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IMPACT OF GLOBALIZATION, ECONOMIC GROWTH AND INCOME INEQUALITY IN NIGERIA

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Abstract: *The goal of the study was to see if there was a link between globalization, economic growth, and income disparity in Nigeria, utilizing annual secondary data from the Statistical Bulletin of the Central Bank of Nigeria from 1986 to 2019. The ARDL (Auto-Regressive Distributed Lag) Technique was specifically employed in order to arrive at statistical and logical conclusions on how Nigeria has fared in the face of globalization. In addition, the Lorenz curve was used to measure Nigeria's level of inequality (disparity) (pre SAP, post SAP and Democratic Rule). Globalization has a statistically significant but non-increasing impact/effect on Nigerian economic growth, according to the ARDL assessment. Furthermore, the Lorenz curve revealed that the amount of inequality in Nigeria has been steadily rising over time. The study concludes that, because globalization is inescapable and hence creates economic disparity, the study advises that, governments should develop and implement policies and programs aimed at improving or enhancing the welfare and well-being of the less privileged masses, as well as creating job possibilities, in order to close the income gap between the affluent and the poor, and therefore accomplish Sustainable Development Goal (SDG) 10 - income redistribution.*

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Keywords

Globalization, Economic Growth, Income Inequality, Auto-Regressive Distributed Lag

Introduction

Globalization is defined as a broad process of economic integration that enhances national economies' interdependence by expanding the international mobility of national resources (Organization for Economic Co-operation & Development Handbook, 2005). It is often seen as two-sided phenomena that have benefited wealthy countries while being destructive to the majority of emerging countries. The number and scale of the costs and benefits of globalization, on the other hand, are primarily decided by the economic structure that each nation chooses in order to benefit from the global market. Unprecedented and unforeseen economic arrangements in both developed and developing nations appear to have exacerbated inequality and marginalization. As a result of the era of globalization's uncertainties, it has been established that both rich and poor countries' economies are vulnerable to threats and pressures relating to national security in a variety of forms, comprising economic, human, cultural, and environmental security, as well as a host of other concerns (Broner & Ventura, 2016).

As a result, globalization has become a multidimensional phenomenon that affects every aspect of human life: social, economic, political, and cultural. Economists, on the other hand, are largely concerned with the economic aspects of globalization and their diverse effects on national economies, as well as their ramifications within and across nations. While the other aspects of globalization, such as political, cultural, social, and environmental, are unquestionably essential, the economic part is seen to be at the center of the process (Atanasova & Tsvetkov, 2021).

Economic globalization is described as the integration of national economies into the global economy through commerce, foreign direct investment (corporations and multinationals), capital movements in the short term, international labor flows, and technology flows are all examples of short-term capital flows (Ogunyomi et al., 2013). It encourages the formation of a global mindset and depicts a world without borders, leading in an increasing trend toward

worldwide homogeneity of ideas, cultures, values, and lifestyles through trade, finance, communication, and transportation, among other things (Oshi et al., 2021).

In light of the preceding, despite having vast resources at her disposal, the country continues to lag behind in terms of growth. According to academics, excessive levels of corruption, export monoculture and the failure to attract additional foreign direct investments are among the factors contributing to the country's low real GDP per capita, Inequality of income leads to bad economic performance (Verter & Osakwe, 2015). As a result, this research is required to investigate the influence of globalization on Nigeria's economic development and income disparity between 1986 and 2019.

LITERATURE REVIEW

Concept of Globalization

Globalization, in its broadest sense, has a variety of connotations, depending on the context. Without a doubt, there is no widely accepted definition of globalization since different scholars provide different meanings based on their expertise and at different times, resulting in interpretations that are far from consistent (Agwu & Atuma, 2015). Globalization is commonly understood as the opening of international frontiers to commerce, investment, immigration, information, and technology movements. It is characterized as the fast expansion and ease of movement of people, goods, and capital across many international borders (Agwu & Atuma, 2015).

Empirical Review on Globalization

The consequences of globalization on the Nigerian economy are analyzed by Akor, Yongu, and Akorga (2012). Nigeria has not fully benefited from globalization, according to the research, due to its disproportionate reliance on crude oil exports, low industrial exports, and undeveloped domestic financial markets.

Gold (2009) examined the link between globalization and poverty in two developing nations using descriptive statistical surveys: Bangladesh and Nigeria. The research indicates that accelerating poverty reduction requires policies that better integrate emerging nations into the global economy, allowing the poor to take advantage of new globalization possibilities.

Concept of Economic globalization

Despite the fact that globalization is a multidimensional process the economic aspects are undeniably the most visible. Many scholars believe economic globalization to be the primary pillar, the basis upon which all other aspects of globalization are created and developed (Apostoaie, 2011).

Obadan (2006) defines economic globalization as the integration of home economies with the global economy, as well as the ensuing growth in economic interdependence among nations, as a result of trade, financial and investment flows, free factor transfers, and technology and information interchange.

Empirical Review on Economic Globalization

For instance, from 1986 to 2010, Ogunyomi et al. (2013a) analyze the impact of economic globalization on Nigerian wealth disparities and economic progress. The study's findings revealed that owing to an emphasis on financial globalization and other macroeconomic imbalances instead of trade globalization, economic globalization has resulted in expanding income disparity and lower economic development in Nigeria.

The impact of economic globalization on Nigerian production development is investigated by Adesoye et al. (2015). Various econometrics approaches, such as Augmented Dickey Fuller, Engel-Granger co-integration, Ordinary Least square, post estimation tests, and Error Correction Model, were employed to assess the data sets between 1970 and 2013. The study's findings found that a higher exchange rate and inflation rate, as well as an increase in foreign direct investment, trade and financial openness, and a lower interest rate, all help to boost Nigeria's production growth rate.

In Bangladesh, Kazi and Saeduzzaman (2013) looked at economic globalization and income disparity. The findings demonstrate that FDI and remittance inflows have had a substantial impact in improving Bangladesh's income distribution, however, trade has the inverse effect, and foreign aid plays a minimal role in the model. This demonstrates that there is a link between economic globalization and the difference in national income distribution in Bangladesh. Mundell's theory (1957) appears to be confirmed in Bangladesh, based on the

empirical findings. The Stolper-Samuelson theorem, however, is refuted by these observations (1941).

Nwosa (2020) looked into the link between globalization, economic growth, and income inequality in Nigeria from 1981 to 2018, using yearly statistics that were secondary in nature. He used techniques such as vector error correction modeling (VECM) and auto-regressive distributed lag (ARDL). The VECM findings indicated that there is a unidirectional causation from inequality and globalization to economic development in the long run, and a unidirectional causality from inequality to economic growth in the short run, according to the findings. According to the ARDL's estimates, globalization and economic growth are statistically significant predictors of inequality in Nigeria. In addition, trade and financial globalization were demonstrated to have a significant influence on income disparities. Based on the foregoing, the proposal was made that foreign direct investment be directed toward empowering the poor and that economic growth rewards be paid equally to minimize income disparity.

Brief History of Economic Globalization in Nigeria

In general, the debt crisis that afflicted many countries in the 1980s contributed to the spread of economic globalization in many countries, including Nigeria. This crisis manifested itself as rising inflation and deteriorating balance of payment conditions (Ogunyomi et al., 2013a). As a result, the official liberalization of the Nigerian economy was marked by the implementation of the Structural Adjustment Programme (SAP) in 1986, marking Nigeria's admission into globalization. This occurred under the military rule of President Ibrahim Babangida, who was then the Head of State (Aigheyisi, 2013).

Under the pretext of the "Washington Consensus," SAP was implemented in partnership with the International Monetary Fund (IMF) and the World Bank (WB) to promote guided economic transformation in a number of developing nations (Ogunyomi et al, 2013a). It was viewed as the solution for the developing world's ailing economy (Aigheyisi, 2013). Nigeria was required to open up its economy and interact with the global market in order to achieve this transformation. As a result, a number of important sectors of the economy have been liberalized.

It also led to a concentration on a market-oriented economic structure, an export-driven strategy, and economic stability (Alimi & Atanda, 2011).

Concept of Income Inequality

Inequality denotes a lack of similarity, evenness, or equality (Sakai, 2019). It is concerned with disparities in the share of something between two or more people, when one or more people have a higher portion than the others. Inequality may exist in a variety of areas, including income, consumption, wealth, gender, and many more (Bilan et al., 2020). Income disparity is a topic of discussion outside of this study.

Bakare (2011) defined income inequality as a condition in which money earned over a period of time, particularly as payment for labour or interest on investment, is distributed in unequal volumes, degrees, or situations, resulting in an unjust ranking disparity. Inequality is considered as a factor that may wreak havoc on social cohesiveness and intensify conflict. As referenced by Adegoke (2013), Graham (1995) saw income disparity as a dividing line between the affluent and the poor.

Empirical Review on Income Inequality

Bakare (2012) calculated the scale and main determinants of income disparity in Nigeria using quantitative methods. To calculate the level of income discrepancy, the Lorenz Curve and Gini Coefficient were utilized, and the ordinary least square simple regression method was employed to investigate the basic predictor of income inequality in Nigeria. The Gini coefficient for Nigeria ranges from 46 to 60%. We determined that there is a concerning level of economic disparity in Nigeria as a consequence of our findings. According to the regression results, a 1% increase in literacy raises the Gini coefficient by 3%, as Nigeria's literacy rate grows, it appears that income disparity will increase.

Ogbeide and Agu (2015) explored the link between poverty and income inequalities in Nigeria. According to the findings, there is a direct causal relationship between poverty and inequality, as well as indirect channels such as unemployment and low life expectancy that contribute to poverty in Nigeria.

Kolawale et al. (2015) analyze the relationship between poverty, inequality, and economic growth in Nigeria using macroeconomic variables such as GDP growth rate, per capita income, literacy rate, government education spending, and government health spending. Various econometric techniques were used to fit time series data from 1980 to 2012 into Ordinary Least Square (OLS) regression equations, including the Augmented Dickey Fuller (ADF) unit root test, The Phillips-Perron unit root test, the Johansen co-integration test, and the Error Correction Mechanism (ECM) approach are all employed. The OLS' findings suggest that while GDP growth increases inequality, it also reduces poverty in the country.

Theoretical Review

Theoretical Expositions on Income Inequality

In Adegoke's work, he specifies certain theoretical expositions of income disparity (2013). These arguments are based on a variety of economic ideas from different schools of thought. The following are some of them:

Income inequality was tacitly supported by classical economics. Income equality, according to the classicists, inhibits saving. Working-class incomes grow as a result of economic equality, as does their spending. As a result, the population will grow. As a result, classical economists argued that income disparities were required to create the incentives for economic progress (Adegoke, 2013).

Keynesian economists, on the other hand, advocated for income equality in order to maintain economic growth. According to Keynes, a society that saves more owing to income and wealth disparities leads to secular stagnation since inequalities diminish a society's spending capacity and generate demand contraction. It would eventually result in a drop in production and a stalling of economic activity. As a result, Keynes advocated for income equality, believing that the multiplier effect may lead to long-term economic development (Adegoke, 2013).

The post-Keynesian economist expanded on Keynes' ideas. Keynes thought that boosting consumption was a better option than conserving. Post-Keynesians, on the other hand, established that they are mutually advantageous. As a result of falling marginal efficiency of capital, income inequality leads to excessive thriftiness and a decrease in the incentive to invest.

Economic growth necessitates a balance of the two forces, which is attainable in a high-wage, low-profit economy and a society free of investment (Adegoke, 2013).

As a consequence, this study adds to the previously discussed ideas. In summary, growth theories argue that unrestricted flow or movement of products, services, finance (capital), and labor across national boundaries may encourage growth; however the stances of the theories/expositions on income distribution and inequality differ and hence vary across the writers.

Lorenz curve

A technique for assessing personal income data is the Lorenz curve (Bakare, 2011). The Lorenz curve is a graphic representation of inequality that focuses on the distribution of income. The curve depicts the distance between each individual income share and the income share that corresponds to full equality (Aaberge, 1993).

Globalization, Economic Growth and Income Inequality

The impact of globalization on inequality and economic development is a major topic in today's economic literature (Adesoye et al., 2015). As a means of reducing poverty, economic expansion has frequently been prioritized. The negative link between growth and inequality, on the other hand, has been overlooked by policymakers. Rising inequality jeopardizes growth and poverty reduction goals, necessitating more distributively beneficial pro-growth policies (Almas, 2003).

Economic globalization has both advantages and disadvantages on a global scale. Increased trade and linkages between individuals and nations have not only increased income in areas, but they have also increased risk, inequality, and costs in the global financial system, particularly for impoverished countries, where the stakes are considerably greater (Verter & Osakwe, 2015).

The fact that governments and civilizations all around the world have histories of income redistribution and social programs demonstrates that people don't enjoy economic disparity. Many studies have been carried out to look at the impact of income disparity on economic

performance, with the majority of them concluding that income inequality is unfavorable to development (Kazi & Saeduzzaman, 2013).

In the Nigerian economy, income disparity has been highlighted as a problem that has widened the gap between the wealthy and the poor, and it is acknowledged as one of the potential negative consequences of globalization. Economic globalization is supposed to boost economic performance by allowing more productive resources and knowledge to circulate across the globe. Income disparity is projected to stymie economic progress by causing flaws in investment, productive capacity, and resource usage, as well as a lack of a steady level of consumption (Kazi & Saeduzzaman 2013). Globalization, according to Atanasova and Tsvetkov (2021), is a strong engine of the global economy, but its benefits have not been properly dispersed. As a result, the wealth disparity between rich and poor countries has grown.

Summary of Literature

There have been a number of connections between globalization and economic growth, the relationship between globalization and income inequality, as well as the channels through which it influences inequality, has been well-documented. There have been little empirical studies on inequality in Nigeria, it has been noted. According to Adegoke (2013), who researched inequality in Nigeria, he carefully selected the pre-SAP and post-SAP periods, as well as a three-year era of democratic administration in Nigeria. According to Adegoke (2013), this was done in order to test if the increase that had been documented at the time may help to nip inequity in the bud (see Adegoke, 2013).

Bakare (2011) used the Lorenz curve and the Gini coefficient technique to study income disparity in Nigeria over a ten-year period (i.e. 1990-2000). According to Bakare, the choice of this time period is based on the adjustment of pay and earnings throughout the transition to civil government.

In addition, between 1986 and 2010, Ogunyomi et al. (2013) evaluated the impact of economic globalization on income disparity and economic growth in Nigeria without providing a quantitative assessment of the extent and basic factors of income inequality in Nigeria.

In addition, Nwose (2020) used yearly secondary data to investigate the relationship between globalization, economic development, and income inequality in Nigeria from 1981 to 2018. He used vector error correction modeling (VECM) and auto-regressive distributed lag (ARDL) techniques in particular.

As a result of the foregoing, this study aims to close the gap by measuring inequality in Nigeria utilizing certain standard measurement approaches, such as the Lorenz and Gini coefficient technique. Furthermore, the study will employ econometric approaches to estimate the model, which will be detailed in the study's next chapter.

RESEARCH METHODOLOGY

Model Specification

Globalization and Economic Growth

Globalization and other related characteristics are used to model growth. As a result, globalization will play a crucial role in economic development. The platforms of economic globalization, according to researchers, are trade openness and the market (Ajudua & Okonkwo, 2014). In addition, the exchange rate has an influence on the economy. According to Obadan (2006), devaluation or depreciation of the naira (i.e., the naira increasing) will boost export, resulting in an injection of cash into the economy and a positive impact on economic growth. The movement of commerce in and out of a country is captured by trade openness/degree of openness. Increased trade openness enhances economic growth, whether it is favorable or bad.

As a consequence, the following multiple regression model is adopted from Adesoye et al. (2015) in order to estimate the influence of economic globalization on Nigerian economic development. The model is as follows:

RGDP = f (TOP, FDI, EXR, INF, INTR)…… … (4.1)

The definition of variables is given in section 3.4.

Mathematical Specification of the Model

A model's mathematical form suggests that the dependent and independent variables have a perfect relationship. It assumes a deterministic relationship which implies that all the

independent variables perfectly and completely influence the dependent variable and hence no error term is included in the model.

$RGDP = \alpha_0 + \beta_1 TOP + \beta_2 FDI + \beta_3 EXR + \beta_4 INF + \beta_5 INTR$ …… (4.2)

Econometric Specification of the Model

The econometric form of a model suggests that the link between the regressor and the regressand is imperfect. It also reveals a disturbance term link, implying that the regressand(s) may not be entirely responsible for generating the dependent variable, necessitating the inclusion of an error term to reflect additional factors that impact economic development but are not included in the model.

$LOG\ (RGDP) = \alpha_0 + \beta_1 TOP + \beta_2 LOG\ (FDI) + \beta_3 EXR + \beta_4 INF + \beta_5 INTR + \mu$…… (4.3)

Where:

α_0 = intercept

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = parameters

μ = disturbance term

The coefficients of the model have the following a priori expectation:

$\partial RGDP/\partial TOP > 0$; $\partial RGDP/\partial FDI > 0$; $\partial RGDP/\partial EXR > 0$; $\partial RGDP/\partial INTR < 0$ $\partial RGDP/\partial INF > 0$

Model Estimation

Unit Root Test

The ideas of stationarity and non-stationarity are determined by the absence or presence of patterns in time series data. When a non-stationary time series variable is regressed on one or more non-stationary time series variables, a false regression arises, according to Oyeniyi (2012), rendering the findings incorrect and hence useless for predicting. As a consequence, the unit root characteristics of the series will be confirmed using the Augmented Dickey Fuller (ADF) unit root test in this study. All variables will be subjected to the ADF test. The ADF models for the research variables are represented by Equations (4.4-4.9).

$\Delta RGDP_t = \beta_{11} + \beta_{12} t + \delta_1 RGDP_{t-1} + \sum \beta_{13} \Delta RGDP_{t-1} + \mu_{1t}$..... (4.4)

$\Delta FDI_t = \beta_{21} + \beta_{22} t + \delta_2 FDI_{t-1} + \sum \beta_{13} \Delta FDI_{t-1} + \mu_{2t}$..... (4.5)

$\Delta TOP_t = \beta_{31} + \beta_{32}t + \delta_3 TOP_{t-1} + \sum\beta_{33}\Delta TOP_{t-1} + \mu_{3t}$..... (4.6)

$\Delta EXR_t = \beta_{41} + \beta_{42}t + \delta_4 EXR_{t-1} + \sum\beta_{43}\Delta EXR_{t-1} + \mu_{4t}$..... (4.7)

$\Delta INTR_t = \beta_{51} + \beta_{52}t + \delta_5 RGDP_{t-1} + \sum\beta_{53}\Delta INTR_{t-1} + \mu_{5t}$..... (4.8)

$\Delta INF_t = \beta_{61} + \beta_{62}t + \delta_6 INF_{t-1} + \sum\beta_{63}\Delta RGDP_{t-1} + \mu_{6t}$..... (4.9)

Bound Test for Cointegration

Between 1986 and 2019, the long and short run connection between globalization and economic growth in Nigeria was assessed using Pesaran, Shin, and Smith's bounds testing or Autoregressive Distributed Lag (ARDL) cointegration approach (2001).

Unlike the Johansen technique, where all variables are supposed to be stationary at first difference, the bound test is utilized when there is an admixture of time series variables with various orders of integration. I(1). The ARDL approach is somewhat more efficient in limited or finite sample data sizes, according to Kakare et al. (2010), as reported in Oyeniran et al. (2015), it is ineffective, however, when there are variables that are stationary at second difference.

Following Pesaran et al. (2001), the following model is generated by modeling the long-run equation (4.10) as a generic vector autoregressive (VAR) model and applying the bounds test technique.

$\Delta RGDP_t = \beta_0 + \beta_1 RGDP_{t-1} + \beta_2 FDI_{t-1} + \beta_3 TOP_{t-1} + \beta_4 EXCR_{t-1} + \beta_5 INF_{t-1} + \beta_6 INTR_{t-1} + \sum^p\varphi_1\Delta RGDP_{t-1} + \sum^p\varphi_2\Delta FDI_{t-1} + \sum^p\varphi_3\Delta TOP_{t-1} + \sum^p\varphi_4\Delta EXCR_{t-1} + \sum^p\varphi_5\Delta INF_{t-1} + \sum^p\varphi_6\Delta INTR_{t-1} + \mu_t$…….. (4.10)

Where βi and φ are the multipliers in relation to long and short run, β_0 is the drift, p is the optimal lag length and μ_t is white noise error term.

The presence of cointegration or a long-run relationship for the variables is determined by estimating equation 10 above using the Auto Regressive Distributed Lag (ARDL) technique and determining the F-test result for the goodness of fit of the coefficients of the lagged levels of the variables i.e.

$H_0: \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$ (There is no long run relationship)

$H_1: \beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$ (There is long run relationship)

The critical value given by Pesaran et al. (2001) is compared to the computed F-stat from equation (4.10). The null hypothesis of a missing long run association can be rejected if the estimated F-statistic exceeds the upper critical value, regardless of whether the underplaying order of integration of the variables is zero or one (Pesaran et al., 2001).

Long run Autoregressive Distributed Lag (ARDL) Model

Once co-integration is manifested, the long run ARDL model can therefore be estimated as:

$RGDP_t = \beta_0 + \sum^{p}_{i=0} \beta_1 RGDP_{t-1} + \sum^{q1}_{i=0} \beta_2 FDI_{t-1} + \sum^{q2}_{i=0} \beta_3 TOP_{t-1} + \sum^{q3}_{i=0} \beta_4 EXCR_{t-1} + \sum^{q4}_{i=0} \beta_5 INF_{t-1} + \sum^{q5}_{i=0} \beta_6 INTR_{t-1} + \mu_t$…….. (4.11)

The order of lag i.e. ARDL (q1, q2, q3, q4, q5) will be selected on the basis of Akaike information Criteria (AIC). All variables are as previously defined.

Short run ARDL model or Error Correction Model (ECM)

The ARDL bound approach also necessitates estimating an error correction model (ECM) linked to the long-run estimates in order to derive the short-run active parameters. Therefore, transforming equation 3 above will evolve the introduction of first difference (Δ) and lag of error term by one period to measure the rate of adjustment in the equilibrium of the model. The lag of error term by one period is the error correction mechanism (ECM) that measures the rate of adjustment of the variables from long run to short run (David et al., 2016). This is specified as follows;

$\Delta RGDP_t = \beta_0 + \sum^{p}_{i=1} \varphi_1 \Delta RGDP_{t-1} + \sum^{p}_{i=2} \varphi_2 \Delta FDI_{t-1} + \sum^{p}_{i=3} \varphi_3 \Delta TOP_{t-1} + \sum^{p}_{i=4} \varphi_4 \Delta EXCR_{t-1} + \sum^{p}_{i=5} \varphi_5 \Delta INF_{t-1} + \sum^{p}_{i=6} \varphi_6 \Delta INTR_{t-1} + \delta_7 ECM_t\text{-}1 + \mu_t$……. (4.12)

Equation 12 depicts the ARDL model, where Φ is the short run active coefficients of the model, δ describe the speed with which the dynamic model re-establishes equilibrium.

Sources of Data and Description of variables

Secondary data will be employed in this study as it suits the research nature of the study. The data for the sample period (1985-2014) are to be sourced from the World Bank

Development Indicators (WDI) for the period range. A detailed breakdown of the variables and the sources are presented below;

Table 4.1: Detailed breakdown of the variables, description and the sources of data

Variables	Description	Type of Data	Source	Measurement
Quartiles	Income share of each population in Nigeria.	Panel data	Adegoke (2013) from WDI	Percentage (%)
RGDP	Real gross domestic product i.e. growth rate or change in GDP used as a measure of economic growth of the country	Time series data	WDI	current US$
TT	Total trade i.e. imports plus exports in Nigeria.	Time series data	WDI	current US$
TOP	Trade openness proxied as a ratio of total trade (imports + exports) to RGDP (T/Y) as a measure for the level of economic globalization in Nigeria	Time series data	Authors' computation, (2021)	current US$
FDI	Foreign direct investment. It is the amount of foreign investment that has come into Nigeria as a net inflow.	Time series data	WDI	BoP, current US$
INTR	Interest rate. This represents the cost of borrowing in Nigeria.	Time series data	WDI	Percentage (%)
EXR	Exchange rate. This represents the value of Nigerian currency (Naira) in relation to the United States currency (USD).	Time series data	WDI	Percentage (%)

INF	Inflation rate. This is the rate at which the price of products and services in Nigeria has risen in general.	Time series data	WDI	Percentage (%)

PRESENTATION AND ANALYSIS OF RESULTS

Lorenz Curve Analysis in Nigeria

In order to measure the income inequality in Nigeria, the income share among the population in Nigeria for six years is presented below. The Lorenz curve is based on this accessible data.

Table 4.2: Income distribution and share held by subgroup of population

Income recipients in Quartiles (%)	1980	1986	1992	1998	2004	2010
Lowest 20%	7.01	6.02	4.00	5.00	5.13	4.41
Second 20%	12.02	11.41	8.8	8.	9.67	8.27
Third 20%	15.77	15.52	14.57	13.55	14.68	12.98
Fourth 20%	24.0	22.04	23.26	20.48	21.91	20.33
Highest 20%	41.2	45.01	49.37	52.17	48.61	54.01
Total	100%	100%	100%	100%	100%	100%

Source: Adegoke (2013)

The Lorenz curve

The Lorenz curve is used to depict the economic disparity in Nigeria. The Lorenz curve was drawn for a selected number of years (1980, 1992 and 2010).

Figure 4.1: Graph showing the Lorenz curve of Nigeria in 1980, 1992 and 2010

Source: Author's computation, 2021

Discussions

The Lorenz curve for Nigeria in 1980, 1992, and 2010 is seen in the graph above. These three years were chosen to represent the pre-SAP (1980), SAP (1992), and democratic governance periods (2010). The amount of income disparity in Nigeria will be determined using these years.

The diagonal line in fig 4.1 depicts full equality in the size distribution of income in Nigeria. It is clear from Figure 4.1 that there was income disparity in Nigeria throughout the 1980s (pre-SAP). This is seen in picture 1 by the difference between the line of equality and the Lorenz line of 1980. In addition, the post-SAP period of 1992 was marked by an increase in income disparity.

In addition, as seen in Figure 4.1, the era of 2010 (democratic governance) was marked by rising inequality as the Lorenz line of 2010 moved further away from the line of equality.

This might be because money is concentrated in the hands of a few people, and therefore "the affluent become richer and the poor get poorer."

Pairwise Correlation Matrix

Table 4.3: Correlation Matrix Table

	EXCR	FDI	INF	INTR	RGDP	TOP
EXCR	1	0.2956*	-0.4915***	-0.4295***	0.7864***	0.8332***
FDI	0.2956*	1	-0.2703*	-0.1700	0.6289***	0.5937***
INF	-0.4915***	-0.2703*	1	0.4549***	-0.4241***	-0.5131***
INTR	-0.4295***	-0.1700	0.4549***	1	-0.4837***	-0.4440***
RGDP	0.7864***	0.6289***	-0.4241***	-0.4837***	1	0.8853***
TOP	0.8332***	0.5937***	-0.5131***	-0.4440***	0.8853***	1

*Note that '***','**', and'*' denote significance at the 1%, 5%, and 10% levels, respectively. EXR is for Exchange Rate, FDI stands for Foreign Direct Investment, RGDP stands for Real Gross Domestic Product, INF stands for Inflation, INT stands for Interest Rate, and TOP stands for Trade Openness.*

A score of 1 showed that the two variables are perfectly correlated. The correlation coefficients of most of the variables in this study are larger than 0.3, indicating that they are significantly related. More than half of the variables show a moderate correlation with one another, with positive correlation between 0.3 and 0.5 and negative correlation between -0.3 and -0.5. With a correlation value of 0.88, TOP has a significant positive relationship with RGDP. With a score of 0.83, there is also a considerable positive association between TOP and EXR. between FDI and INT, the smallest negative correlation of -0.17 contributes.

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Augmented Dickey Fuller Test

As described in the previous chapter, the stationarity test of the time series data utilized in the model using the Augmented Dickey-Fuller (ADF) test yielded the following results:

Table 4.4: ADF result

VARIABLE	ADF TEST STATISTIC (LEVEL)	CRITICAL VALUE (LEVEL)	ADF TEST STATISTIC (FIRST DIFFERENCE)	CRITICAL VALUE (FIRST DIFF)	PROBABILITY (5%)	ORDER OF INTEGRATION
RGDP	-0.162585	-2.954021	-4.653623	-2.957110	0.0007	I(1)
FDI	-4.919213	-2.981038	-	-2.981038	0.0005	I(0)
TOP	-0.209306	-2.957110	-5.726664	-2.963972	0.0000	I(1)
EXR	0.487813	-2.954021	-4.764631	-2.957110	0.0006	I(1)
INTR	-2.704792	-2.954021	-6.455602	-2.957110	0.0000	I(1)
INF	-4.356579	-2.981038	-	-2.981038	0.0022	I(0)

Source: Author's computation from E-view

The Augmented Dickey Fuller Statistic test for unit root found that all variables are stationary at first difference, with the exception of FDI and INF, which are stationary at level. The bound cointegration test is required because all variables were integrated at the first difference and at levels I(1) and I(0).

Determination of Lags

To choose or decide the best lag, this study used the Hannan Quinn selection criterion. The results are shown in Figure 4.2 below.

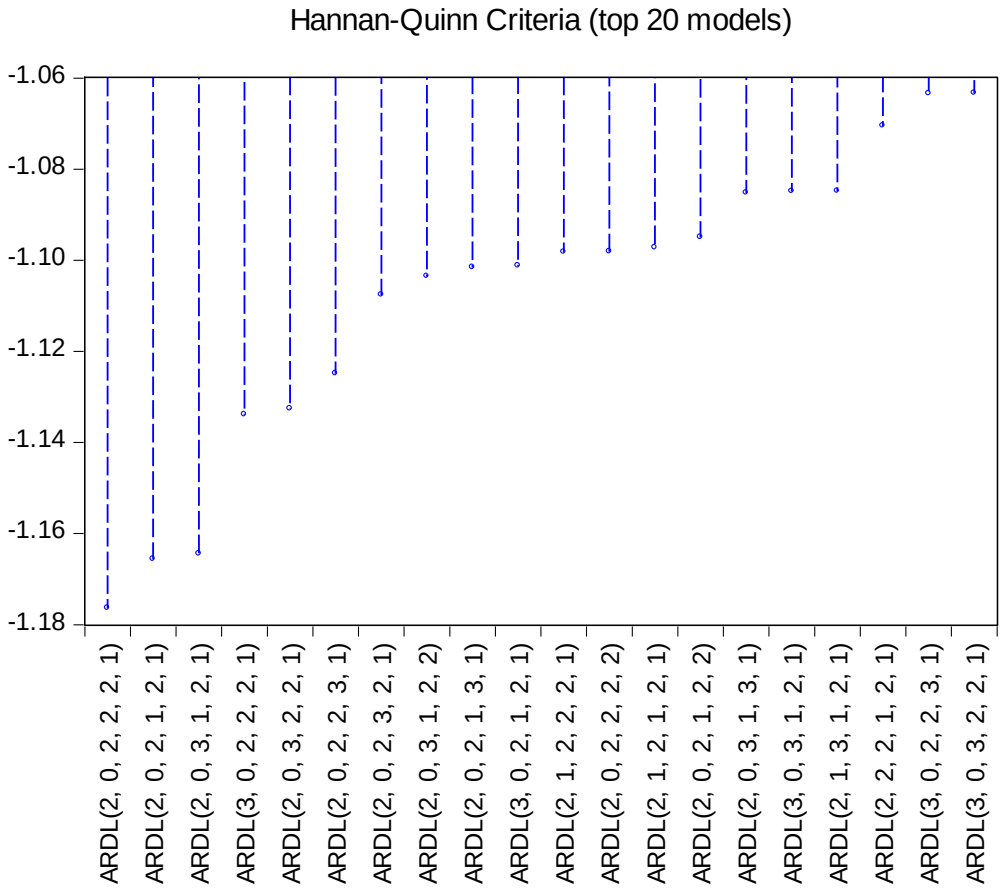

Figure 4.2: Determining the Number of Lag Length

Source: Author's computation from E-view

The lag length is shown in figure 4.2 using the Hannan Quinn Criterion (HQC) The Hannan Quinn Criterion is a measure of the statistical model's quality of fit and is frequently used as a requirement for model selection among a finite collection of models. It is used to indicate the best lag selection.

Bound test for cointegration

The results of the bound testing approach for the long run co-integrating association in relation to the variables in the model is presented in the table below.

Table 4.6: ARDL Bounds Test

Null Hypothesis: No long-run relationship exists

Test Statistic	Value	K
F-statistic	8.591902	5
Significance	I(0) Bound	I(1) Bound
10%	2.26	3.35
5%	2.62	3.79
1%	3.41	4.68

Source: Author's Computation (2021)

The model's estimated F-statistics (8.5919) demonstrate that it is above the I(0) and I(1) critical values at 10%, 5%, and 1%, suggesting a long run relationship choice. As a consequence, we can put together a long-term link between the variables. As a result, we may deduce that the dependent variable and the independent factors have a long-term connection.

Presentation of ARDL Model Results

After confirming the presence of a long run relationship between the dependent and independent variables, the long run parameters were estimated using the ARDL method. The nexus between the dependent and independent variables is calculated using the ARDL (autoregressive distributed lag) technique and the long run findings are shown. The Akaike Info Criteria were used to choose the lag duration for both the long run and short run models (AIC).

Table 4.7: Estimated long run coefficients using the ARDL approach

Dependent variable : LOG(RGDP)				
Independent variables	Coefficients	T-statistics	Prob.	Decision
LOG(RGDP(-1))	0.898686	6.227148	0.0000	Significant@5%
LOG(FDI(-1))	0.088394	1.436840	0.1627	Insignificant
INF(-1)	0.002122	0.742500	0.4644	Insignificant
TOP(-1)	-0.494954	-1.222497	0.2325	Insignificant

EXCR(-1)	0.002545	1.882785	0.0710	Significant @10%
INTR(-1)	-0.014852	-1.068851	0.2950	Insignificant
CONSTANT	0.810573	0.265026	0.7931	
R^2	0.969606			
Adjusted R^2	0.962596			
F-statistics	138.2383			
P-value	0.00000			
DW	1.962141			

Source: Author's computation, 2021

Table 4.8: Estimated short run coefficients using the ARDL approach

Dependent variable : Δ(LOG(RGDP))				
Independent variables	Coefficients	T-statistics	Prob.	Decision
Δ(LOG(RGDP(-1))	0.856235	1.644136	0.1132	Significant
ΔLOG(FDI(-1))	0.131552	1.705898	0.1009	Insignificant
ΔINF(-1)	-0.000506	-0.195560	0.8466	Insignificant
ΔTOP(-1)	-0.961978	-2.639879	0.0143	Significant@5%
ΔEXCR(-1)	0.001958	0.970727	0.3414	Insignificant
ΔINTR(-1)	-0.030576	-2.270309	0.0325	Significant@5%
ECM(-1)	-1.030078	-2.087731	0.0493	Significant@5%
CONSTANT	0.023783	0.372361	0.7129	-
R^2	0.590656			
Adjusted R^2	0.483764			
F-statistics	4.404867			
P-value	0.024897			
DW	1.746397			

Source: Author's computation, 2022

Interpretation of the ARDL model's short- and long-term results

The short run analysis maintains that the estimated coefficient of the lagged error correction term ECM (-1) has the expected non-increasing sign, it shows that the speed of adjustment is relatively low, and it shows that only about 1.03% of the disequilibrium within the model in the previous year is subsequently corrected in the current year. This conforms to the apriori expectation. The result of the error correction term gives strong evidence that there is indeed a long-run equilibrium association as regards the exogenous variables (EXCR, FDI, TOP, INF, INTR) and RGDP which is a proxy of economic growth.

Except for inflation, all variables in the short run equilibrium kept their respective signs from the long run equilibrium. Foreign direct investment (FDI) is closely connected to economic growth, with a positive elasticity impact of 0.13 percent, suggesting that a 1% increase in FDI would result in a 0.13 percent rise in economic growth when all other factors are held constant. This, however, is consistent with the variable's a priori expectation.

Trade openness is shown to be adversely associated to economic growth with a value of 0.962, indicating that a percent increase in trade openness, while leaving other factors equal, would result in a 96.2 percent decline in the country's economic growth in the short run. The outcome contradicts the a priori assumption that trade openness is favorably associated with economic development. It is, however, in line with the findings of Verter and Osakwe, (2015) and Nwosa, (2020).

EXCR and economic growth are positively associated when the exchange rate has a positive sign, suggesting that a percent rise in the exchange rate will result in around 0.002 percent increase in economic growth in the short run. This sign corresponds to the apriori expectation. This EXCR result is in line with Adesoye et al. (2015) results, which demonstrated a substantial positive link between economic growth and the exchange rate in Nigeria between 1970 and 2013.

In Nigeria, as seen in table 8, inflation and economic growth have a non-increasing connection. This means that a 1% increase in inflation might result in a 0.0005% drop in economic growth. INF's findings are consistent with Adesoye et al. (2015) findings. This contradicts the variable's expected sign.

In addition, interest rates were discovered to have a negative influence on economic growth as a result of the findings. It indicates that a 1% rise in the interest rate, with all other factors held constant, may result in a 0.003% reduction in RGDP. It also meets the a priori requirements.

The summary of the apriori expectation of the short run model is given in table 10 below;

Table 4.9: Summary of the Apriori expectation of the short run model

Variables	Expected sign	Observed sign	Remark
ΔLOG(FDI(-1))	+	+	Conform
ΔTOP(-1)	+	-	Not conform
ΔINF(-1)	+	-	Not Conform
ΔEXCR(-1)	+	+	Conform
ΔINTR(-1)	-	-	Conform
ECM(-1)	-	-	Conform

Source: Author's Computation, 2022.

Discussion of Findings

In comparison to the comparatively low R^2 value of 60% in the short run equilibrium, the high R^2 value of 97 percent in the long run equilibrium reveals that the factors included in the model are enormously responsible for fluctuations in economic growth in the long run. This indicates that the explanatory power of the model's variables in explaining economic development in the near term is rather low. Theoretical and empirical studies imply that changes in macroeconomic factors such as trade openness, foreign direct investment, money supply, and so on require time for the economy to respond. As a result, the difference between the long run R^2 and the short run R^2 might be attributable to the short run equilibrium being adjusted to the long run equilibrium.

According to the conclusions of the ARDL model, trade openness has a statistically insignificant and statistically significant negative relationship with economic growth in the long and short runs, respectively. The unfavorable impact and effect were respectively 49 and 96.2

percent. This means that a rise in trade openness will have a higher negative impact on economic growth in the short run than in the long run, ceteris paribus.

Furthermore, in the long and short runs, foreign direct investment inflows into the nation were shown to have an insignificant beneficial impact of 0.08 percent and 0.13 percent, respectively. This illustrates that an increase in foreign direct investment may not contribute to a 0.08 percent boost in economic growth in the long run, ceteris paribus, and may not lead to a 0.13 percent rise in economic growth in the short run, because foreign direct investment is insignificant in both periods.

The exchange rate was determined to be positive and insignificant in both the long and short terms, with a long run influence of around 0.003 and a short run effect of about 0.002. This shows that exchange rates are more effective in the long term than in the short run.

Test of Hypothesis

The hypothesis mentioned in chapter one of this study will be examined in this part using the study's empirical analysis data. As a result, the hypothesis is restated here for clarity.

H_0: Globalization has no significant impact on economic growth of Nigeria.

H_1: Globalization has a significant impact on economic growth of Nigeria.

Discussions

The study's main topic is economic globalization. This study used two important economic globalization indices. For instance, trade liberalization and foreign direct investment are two examples. The hypothesis will be tested or validated using the two variables listed above.

T-statistics or the probability value of the variables was used to examine the individual significance of FDI and TOP. Foreign direct investment was found to be insignificant (0.1009), whereas trade openness was found to be significant (0.1009). (0.0143).

Furthermore, the p-value (0.024897) is less than 0.05 when utilizing the probability value of the F-statistics to examine the combined relevance of trade openness, foreign direct investment (globalization), and other control variables on economic development. As a result, all of the variables are important in understanding Nigeria's economic growth.

As a result of the above, it is obvious that globalization has a considerable but non-increasing influence on Nigeria's economic growth. As a consequence, the study rejects the null hypothesis and accepts the alternative hypothesis, suggesting that globalization and economic growth have a significant but negative relationship in Nigeria. As a result, more globalization may result in a considerable reduction in Nigeria's economic growth.

Comparison of Findings with Past Empirical Findings

As in the work of Nwosa (2020), Adeleke et al. (2013), Ogunyomi et al. (2013), and Adesoye et al. (2013), economic globalization in Nigeria was represented using two key variables: trade openness and foreign direct investment (2015). Exchange rate, inflation, and interest rate are some of the other factors utilized in the study. As a result, the study does not depart much from previous empirical studies on the factors utilized to measure globalization.

The study's findings are consistent with other research referenced by Nwakanma and Ibe (2014), such as Ayres (1999) and Gyimah-Brempong (2007), which found a negative link between economic globalization and economic development in LDCs while affluent nations grew richer. As mentioned in the theoretical evaluation of this study, there is greater divergence in terms of economic growth than convergence among Less Developed Countries, as advocated by anti-globalists and backed by the Dependency Growth hypothesis.

Globalization, according to Adeleke et al. (2013), has had no significant impact on Nigeria's economic progress. This explains why, contrary to expectations, the impact of globalization on Nigerian economic progress has not been non-decreasing. This is consistent with the study's findings.

Furthermore, Ogunyomi et al. (2013) showed that economic globalization did not result in a higher GDP growth rate, i.e. economic growth, if other proactive measures were taken in Nigeria between 1986 and 2010. This conclusion is based on the findings of this study, which show that economic globalization had a considerable but negative influence on Nigerian economic development from 1985 to 2014.

The findings of Verter and Osakwe (2015) are complementary to those of this study. It demonstrates that economic globalization has a negative impact on Nigeria's long-term economic

performance. Other findings of the research reveal that the actual effective exchange rate and trade openness do not make logical sense in the short and long run, i.e., they do not improve or hurt economic performance.

The conclusions of this analysis, showing trade and financial openness have had considerable no-increasing impacts on economic growth and human development in Nigeria, are also supported by Aigheyisi's (2013) work.

According to an OECD report from 2005, quoted by Adeleke et al. (2013), trade openness had a considerable and direct influence on the economic development of the three developed nations studied namely the United States, Japan, and the United Kingdom. However, the findings of this study show that the link is not growing. Though the link is considerable, it is self-evident that established economies benefit more from trade openness, which is an important aspect of globalization, than emerging nations.

CONCLUSION AND RECOMMENDATIONS

Based on the statistics, it can be stated that trade openness has a negative and significant impact on Nigeria's economic growth, whereas foreign direct investment has a small but positive impact. The exchange rate has been proven to have a significant positive impact on economic growth. Although there is a long-term relation between trade openness, foreign direct investment, exchange rate, and economic growth, this relationship may be weak since the variables employed to represent globalization have a non-increasing significant and positive insignificant influence on economic growth. As a result, this study shows that economic globalization has a considerable but non-increasing effect on Nigerian economic growth. As a result, more globalization might stifle Nigeria's economic growth. This leads to the conclusion that if the exchange rate is correctly regulated, it may enhance economic growth by encouraging and facilitating commerce and other important components of globalization.

Given the empirical nature of this study and based on the findings and conclusions of this study, the following recommendations are proffered;

1. **Improvement of welfare:** The study's findings suggest that, because globalization is unavoidable and thus leads to income inequality, Governments should design and execute

policies and programs targeted at promoting or strengthening the welfare of the impoverished masses, as well as creating job opportunities, in order to close the gap between the affluent and the poor and achieve "SDG 10" - *decreasing inequality within nations.*

2. **Fractioning out appropriate level of trade openness:** According to the findings of this study, trade openness has a negative yet considerable influence on the economic process. As a result, because no nation can develop in isolation, the government should take appropriate measures to control trade organizations and increase trade openness in a way that does not harm the Nigerian economy. Import taxes, tariffs, and other trade barriers can all assist.
3. **Improvement in foreign direct investment:** The findings of this study also show that FDI into the nation is woefully insufficient to drive major economic growth in Nigeria. As a result, Nigerian policymakers and decision-makers should strive to not only launch, but also to implement sound and scalable macroeconomic policies that would appeal to international investors and therefore raise FDI inflows.

Other recommendations in relation to the study include;

4. **4. Increase in real-economy production and productivity:** Government efforts should be made to increase real sector domestic output, since it is a requirement for the country's economic growth. In addition, adequate incentives should be provided to boost the production and productivity of the Nigerian economy's real sector in order for it to meet the challenge of globalization.
5. **Sustainable development:** Because the motto "Think globally, act locally" is crucial for translating economic success into inclusive and sustained economic growth in Nigeria, the government should support economic globalization. In addition, in order to enhance the real sector of the economy and engage in globalization, the government should ensure that resources are exploited for current generation usage without causing environmental damage, thereby safeguarding resources for future generations.
6. **Using appropriate policy mix that will increase gains from globalization:** The government should employ both monetary and fiscal policies. As a result, relevant policy

actions must be coordinated in a way that is compatible with globalization. Nigeria's profits from globalization may improve as a result of this.

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