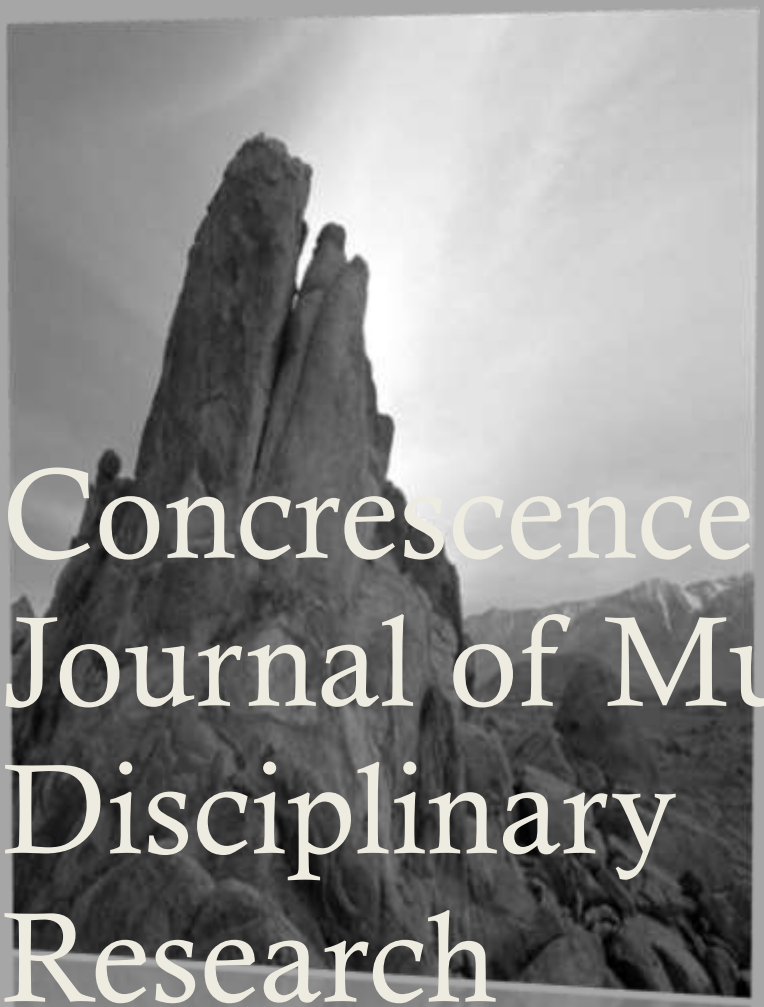

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Financial Openness and Economic Growth: Nigeria in Focus

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Abstract

This study examined the relationship between financial openness and economic growth in Nigeria. The study utilised annual time series data from the World Bank Database for the period 1983-2022. The specific objectives that the study achieved include investigating the effect of financial openness (FDIGDP) on Nigeria's economic growth (GDPG) and determining the causal relationship between financial openness and economic growth in Nigeria. The study employed the ADF and Phillip-Peron unit root test, ARDL Bounds test for cointegration, and the error correction mechanism. The result of the unit root test revealed that the variables were stationary at mixed order of integration (levels and first difference), while the ARDL Bounds test revealed the presence of a long-run relationship. The findings of the study further revealed that financial openness exerted a positive and significant long-run effect on economic growth within the study period. The error correction mechanism indicated that 38.80% of the short-run disequilibrium is corrected in the long-run. The result from the Granger causality test also showed that there is a unidirectional relationship running from financial openness to economic growth. No causation was found between other variables and economic growth during the period of this study. The paper recommended that policymakers should actively promote policies that enhance financial openness, such as reducing barriers to foreign investment and improving regulatory frameworks. This can attract more foreign direct investment, thereby stimulating economic growth.

Keywords: Financial Openness, Economic Growth

1. Introduction

The relationship between financial openness and economic growth has become a significant topic of discussion, particularly in developing countries such as Nigeria. Financial openness refers to the degree to which a country permits capital flows in and out of its economy, allowing international investors to access its financial markets while enabling domestic investors to participate in global financial markets. Theoretically, financial openness is associated with increased investment, improved resource allocation, risk diversification, and access to global knowledge and technology, all of which are factors conducive to economic growth (Obadan, 2004). Studies from developed economies, such as those in the European Union and the United States, have highlighted how financial openness has contributed to economic resilience and growth. However, in developing and emerging economies, the impact has been more mixed, with some countries experiencing capital flight, financial crises, or uneven growth patterns.

The seminal works of McKinnon (1973) and Shaw (1973) sparked a modern discussion on financial openness. They both argued that financial liberalization was necessary to address the problems caused by the repressive financial policies of developing countries. While this policy prescription initially generated some controversy, many developing countries have adjusted their policies in the prescribed direction in recent years. In light of this, several countries, including developing and emerging economies, have witnessed some dramatic domestic financial and capital account liberalization in the past three decades. The opening of world economies and the quest for greater integration also gave impetus for financial liberalization. Although, based on models of competitive and efficient markets, economic theory tells us that financial openness should foster economic growth and development, empirical works such as Cuadros, Orts and Alguacl (2001) and Olomola (1998) have not found concrete evidence for the existence of such a link. While some countries have benefited from financial openness, others have not enjoyed higher economic growth. Some have experienced crises and recessions in the years following financial openness (Fratzscher and Bussiere, 2004).

Nigeria has undergone several phases of financial sector reforms aimed at liberalizing the economy and attracting foreign investment. In the 1980s, Nigeria embarked on Structural Adjustment Programs (SAPs), which included measures aimed at financial liberalization. These reforms were intended to stabilize the economy, enhance the efficiency of the financial system, and promote growth through increased foreign direct investment (FDI) and portfolio inflows (Iyoha & Oriakhi, 2002). Despite these efforts, Nigeria's economic growth has been volatile, often affected by external shocks, capital flight, and periods of financial instability. This inconsistency raises questions about the true impact of financial openness on the country's economic growth.

While financial openness has brought some benefits to Nigeria, such as an increase in foreign capital and growth of the financial sector, the overall relationship between financial openness and economic growth remains ambiguous. This is because Nigeria's financial markets are still underdeveloped, and the country faces challenges such as poor regulatory frameworks, corruption, and dependence on oil revenues, which complicate the effectiveness of financial openness as a tool for growth (Adeniyi et al., 2012). The conflicting outcomes underscore the importance of investigating the specific conditions under which financial openness can contribute positively to Nigeria’s economic growth.

Despite Nigeria's efforts to integrate into the global financial system through liberalization policies, the anticipated economic benefits have not fully materialized. The country continues to experience slow economic growth, capital flight, exchange rate instability, and financial crises. While financial openness allows for the inflow of foreign direct investment (FDI) and foreign portfolio investment (FPI), it also exposes the economy to sudden and large capital outflows, particularly during periods of global financial instability. Such outflows can destabilize the financial sector, lead to liquidity crises, and cause significant currency depreciation (Adeniyi et al., 2012). For instance, during global economic crises, investors often withdraw their funds from emerging markets, such as Nigeria, exacerbating exchange rate volatility and reducing investment in key sectors of the economy. This volatility reduces investment in key sectors of the economy. This volatility discourages long-term investment in the real sector, especially in manufacturing and infrastructure, where stable financing is crucial for growth.

Nigeria's financial markets remain relatively underdeveloped compared to other emerging economies. The banking sector dominates the financial system, while other markets, such as capital and insurance markets, are still small and shallow. The weak development of these financial institutions limits the capacity of the financial system to efficiently mobilize and allocate resources for productive investments (Iyoha & Oriakhi, 2002). Financial openness without a robust domestic financial system leads to a scenario where foreign capital flows are not effectively channelled into growth-promoting sectors. As a result, the real sector, encompassing agriculture, manufacturing, and services, continues to struggle with inadequate funding, which limits its potential to drive economic growth.

Weak regulatory frameworks are also a significant problem in Nigeria's financial sector, especially in managing the risks associated with financial openness. Regulatory institutions such as the Central Bank of Nigeria (CBN) and the Securities and Exchange Commission (SEC) have faced challenges in enforcing sound policies that mitigate the adverse effects of financial globalization, such as speculation and capital flight (Obadan, 2004). The 2008 global financial crisis exposed the vulnerability of Nigeria's financial system, as banks faced liquidity problems due to excessive reliance on short-term foreign capital. Weak regulation and supervision also contribute to issues like corruption, fraud, and poor corporate governance, which erode investor confidence and hamper financial stability. Financial instability discourages both domestic and foreign investments, which are crucial for expanding the real sector.

Financial openness in Nigeria has been associated with persistent exchange rate instability. Given Nigeria's heavy reliance on oil exports for foreign exchange earnings, fluctuations in global oil prices have a direct impact on the exchange rate. When oil prices fall, the inflow of foreign exchange declines, leading to a depreciation of the naira. This depreciation can drive inflation and reduce the purchasing power of consumers and businesses, affecting the real sector's growth prospects (Edo, 2011). Additionally, exchange rate instability discourages foreign investors from investing in long-term projects in Nigeria, further limiting capital inflows into sectors such as manufacturing and services. Several efforts have been put in place by the government to open the financial system, but it has not had a meaningful effect on the economic growth of the Nation. Between 1970 and 1980, the foreign capital to GDP ratio (a measure of financial openness) was 2.25 per cent, 4.22 per cent between 1990 and 2000, and 4.26 per cent between 2001 and 2012 (Ubi & Udah, 2014), between 2015 and 2022, it recorded 5.2 per cent. Within the same period, GDP recorded 15,860.91 million naira with an average of 20,892.98 million Naira between 1990 and 2000, 42,442.16 million

naira between 2001 and 2012 and 69,826.02 million Naira between 2015 and 2022 (CBN, 2022). It becomes necessary to assess whether Nigeria's financial openness strategy has been effective or if it exposes the economy to greater risks without proportionate benefits.

The primary objective of this study is to examine the financial openness and economic growth of Nigeria using annual data spanning the period from 1983 to 2022. The specific objectives include:

i. To investigate the effect of financial openness on Nigeria's economic growth.
ii. To determine the causal relationship between financial openness and economic growth in Nigeria.

In the process, attempts will be made to provide answers to a series of questions, including:

i. What is the effect of financial openness on Nigeria's economic growth?
ii. Is there any causal relationship between financial openness and economic growth in Nigeria?

This study examines the relationship between financial openness and economic growth in Nigeria, spanning the period from 1983 to 2022. The 40-year timeframe is selected to capture the effects of financial liberalisation policies and external shocks, such as the 2008 global financial crisis and recent fluctuations in global oil prices. The study used the Autoregressive Distributed Lag Model approach to analyse the dynamic interactions between financial openness and key economic variables, including GDP, inflation, exchange rates, and capital flows. However, the study did not delve deeply into other aspects of economic openness, such as trade liberalization, as its focus remained on financial openness.

This study is significant in several ways. It contributes to the academic discourse on the role of financial openness in promoting economic growth, particularly in the context of a developing economy like Nigeria. By providing empirical evidence on the impact of financial openness on Nigeria's economic performance, this study helps bridge the gap in existing literature, especially regarding the conditions under which financial openness can foster sustainable growth.

The findings of this study are relevant to policymakers in Nigeria and other developing countries looking to design effective financial liberalisation policies.

The study will be useful for financial institutions, investors, and international development organizations. A deeper understanding of the risks and rewards of financial openness will inform investment decisions and guide development initiatives aimed at strengthening Nigeria's financial sector.

This study comprises five sections. Section 1 provides a general introduction to the study. Reviews of related literatures are covered in Section 2, while the research methodology is covered in Section 3. Discussion and interpretation of results are covered in Section 4. The summary of findings, conclusion and recommendations are covered in Section 5.

2. LITERATURE REVIEW

2.1. Conceptual Review

2.1.1. Concept of Financial Openness

Financial openness is the degree to which a country permits capital flows between its economy and the rest of the world. This concept encompasses the liberalization of financial markets, the removal of capital controls, and the opening of domestic financial systems to foreign investors. According to Kose et al. (2006), financial openness allows countries to attract foreign direct investment (FDI), access global financial markets, and benefit from the transfer of technology and expertise. However, it also exposes economies to external risks, such as capital flight and exchange rate volatility. Ayanwale (2007) provides a broader concept indicating that financial liberalization consists of the deregulation of the foreign capital account, domestic financial, and the stock market sector perceived separately from the domestic financial sector. The researchers conclude that full financial liberalization occurs when at least two of the three sectors are fully liberalized, and the third one is partially liberalized.

Bennett (2005) views financial liberalization as a set of operational reforms and policy agendas aimed at deregulating and transforming a country's financial mechanisms with the goal of achieving a liberalized, market-oriented system within an appropriate regulatory framework. In Nigeria, financial openness gained momentum during the implementation of the Structural Adjustment Program (SAP) in the 1980s. The liberalization of the financial sector aimed to attract foreign capital and enhance economic growth. Financial openness in Nigeria includes the relaxation of capital account restrictions, allowing for increased foreign investment in domestic markets and the integration of Nigeria into the global financial system (Iyoha & Oriakhi, 2002).

2.1.2. Economic Growth

Economic growth refers to the increase in the production of goods and services within an economy over a specified period, typically measured by the growth of Gross Domestic Product (GDP). It is influenced by various factors, including investment, technological advancement, human capital, and financial development. The role of financial openness in promoting economic growth is debated, with some arguing that it accelerates growth by improving access to capital and investment, while others highlight the risks of financial instability (Obadan, 2004). Openness and the associated free flow of capital promote industrial growth and development. Openness fosters open competition that drives innovation, greater resource allocation, efficiency, and technological advancement.

Sbia et al. (2013) have attributed the rapid growth of some developing countries, such as South Korea and Taiwan, to increased openness. Additionally, recent models of wage inequality suggest that greater openness to trade has enabled some developing countries to narrow the wage differentials within their own countries and between them as a group and the more advanced countries.

Hsu et al. (2013) argue that openness increases the relative demand for unskilled workers and narrows the wage gap between unskilled and skilled workers. However, intense import competition is said to have adverse effects on the profitability of the firms, and it is feared

that this may also lead to unemployment in the liberalizing country (Ayanwale & Bamire, 2007). Additionally, the prospect of capital flight has been a major argument against liberalization and openness. The Mexican experience was a case of serious outflow of funds that precipitated a number of problems. However, it is argued that such unsuccessful trade liberalization is the failure of the government to create a credible trade liberalization policy (Ogunmuyiwa & Ekone, 2010; Omoke, 2010).

In Nigeria, economic growth has been highly volatile due to the country's dependence on oil exports and its vulnerability to external shocks. Despite periods of high growth rates, the Nigerian economy has struggled with structural challenges, such as an underdeveloped financial sector, poor infrastructure, and inadequate regulatory frameworks (Adeniyi et al., 2012).

2.2 Theoretical Review

2.2.1. Neoclassical Growth Theory

The neoclassical growth model, developed by Solow (1956), posits that economic growth is driven by capital accumulation, labour growth, and technological progress. Labour and capital were separately examined in the neoclassical growth model through diminishing returns and constant returns to both factors jointly. In the model, a residual factor that explains the long-term growth level is technological progress. Technological progress is also a key assumption that determines exogenous growth, independent of all other factors in the model. The model predicted that increased savings will lead to a higher level of growth in the output of each worker; while an increasing rate of the labour force (adjusted for depreciation and technological process) has the opposite effect on growth. Financial openness is seen as a way to increase capital accumulation by attracting foreign investment, which can complement domestic savings and boost productivity. According to this theory, financial openness should lead to higher investment and, therefore, higher economic growths, especially in capital-scarce developing economies like Nigeria.

2.2.2. Endogenous Growth Theory

Endogenous growth models, such as those proposed by Romer (1990) and Lucas (1988), emphasize the role of technological innovation, human capital development, and knowledge spillovers in driving economic growth. The importance of the endogenous growth theory is quite glaring because the growth of per capita output is traced to two main sources – efficiency and savings. In other words, efforts to utilize accumulated factors play a significant role in promoting economic growth as factor accumulation itself. Consequently, the theory considers whatever increases efficiency and savings as being very vital for growth. The theory also argued that even if policy measures do not alter the dis-aggregate savings rate, it has a long-run implication on the growth rate of a nation's economy. Thus, countries with high levels of internal efficiency, strong economic systems, and sound macroeconomic policies, tend to grow more rapidly (Romer, 1990).

Financial openness facilitates these processes by allowing countries to access advanced technologies and expertise from abroad. The inflow of FDI, in particular, can lead to technology transfers that enhance productivity and stimulate long-term growth. In Nigeria, the adoption of endogenous growth theory suggests that financial openness could foster innovation and improve the efficiency of domestic industries, leading to sustainable economic growth.

2.2.3. Financial Liberalisation Hypothesis

The financial liberalisation hypothesis, advanced by McKinnon (1973) and Shaw (1973), posits that the removal of financial restrictions and the liberalization of capital markets result in a more efficient allocation of resources, improved savings rates, and increased investment, all of which contribute to economic growth. According to this theory, financial repression, such as interest rate controls and restrictions on capital flows, hampers growth by distorting financial markets. In the context of Nigeria, the adoption of liberalization policies in the 1980s aimed to unlock the growth potential of the financial sector by promoting financial openness (Obadan, 2004).

2.3 Empirical Review

The study by Quinn (1997) identified a positive relationship between financial openness and growth. Quinn's empirical estimates found that the change in his measure of restrictions on capital account liberalization had a strongly significant effect on the growth in real GDP per capita in a cross-section of 58 countries over the period 1960-1989.

Iyoha and Oriakhi (2002) argue that while financial openness has attracted foreign capital to Nigeria, it has also increased the country's vulnerability to external shocks and financial crises. The volatility of capital flows, combined with Nigeria's dependence on oil exports, has led to periods of financial instability, undermining economic growth. The authors highlight that Nigeria's weak regulatory framework and underdeveloped financial markets have limited the country's ability to fully benefit from financial openness.

Okpara (2010) studied the effect of financial openness on macroeconomic variables, employing three alternative tests: the parametric paired sample statistic t-test, the nonparametric Wilcoxon signed rank test to treat for macroeconomic variable sensitivity to financial liberalization and the discriminating analysis to determine the direction of the variables in response to financial liberalization. The findings of the study led to the conclusion that though financial liberalization has a positive effect on economic growth, its effect on savings was limited. Thus, the author inferred that increased saving might not necessarily be the ultimate aim of the policy.

Pham (2010) examined the relationship between financial openness, financial development, and trade openness in twenty-nine developing countries in Asia, using time series data from 1994 to 2008. The result shows the existence of bidirectional causality between trade openness and financial development/financial openness. It also highlights the heterogeneity in the relationship between financial openness and financial development across various measures.

Moreover, Atoyebi et al. (2012) empirically assessed the impact of international trade on economic growth in Nigeria, using annual time-series data from 1970 to 2010. The empirical results showed that exports, foreign direct investment, and the exchange rate have a significant positive impact on economic growth, while inflation, imports, and trade openness exert a negative impact on economic growth in Nigeria.

Adeniyi et al. (2012) conducted an empirical study on the impact of financial openness on economic growth in Nigeria and found that financial openness, particularly through FDI, has a positive effect on economic growth. Their study suggests that increased capital inflows have contributed to the expansion of Nigeria's financial sector and the development of key industries, such as telecommunications and oil.

Oyovwi and Eschenake (2013) examined the effect of financial openness on Nigeria's economic growth, using the VEC approach. They found that financial depth was positively related to the growth rate in gross domestic product.

Audu and Okumoko (2013) empirically evaluated the impact financial development has on Nigeria's economic growth using annual time-series data over the period of 1970 to 2012. The empirical result showed that lending rate, credit to private sector, money supply, bank deposit and interest rate are all significant in influencing economic growth in Nigeria implying that financial development is a driver of economic growth in Nigeria.

Nwosu and Metu (2015) used annual time series data from 1970 to 2012 to evaluate the impact of financial development on economic growth in Nigeria. The estimated ARDL model results revealed that whereas financial development exerts a significantly positive impact on economic growth in the long run, trade liberalization variables exert a negative impact on economic growth. However, it was found that domestic credit is not significant, indicating a dearth of investible funds in the economy and implying that financial development influences economic growth in the long run but not in the short run.

Chude and Chude (2015) assessed the relationship between financial development and economic growth in Nigeria over the period of 1980 to 2013. The result of the estimated vector error correction model (VECM) showed that broad money supply and credit to the private sector are not significant in influencing economic growth in Nigeria.

Okonkwo et al. (2015) found that financial openness has had a limited impact on Nigeria's real sector, particularly in the manufacturing and agricultural sectors. Their study suggests that much of the foreign investment in Nigeria has been concentrated in the oil and gas sector, with limited spillover effects on other sectors of the economy. This has contributed to the uneven nature of Nigeria's economic growth, with the real sector lagging.

Orji, Ogbuabor, and Orji (2016) investigated the impact of financial openness on economic growth in Nigeria using quarterly data from 1986 to 2011. For empirical analysis, the study used two measures of financial openness: de facto (total capital flow) variables adopted de-jure (Chin-Ito Index) based on Chinn and Ito model. The study applies the Autoregressive Distributed Lag Model based on unrestricted error correction model (ARDLUECM), to address the core objective of the work. The results show a positive impact of financial openness on economic growth in Nigeria, both in the short run and in the long run. Interestingly, the de facto and de jure measures of financial openness are found to have similar degrees of impact on Economic Growth in the short run and long run, respectively. The paper recommended that the government should continue to reform the domestic financial system while removing barriers to capital account transactions.

Afolabi (2022) examined financial development, trade openness, and economic growth in Nigeria, and adopted Dynamic Ordinary Least Square (DOLS) estimation technique. He found that financial development, exchange rate, and interest rate spread have a significant influence on real GDP, while trade openness does not exert any significant impact on economic growth in Nigeria.

Boachie and Audu-Darke (2024) investigated the effect of financial inclusion on economic growth in sub-Saharan Africa. The study adopted a quantitative research design. The results of their study showed that financial inclusion has a beneficial effect on economic growth through human capital development.

2.4 Summary of Empirical Literature

Empirical studies on financial openness and economic growth have produced mixed results. Some studies suggest a positive relationship between financial openness and growth, particularly in countries with well-developed financial markets and strong institutional frameworks. This research aims to contribute to the existing literature by employing the ARDL approach to examine the intricate relationship between financial openness and economic growth in Nigeria, offering valuable insights for policymakers and stakeholders in navigating the complexities of an interconnected global financial landscape. However, the gap this study seeks to fill is to determine the extent to which financial openness has impacted Nigeria's economic growth.

3. METHODOLOGY

3.1 Research Design

Research design is concerned with how the study subjects are brought into the scope of the research and how they are employed within the research setting using the required data. This investigation adopted an econometric research design in analyzing the relationship between the dependent and independent variables. The analytical method was applied for the purpose of determining variation in explained variables as a result of changes in independent variables.

3.2 Nature and Sources of Data

The study utilized secondary data consisting of annual time series data from 1983 to 2022. The data will be extracted from the Central Bank of Nigeria's Statistical Bulletin (2022), the World Development Index (2022) annual reports, and other published literature relevant to the study. There was no special procedure for collecting the data, as these figures were merely extracted from the sources. The data required include Gross Domestic Product Growth Rate (GDPG), Financial Openness proxied as FDI inflows percentage of GDP (FDIGDP), Exchange rate (EXR), Capital Flows proxied as portfolio investment net (FPI), Real interest rate (RIR) and Inflation rate (INF).

3.3 Model Specification

This section specifies the econometric model that was employed in the study. The model employed in this study was based on the work of Adesesan et al. (2016). With slight modification, this model is presented as:

$$GDPG = \beta_0 + \beta_1 FDIGDP_t + \beta_2 EXR_t + \beta_3 LNFPI_t + \beta_4 RIR_t + \beta_5 INF_t + \mu_t$$

β_0, β_1, β_2, β_3, β_4, β_5 are parameters to be estimated.

3.4 Techniques of Data Analysis

3.4.1 Unit Root Test

The Unit Root Test was used to examine the stationarity of the time series data, ensuring reliable results. The Augmented Dickey-Fuller (ADF) and Phillips-Perron test were employed, which includes lagged terms to account for serial correlation.

3.4.2 ARDL Bound Test

ARDL bound test was used to ascertain the long-run relationship between the variables in the model, especially Financial openness and Economic growth in Nigeria from 1983 to 2022. In furtherance to the above, the ARDL long run was estimated to evaluate the long-

run effect of Financial openness as well as other explanatory variables on the Nigerian Economy. As concerns this, based on the ARDL bound test, the F-Statistic exceeded the 10, 5 and 1% levels of significance.
Also, the Error Correction Model was estimated in order to examine whether or not the variables will adjust back to the long-run equilibrium if there is a distortion from the equilibrium point and at what speed.

3.4.3 Granger Causality Test

The Granger Causality Test was applied to determine whether past values of financial openness could predict future changes in Nigeria's economic growth. This test helped to understand the direction of causality between financial openness and economic growth.

4. PRESENTATION AND ANALYSIS OF RESULT

4.1 Presentation of Results

4.1.1 Stylized Fact

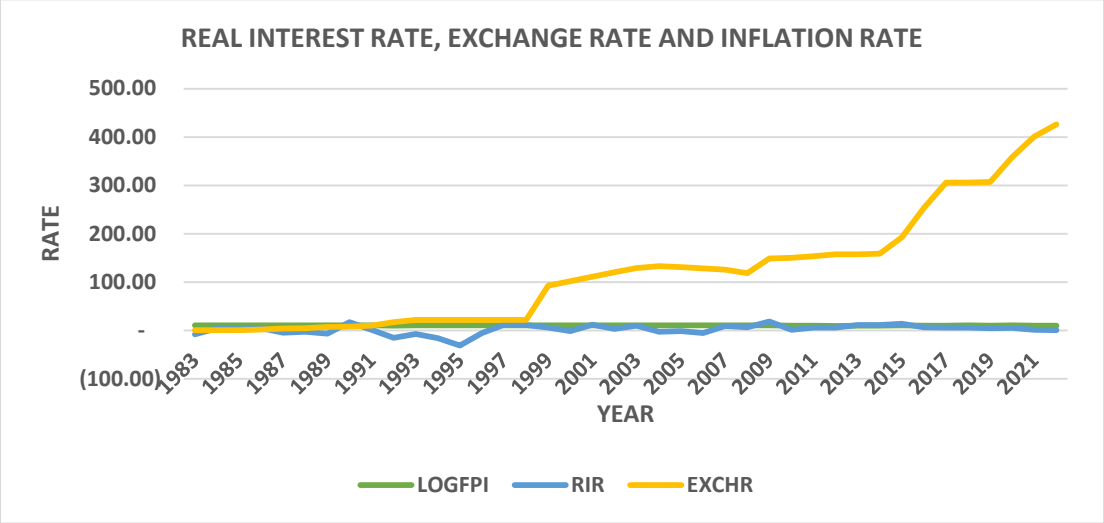

Figure 4.1: RIR, EXR AND INF (1983-2022)

Figure 4.1 shows the graphical trend of real interest rate, exchange rate and inflation rate. It shows that the exchange rate has an increasing trend during the period of the study, although there was a sharp decline in 1998 due to the excess demand for foreign currency, after which it continued rising. This, according to Ehikioya (2019), was based on the fact that Nigeria is overly reliant on imports and has relatively less exports in the international market, hence, a deterioration in its exchange rate. Real interest rate has been on a decreasing trend throughout the period of study. On the other hand, there has been a fluctuation in the inflation rate during the period of study.

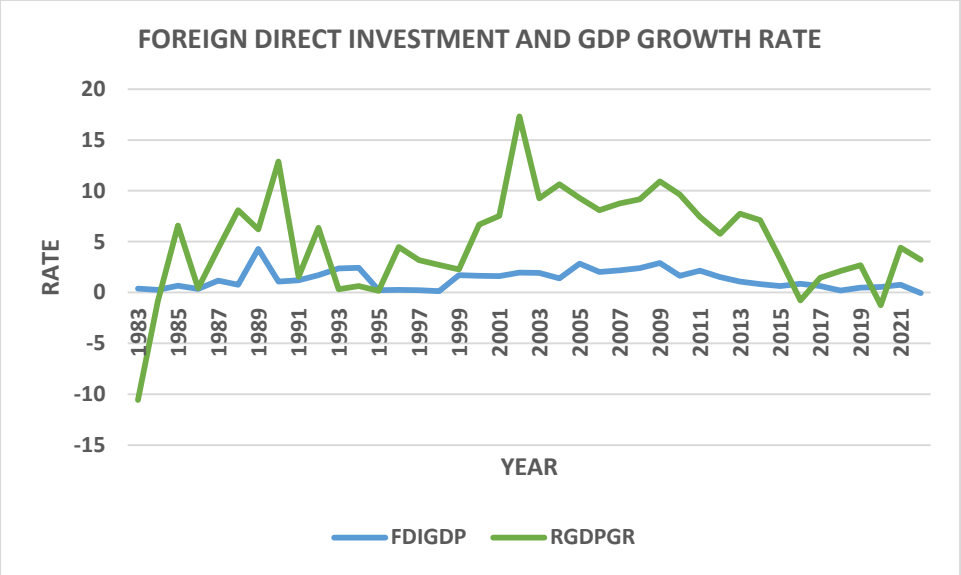

Figure 4.2: GDPG and FDIGDP (1983-2022)

It is evident in Figure 4.2 that GDPG has increased and decreased over the period of study, reaching negative growth in some periods. GRGDP exactly reached negative growth in 1983, 2016, and 2020, among others. This was based on the economic upheavals that were eminent at those periods, especially the outbreak of COVID-19 that became an economic vice in the early period of 2020, resulting in negative growth. GRGDP experienced its peak in 2002. While on the other hand, FDIGDP has moderately fluctuated over the years, reaching its maximum point at 1989.

4.2.2 Descriptive Statistics

This section provides the summary of the data collected from the various sources as well as presents them in suitable forms so that it can aid visual presentation.

Table 4.1: Summary Statistics

	EXR	FDIGDP	INF	LNFPI	GDPG	RIR
Mean	121.4061	1.284149	19.18119	10.22051	3.697078	2.248981
Median	119.5724	1.123510	12.94178	10.26083	3.921555	4.326392
Maximum	425.9792	4.282088	72.83550	10.34976	15.32916	18.18000
Minimum	0.724410	-0.039522	5.388008	9.567184	-10.92409	-31.45257
Std. Dev.	119.2507	0.951063	16.77084	0.134774	4.485305	9.583273
Skewness	0.976707	0.858004	1.830368	-3.460399	-0.410941	-1.153531
Kurtosis	3.141582	3.660688	5.193504	15.84581	4.915060	5.316629
Jarque-Bera	6.393116	5.635323	30.35407	354.8540	7.238239	17.81550
Probability	0.040903	0.059745	0.000000	0.000000	0.026806	0.000135

Sum	4856.246	51.36594	767.2476	408.8203	147.8831	89.95926
Sum Sq. Dev.	554608.3	35.27634	10969.18	0.708393	784.6006	3581.726
Observations	40	40	40	40	40	40

Source: *Authors' Computation, 2024*

Table 4.1 presents the descriptive statistics of variables used in this study. From the table above, it can be seen that there is a total number of 40 observations, and this is based on the period from 1983 to 2022. Based on the results, it is seen that the mean values were 121.4061, 1.2841, 19.1811, 10.2205, 3.6970, and 2.2489, respectively. While the standard deviations of the variables were 119.2507, 0.9510, 16.7708, 0.1347, 4.4853, and 9.5832, respectively. Given their means and standard deviation values above, it is evident that the mean value of all the variables for this study exceeds their respective standard deviations except the Gross Domestic Product Growth rate and Real Interest rate. This implies that most of the variables are stable over the period of study (1983-2022). All variables except LNFPI, GDPG and RIR are positively skewed towards normality, as shown by the positive values of the skewness statistics of the variables. The Kurtosis statistic, which depicts the flatness of the graph of a frequency distribution, revealed that all the variables are normally distributed. Given that their P-values are greater than the conventional 5% level of significance, the Jarque-Bera statistic shows that the variables are normally distributed.

4.3 Correlation Matrix

Table 4.2: Correlation Matrix

	EXCHR	FDIGDP	INFL	LOGFPI	RGDPGR	RIR
EXCHR	1					
FDIGDP	-0.2007	1				
INFL	-0.3130	0.1855	1			
LOGFPI	-0.2717	0.0796	0.1271	1		
RGDPGR	0.0317	0.2929	-0.2833	-0.0318	1	
RIR	0.2834	-0.0680	-0.7704	-0.1268	0.3419	1

Source: *Authors' Computation, 2024*

The correlation matrix above explicates the absence of multicollinearity, which suggests that the independent variables do not correlate; this holds given that their values are less than 0.8

4.4. Unit Root Results.

The unit root test is on the variables of the study; this is done in order to ascertain their level of integration and to determine the technique to be used for the analysis. This will allow for a well-rounded analysis and avoid spurious regression results, as time series variables are characterized by linear trend. Augmented Dickey-Fuller and Phillip Perron unit root tests are adopted in this regard.

4.4.1 Augmented Dickey-Fuller Test (ADF) and Phillip Perron Test

The test for unit root using both ADF and PP test was conducted in order to ascertain whether time series data were stationary or non-stationary and also to determine the number of times (the level) at which the variables have to be differenced before becoming stationary.

Table 4.3: ADF and PP Test Result

Variables	ADF t-Statistics	Philips Perron t-statistics	ADF P-values	Philips Perron P-values	ADF Level of Integration	Philips Perron Level of Integration
EXR	-4.8046	-4.6201	0.0022	0.0031	I(1)	I(1)
FDIGDP	-3.7511	-3.6306	0.0304	0.0400	I(0)	I(0)
LNFPI	-4.6207	-6.0710	0.0035	0.0001	I(0)	I(0)
INF	-4.0952	-90319	0.0136	0.0001	I(0)	I(1)
GDPG	-5.0192	-5.0214	0.0012	0.0012	I(0)	I(0)
RIR	-4.1865	-4.1236	0.0107	0.0125	I(0)	I(0)

Source: *Authors' Computation, 2024*

Given the computations above, the ADF and Phillips Perron tests show that all the variables are stationary at the level and after the first differencing. To put it differently, the variables are characterized by I(0) and I(1) series. The above results are a prerequisite for adopting the ARDL analytical technique; hence, we present the ARDL Bounds test to ascertain whether a long-run relationship exists among the variables used in the model.

4.5: ARDL Bounds Test

ARDL Bounds test was used to ascertain whether there exists a long-run relationship between the variables in the model. This test is only best for variables that are integrated at mixed orders of I(0) and I(1). This test is presented below:

Table 1.4: ARDL Bounds Test

Model		**F-Statistic =** 3.4827
GDPG = f(EXR, FDIGDP, LNFPI, INF, RIR)		K = 5
Critical Values	Lower Bound	Upper Bound
10%	2.08	3
5%	2.39	3.38

SOURCE: Authors' Computation, 2024

The result from the ARDL Bounds test shows that the value of the F-statistics (3.4827) is greater than the upper and lower bounds at both 5% and 10% levels of significance. This implies that there is a long-run relationship between financial openness and economic growth in Nigeria, as shown by the long-run connection that bounds all the independent variables with GDPG.

4.6: Summary of the Long Run Estimate of ARDL

Table 4.2: ARDL Long Run Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNFPI	2.231435	4.305256	0.518305	0.6083
INF	-0.057109	0.053768	-1.062147	0.2972
FDIGDP	1.726031	0.808060	2.136019	0.0416
EXR	0.001000	0.005988	0.166990	0.8686
RIR	0.096109	0.098250	0.978212	0.3363
C	-19.35112	44.14537	-0.438350	0.6645

Source: Authors' Computation, 2024

The result of the long-run coefficient, as shown in Table 5 above, shows that Capital Flows (LNFPI), Financial openness (FDIGDP), Exchange rate (EXR) and Real Interest rate (RIR), all have a positive impact on Gross Domestic Product Growth rate (GDPG) in the long run as seen from the positive coefficients of these variables while Inflation rate (INF) has a negative influence on output levels in the long run as seen from its negative coefficient. From the results above, this means that a unit increase in LNFPI will lead to 2.23 units increase in economic growth; a unit increase in INF will lead to 0.05 units decrease in economic growth; a unit increase in FDIGDP will lead to 1.73 units increase in economic growth; while a unit increase in EXR will lead to 0.001 unit increase in economic growth, a unit increase in RIR will lead to 0.09 units increase in economic growth. Inflation rate, in the long-run, exerts a negative effect on economic growth. LNFPI, EXR and RIR exert positive and insignificant effects on economic growth in the long-run. Only financial openness is significant at 5% level.

4.7. ARDL Short Run Test

Dependent Variable (GRGDP)

Table 3: ARDL Error Correction Regression Model

Variables	Coefficient	Std. Error	T-Statistic	Prob.
D(LNFPI)	5.465172	2.296934	2.379334	0.0413
D(INF)	-0.124893	0.040242	-3.103534	0.0127
D(FDIGDP)	-3.770568	0.597102	-6.314776	0.0001
D(EXR)	0.036492	0.024721	1.476157	0.1740
D(RIR)	0.106524	0.059023	1.804783	0.1046
CointEq(-1)*	-0.388085	0.061714	-6.288472	0.0001

R-Squared = 0.9333, Adjusted R-Squared = 0.8444, Durbin Watson Stat = 2.7363

Source: *Authors' Computation, 2024*

In the short-run analysis, Inflation and financial openness exert negative effects on economic growth, while capital flows, exchange rate, and real interest rate exert positive effects on economic growth. However, the effect of EXR and RIR are insignificant at a 5% level. The coefficient of the error term (-0.3880) is rightly signed and statistically significant at the 5% level of significance. The coefficient implies that 38.80% of the short-run disequilibrium in the previous year is corrected in the long-run. Also, the table indicates that the dynamic model is a good fit, the reason being that the variations that occurred in the criterion variable (GDPG) are accounted for by the explanatory variables. In other words, the data fits the model well, given the value of the coefficient of determination (R-squared). Essentially, the R-squared value indicates that approximately 93.3% of variations in the criterion variable are explained by the independent variables.

4.8: Granger Causality Test

Table 4: Results of Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
LNFPI does not Granger Cause GDPG	36	1.20780	0.3304
GDPG does not Granger Cause LOGFPI	36	0.62571	0.6482
INF does not Granger Cause GDPG	36	0.50325	0.7336
GDPG does not Granger Cause INF	36	1.55831	0.2139
FDIGDP does not Granger Cause GDPG	36	3.06985	0.0331
GDPG does not Granger Cause FDIGDP	36	2.06550	0.1133
EXR does not Granger Cause GDPG	36	0.45247	0.7697
GDPG does not Granger Cause EXR	36	0.81769	0.5252
RIR does not Granger Cause GDPG	36	0.36256	0.8330
GDPG does not Granger Cause RIR	36	0.74512	0.5698

Source: Authors' Computation, 2024

Table 4.7 shows the nature of the association between the variables employed in this study. The findings show that there is a uni-directional relationship between financial openness (FDIGDP) and economic growth (GDPG) in Nigeria over the period of this study. It shows that financial openness granger causes economic growth, and economic growth does not granger cause financial openness over the period of study. Based on the result, there is no causal relationship between capital flow (LNFPI) and economic growth (GDPG) in Nigeria during the period of this study. This implies that the aforementioned variables do not granger cause each other. Similarly, there is no causal effect between inflation rate (INF), Exchange Rate (EXR) and Real Interest Rate (RIR) and economic growth (GDPG) over the period of study.

4.9. Diagnostic Tests

Table 4.5: Summary of Diagnostic Test Result

Test	F-Statistic	Probability Value
Jarque-Bera	1.8746	0.3916
Breusch-Godfrey Serial Correlation LM Test:	1.5682	0.2737
Heteroskedasticity Test: Breusch-Pagan-Godfrey	0.5219	0.9056
Ramsey RESET	1.1397	0.3728

Source: Authors' Computation, 2024

According to the table above, the model appears to follow a normal distribution. This notion is based on the fact the probability value of the Jarque-Bera Statistic is greater than the conventional level of significance (5%). In other words, the result indicates that the error term in the model is normally distributed. With an F-statistic of 1.5682 and a probability value of 0.2737, the Breusch-Godfrey Serial Correlation LM Test indicates that the model is free from serial correlation. The Heteroskedasticity Test: Breusch-Pagan-Godfrey which is given by its F-Stat and probability value of 0.5219 and 0.9056, respectively, shows that the model is Homoscedastic and that the error terms have constant variance. Lastly, considering the F-statistic and probability values of the Ramsey RESET test, which were 1.1397 and 0.3728, respectively, it follows that there is no specification error in the model. Overall, the model passes all the tests as evidenced in the findings above.

4.10. Stability Test

Cumulative Sum of Square (CUSUM) and Cumulative Sum of Square Residual (CUSUMQ) will be conducted so as to ascertain the fit of the model. CUSUM represents the total amount of variation in the data that is explained in the model while CUSUMQ represents the amount of variation that is not explained by the model.

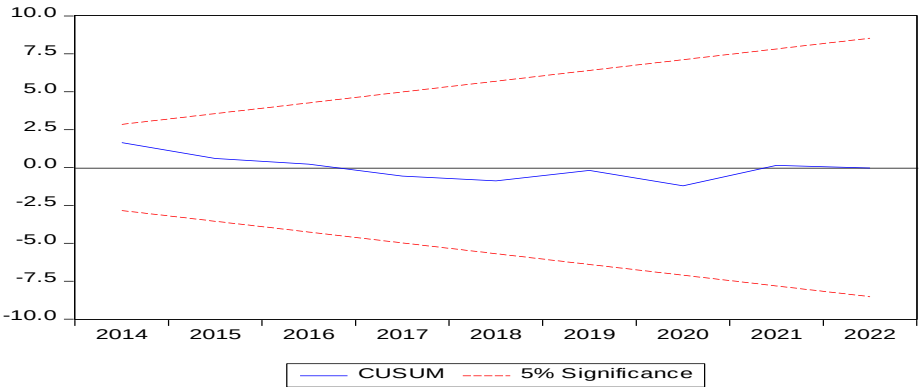

Figure 4.2: Cumulative Sum of Square (CUSUM)

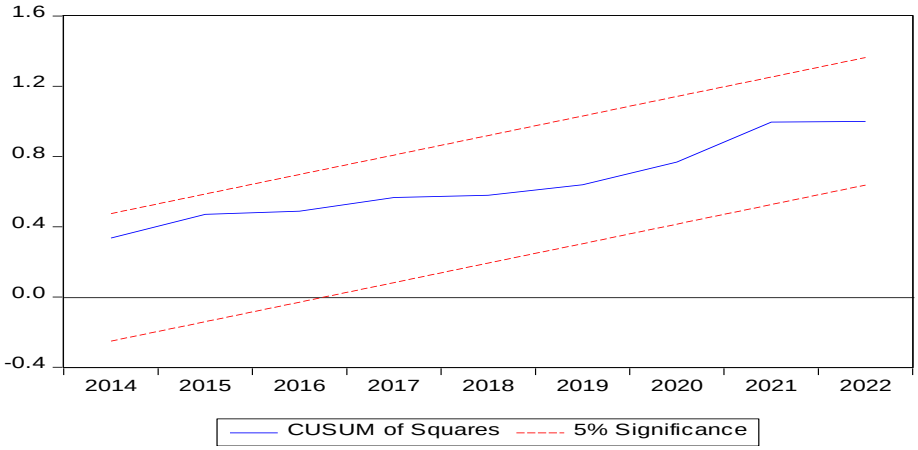

Figure 4.3: Cumulative Sum of Square Residual

The result of the stability test is presented in Figures 4 and 5 above. Figure 4 avails that the recursive errors lie in between the critical line at a 5% significance level. This shows that the residual variance is stable. Succinctly, based on the CUSUMQ test result, it can be inferred that the recursive error lies between the critical line at a 5% significance level. This result shows that the model is stable.

5. Summary, Conclusion and Recommendations

5.1. Summary

This study examined the effect of financial openness on economic growth in Nigeria using time series data that ranges from 1983 to 2022. The study adopted a combination of qualitative and quantitative techniques for data analysis, describing the variables using graphs and presenting an econometric analysis of the data. The specific objectives that the study achieved include investigating the effect of financial openness (FDIGDP) on Nigeria's economic growth (GDPG) and determining the causal relationship between financial openness and economic growth in Nigeria. The econometric analysis that was carried out included the descriptive statistics of the variables as well as their correlation matrix, the Augmented Dickey Fuller and Philip Perron test was used to test for the stationarity of the variables, the ARDL bound test, the ARDL long run test, as well as the ECM, were all used to investigate the relationship between the variables (dependent and independent variables). The granger causality test was employed in order to examine the causal relationship between the variables.

The data for the analysis were primarily sourced from secondary sources, mainly the World Development Indicators (WDI). The methodology of the study comprised a single model with the growth rate of Gross Domestic Product (GDPG) as the dependent variable, while the independent variables include: Financial Openness (FDIGDP), Inflation Rate (INF), Real Interest Rate (RIR), Capital Flows (LNFPI) and Exchange Rate (EXR). The ARDL Bound test revealed that the criterion and explanatory variables are bound by a long-run relationship. Based on the long-run estimates, it was found that all the explanatory variables, except Inflation, have a positive effect on the growth rate of GDP (GDPG). In line with this, all the control variables were not significant except for Financial Openness (FDIGDP), which significantly affects GDPG.

On the other hand, the short-run test results revealed that Inflation and financial openness exerted a negative effect on economic growth, while capital flows, exchange rates, and real

interest rates exerted a positive effect on economic growth. However, the effect of EXR and RIR are insignificant at a 5% level. The ECM was also correctly signed to show that any disequilibrium does not hesitate to correct back to equilibrium.

The result from the Granger causality test also showed that there is a unidirectional relationship running from financial openness to economic growth. No causation was found between other variables and economic growth during the period of this study.

5.2. Conclusion

In conclusion, this study offers valuable insights into the impact of financial openness on economic growth in Nigeria. The findings indicate a significant positive relationship, suggesting that increased financial openness contributes to enhanced economic performance. This underscores the importance for policymakers to promote financial integration and openness to foster economic growth. A key finding is the unidirectional causal relationship, indicating that financial openness has a positive effect on economic growth, while economic growth also contributes to increased financial openness. Policymakers should, therefore, focus on strategies that leverage financial openness as a means of promoting economic development. The study also highlights the adverse effects of exchange rate volatility and inflation on economic growth, which necessitates careful management of these variables to sustain growth. Consequently, there is a clear need for policies that support financial openness while ensuring economic stability.

5.3. Recommendations

Based on the findings, several recommendations are proposed to enhance the positive impact of financial openness on Nigeria's economic growth:

1. **Promote Financial Integration**: Policymakers should actively promote policies that enhance financial openness, such as reducing barriers to foreign investment and improving regulatory frameworks. This can attract more foreign direct investment, thereby stimulating economic growth.
2. **Stabilize Macroeconomic Environment**: To mitigate the adverse effects of exchange rate volatility and inflation, the government should implement measures to stabilize the macroeconomic environment. This could involve strengthening monetary policies and ensuring consistent inflation management to create a conducive environment for investment and growth.
3. **Enhance Institutional Capacity**: Strengthening financial institutions and regulatory frameworks is essential to support the benefits of financial openness. This includes improving the efficiency of financial markets, enhancing transparency, and ensuring that regulatory bodies can effectively manage the challenges posed by increased financial integration.
4. **Diversify Economic Activities**: To maximize the benefits of financial openness, Nigeria should focus on diversifying its economic base. Encouraging growth in various sectors can reduce vulnerability to external shocks and enhance overall economic resilience.

These recommendations aim to create a conducive environment that leverages financial openness as a catalyst for sustained economic growth, enabling Nigeria to navigate the complexities of the global financial landscape while fostering domestic economic development.

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