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FINANCIAL LIBRALISATION AND ECONOMIC GROWTH NEXUS: AN EMPIRICALEVIDENCE OF NIGERIA [1970 – 2020]

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Abstract

The theorists of financial liberalization believed that the removal of government control in the operation of the financial system will lead to the development of the system which thus translates to the economic growth of a given economy. However, over the past three decades that the policy was implemented in Nigeria, the financial sector still cannot mobilize the required funds for public and private investment; hence the economy still remained grossly undeveloped. In view of this therefore, this study was designed to examine the effectiveness of financial liberalization in economic growth of Nigeria from 1970 to 2020. The required data for the study were sourced from various sources including Central Bank of Nigeria Statistical Bulletin and Annual Reports, and the World Bank Development Indicators among others. To eliminate the problem of spurious regression in the study, the technique of Phillips-Perron unit root test was employed. In addition, the long-run equilibrium relationship in the exogenous series was tested with the ARDL Bounds Test. More so, the Diagnostics tests of Jarque-Bera, Breusch-Godfrey Serial Correlation LM and Breusch-Pagan-Godfrey were also employed to test normal distribution, autocorrelation and Heteroskedasticity in the data, while Wilcoxon Test Statistic investigated the change in the pre and post deregulation periods. The findings revealed that official exchange rate and one period lag of real interest rate are positively and significantly related to the economic growth, while real interest rate without lag has negative and significant relationship on the economic growth of Nigeria. It was further revealed that credit to private sector and inflation rate have negative coefficients. Lastly, the study showed a significant change in gross domestic product per capita and official exchange rate in the pre- and post-liberalization peiods. We therefore recommend that a holistic reform that will strengthen the entire Nigerian financial system should be carried out immediately, in addition to creating enabling macroeconomic environment that will make private investment to thrive.

Keywords: *Financial liberalization, Exchange rate, Inflation rate, Gross domestic product*.

INTRODUCTION

Background Information

The issue of financial liberalization has received a great attention globally since the last quarterof 20th century. It can be viewed as a set of operational reforms and policy measures designed toderegulate and transform the financial system and its structure with the view to achieving a liberalized market-oriented system within an appropriate regulatory framework (Johnston and Sundararajan, 1999). Historically, the financial systems of majority of the developing countries were characterized by little institutional diversity and little availability of alternative financial instruments and assets. There was also a strong relationship between governments and banks with banks often financing government expenditures. Additionally, the economies of many of these countries were marked with low savings rates and poor access of businesses to credit, which contributed to impede significant economic development. Thus, beginning from the early 1980s, many of these countries started pursuing a strategy of financial liberalization with the aimof achieving better macroeconomic performances and higher economic growth through the channel of financial system deepening and development. It was presumed that the developmentof the financial system aids overall economic development, hence, the removal of all forms of restrictions on the financial sector has clear policy implications such as increasing Savings, investment and growth. In addition, such strategy will deepen the integration of the financial sector as well as other sectors (Shaw, 1973), raise allocative efficiency and improve government policy.

Nigeria, prior to liberalization of the financial sector, had a repressed financial sector in which the government and the Central Bank of Nigeria (CBN), restricted and controlled the activities ofthe financial sector. However, following the adoption of SAP, Nigeria liberalized her economy in August 1987. This policy initiative commenced with the liberalization of interest rates. Apart from the liberalization of interest rates, the reform also involved promotion of market-based system of credit allocation, enhancing competition, and efficiency of the regulatory and supervisory framework (Jegede and Mokulolu, 2004; Agu, Orji, and Eigbiremolen, 2014). The adoption of this economic package was motivated by the need to proactively put the Nigerian banking industry and the economy at large on the path of global competitiveness. Interest rate liberalization which was the first financial reform to be undertaken was aimed at enhancing the ability of banks to charge market-based loan rates and hence guarantee the efficient allocation of scarce resources (Ikhide and Alawode, 2001).

Most international organizations like the World Bank and the International Monetary Fund advocated the introduction of financial liberalization policies to augment higher savings, investment and rapid economic growth in developing countries which Nigeria keyed in and implemented in 1986. It is also regrettable that since the introduction of financial liberalization, Nigeria's economy has failed to witness impressive results such as attraction of adequate foreign investment and containing incessant capital fight. Empirical evidence in Nigeria indicates that neither the domestic savings nor investment have increased remarkably since the introduction of the broad-based structural reform package. After the implementation of the liberalization policy, interest rates have fluctuated greatly and the Naira depreciated continuously. Data available at the World Bank revealed that Nigerian interest rate was 7.0% in 1970, decreased to 6.25% in 1975. It was 8.43% in 1980, and continued to maintain single digit till 1986 when it was 9.96%. After the implementation of the liberalization policy of 1986, interest rate jumped to 13.96% in 1987, 25.30% in 1990, 21.27% in 2000,17.59% in 2010 in 15.38% in 2020.

It is very unfortunate that money became expensive immediately the implementation of financial liberalization. On the other hand, exchange rate also had similar trend with lending rate after the institution of liberalization policy. This unusual volatility in interest and exchange rates severely constrained the banks' ability to supply credit, when it was believed that financial liberalization will allow market driven interest rate that provides incentives to borrowers, to promote savings, reduce distortions in investment and induce effective information between savers and investors. The resulting low/negative interest rates discouraged savings mobilization, hampered financial intermediation, investment decisions and hence economic growth. In view of the foregoing therefore, this study is challenging the economic effects of financial liberalization in Nigeria, given that almost all the economic indices are not doing well after the implementation of this policy, hence questioning its relevance. The main objective of this study is to empirically investigate the economic effect of financial liberalization in Nigeria. However, to specifically drive home the salient points of the study, the objectives are to; investigate the effects of official exchange rate and economic growth of Nigeria; ascertain the relationship existing between credit to private sector and the Nigerian economic growth; investigate the effect of real interest rate on economic growth of Nigeria; examine the relationship between degree of trade openness and economic growth of Nigeria and determine the effect of inflation rate on economic growth of Nigeria. The hypotheses of the study were formulated in line with these specific objectives.

II: LITERATURE REVIEW

Conceptual Framework

Concept of Financial Liberalization

According to Kaminsky and Schmukler (2003), financial liberalization consists of the deregulation of the foreign sector capital account, the local financial sector, and the stock market sector viewed separately from the local financial sector. It also refers to measures directed at diluting or dismantling regulatory control over the institutional structures, instruments and activities of agents in different segments of the financial sector. These measures can relate to internal or external regulations (Chandrasekhar, 2004). Johnston and Sandararajan (1999) see financial liberalization as a lot of

operational changes and strategy estimates set up to deregulate and change the money related framework and its structure in order to accomplish a changed market arranged framework inside a fitting administrative system. Sulaiman, Oke and Azeez(2012) define financial liberalization in a layman term as the removal or loosening of restrictions imposed by the government on the domestic financial market. It is however observed that financial liberalization has both household and outside measurement by saying that those measures include official government policies which pays attention to deregulating credit and interest rate controls, privatizing financial institutions, evacuating passage boundaries and restrictions for remote monetary organizations and foreign monetary transactions respectively as well as introduction and strengthening the market price mechanism and improvement of market competition's condition.

In the 1980s, the financial system in Nigeria was repressed. Repression in this context means the manifestations of financial repression is not only in terms of low quantity of savings and investment but also that the degree of movement which it occurs is of low quality. It led to introduction of Structural Adjustment Programme like every other developing nation in order to liberalize the financial system aiming at among others: designed measures for increment rivalry, fortify the supervisory job of the administrative specialists, fiscal approach and outside trade changes, progression of capital development and capital market changes. These were however achieved by allowing licenses to more banks to work which increased the number of banks in Nigeria from 40 in 1986 to 120 in 1992 and gave birth to many numbers of non-bank financial institutions (Agbaeze and Onwuka, 2014).

Variables of Financial Liberalization and their Economic Growth Implications Interest (Real) Rate and Economic Growth Nexus

Interest Rate was defined by Okopi (2008) as the rental payment for the use of credit by borrowers and return for parting with liquidity by lenders. Like other prices, Interest Rates perform a rationing function by allocating limited supply of credit among many competing demands. According to Olusoji (2013), interest is the payment made by the borrower to the lender of money loan. It is usually expressed as an annual rate in terms of money and is calculated on the principal of the loan. Interest Rate is the price paid for the use of other capital funds for a certain period of time. In the real economic sense, however, interest rate implies the return to capital as a factor of production (Onoh, 2007).

Credit to Private Sector and Economic Growth Nexus

Credit to private sector refers to financial resources provided to the private sector, such as loans and advances, purchases of non-equity securities, trade credits and other accounts receivable, which establish a claim for repayment. Several empirical studies have shown that the efficient provisioning of credit has a positive and significant effect on output and employment opportunities while a low level of financial development and its attendant inefficient private sector credit system distorts economic growth (Olusoji, 2013). A strong and inclusive financial system; and availability of investable funds play vital roles in financing economic project and activities that would promote economic growth and development.

Exchange Rate and Economic Growth Nexus

The economic effects of the exchange rate changes are among the most controversial issues in the literature. Particularly, the effect of exchange rate changes on economic growth has become one of the most important research topics over the past decades. The traditional view argues that there is a positive relationship between exchange rate changes and economic growth (Frankel and Romer, 1999). Accordingly, depreciation of local currency after an increase in the exchange rate, by influencing the relative prices of domestic and foreign goods, promotes exports while decreasing imports. In other words, the depreciation of the local currency both converts the demands of foreigners into the country and directs the import demands of the indigenous to the local products. As a result, increases in exchange rates support economic growth by encouraging net exports.

Trade Openness and Economic Growth Nexus

One of the current economic debates is the relationship between trade openness and economic performance. With trade openness, researchers usually measure the degree to which countries are open to international trade with their imports and exports. In contrast, their economic performance is generally measured by gross domestic product (GDP) or productivity in different forms. The proposed hypothesis in the literature is that openness to trade does have an impact on economic performance, either across countries over time. A landmark study from Frankel and Romer (1999), found a positive, significant, and weak relationship between the two underlying variables.

Inflation and Economic Growth Nexus

Inflation is defined as a generalized increase in the level of price sustained over a long period in an economy (Lipsey and Chrystal, 1995), that is, a persistent rise in the price levels of commodities and services, leading to a fall in the currency's purchasing power. High and sustained output growth in conjunction with low inflation is the common objective of macroeconomic policy all over the world. At the operational level, there is recognition that inflation-growth nexus depends on the level of inflation ostensibly because, at some low levels, inflation may be positively correlated with output growth, but at higher levels inflation is likelyto be inimical to growth.

Theoretical Framework

Theories of Financial Liberalization Driven Economic Growth

The impact of financial liberalization on economic growth like other economic phenomenon has been a source of debate for policy makers. Economists do not hold a consensus on the effect of financial liberalization on economic growth. The theoretical perspectives to be reviewed in this study are:

1. The Neo-classical theory
2. The McKinnon-Shaw Hypothesis

The Neo-Classical Theory

According to neo-classical theorists, like Alfred Marshall, Friedrich Von and W.S Jevons, financial liberalization will make the cost of capital to decrease, while productivity and output will grow. From a neo-classical point of view, liberalizing financial markets would stimulate savings, and enhance physical capital formulation (Kapur, 1976; Mathieson, 1980). This hypothesis is to influence the financial system ability to provide financial capital needed for firms' investment, and at a relative affordable price. According to this analysis, therefore,financial liberalization should facilitate the creation and entry of new firms into industry, as well as enhance the growth and expansion of incumbent firms (Vlachos and Waldenstrom, 2005).

The McKinnon-Shaw Hypothesis

The McKinnon–Shaw hypothesis focuses on the distortions in the market caused by financial repression. The hypothesis argued that in a developing country, liberalizing interest rate would lead to an increase in the real interest rate and savings which in turn would boost investment growth. The initial framework of McKinnon (1973) and Shaw (1973) centered on financial repression and the need to remove financial repression and other forms of credit control by allowing the market to determine real interest rates. The outcome of repression, according to McKinnon (1973) and Shaw (1973) are evidenced by low savings, high consumption, low investments and repressed economic growth. Whereas the Neo-Classical Theories believed that financial liberalization stimulates economic growth, McKinnon-Shaw Hypothesis postulated thatrepressing the financial system is a distortion to growth hence, liberalizing interest rate would lead to an increase in the real interest rate and savings which in turn would boost investment growth. According to these two theories, failure to liberalize the economy will lead to low savings, high consumption, poor investment as well as negative growth.

EMPIRICAL EVIDENCE

Adeegun (2014) examined the effect of Financial Sector Liberalization on Bank Performance in Nigeria. The researcher found that the effect of financial sector liberalization on bank performance in Nigeria for the period of study has been significant, especially as measured by the proxies of Earnings per Share and Return on Equity, it has not been significant enough to transform the nations' economy to the desired level.

Orji, Anthony-Orji & Mba (2015) examined Financial Liberalization and Output Growth in Nigeria: Empirical Evidence from Credit Channel and found that there is unidirectional causalityrunning from output growth (LRGDP) to financial liberalization.

Okoye, Nwakoby, Modebe and Okorie (2016) examined the impact of Economic Liberalization on the Growth of the Nigerian Economy and found that there was evidence of significant positive impact of financial liberalization on the growth of the real economy/ Kaita (2015) carried out an evaluation of financial Liberalization and Economic Growth in Nigeria: An Empirical Analysis and found that there is a positive long-run equilibrium relationship between financial liberalization and economic growth.

Fasanya & Olayemi (2020) carried out the modeling financial openness growth-nexus in Nigeria:Evidence from bounds testing to cointegration approach and the result showed that there is strong relationship between the indicators of financial liberalization and economic growth in Nigeria.

Akpansung & Waziri (2018) analyzed if Financial Liberalization Promoted Economic Growth in Nigeria? Evidence From Auto-Regressive Distributed Lag (ARDL) Approach. The researchers found that real exchange rate, degree of openness, consumer price index, increase in life expectancy of labour, and debt ratio significantly influenced economic growth in the short-run and long-run.

Orji, Ogbuabor and Anthony-Orji (2015) examined Financial Liberalization and Economic Growth in Nigeria: An Empirical Evidence Financial liberalization (FINDEX) and private investment (PINV) have significant positive impact on economic growth in Nigeria

Nwadiubu, Udeh and Onwuka (2014), examined Financial Liberalization and Economic Growth – The Nigerian Experience and found that financial liberalization has impacted minimally oneconomic growth in Nigeria for the period under review

Ilugbusi, Ajala, Akindejoye & Ogundele (2020) examined Financial Liberalization and Economic Growth in Nigeria

and found that financial liberalization has long and short-run relationship with economic growth. Further findings also showed that prime lending rate had insignificant positive and credit to private sector had significant positive effects on economic growth. On the other hand, savings deposit rate, exchange rate and ratio of private investment to GDP have insignificant negative effects on economic growth.

In Sulaiman & Masih (2019) study of is liberalizing finance the game in town for Nigeria? The result showed that there is a positive long-run equilibrium relationship between financial liberalization, investment and growth.

Marc (2018) examined the impact of Financial Liberalization on the Financial Development of Eight Countries Member of SADC. The result indicates that inflation has a significant and negative impact on credit to private sectors and bank deposits, portfolio investments and remittance have no impact on the bank credit to private sector, bank deposit and stock market capitalization.

Egbetunde, Ayinde & Balogun (2017) determined if Interest Rate Liberalization, Financial Development and Economic Growth in sub-Saharan African Economies. The result showed that public institutions have been found significantly detrimental at driving the growth process of the sub-Saharan African economies.

Mansour & Hassan (2021) examined the effect of Financial Liberalization on Economic Growth: The Case of Egypt and Saudi Arabia. The findings indicates that financial and external liberalization policies do not have a favorable effect on the economic growth rates of countries studied.

Kumar & Paramanik (2020) examined the nexus between Indian economic growth and financial development: A non-linear ARDL approach and found that in the long-run, financial development does impact economic growth positively
Akinsola & Odhiambo (2017) examined the impact of financial liberalization on economic growth in sub-Saharan Africa. The result indicates that there is a negative relationship between a banking crisis and economic growth, showing that the period of a banking crisis can drastically affect economic growth in sub-Saharan Africa

Gap in Literature
Summarily, the lack of consensus on the effects of financial liberalization on economic growth creates a space for more detailed and improved study on the topic. As reviewed in the empirical studies, several authors have researched in the subject matter. However, it is very obvious that all these studies made good findings on the subject matter and contributed to the relevant literatures. However, none employed a comparative analysis technique to compare the pre- and post- financial liberalization relationship on economic growth. This study will close this gap with a pre and post liberalization analysis, of which the findings will be unique and will address the problems from a different and more informed angle.

III: RESEARCH METHODOLOGY

Research Design
A research design represents a plan on how particular study should be conducted. This research work is fundamentally descriptive as is embraced the use of secondary data in investigating the nexus of liberalization and economic growth of Nigeria. The researcher adopted the expost-facto research design.

Sources and Collection of Data
The set of time series data employed in this study were collected from various secondary sources. The data were collected for the period of 1970 to 2020 taking cognizance of the trade and financial liberalization policy of 1986 in Nigeria. The data were disaggregated into pre and post 1986 financial deregulation policy implementation. The sources of these data include Central Bank of Nigeria Statistical Bulletin, World Bank Development Indicators (WDI)2021 and Macrotrends (2022).

Model Specification
Going by the submission that the precursor to interest rate liberalization leading to economic growth rests on the depth of financial development in an economy (Odhiambo, 2011), the theoretical framework for this study is largely anchored on McKinnon-Shaw (M-S) hypothesis and the institutional theory of growth. In line with the M-S proposition, the higher rate of interestcan only stimulate growth in economies with sound financial development but endangered growth in economies with non-functional financial system. The M-S hypothesis was refined by the model proposed by Edwards and Khan (1985) where they opined that liberalized as well as non-autarky factors affect the domestic interest rate of an economy with restricted capital account transactions. Following Edward and Khan (1985) equation specification of the standard Fisherian equation of nominal interest rates;

$$i_t = rr_t + \Pi_t^e \quad (3.1)$$

Where, i = nominal interest rate; rr = real interest rate; Π^e = expected rate of interest. In contrast to the temporary short-run disequilibrium of the Fisher's equation, the model assumed non- mean-reverting nature of the real interest rate; even in the short-run. As such, we have.

$i_t = \xi - eM_t^s + \Pi_t^e + \varepsilon_t$ (3.3)

Where, eM_t^S= excess money supply at a given period; □ = positive parameter value and □ =random error term. Substituting for the real interest rates into equation (1), gives;

$i_t = \xi - eM_t^s + \Pi_t^e + \varepsilon_t$ (3.3)

It should be noted that the excess money supply is the excess of the actual stock of real money supply over the desired equilibrium stock of real money balance.

$eM_t^s = \log M_t^s - \log M_t^d$ (3.4)

Incorporating equation (4) into (3), and expanding out;

$i_t = \xi - \log M_t^s + \log M_t^d + \Pi_t^e + \varepsilon_t$ (3.5)

Given that the expected rate of inflation is not directly observable and that it has no direct effecton the real interest rate, then, equation (5) yields;

$i_t = \square - \log M_t^S + \log M_t^d + \varepsilon_t$ (3.6)

When financial development is evident, money substitutes for goods and other financial assets also exchange for money. As such, the demand for money is determined by two opportunity cost variables which are the expected rate of inflation and interest rate and the real income as a scale variable,

$\log M_t^d = f(rrt, yt, \square t^e)$ (3.7)

Substituting for money demand in equation (6) gives;

$i_t = \square - \log M_t^S + rrt + yt + \square t^e + \varepsilon_t$ (3.8)

Taking positive parameter as constant and given perfect foresight condition that expected inflation equals actual inflation and coupled with the exogenously determined nature of money supply, equation (8) gives the reduced form equation for nominal interest rates as:

$i_t = \square 0 + \square 1rrt + \square 2yt + \square 3\ infrt + \varepsilon_t$ (3.9)

Equation (9) is the closed economy model of interest rate enunciated within the McKinnon & Shaw (1973) framework. However, Edward and Khan (1985) refined this M-S framework by introducing liberalizing as well as non-autarky factors. To introduce the open market factors, Edward and Khan (1985) assumed an uncovered interest arbitrage relation assuming no impediments to capital flows. Domestic and foreign interest rates are closely linked, especially ina world with no transaction costs and risk-neutral agents.

$i_t = I^*t + e_t$ (3.10)

Where; I^* is the world interest rate and e^t is the expected rate of change. Modeling a partial adjustment framework and combining closed and open economy extremes using the linear combination method; then, the following nominal interest rate model is specified, assuming a lagin response to domestic interest rate:

$i_t = (1 - \Psi)(rrt + \square^e) + \Psi(I^* + et) + (1 - \Psi)i_{t-1}$ (3.11)

Where □ is the index measuring the degree of openness. After series of iterative procedures, the closed economy components yield;

$i_t = rrt + \square^e = \square 0 + \square 1rrt + \square 2yt + \varepsilon t$(see equations 3.1 – 3.9)Equating equations (3.10) and (3.11);

$i_t = (1 - \Psi)\square 0 + \square 1rrt + \square 2yt + \Psi(I^* + et) + (1 - \Psi)i_{t-1} + \varepsilon_t$ (3.12)

On the condition that Nigerian economy is still less liberalized, □; being the degree of openness is closer to zero and (1 □□) is closer to 1. As such, equation (12) yields.

$i_t = \square 0 + \square 1it\text{-}1 + \square 2rrt + \square 3yt + \square 4\Psi(I^* + et) + \varepsilon_t$ (3.13)

The index of openness; □, introduces trade openness (TO) into our model where the interest rate,I^*, is rightly reflected. Equation (3.13), then yields the behavioural equation for an open economy such as Nigeria.

$i_t = \beta 0 + \beta 1it\text{-}1 + \beta 2rrt + \beta 3yt + \beta 4TOt + \varepsilon_t$ (3.14)

Tracing a structural interaction of the interest rate liberalization-growth nexus through financial development, introduces credit to the private sector, equation (3.14) becomes;

$i_t = \beta 0 + \beta 1it\text{-}1 + \beta 2rrt + \beta 3yt + \beta 4TOt + \beta 5CPSt + \varepsilon_t$ (3.15)

The presence of real interest rates suggests the introduction of inflation rate (INFR) into the model and yields;

$i_t = \beta 0 + \beta 1it\text{-}1 + \beta 2rrt + \beta 3yt + \beta 4TOt + \beta 5CPSt + \beta 6INFRt + \varepsilon_t$ (3.16)

The presence of trade openness suggests the introduction of exchange rate (EXR) into the model and yields;
$it = \beta 0 + \beta 1it\text{-}1 + \beta 2rrt + \beta 3yt + \beta 4TOt + \beta 5CPSt + \beta 6INFRt + \beta 7EXRt + \varepsilon t$(3.17)

In order to capture the feedback mechanism between financial liberalization and economic growth; the contemporaneous equation to equation (3.17) in recourse to the institutional growth theory are as follows;
$GDPPCt = \beta 0 + \beta 1RIRt + \beta 2TOt + \beta 3CPSt + \beta 4INFRt + \beta 5OEXRt + \varepsilon t$(3.18)

Where GDPPC is gross domestic product, RIR is real interest rate, TO is trade openness, CPS is credit to private sector, INFR is inflation rate, OEXR is official exchange rate, $\beta 0$ is constant, $\beta 1$ – $\beta 5$ are coefficients of explanatory variables, ε is error term and t is time period under investigation.

Statistical Techniques Employed for Data Analysis
The following techniques are employed for data analysis;

i. Phillips-Perron Unit Root Test;
ii. ARDL Bounds Test
iii. Auto Regression Distributed La
iv. Breusch-Godfrey Serial Correlation LM Test:
v. Jarque-Bera Test
vi. Breusch-Pagan-Godfrey: Heteroskedasticity Test
vii. Wilcoxon Test Statistic

IV: RESULTS AND DISCUSSIONS

Presentation of Analyzed ResultsUnit Root Test
The researcher employed the technique of Phillips-Perron unit root test to validate the result ofeach other. Both tests are to avoid spurious regression. Table 4.4 below presents the results.

Table 4.4: Results of Unit Root Test

Variables	Stages	Phillips-Perron Unit RootTest		Order of Integration	Decision
		PP Test Statistic	5% CriticalValue		
GDPPC	Levels	2.2446	-3.5023	-	Non-Stationary
	1st Diff.	-4.5597**	-3.5043	1(I)	**Stationary**
RIR	Levels	-6.4229*	-3.5023	1(0)	**Stationary**
OEXR	Levels	0.2845	-3.5023	-	Non-Stationary
	1st Diff.	-5.1086**	-3.5043	1(I)	**Stationary**
INFR	Levels	-3.3099	-3.5023	-	Non-Stationary
	1st Diff.	-15.5100**	-3.5043	1(I)	**Stationary**
CPS	Levels	-2.7226	-3.5023	-	Non-Stationary
	1st Diff.	-10.4015**	-3.5043	1(I)	**Stationary**
TO	Levels	-7.8831*	-2.9224	1(0)	**Stationary**

***Source**: Researchers Computations Summarized from Eview 9.0Output*
*Note: * denotes stationarity at zero order, ** denotes stationarity at first order*

The result Phillips-Perron unit root test presented in Table 4.4 above showed that real interest rate (RIR) and trade openness (TO) are integrated at zero order I(0). Other variables (gross domestic product per capita, credit to private sector, official exchange rate, inflation rate and trade openness) are integrated at first order, I(1).This therefore indicate the presence of cointegration among the variables. Because of the combination of 1(0) and 1(I) order of integration, this study will apply auto regressive distributive lag in the estimation of the model.

4.3 Auto Regressive Distributive Lag Bounds Test

The ARDL Bounds Test is employed to confirm the presence of cointegration in the data set. Accordingly, a long-run cointegration exist in a model if the F-statistic at both I(0) and I(1) bounds are greater than the critical value bounds at 10%, 5%, 2.5%, and 1% significance level respectively. Table 4.5 presents the result of ARDL Bounds Test.

Table 4.5: Auto Regressive Distributive Lag Bounds Test

Test Statistic	Value	k
F-statistic	1.627797	5
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

The result presented in Table 4.5 revealed that F-statistic of 1.627797 is less than 10%, 5%, 2.5% and 1% Critical

Values Bounds in I(0) and I(1) bounds respectively. The import of the result is the acceptance of the null hypothesis which implies that no long-run relationship exists among the variables. between the dependent and explanatory variables.

4.4 Results of Diagnostic Tests

4.4.1 Breusch-Pagan Heteroskedasticity Test

The result of Breusch-Pagan Heteroskedasticity Test is presented in Table 4.6 below. The resultreveal if the data is homoscedastic or not as a condition for ARDL estimation.

Table 4.6: Breusch-Pagan Heteroskedasticity Test

F-statistic	2.219970	Prob. F(11,37)	0.0347
Obs*R-squared	19.48177	Prob. Chi-Square(11)	0.0530
Scaled explained SS	12.51788	Prob. Chi-Square(11)	0.3260

The result presented in Table 4.6 revealed that the probability of F-statistic is 0.0347, which is greater than 0.05. Therefore, we accept the null hypothesis of no heteroskedasticity meaning that there is no presence of white noise variations in a regression model.

4.4.2 Breusch-Godfrey Serial Correlation Lagranger Multiplier Test

The result of the Breusch-Godfrey Serial Correlation LM is presented in Table 4.7 below. The result revealed the presence of autocorrelation in the data set. The Breusch-Godfrey Serial Correlation LM probability of less than 5% is an indication of the presence of autocorrelation and a higher order correlation.

Table 4.7: Breusch-Godfrey Serial Correlation Lagranger Multiplier Test

Breusch-Godfrey Serial Correlation LM Test:

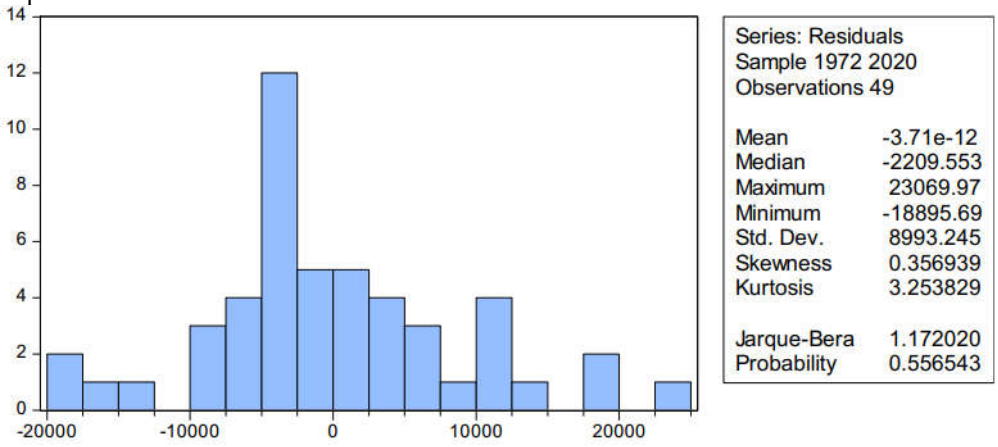
F-statistic	2.089481	Prob. F(2,35)	0.1976
Obs*R-squared	14.71163	Prob. Chi-Square(2)	0.0676

The result of Breusch-Godfrey Serial Correlation LMshowed an F-statistic of 2.089481 and probability value of 0.1976 which is greater than 5% confidence level. These statistics is a strong indication of no presence of serial correlation in the model.

4.4.3 Jarque-Bera Test

The result of Jarque-Bera test is presented in figure 4.1 below. the result is used to examine if the data set is normally distributed or not. Accordingly, ff the probability value of Jarque-Bera is greater than 0.05, it is a confirmation of the normality of the estimated equation.

Figure 4.1: Jarque-Bera Test



The result in Figure 4.1 above showed a Jarque-Bera value of 1.172020 and probability of 0.556543. Since the probability value is greater than 0.05, it confirms that the data is normally distributed.

4.6 Wilcoxon Test Statistics

Table 4.9 below presents the results of the Wilcoxon test statistics of the five independent variables and the dependent variable. A Z-statistic probability score of more than 0.05 indicate that there is no statistical and significant change in the pre- and post-performance of the liberalization variables.

Table 4.9: Wilcoxon Test Statistics

Variables	Z-Statistic	Prob.
GDPPC	-3.516	0.000
OEXR	-3.516	0.000
CPS	-0.388	0.698
RIR	-0.931	0.352
INFR	-1.448	0.148
TO	-0.155	0.877

The results of the Wilcoxon Test Statistics presented in Table 4.9 above revealed that the probability value of gross domestic product per capita and official exchange rates is less than
0.05. This therefore indicate that it is only the two variables have statistically made significant change in both the pre- and post-liberalization periods. The probability of other variables isless than 0.05, which implied that there was no significant change in both the pre- and post- liberalization periods.

Results of Auto Regression Distributive Lag (ARDL)
The dependent variable (Gross Domestic Product per Capita) was regressed against the explanatory variables (Official Exchange Rate, Credit to Private Sector, Real Interest Rates, Inflation Rates and Trade Openness) for the period of 51years (1970 – 2020). The results of the analysis revealed the relationship between financial liberalization and economic growth of Nigeria. The result of the analysis is presented in Table 4.8 below;

Table 4.8: Auto Regressive Distributive Lag (ARDL)
Dynamic regressors (1 lag, fixed): RIR D(OEXR) D(INFR)
D(CPS) TO
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
D(GDPPC(-1))	0.356484	0.135746	2.626108	0.0125
RIR	-0.004828	0.000443	-10.90077	0.0000
RIR(-1)	0.002540	0.000762	3.332737	0.0020
D(OEXR)	0.014674	0.038335	0.382784	0.7041
D(OEXR(-1))	330.3770	110.6993	2.984454	0.0050
D(INFR)	-0.021917	0.015838	-1.383797	0.1747
D(INFR(-1))	0.023244	0.015046	1.544848	0.1309
D(CPS)	-0.087856	0.058202	-1.509513	0.1397
D(CPS(-1))	0.041594	0.055325	0.751808	0.4569
TO	0.000243	0.033481	0.007250	0.9943
TO(-1)	0.056631	0.035780	1.582751	0.1220
C	0.070474	0.019447	3.623858	0.0009
R-squared	0.889489	Mean dependent var		0.073800
Adjusted R-squared	0.856634	S.D. dependent var		0.071853
S.E. of regression	0.027206	Akaike info criterion		-4.161856
Sum squared resid	0.027386	Schwarz criterion		-3.698553
Log likelihood	113.9655	Hannan-Quinn criter.		-3.986080
F-statistic	27.07337	Durbin-Watson stat		1.916221
Prob(F-statistic)	0.000000			

From the results in Table 4.8 above, the econometric relationship between financial liberalizationand economic growth of Nigeria is stated in equation 4.1 as follows:
GDPPC = 0.0704–0.0048RIR+0.0147OEXR–0.0219INFR+0.0879CPS+0.00024TO (4.1)
(0.0009) (0.0000) (0.7041) (0.1747) (0.1397) (0.9943)

Discussion of Results
It used to be a long-held view of the orthodox economics that liberalizing the financial markets would help remove the binding constraints on credit needed for investment. It was largely canvassed in the theory of financial liberalization that deregulating the financial system will boost investment and economic growth by removing the constraints on investment funding and other distortions on the allocative efficiency of the market. Accordingly, this study truly exploredin details the economic implication of financial liberalization and the outcomes were quite informative. Indeed, the policy lessons deduced from it is the substantiation of the theoretical believe that financial liberalization is economic growth driven. However, details of the findings indicated varied results from each of the variables investigated. These specifics are further discussed as follows:

The coefficient of the exchange rate revealed that the variable has a positive relationship with economic growth of Nigeria. More so, one period lag of the exchange rate indicated a positive and significant relationship on the growth of Nigerian economy. This results rightly conforms with the works of Anifowose (2021) Chipote, Ogunmuyiwa and Adelowokan (2018), and Mgxekwa, and Godza (2014) where they respectively found that exchange rate has positive and significant effect on the economic growth. However, the report was different in Khandare (2017) where exchange rate had negative and insignificant relationship with the economic output. This outcome is unexpected and contrary to *a priori* expectation. This result implies that the deregulation of the exchange rate has empowered Nigerian economy to compete favourably in the international market aiding the inflows of both foreign direct and portfolio investment as well as free flow of goods and services in and out of the country. The result further implies that the constant devaluation of Naira has not negatively influenced its economic prospects, but have further strengthened it for international competition.

In another result, credit to private sector has negative coefficient indicating an inverse relationship with the economic growth of Nigeria. This finding is well supported by the reports of Orji, Anthony-Orji and Mba (2015), but negates the study of Olowofeso, Adeleke, Udoji (2015)that revealed that credit to private sector has positive and significant impact on the economic output of Nigeria. Credit to private sector which is most times refers asproxy for financial liberalization is a testimony that liberalization policy has not been effective in the operation of the intermediation function of financial institutions in Nigeria. A comparison of the pre and post liberalization policy in Nigeria will reveal that the private sector has witnessed stunted growth which may not be unconnected with the poor quality and costly credits at the disposal of the private investors. As a result, economic production will be low and unemployment is very high. This is not a good sign for the Nigerian economic expansion and inclusive growth.

It was also discovered that one period lag of inflation rate against all expectation is shown to have negative relationship with Nigerian economy supporting the findings of Adaramola and Dada (2020), and Chipote, Mgxekwa, and Godza (2014). This result isvery remarkable and corroborating with the *a priori* expectation. Inflation which is associated with persistent increase in general price level has been shown in the study to have discouraged economic production and consumption. Due to poor economic policies of the government, inflation rate has continued to increase which has resulted in dipping the Nigerian economy into unnecessary recession, thus discouraging economic productions, intermediation process, inflows of foreign investments and high cost of living in Nigeria.

Again, in line the *a priori* expectation, the real interest rate shows a negative and significant relationship with the economy of Nigeria. Financial liberalization which ushered in interest rate deregulation has proved not to be beneficial to investors and the country in economy-wide basis. Deregulation of interest rate has discouraged investors to access investment funding at affordablerates from the financial institutions to boost production and economic growth. This is in negationwith results of Adaramola and Dada (2020).

Lastly, degree of trade openness expectedly has positive coefficient in line with the studies of Okpara (2010) and Nwadiubu, Udeh and Onwuka (2014), thus, approving the*a priori* expectations requirement. Financial liberalization in Nigeria was expected to harness the opportunities offered by globalization and to help attract foreign investments (both direct and portfolio) into the country. Nigeria have always witnessed boost in the inflows of foreign investment and free flows of goods and services in and out of the country. Most of the Nigerian imports are raw materials which are further transformed into consumables goods, while most Nigerian revenue are gotten through export earnings. However, there is still room to improve on the quality and quantity of foreign exchange earnings and balance of trade respectively.

V CONCLUSION AND RECOMMENDATIONS

Conclusion

One of the instruments that aided the industrialized nations to attain the levels of their various developments is the depth of their financial sector, which mobilize adequate financial resources for investment spending. This level of development in their respective financial system could nothave been realized without removing government repressive control for wider private sector participation in the system. In Nigeria, the financial sector liberalization has significantly driven economic growth which is well indicated in the findings of this study. However, the effectiveness of the deregulation policy has not seen the full growth and development of Nigerian economic system. The level of the financial deepening in the economy still leaves a lot to be desired according to our findings, confirming the shallowness of the sector when compared with the size of the economy. It therefore suggests that the extent of the performance and development in the financial system may not be unconnected with the poor outings of the economy since it is the financial system that mobilizes funds for investment and economic production.

In view of the foregoing, the volatility of requisite economic variables has left much to be desired in promoting good economic outing of the country. The resultant implication of this is seen the incessant economic recession, high magnitude of poverty in the land, unemployment and above all, poor quality of life in Nigeria which is among the lowest in the world. It therefore

depicts that the financial liberalization implementation in Nigeria has left the Nigerian economy worst-off than expected.

Recommendations

Given the nature of the findings of this study and its policy implications to the Nigerian economy, the following were recommended with the aim that it will benefit economic mangers and regulators, financial players and other interest groups in the Nigerian economic ecosystem ofNigeria and beyond. These recommendations are as follows:

1. The monetary authorities should support the liberalization exercise by evolving complementary financial sector reforms. This is a way to ensure that the benefits of the liberalization policies are maximized which will be evident in the availability and affordability of credits for the deficit end investment.
2. A holistic reform that will strengthen the entire Nigerian financial system should be carried out immediately, in addition to creating enabling macroeconomic environment that will makeprivate investment to thrive.
3. Concerted effort should be made by the handlers of central government to launch a campaignthat will make Nigeria to consume only made in Nigeria goods so as to ease the pressure in the Nigerian local currency in the foreign exchange market.
4. Government should put every available effort in diversifying the economy that will facilitate private sector participation so as to increase local production of goods and services. This will strengthen the value of Naira and stabilizes the exchange rate.
5. Policies that will deflate the high inflation rate should be put in place to lower the sufferingof Nigerians who are paying the high price of goods and services in the market.

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