at first difference. This result shows that the variables could be subjected to ARDL model as none of the series was stationary at second difference.

Table 2: Result of the Unit Root Test based on ADF - Fisher Chi-Square Test

Series	Level Statistic	Probability at level	First Difference Statistic	Probability At first Difference	Order of Integration
RGDPGR	7.40978	0.1158	22.8645	0.0001**	I(1)
NFA	0.29898	0.9899	22.5054	0.0002**	I(1)
FDI	3.00635	0.5568	19.2387	0.0007**	I(1)
CAF	1.12738	0.8899	19.7356	0.0006**	I(1)
LF	23.9402	0.0001**	N/A	N/A	I(0)
DCB	11.5617	0.0209*	N/A	N/A	I(0)
TRD	7.30497	0.1206	31.0818	0.0000**	I(1)
GEF	3.33011	0.5042	12.638	0.0132*	I(1)
INF	11.9997	0.0174*	N/A	N/A	I(0)

*, ** indicate 5% and 1% levels of significance respectively
Source: Authors' Computation, 2021

Examination of the Long Run Dynamic Relationship (Co-integration) between Financial Globalisation and Economic Growth in Ghana and Nigeria

The panel cointegration test results are presented in Table 3. This study employed Kao Residual Cointegration Test as well as the Johansen Fisher Panel Cointegration Test tocheck whether or not there exist a long run relationship between financial globalisation and economic growth as well as among the variables in the

panel. The results in Table 3 show that the null hypothesis of no cointegration should be rejected as there exist a long runrelationship among the variables in the panel at 1% level.

Table 3: Cointegration Test Results

Panel A Panel Cointegration Test			
Test	**Test Statistic**	**Prob.**	
Kao Residual Cointegration Test	ADF	0.0002**	
Panel B Johansen Fisher Panel Cointegration Test			
Hypothesized	**Fisher Stat.***	**Fisher Stat.***	
No. of CE(s)	**(from trace test)**	**(from max-eigen test)**	**Prob.**
None	2.773	2.773	0.5966
At most 1	2.773	2.773	0.5966
At most 2	2.773	2.773	0.5966
At most 3	1.386	19.81	0.0005**
At most 4	0.000	36.84	0.0000**
At most 5	36.84	36.84	0.0000**
At most 6	32.49	17.74	0.0014**
At most 7	19.97	15.35	0.0040**
At most 8	13.31	13.31	0.0098**

* Probabilities are computed using asymptotic Chi-square distribution.
** indicates 1% level of significance
Source: Authors' Computation, 2021

The Bounds Test was also used to examine the long run relationship among the variables in Ghana as well as in Nigeria. The results of the Bounds Test in Table 4 indicate that the F-statistic values for each of the countries is greater than the I(0) and I(1) values at 1% level, which confirms the presence of cointegration among variables in the two countries.

Table 4: Cointegration Test Results for Ghana and Nigeria

Ghana				
F-Bounds Test				
Test Statistic	Value		I(0)	I(1)
F-statistic	5.331483**	10%	1.85	2.85
K	8	5%	2.11	3.15
		2.5%	2.33	3.42
		1%	2.62	3.77
Nigeria				
F-Bounds Test				
Test Statistic	Value		I(0)	I(1)

F-statistic	13.49704**	10%	1.85	2.85
K	8	5%	2.11	3.15
		2.5%	2.33	3.42
		1%	2.62	3.77

** indicates significance at 1% level

Source: Authors' Computation, 2021

Effect of Financial Globalisation on Economic Growth in Ghana and Nigeria: AComparative Analysis

The ARDL results for Ghana and Nigeria are presented in Tables5 and 6 respectively. RGDPGR(lag 1)[i.e. immediate past economic growth rate]exerts a significant negative effect on economic growth in both Ghana and Nigeria at 1% level. This implies that the main exports of both countries are primary products whose prices are susceptible to external shocks in the global commodity market thereby making economic growth in both countries unsustainable in the long run. While net foreignassets[NFA] (lag 1)exert a significant negative effect on economic growth in Nigeria at 1% level, it has a significant positive effect on economic growth in Ghanaat 5% level of significance. This implies that the volume of net foreign assets,albeit higher in Nigeria, hasbeen better utilized in Ghana while Nigeria has not efficiently harnessed same. Hence, it can be said that high volume of net foreign assets is not a sufficient condition for enhancing economic growth. However, foreign direct investment (FDI) lag 1exerts a significant negative effect on economic growth in both countries at 5% level. This might be due to the poor infrastructure such as bad roads and epileptic power supply, among others, which hinder the effective and seamless operations of foreign direct investment projects in both countries.It might also be due to weak institutions. These findings are in line with Egbetunde and Akinlo (2015), which concluded that financial globalisation has not been beneficial to Sub Saharan Africa. This finding also corroborates that of Wei (2006) who concluded that financial globalisation does not lead to an automatic improvement in many developing countries, as institutional quality is a very important precondition.

Furthermore, the result reveals that trade openness (lag 1)exerts a negative but insignificant effect on economic growth in both countries at 5% level. This can be attributed to indiscriminate dumping of goods and services on the two countries. Hence, there might be need for the national governments of both countries to institute policies that would ensure selective inflow of goods and services into their countries.

The result also indicates that GEF (government effectiveness) lag 1 exerts aninsignificant positive effect on economic growth in both countries at 5% level of significance. This impliesa weak institutional quality asthe national governments of both countries have not been able to ensure the delivery of quality public services in addition to their inability to exert independence from political pressures thereby discouraging private investments which ultimately retard economic growth. Hence, there might be need for the national governments of the two countries to demonstrate strong political will in the affairs of the country and enhance government effectiveness.

Whereas labour force (lag 1) exerts an insignificant negative effect on economic growth in Ghana, same exerts a significant and positive effect on economic growth in Nigeria. This implies that labour force has been productively engaged in Nigeria thereby enabling their contribution to economic growth in the country, while the reverse is the case in Ghana because same has not been productively deployed. The implication of this finding is that the Ghanaian government might need to embark on curriculum review at its secondary and tertiary education levels in order to enhance skill-building with a view to improving the productivity of labour force in the country. Furthermore, the result shows that while inflation rate (lag 1) exerts aninsignificantnegative effect on economic growth in Ghana, it has a significant positive effect on economic growth in Nigeria, which is an indication that inflation management has been favourable to economic growth in Nigeria while the reverse is the case in Ghana.

Furthermore, while capital formation (lag 1) has a significant negative effect on economic growth in Ghana, same exerts a significant positive effect on economic growth in Nigeria. This implies that the number of abandoned projects is taking a toll on the Ghanaian economy. Hence, the structure of capital formation in the country needs to be reviewed.Also, domestic credit provided by the banking sector (DCB) lag 1 as an indicator of financial development exerts a negative but insignificant effect on economic growth in both economies. This implies that financial development in both countries is still poor. Hence, the monetary authorities in both countries may need to embark on aggressive financial development initiatives.

However, labour force and capital formation exert a significant negative effect on economic growth in Ghana in the short run, while same exert a significant positive effect on economic growth in Nigeria in the short run. Also, net foreign assets and government effectiveness exert a significant positive effect on economic growth in Nigeria in the short run, FDI exerts an insignificant negative effect on growth while trade openness

exerts a significant negative effect on growth in the country in the short run. Meanwhile, the policy implications have been dictated by the long run effect of each indicator on economic growth.

Finally, the results reveal that the [ECT(-1)] is negative and statistically significant, which is a confirmation that long run relationship exists between RGDPGR and its selected regressors. TheECT(-1) of -0.9564 and -0.7873for Ghana and Nigeria respectively indicate that the speed at which the cointegrating variables of both economies return to long run equilibrium from short run distortions are 95.6% and 78.7% respectively (Tables 7 and 8). These imply that a departure from long run equilibrium is adjustedat a faster rate in Ghana than in Nigeria.

Table 5: ARDL Model Result for Ghana

Dependent Variable: D(RGDPGR)			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	0.857036	2.017374	0.0713
RGDPGR(-1)	-1.040510	-4.731291	0.0008**
NFA(-1)	0.218239	2.238363	0.0491*
LF(-1)	-25.65887	-1.675033	0.1249
INF(-1)	-0.187735	-1.363104	0.2028
GEF(-1)	0.045617	1.20244	0.2569
FDI(-1)	-0.689577	-1.321842	0.2157
DCB(-1)	-0.55493	-1.379238	0.1979
CAF(-1)	-0.956568	-2.954617	0.0144*
TRD(-1)	-0.018246	-0.276244	0.788
D(LF)	-24.29359	-9.429519	0.0000**
D(INF)	-0.088142	-2.721854	0.0215*
D(CAF)	-0.477536	-6.903017	0.0000**

*, ** indicate 5% and 1% levels of significance respectively
Source: Authors' Computation, 2021

Table 6: ARDL Model Result for Nigeria

Dependent Variable: D(RGDPGR)			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
C	-2.427138	-6.452925	0.0003
RGDPGR(-1)	-1.713162	-7.206071	0.0002**
NFA(-1)	-0.003349	-4.295496	0.0036**
LF(-1)	96.51399	7.593756	0.0001**
INF(-1)	0.033173	0.312505	0.7638
GEF(-1)	0.013655	0.063586	0.9511
FDI(-1)	-3.148131	-2.664268	0.0323*
DCB(-1)	-0.35665	-1.330221	0.2251
CAF(-1)	0.383159	3.485837	0.0102*
TRD(-1)	-0.110644	-1.241216	0.2545
D(NFA)	0.002858	7.168381	0.0002**
D(LF)	96.77208	17.49895	0.0000**
D(GEF)	0.785152	7.473902	0.0001**

D(FDI)	-0.051292	-0.175959	0.8653
D(CAF)	0.14304	6.15584	0.0005**
D(TRD)	-0.056846	-2.616632	0.0346*

*,** indicate 5% and 1% levels of significance respectivvvely
Source: Authors' Computation, 2021

Table 7: Result of Error Correction Model (Ghana)

Dependent Variable: D(RGDPGR)			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
ECT(-1)	-0.95647	-9.26146	0.0000**
D(LF)	-24.29359	-9.429519	0.0000**
D(INF)	-0.088142	-2.721854	0.0215*
D(CAF)	-0.477536	-6.903017	0.0000**

*, ** indicate 5% and 1% levels of significance respectively
Source: Authors' Computation, 2021

Table 8: Result of Error Correction Model (Nigeria)

Dependent Variable: D(RGDPGR)			
Variable	**Coefficient**	**t-Statistic**	**Prob.**
ECT(-1)	-0.787311	-30.73287	0.0001**
D(NFA)	0.002858	7.168381	0.0002**
D(LF)	96.77208	17.49895	0.0000**
D(GEF)	0.785152	7.473902	0.0001**
D(FDI)	-0.051292	-0.175959	0.8653
D(CAF)	0.14304	6.15584	0.0005**
D(TRD)	-0.056846	-2.616632	0.0346*

*, ** indicate 5% and 1% levels of significance respectively
Source: Authors' Computation, 2021

Results of Diagnostic Tests

The diagnostic tests results are presented in Table 9. They reveal that the two models passed the Breusch-Godfrey Serial Correlation LM test (i.e. no serial correlation) as the p-value of the F-statistic obtained for each country is > 0.05. Also, we cannot reject the null hypothesis that the two models are correctly specified as the p-value of the F-statistic obtained from the Ramsey Reset testfor each country is > 0.05. Furthermore, the Normality test(using Jacque-Bera statistic) carried out on the data of both countries indicates that the data were obtained from normal distributions astest statistic is > 0.05 for each country(Appendices 1 &2).The two models also passed the Breusch-Pagan Heteroscedaticity test (i.e. no heteroscedasticity)in both models as the p-value of the F-statistic for each country is > 0.05, which means that the residuals are distributed with equal variance (i.e. homoscedastic).Hence, the outcomes of these tests further validate the models and the results obtained.

Table 9: Diagnostic Tests Results

		Ghana		**Nigeria**	
Test	**Test Statistic**	**Estimate**	**Prob.**	**Estimate**	**Prob.**
Breusch-Godfrey Serial Correlation LM Test	F-statistic	3.7678	0.0703	3.1993	0.0564
Ramsey Reset	F-statistic	8.1911	0.0987	5.0872	0.0651
Normality Test	Jacque-Bera	1.8967	0.3873	0.8508	0.6534
Heteroskedasticity Test: Breusch-Pagan-Godfrey	F-statistic	1.5484	0.2483	0.96832	0.5511

Source: Authors' Computation, 2021

Furthermore, figures 4and 5 show the plots of cumulative sum of recursive residuals of the ARDL models for Ghana and Nigeria. Both of them indicatestability in the coefficients while confirming the normality of errors as the plots of the CUSUM statistic for the two models fell within the critical bounds of the 5% significance level of parameter stability.

Figure 4: Plot of Cumulative Sum of Recursive Residuals of the model (Ghana)

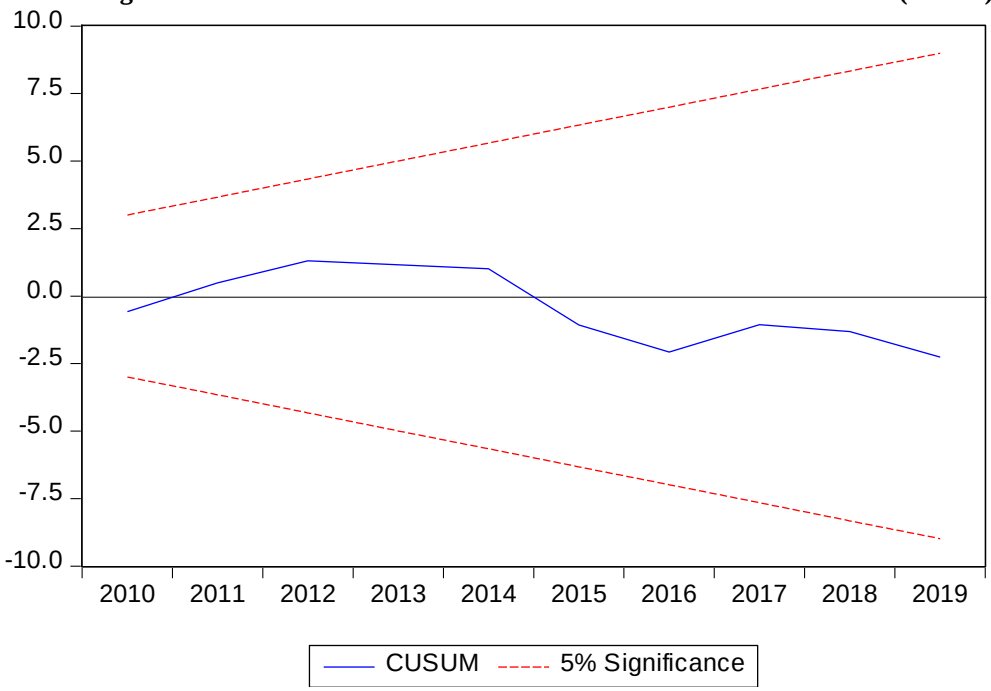
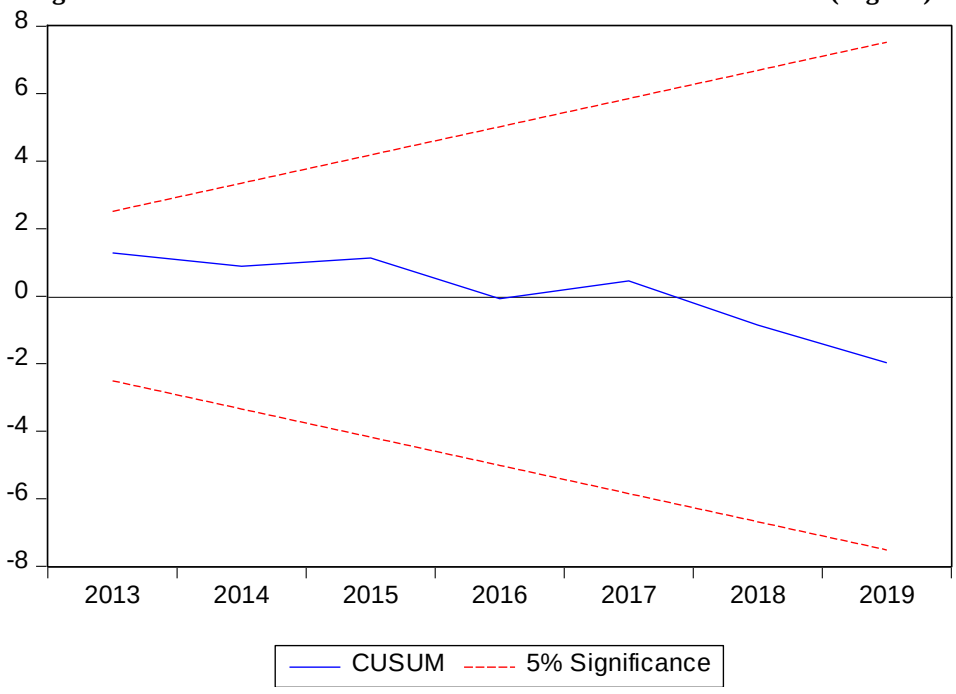


Figure 5: Plot of Cumulative Sum of Recursive Residuals of the model (Nigeria)



Direction of Causality between Financial Globalisation and Economic Growth in Ghana and Nigeria

The results of the long run Granger causality test (GCT) between the dependent and independent variables for Ghana and Nigeria are presented in Appendices 3 and 4 respectively.In Ghana, net foreign assets (NFA) Granger-causes economic growth, while trade openness (TRD) Granger-causes labour force and foreign

direct investment (FDI). These imply that the Ghanaian government might need to put in place policies that will boost net foreign assets and ensure selective and beneficial inflow of goods and services into the country in order to enhance financial globalisation and accelerate economic growth in the country.

On the other hand, in Nigeria, FDI Granger-causes capital formation (CAF), which also Granger-causes government effectiveness (GEF) [an indicator of institutional quality]. Government effectiveness Granger-causes economic growth, labour force and FDI, while the latter also Granger-causes labor force. Capital formation also granger-causes labour force, which also Granger-causes domestic credits provided by the banking sector (DCB), an indicator of financial development, and net foreign assets. Trade openness also Granger-causes labour force.Finally, net foreign assets Granger-causes economic growth and domestic credit provided by the banking sector in Nigeria. The implication of this is that financial globalisation granger-causes financial development and economic growth. These indicate that policies that will boost FDI and ensure selective inflow of goods and services will have spillover effects on the economy thereby enhancing economic growth in the country.

V. Conclusion and Recommendations

The main objective of this study was to compare the effect of financial globalisation on economic growth in Ghana and Nigeria. The study revealed that the effect of financial globalisation on economic growth depends on the indicator used. While net foreign assets have a significant positive effect on economic growth in Ghana, it exerted a significant negative effect on growth in Nigeria. This is an indication of poor net foreign assets management in Nigeria. Whereas foreign direct investment exerted a significant negative effect on economic growth in Nigeria, its effect on the economy of Ghana was negative but insignificant. This might be due to poor infrastructure that retard the effective operations of firms driven by FDI. The study also revealed that immediate past growth rate impedes current growth rate in both countries. This may be due to the dominance of primary products in the basket of goodsproduced and exported from both economies, which exposes them to the vicissitudes in global commodity markets. It was also revealed that trade openness was not beneficial to both economies, which may be attributed to dumping of goods and services in both countries.This study concluded that financial globalisation matters in economic growth in both countries and it should, therefore, be accorded adequate attention to ensure proper management with a view to accelerating economic growth.

Based on thefindings from this study, the following recommendations are hereby put forward:

i. The Central Bank of Nigeria should conduct a review of the structure and management of the country's net foreign asset and foreign direct investment portfolios with a view to attracting only beneficial ones into the economy.

ii. The Bank of Ghana should conduct a review of the structure and management of the country's foreign direct investment portfolio with a view to attracting only beneficial ones into the economy.

iii. The national governments of both countries should embark on aggressive infrastructural development (which is also an avenue for capital formation) with a view to accelerating economic growth.

iv. The national governments of both countries should ensure continual value addition to their tradable goods with a view to minimising external shocksarising from the preponderance of primary products' exports.

v. The national governments of both countries should institute policies that would ensure selective inflow of goods and services that are beneficial to both economies to enable themreap the gains of trade openness and financial globalisation.

vi. The monetary authorities of both countries should embark on policies that will enhance financial development with a view to accelerating economic growth.

vii. The national government of Ghana should institute a policy on regular curriculum review at its secondary and tertiary education levels in order to enhance labour productivity in the country.

viii. Finally, both countries should improve upon government effectiveness in order to accelerate the attraction of net foreign assets and foreign direct investmentswith a view to enhancing economic growth.

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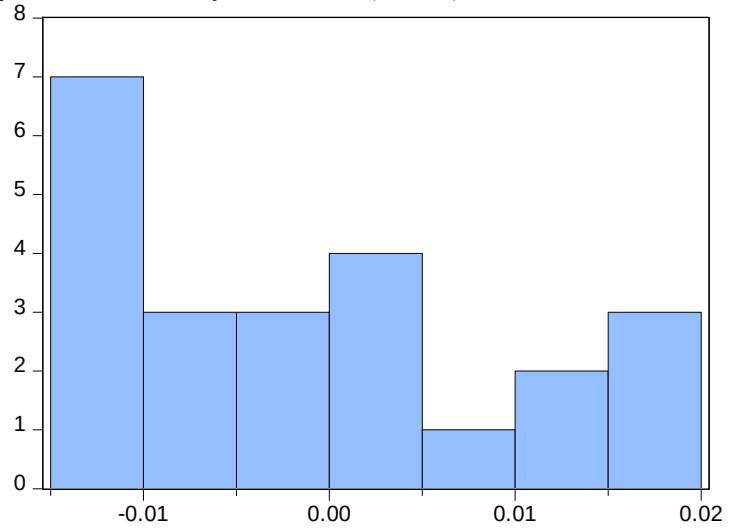
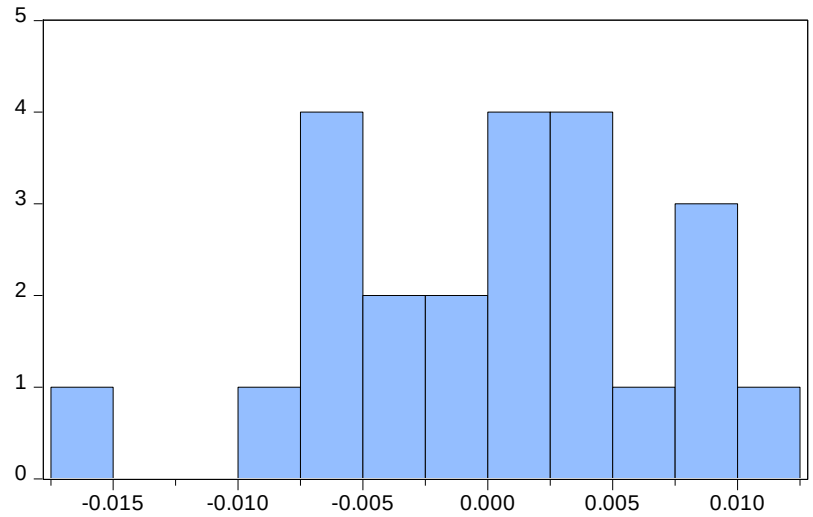
Appendices

Appendix 1: Normality Test Result (Ghana)



Series: Residuals	
Sample 1997 2019	
Observations 23	
Mean	2.75e-16
Median	-0.000513
Maximum	0.019945
Minimum	-0.014198
Std. Dev.	0.010870
Skewness	0.502818
Kurtosis	2.016175
Jarque-Bera	1.896749
Probability	0.387370

Appendix 2: Normality Test Result (Nigeria)



Series: Residuals	
Sample 1997 2019	
Observations 23	
Mean	2.70e-16
Median	0.000944
Maximum	0.011984
Minimum	-0.017160
Std. Dev.	0.006741
Skewness	-0.464452
Kurtosis	3.158076
Jarque-Bera	0.850855
Probability	0.653490

Appendix 3: Granger Causality Test (Ghana)

Pairwise Granger Causality Tests			
Date: 12/09/21 Time: 20:35			
Sample: 1996 2019			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.

TRD does not Granger Cause RGDPGR	22	0.41657	0.6659
RGDPGR does not Granger Cause TRD		0.87974	0.4329
NFA does not Granger Cause RGDPGR	22	2.87505	0.0484*
RGDPGR does not Granger Cause NFA		0.60348	0.5582
LF does not Granger Cause RGDPGR	22	0.31088	0.7369
RGDPGR does not Granger Cause LF		2.79539	0.0892
INF does not Granger Cause RGDPGR	22	0.34954	0.71
RGDPGR does not Granger Cause INF		1.42529	0.2678
GEF does not Granger Cause RGDPGR	22	1.10784	0.353
RGDPGR does not Granger Cause GEF		0.28778	0.7535
FDI does not Granger Cause RGDPGR	22	1.31180	0.2953
RGDPGR does not Granger Cause FDI		0.00911	0.9909
DCB does not Granger Cause RGDPGR	22	1.24742	0.3122
RGDPGR does not Granger Cause DCB		0.15391	0.8585
CAF does not Granger Cause RGDPGR	22	1.26815	0.3067
RGDPGR does not Granger Cause CAF		1.76803	0.2006
NFA does not Granger Cause TRD	22	1.50572	0.25
TRD does not Granger Cause NFA		0.90938	0.4215
LF does not Granger Cause TRD	22	0.20661	0.8154
TRD does not Granger Cause LF		4.61389	0.0251*
INF does not Granger Cause TRD	22	0.20034	0.8204
TRD does not Granger Cause INF		0.81898	0.4575
GEF does not Granger Cause TRD	22	0.71236	0.5046
TRD does not Granger Cause GEF		0.16701	0.8476
FDI does not Granger Cause TRD	22	0.45140	0.6441
TRD does not Granger Cause FDI		8.97418	0.0022**
DCB does not Granger Cause TRD	22	0.75231	0.4863
TRD does not Granger Cause DCB		2.69819	0.096
CAF does not Granger Cause TRD	22	0.38252	0.6879
TRD does not Granger Cause CAF		1.54379	0.2421
LF does not Granger Cause NFA	22	0.28810	0.7533
NFA does not Granger Cause LF		2.47399	0.114
INF does not Granger Cause NFA	22	0.40896	0.6707
NFA does not Granger Cause INF		2.69222	0.0964

GEF does not Granger Cause NFA	22	2.95442	0.0792
NFA does not Granger Cause GEF		0.17738	0.839
FDI does not Granger Cause NFA	22	0.21473	0.8089
NFA does not Granger Cause FDI		0.49753	0.6166
DCB does not Granger Cause NFA	22	0.31962	0.7307
NFA does not Granger Cause DCB		0.40378	0.674
CAF does not Granger Cause NFA	22	0.28318	0.7569
NFA does not Granger Cause CAF		2.73099	0.0936
INF does not Granger Cause LF	22	0.81897	0.4575
LF does not Granger Cause INF		0.35322	0.7075
GEF does not Granger Cause LF	22	3.29733	0.0616
LF does not Granger Cause GEF		0.80798	0.4622
FDI does not Granger Cause LF	22	35.1965	0.0000**
LF does not Granger Cause FDI		0.18825	0.8301
DCB does not Granger Cause LF	22	1.93306	0.1752
LF does not Granger Cause DCB		1.98792	0.1676
CAF does not Granger Cause LF	22	8.02820	0.0035**
LF does not Granger Cause CAF		18.6659	0.0000**
GEF does not Granger Cause INF	22	0.22701	0.7993
INF does not Granger Cause GEF		0.06057	0.9414
FDI does not Granger Cause INF	22	1.09561	0.3568
INF does not Granger Cause FDI		1.92723	0.176
DCB does not Granger Cause INF	22	2.09295	0.154
INF does not Granger Cause DCB		0.94317	0.4088
CAF does not Granger Cause INF	22	0.29406	0.7489
INF does not Granger Cause CAF		0.43383	0.655
FDI does not Granger Cause GEF	22	2.41371	0.1195
GEF does not Granger Cause FDI		0.86076	0.4405
DCB does not Granger Cause GEF	22	0.48699	0.6228
GEF does not Granger Cause DCB		3.25172	0.0637
CAF does not Granger Cause GEF	22	0.95483	0.4046
GEF does not Granger Cause CAF		1.02702	0.3792
DCB does not Granger Cause FDI	22	0.34603	0.7124
FDI does not Granger Cause DCB		3.19183	0.0665

CAF does not Granger Cause FDI	22	0.58340	0.5688
FDI does not Granger Cause CAF		2.39261	0.1215
CAF does not Granger Cause DCB	22	0.55020	0.5868
DCB does not Granger Cause CAF		1.44713	0.2628

*, ** indicate 5% and 1% levels of significance respectively

Source: Authors' Computation, 2021

Appendix 4: Granger Causality Test (Nigeria)

Pairwise Granger Causality Tests			
Date: 12/09/21 Time: 20:45			
Sample: 1996 2019			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
NFA does not Granger Cause RGDPGR	22	3.76993	0.0441*
RGDPGR does not Granger Cause NFA		3.12391	0.0699
LF does not Granger Cause RGDPGR	22	0.93089	0.4134
RGDPGR does not Granger Cause LF		1.12112	0.3489
INF does not Granger Cause RGDPGR	22	0.23409	0.7938
RGDPGR does not Granger Cause INF		0.51653	0.6057
GEF does not Granger Cause RGDPGR	22	6.14900	0.0098**
RGDPGR does not Granger Cause GEF		0.04364	0.9574
FDI does not Granger Cause RGDPGR	22	0.40483	0.6734
RGDPGR does not Granger Cause FDI		0.69455	0.5129
DCB does not Granger Cause RGDPGR	22	0.38263	0.6878
RGDPGR does not Granger Cause DCB		0.62765	0.5458
CAF does not Granger Cause RGDPGR	22	0.49998	0.6152
RGDPGR does not Granger Cause CAF		0.10498	0.9009
TRD does not Granger Cause RGDPGR	22	1.12162	0.3487
RGDPGR does not Granger Cause TRD		0.29896	0.7454
LF does not Granger Cause NFA	22	6.21838	0.0094**
NFA does not Granger Cause LF		0.05909	0.9428
INF does not Granger Cause NFA	22	0.10741	0.8988
NFA does not Granger Cause INF		0.65215	0.5335
GEF does not Granger Cause NFA	22	1.27424	0.305
NFA does not Granger Cause GEF		1.60582	0.2297
FDI does not Granger Cause NFA	22	1.01781	0.3824
NFA does not Granger Cause FDI		1.20258	0.3247
DCB does not Granger Cause NFA	22	0.82469	0.4552
NFA does not Granger Cause DCB		6.50926	0.008**
CAF does not Granger Cause NFA	22	1.20730	0.3234
NFA does not Granger Cause CAF		1.69302	0.2135
TRD does not Granger Cause NFA	22	0.50151	0.6143

NFA does not Granger Cause TRD		0.01550	0.9846
INF does not Granger Cause LF	22	3.27953	0.0624
LF does not Granger Cause INF		1.98593	0.1678
GEF does not Granger Cause LF	22	19.0887	0.0000**
LF does not Granger Cause GEF		0.96403	0.4012
FDI does not Granger Cause LF	22	34.6717	0.0000**
LF does not Granger Cause FDI		2.92928	0.0807
DCB does not Granger Cause LF	22	0.48019	0.6268
LF does not Granger Cause DCB		4.21618	0.0326*
CAF does not Granger Cause LF	22	6.88747	0.0064**
LF does not Granger Cause CAF		1.97201	0.1697
TRD does not Granger Cause LF	22	4.40859	0.0287*
LF does not Granger Cause TRD		0.87743	0.4339
GEF does not Granger Cause INF	22	3.47329	0.0544
INF does not Granger Cause GEF		0.83740	0.4499
FDI does not Granger Cause INF	22	1.44443	0.2634
INF does not Granger Cause FDI		1.53375	0.2441
DCB does not Granger Cause INF	22	0.76842	0.4792
INF does not Granger Cause DCB		2.14233	0.148
CAF does not Granger Cause INF	22	0.45951	0.6392
INF does not Granger Cause CAF		0.18815	0.8302
TRD does not Granger Cause INF	22	0.51616	0.6059
INF does not Granger Cause TRD		1.89969	0.18
FDI does not Granger Cause GEF	22	0.13138	0.8778
GEF does not Granger Cause FDI		4.89910	0.0209*
DCB does not Granger Cause GEF	22	3.04632	0.074
GEF does not Granger Cause DCB		0.64763	0.5357
CAF does not Granger Cause GEF	22	3.98564	0.0381*
GEF does not Granger Cause CAF		0.40416	0.6738
TRD does not Granger Cause GEF	22	0.96273	0.4017
GEF does not Granger Cause TRD		0.67073	0.5244
DCB does not Granger Cause FDI	22	0.96091	0.4024
FDI does not Granger Cause DCB		2.39846	0.1209
CAF does not Granger Cause FDI	22	1.19555	0.3267
FDI does not Granger Cause CAF		4.52843	0.0265*
TRD does not Granger Cause FDI	22	1.65170	0.221
FDI does not Granger Cause TRD		2.41715	0.1192
CAF does not Granger Cause DCB	22	0.55651	0.5833
DCB does not Granger Cause CAF		0.69217	0.5141
TRD does not Granger Cause DCB	22	0.10549	0.9005
DCB does not Granger Cause TRD		1.07317	0.364
TRD does not Granger Cause CAF	22	0.21913	0.8054
CAF does not Granger Cause TRD		0.87103	0.4364

*, ** indicate 5% and 1% levels of significance respectively

Source: Authors' Computation, 2021