

The Impact of Globalisation on the Growth of Nigerian Economy from 1960-2010: Error Correction Model Analysis

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Authors' contributions

This entire work was carried out in collaboration between these authors. Author EOA designed the study, wrote the introductory part of the paper, and the literature review. Author OAF designed the theoretical framework of this paper upon we designed the model for the paper, and author IMS designed the variables that formed the model for the study, tested the formulated model by taking the RGDP as the dependent variable and TEXPE, NEXCH, INV, BTD, EDR as the independent variables. Author IMS ran the econometric analysis with Eview 7.2 statistical window, which enables us to draw summary, and recommendations from the result findings. The authors read and approved the final manuscript.

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ABSTRACT

The paper empirically examined the impact of globalization on the growth of Nigerian economy using times-series data from 1960 to 2010. The paper utilized secondary data and various econometrics and/or statistical packages analytical (View 7.2) method were explored to examine the link between the econometrics variables and their impact on the growth of Nigerian economy. The paper tested the stationarity, cointegration of Nigerian's time series data and used error correction mechanism to determine the long run and short run relationship among the variables examined. The results of the findings supported the Obadan's findings which proved that growth of external debt ratio was an inversely related to economic growth in Nigeria. The paper recommended based on the econometric results that government should link the domestic investors with world markets to spur

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them into domestic production. Government should encourage grassroot production through Small and Medium Enterprises (SMEs), Government should spend more on infrastructural development. Government should encourage the import substitution initiative through the availability of short and long term credit facilities at a relative cheaper rate and strengthening both financial and capital markets in order to boost the confidence of potential investors on source of start-up capital.

Keywords: Globalization; economic growth; investment; external debt ratio.

1. INTRODUCTION

In the face of the earth, no state or nation could exist in isolation. In other words, no nation could perhaps be in a state of autarky. Which means that no nation could have all resources (both natural and human) at her disposal. [1] (cited in Smith, 1776) in his work advocated for interlinks (i.e. globalization or trade liberalization) of economies. He affirmed that the only way economic growth and development could easily be sustained among nations of the world is for every nation to specialize on that good she has an absolute advantage and import that good she has an absolute disadvantage.

The 21st century debate of nations is on how to reap the full scale benefits of the globalization of the world's economy. Globalization leads to increased openness of economies to international trade, financial flows, and direct foreign investment. Today, globalization is similar to foreign direct investment (FDI) or foreign private investment (FPI), trade liberalization, that is an investment a foreign investor has in the developing country (ies) where the resources are available, the parental (or headquarter) is located at the developed countries. The investors usually turn out to be the multinational corporations (MNCs) or transnational companies (TNCs) [2]. According to [3], globalisation constitutes a critical motivation for growth and development, business opportunities, more rapid growth of knowledge and innovation, or the prospect of a world too interdependent to engage in war. In part, globalization may well turn out to be all of these things. For other people, however, globalization raises troubling concerns: that inequalities may be accentuated both across and within countries, that environmental degradation may be accelerated, that the international dominance of the richest countries may be expanded and locked in, and that some peoples and regions may be left behind. The equation of global influence is fundamentally determined by a vibrant economy that is characterised by inherent ability to sustain a steady state growth path and

development. The global FDI flows have been on the rise, what goes to Africa is less than 3% of the total and the least developed countries get under 2% [2,4]. The growth rate is surged up by cross border merger and acquisitions (M & As) of firms, which reflected strategically choices by MNCs following increased corporation profits and high commodities to gain an access to national resources and generally favourable policy stance for FDI in these regions (developing and transitional) [5].

The impact of globalisation on the development process of emerging economies have aroused closer and more critical examination of the vestiges of globalisation as a result of the persistent failures of such economies. The economic situation of most less developed economies have continued to degenerate and often afflicted by poverty, squalor, deprivation, frustration and insecurity among their citizenry, all of which culminates in political instability. Increases in the outputs of major sectors of an economy, such as manufacturing and natural resource, either as a result of increases in the use of inputs or improvement in technology, will lead to economic growth. Key macroeconomic indicators such as the gross national product (GNP), gross domestic product (GDP) and net national product (NNP) are used, among other economic parameters, as measures of economic growth performance of an economy. A progressive increase in the outputs of major sectors of an economy is a manifestation of the attainment of economic growth. Basically, economic growth is driven by a process that is generated and sustained by the effective utilisation of a country's economic resources. The challenge facing countries in attaining economic growth is that of creating an enabling atmosphere for essential use and the harnessing of economic resources. This challenge has become even more intensified by an increasingly interdependent global economic dispensation that tends to undermine and marginalise indolent economies. This has given rise to disparities among countries of the world in terms of their levels of attainment of economic growth. While

some countries have achieved high rates of economic growth, which have led to enhanced standard of living within such countries, other countries of the world have performed dismally, attaining little, and in some cases nothing in terms of economic growth which translates into very low standard of living of their citizenry. Some economies have witnessed a sudden and remarkably very high growth rates even above the world average. This achievement is being referred to as growth miracles. On the other hand those economies that have performed abysmally below world average are referred to as growth disasters. Real productive activities engender economic growth by ensuring a continuous improvement in the methods of production, discovery of new resources and thus creating the necessary conditions for effective utilisation of resources. A multiple sector positive performance is essential for the growth of the overall economy, but a sector of the economy that attracts higher levels of economic activities could stimulate the productive fibre of other sectors towards real production and provide the requisite impetus for sustainable growth of the economy [6,7].

2. LITERATURE REVIEW

Globalization has several pros and cons to both developed and/or emerging economies. The current thinking in development encompasses sustainable growth, poverty reduction, human development, environmental protection, institutional transformation, gender equity and human rights protection. Development, the ultimate aspirations of modern economies, is the upward movement of the entire social system of a country [3]. Proper application of ideas is very crucial in the development process, which [8] incorporated as a factor of production and contrasted alternative development strategies based on using existing ideas and producing ideas. [9] asserted that the most striking aspect of the evolution of development thinking over the last fifty years is the growing acceptance that development is a journey, not a destination, and that the process may be more important. Though development has universal principles, each society (country) of the world requires adopting different approaches based on its inherent peculiarities to initiate and sustain the process of development.

The role of public expenditure evolves in the course of development since the fiscal machinery is hinged on the changing needs of the economy, which presupposes that expansion in public

expenditure reflects in the growth of the economy in consonance with the varying allocation and distribution needs of the economy. The economic and social progress of any economy depends largely on its government's ability to generate sufficient revenues to finance an expanding programme of essential, non-revenue yielding public services [2].

The government activity or public expenditure version of endogenous growth model argues that various activities of government such as provision of infrastructure services, the protection of property rights and taxation policies could affect the level of baseline technology and thus affects the long-run per capita growth rate. Adequate provision of basic needs of the society through the state-controlled machinery of government motivate private investments, which enhance the productivity of the factors of production and leads to growth and development of the economy.

A synthesis of the endogenous growth models (see for instance, [10] pointed to the fact that the existence of industrial production on one hand, and demand for the products of the industries on the other hand, creates opportunities for market expansion, competition and specialization. Through a favourable "forward linkage" effects, an endogenous self-perpetuating process of growth emerges and feeds on it almost automatically. By the prompting of internal and external economies of scale, the process of industrial production evolves into higher and more sophisticated levels of production, giving rise to further specialization, new products and quality improvements, leading to technological acquisition and economic growth. Adaptation to a growing market, widened by international trade, stimulates industrial production and provides additional impetus to the attainment of economic growth. The dimension of international trade has given rise to the contemporary challenges posed by globalization. The export-led economic growth hypothesis is hinged on the stimulation of production as a result of larger demand arising from international trade, which induces economies of scale. This hypothesis was inspired by much earlier trade-led growth expositions by classical economists such as Adam Smith and David Ricardo. Thus, industrialization-driven resource utilization process is the key to economic growth, in that industrialization ensures production and generates positive externalities for spearheading the economic growth path. However, the process of globalization has given

rise to greater competition towards markets and investments.

Economic development springs-up from economic growth in that the process of generating economic growth give rise to the attainment of basic elements of development and amplifies the urge for further development. Development is like a jigsaw puzzle; it is easier to fit in a particular piece when the adjoining pieces are already in place. Once the difficult parts of the puzzle have been solved, the remaining pieces begin to fall into place almost automatically [5].

The impact of the volatility of the international capital flows on the underdeveloped economies have culminated into persistent inflation, rise in interest rates, lagging wages, rise in exchange rate, and falling consumer demand. This has compounded the unfavourable investment climate of such economies. Uncertainties, falling demand and higher interest rates combine to cause a fall in investment, decline in GDP and rising unemployment, thereby paving the way for recession to set in [11]. The pattern of international flows has been in accordance with the changing directions, signals and dictates of the forces of globalisation. For instance there was a burst in global capital flows following the collapse of the Bretton Woods system of fixed exchange rate in the early 1970s. [12] observed that, the fluctuating rate system that replaced it stimulated capital flows with a powerful cocktail of the carrot of speculative profit and the stick of financial risk, laced with the proceeds of extensive arbitrage. Other significant factors that led to the sudden and dramatic increase in capital flows in the 1970s were the two major oil price hikes and the need to recycle the attendant petrodollars. At the onset of the debt crises that afflicted most underdeveloped countries. In 1982, capital flows dropped sharply and during most of the 1980s, private financing to underdeveloped countries was at a standstill. In the 1970s, aggregate net resource flows maintained an upward trend, rising from \$21.1 billion in 1970 to \$162.1 billion in 1980 but declined in the 1980s to \$93.6 billion in 1985. In the 1990s, aggregate net resource flows to underdeveloped countries experience a rising trend, moving from \$101.9 billion in 1990 to \$284.6 billion in 1996, increased further to \$300.3 billion in 1997 against a favourable global environment marked by continued growth in demand from industrial countries, low inflation, moderately low interest rates, continued liquidity in international capital

markets and strong economic performance of major borrowers [11].

The 1999 Human Development Report warned that globalization may actually increase human insecurity and marginalize the poor which implies that in the era of globalization, there is an increasing danger of growth actually excluding and dislocating large sections of the world population. The governance process are weak and non responsive to the fundamental aspirations, economic growth and development of the countries. The lopsided effect of the prevailing process of globalization is assertively captured by [13]. "Today, few-apart from those with vested interests who benefit from keeping out the goods produced by the poor countries-defend the hypocrisy of pretending to help developing countries by forcing them to open up their markets to the goods of the advanced industrial countries while keeping their own markets protected, policies that make the rich richer and the poor more impoverished-and increasingly angry". This situation is not healthy for the underdeveloped countries as well as for the global economy. The extent to which the few industrialised countries can provide the needs of the world economic system is limited by their capabilities and peculiarities. A significant proportion of the world's population (human resources) and other resources are unutilised, which implies that the world economy is operating far below its capacity, resulting into mass unemployment and attendant economic, social and political disequilibria of the world economic system. The intuition of the "scale effect" means that economic growth and development is dependent on the creation of new ideas, derived from human capital drawn from a pool of population. Ideas do not automatically emanate from population. Firms across borders gain from externalities such as knowledge spill-over that springs from the quality-ladder process of endogenous growth model analysis.

The process of globalisation has opened great opportunities for the exploitation of economies of scale and scope, making for rapid growth and conferring comparative advantage on those with access to it. A world economic system has given rise to a world capital market. The flow of capital around the world is being facilitated by the nature and dynamic operations of the international economic dispensation. The integration of the capital market ensures the movement of capital to the countries of the world where there is higher returns for capital, which enhances private capital

gains. It is now widely recognized that finance capital responds rapidly to new profit opportunities on the basis of sound economic fundamentals. Trade liberalisation has been the major policy thrust that drives the globalisation process [14].

[15] averred that globalisation has a large potential for the world economy and can be of huge benefits to underdeveloped countries and even a viable elixir for the development of underdeveloped economies of the world, suggesting various reforms of the international economic and financial institutions (WTO, The World Bank, IMF) and a fundamental transformation of the governance process of especially underdeveloped countries as a necessary condition for a positive impact of globalisation on the development process of underdeveloped countries. However these reforms are contingent on the developed economies that are satisfied with the way and manner globalisation is being conducted and have been very active in sustaining it. It must be recognised that the rule of the game of globalisation is *self first*, as such the industrialised countries do not conceive a catch-up of other economies as favourable to their interest. The artificial construction of the world economy by the industrialised countries is meant to serve the purpose of economic and political dominance of the group of industrialised countries, over other countries, but they needed to establish a convergence among them in order to minimise the likely effects of undermining each other. Given the stature, influence and the likely negative impact of any counterbalancing strategy of the most industrialised countries, coupled with the fact that certain ingredients of the globalisation process can play some positive roles in advancing domestic interests of underdeveloped countries, an all encompassing outright closeness of the weak economies will be counterproductive. For the developing countries to face the competition brought by globalization, underdeveloped countries needs to adopt the strategy of grassroots (or domestic) production and investment, which requires aggressive promotion of small and medium scale enterprises (SMEs), as a viable route to industrialisation in that; they tend to use more locally sourced raw materials; provide more employment opportunities and serves as training grounds for entrepreneurship development. This will enhance capacity utilisation and through learning-by-doing, to be complemented by R&D, lead to new ideas and improved methods of production that

could be impetus to local technology utilisation. The emergence of countries such as Malaysia and South Korea, using a variant of domestically focused strategy of the SMEs, using lower level technologies, which has enabled them to grow substantially and acquired much higher levels of technology, supports this perception. To effectively actualise the operations of the SMEs project initiative and sustain it to form the bedrock of industrialisation, economic growth and development, the governance process of underdeveloped countries should assert macroeconomic policy sovereignty to create the enabling environment and provide support services for the thriving and flourishing of the SMEs. Market support policies; soft capital acquisition instruments; skill acquisition programmes and risk management measures are crucial, in addition to the fundamental needs of the larger society such as food, health, education basic infrastructural facilities, to the success of the strategies for boosting industrialisation and attaining economic growth and development within a globalisation process that tends to undermine and marginalise indolent economies in a creeping assertiveness of political and economic dominance that is threatening the future of several countries with substantial population of the world.

The previous work on globalization revealed that the term may not have significant impact on the economic growth of Nigeria, but its components have both direct and/or inverse relationship with economic growth of Nigeria.

3. THEORETICAL FRAMEWORK

An endogenous model of economic growth appears to be the most suitable for the study. The model suggests that endogenous factors such as physical capital, human capital, technological advancement etc., can significantly affect economic growth.

The framework for this study is adapted from [16]. It assumes a standard neoclassical production function which begins from a premise that changes in quantities of factors of production (i.e. Labour and capital) account for growth. The neo-classical model is based on the Cobb-Douglas's production function and is given as thus:

$$Y = F(T, K, L) \text{ -----} \quad (1)$$

Where Y, K, L are aggregate real output, capital and labour respectively, and T denotes technical progress or total factor productivity.

When we differentiate equation (1) with respect to time, divide by Y and rearrange the terms, it gives equation (2) as thus:

$$\left\{ \frac{\Delta Y}{Y} \right\} = \left\{ \frac{\Delta T}{A} \right\} + \left\{ F_K \frac{\Delta K}{Y} \right\} \left\{ \frac{K}{K} \right\} + \left\{ F_L \frac{\Delta L}{Y} \right\} \left\{ \frac{L}{L} \right\} \quad (2)$$

Where: Y/K = Rate of growth of output; K/K= Rate of growth of capital; L/L=Rate of growth of labour force. F_K and F_L = Social marginal product of capital and labour respectively; ΔT/T=Hicks neutral rate of change of technological progress.

Modern economic growth depends on the accumulation of physical capital and an increase in labour force with improved technological embodiment without which labour cannot be effective [17]. Consequently, for high labour productivity, an integral part of technological progress is investment in human capital and thus is termed endogenous factor because accumulation of physical capital is enhanced by the knowledge, skills, attitudes and health status of the people who partake in such exercise. Thus, there is a direct relationship between investment in human capital and output growth level of Nigerian economy.

Generally, the impact of human capital development in economic growth of Nigeria is incorporated according to the [18] framework and is given below as thus:

$$Y_{(t)} = K_{(t)}^\alpha H_{(t)}^\beta (T_{(t)} L_{(t)})^{1-\alpha-\beta} \quad \text{-----} (3)$$

Where: Y is output; K = Physical capital and H = the Human Capital Stock; L=Labour force; T is level of technology and α, β < 1, implying decreasing returns to capital. By implication, there is a positive relationship between globalization and output growth.

Based on the literature reviewed earlier, the following model is specified to evaluate the impact of human capital development in economic growth of Nigeria.

$$RGDP = (TEXPE, NEXCH, INV, BT, EDR) \quad (4)$$

Where: RGDP = Real gross domestic product as a proxy for economic growth; TGEXPE = Total government expenditure; NEXCH = Nominal

Exchange Rate; INV = Investment; BT = Balance of Trade proxy for import and export; EDR = External debt ratio; U = White noise error.

The model is transformed into log-linear form. Which is expressed as:

$$\begin{aligned} \text{LOGRGDP} &= \alpha_0 + \alpha_1 \text{LOGTEXPE} \\ &+ \alpha_2 \text{LOGNEXCH} + \alpha_3 \text{LOGINV} + \alpha_4 \text{LOGBT} \\ &+ \alpha_5 \text{LOGEDR} + U \dots \dots \dots \quad (5) \end{aligned}$$

The a priori expectations are as follows:

$$\alpha_1, \alpha_2, \alpha_3, \alpha_4, \alpha_5, \alpha_6 > 0$$

The contribution of this study to knowledge is in terms of the estimation techniques employed and the data used which is extended to 2010. An attempt will be made to empirically investigate the relationship between the impact of globalization on the growth of the Nigerian Economy for the period 1960 – 2010 regression analysis. The equation was estimated using a variety of analytical tools, including Augmented Dickey Fuller (ADF) unit root tests, over-parameterization and parsimonious are used to determined the long run and short run dynamic equilibrium through both Error Correction Models (ECM), and co-integration tests. The results are discussed below. The data used for the study covers the period 1960 and 2010. The study employed secondary data which are derived from various issues of [19,20].

4. MODEL SUMMARY

Table 1 shows the summary of the unit root test using ADF test with Schwarz Info Criterion (SIC) maxlags 10 of the variables used for the empirical study. The test shows that; Real Gross Domestic Product (RGDP); External Debt Ratio (EDR); Investment (INV) and Total Government Expenditure on Education were stationary at the first differenced 1(1) at 10, 5 and 1 percent levels of significance respectively. Nominal exchange rate (NEXCH); and Balance of Trade (BT) were stationary at the level 1(0) at 5, 1 and 10 percent levels of significance respectively. The next step after finding out the order of integration is to run the regression for the variables at first differenced 1(1), over-parameterization and parsimonious models and establish co-integration test. The variables NEXCH; and BT that were stationary at level 1(0) have already co-integrated themselves. To establish this, Johansen Cointegration test was used.

4.1 Empirical Results of the Dynamic Error Correction Model (ECM)

Although long-run relationship may occur among variables in the regression model, short-run equilibrium may not occur. Error correction mechanism is therefore used to correct or eliminate the discrepancy that occurs in the short-run. The coefficient of error-correction variable gives the percentage of the discrepancy between the variables that can be eliminated in the next time period. The coefficients of the explanatory variables in the error correction model measure the short-run relationship. When conducting error correction technique, an over-parameterized model is usually expressed to deal with the problem of misspecification in the model. This is followed by the parsimonious model, which is derived after some stepwise elimination of relatively insignificant parameters in the over-parameterized model. The results from the over-parameterized model are presented in Table 2. The parsimonious model is obtained from a stepwise elimination of insignificant dynamic variables until parsimony is obtained; the result of this process is given in Table 3. From Table 3, it is revealed that Investment (INV) has an inverse and significant relationship with real gross domestic product. And its coefficient is statistically different from zero at 5 percent level. The empirical results show that the coefficient of External debt ratio (EDR) has a negative and insignificant relationship with real gross domestic product and its coefficient is not statistically different from zero at any level. This result is supported by the work of [14]; who found that external debt ratio contributed no significant impact on the economic growth of Nigeria. The reasons for the inverse but no significant impact of external debt ratio on economic growth performance in Nigeria are not far-fetched. This indicates that debts are used on consumable items (i.e. conspicuous and ostensible goods) instead of mega or capital projects which would have contributed to the wellbeing of the citizenries of Nigeria in terms of job creations. To address this problem, policy measures must be put in place to ensure that these debts should be used on mega or capital projects. The results, however confirmed the importance of External debt ratio Nigeria's development process. The implication is that policy measures that are targeted at improving the external debt ratio can effectively enhance national income. It is obvious from the coefficient of multiple determinations (R^2) that the model is satisfactory as the independent variables were found to jointly

explain only 61 percent of the movement in the dependent variables of Nigerian economy while the R-Bar Square is 56 percent. The both are high. The fitness of the model is confirmed by the F-statistic which is significant at 5 percent. Both the error correction variables (ECM 1) and (ECM 2) which are minus -0.723289 and -0.504623, were highly significant validating the error correction model specification and significant at five percent level. This shows that a feedback of -0.72 (-72%) from the previous year's disequilibrium from the long-run elasticity of the identified variables can determine economic growth. The strong significance of the ECM connotes the existence of a long-run equilibrium relationship between real gross domestic product and the factors affecting it. The ECM reveals a long-run relationship between explanatory and explained variables in the model. The DW was 1.66 (or 1.70) which means there was an absence of serial correlation or autocorrelation.

4.2 Cointegration Test Results

Co-integration test is carried out in order to determine the long-run relationship between the dependent and independent variables when one or all of the variables is/are non-stationary at level which means they have stochastic trend. Co-integration tests are conducted by using the reduced procedure developed by [21,22]. This method should produce asymptotically optimal estimates since it incorporates a parametric correction for serial correlation. The nature of the estimator means that the estimates are robust to simultaneity bias, and it is robust to departure from normality [22]. Johansen method detects a number of cointegrating vectors in non-stationary time series. It allows for hypothesis testing regarding the elements of cointegrating vectors and loading matrix.

The result is presented in Table 4. It revealed that there is cointegration among the variables. This is because the Trace Statistic value of 65.26039 is greater than the critical value of 47.21 and 54.46 at 5 and 1 percent levels of significance. We reject the null hypothesis of none** of the hypothesized number of cointegrating equations.

Accordingly, Trace Statistic test indicates none** cointegrating equations at 5 and 1 percent level of significance respectively. For the remaining number of hypothesized cointegrating equations (at most 3), we do not reject the null hypothesis as their Trace Statistic values are less than the

critical values at 5 and 1 percent level of significance or at 1 percent level of significance. The main conclusion is that there is the existence of long-run relationships amongst the variables. The variables may wander away from themselves, but in the long-run, there is the existence of relationship amongst them.

From this result, we derive our forecast from 1960 to 2010 as shown in Fig 1. The Theil Inequality coefficient is 0.02 and the Bias Proportion is greater than 0 and less than 0,05, which states that the forecast cannot be rejected.

Table 1. Results of units roots tests using augmented dickey fuller (ADF): 1960-2010

Variables	ADF test statistics	95% ADF critical level	90% ADF critical level	99% ADF critical level	Order of integration	Remark
Log(RGDP)	-6.777809	-2.923780	-2.599925	-3.574446	1(1)	STATIONARY
Log(BTD)	0.458892	-2.921175	-2.598551	-3.568308	1(0)	STATIONARY
Log(EDR)	-5.283959	-2.923780	-2.599925	-3.574446	1(1)	STATIONARY
Log(INV)	-6.658543	-2.922449	-2.599224	-3.571310	1(1)	STATIONARY
Log(NEXCH)	0.728966	-2.936942	-2.606857	-3.605593	1(0)	STATIONARY
Log(TGEXPE)	-7.381259	-2.923780	-2.599925	-3.574446	1(1)	STATIONARY

Notice: Variables are as defined in equation 5

*Significant at 5, 1& 10 percent level

Source: Author's Computation

Table 2. Modelling the impact of globalization on the growth of the nigerian economy (a dynamic error correction model) – over-parameterized model

Dependent Variable: D(LOG_RGDP_)

Method: Least Squares

Date: 06/16/13 Time: 21:50

Sample (adjusted): 1963 2010

Included observations: 48 after adjustments

Variable	Coefficient	Std. error	t-Statistic	Prob.
C	-0.108046	0.104450	-1.034426	0.3082
D(LOG_RGDP_(-1))	-0.341856	0.172116	-1.986193	0.0551
D(LOG_RGDP_(-1),2)	0.153517	0.075969	2.020778	0.0512
LOG_BTD_	-0.012152	0.116020	-0.104743	0.9172
LOG_BTD_(-1)	0.032398	0.115651	0.280138	0.7811
D(LOG_EDR_)	0.111160	0.085255	1.303859	0.2010
D(LOG_EDR_(-1))	-0.151974	0.089043	-1.706742	0.0970
D(LOG_INV_)	0.755955	0.107119	7.057184	0.0000
D(LOG_INV_(-1))	0.938262	0.159122	5.896507	0.0000
LOG_NEXCH_	0.023430	0.028294	0.828096	0.4134
LOG_NEXCH_(-1)	-0.010438	0.035383	-0.294989	0.7698
D(LOG_TGEXPE_)	-0.285639	0.119243	-2.395443	0.0223
D(LOG_TGEXPE_(-1))	-0.138524	0.123150	-1.124841	0.2685
ECM(-1)	-0.504623	0.175228	-2.879805	0.0068
R-squared	0.878975	Mean dependent var		0.051563
Adjusted R-squared	0.832701	S.D. dependent var		0.249434
S.E. of regression	0.102024	Akaike info criterion		-1.488722
Sum squared resid	0.353903	Schwarz criterion		-0.942955
Log likelihood	49.72933	Hannan-Quinn criter.		-1.282476
F-statistic	18.99488	Durbin-Watson stat		1.682101
Prob(F-statistic)	0.000000			

Table 3. Modelling the Impact of globalization on the growth of the Nigerian economy (A dynamic error correction model) – parsimonious model

Dependent Variable: D(LOG_RGDP_)
 Method: Least Squares
 Date: 06/16/13 Time: 21:55
 Sample (adjusted): 1963 2010
 Included observations: 48 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.013044	0.032351	0.403188	0.6889
D(LOG_RGDP_(-1))	-0.088740	0.154794	-0.573277	0.5695
D(LOG_EDR_(-1))	-0.130433	0.121951	-1.069556	0.2909
D(LOG_INV_(-1))	0.773027	0.218744	3.533943	0.0010
D(LOG_TGEXPE_(-1))	0.005566	0.171048	0.032541	0.9742
ECM(-1)	-0.723289	0.190272	-3.801338	0.0005
R-squared	0.610560	Mean dependent var		0.051563
Adjusted R-squared	0.564198	S.D. dependent var		0.249434
S.E. of regression	0.164665	Akaike info criterion		-0.653343
Sum squared resid	1.138807	Schwarz criterion		-0.419443
Log likelihood	21.68023	Hannan-Quinn criter.		-0.564952
F-statistic	13.16942	Durbin-Watson stat		1.662988
Prob(F-statistic)	0.000000			

Table 4. Results of Johansen cointegration

Date: 06/16/13 Time: 22:33
 Sample (adjusted): 1963 2010
 Included observations: 48 after adjustments
 Trend assumption: Linear deterministic trend
 Series: LOG_RGDP_ LOG_EDR_ LOG_INV_ LOG_TGEXPE_
 Lags interval (in first differences): 1 to 1

Hypothesized No. of CE(s)	Eigenvalue	Trace statistic	5 Percent critical value	1 Percent critical value
None **	0.535765	65.26039	47.21	54.46
At most 1	0.302319	28.42690	29.68	35.65
At most 2	0.111411	11.14720	15.41	20.04
At most 3 *	0.107843	5.477439	3.76	6.65

Trace test indicates 1 cointegrating equation(s) at both 5% and 1% levels
 (**) denotes rejection of the hypothesis at the 5%(1%) level

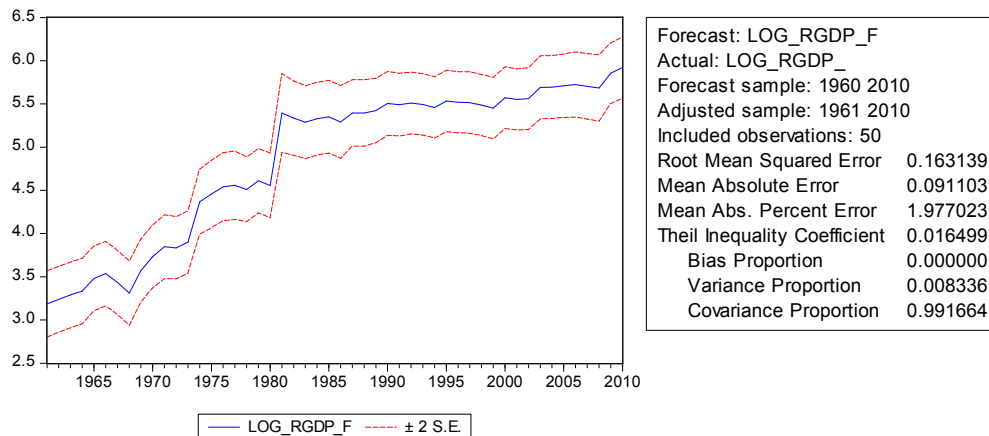


Fig. 1. Forecast

5. SUMMARY

The econometric results of the stochastic characteristics of each time series by testing their stationarity using Augmented Dickey Fuller (ADF) test, cointegration tests and Error Correction Model (ECM) employed to examine the impact of globalization on the growth of the Nigerian economy for the period of 1960 to 2010. The empirical results obtained from the paper make it clear that there is a significant relationship between globalization and/or economic growth in Nigeria. With 61 percent of the changes in economic growth being explained by the model, it is only logical to summarize that other factors, for which a major share are qualitative factors, explain the minor 39 percent of the variability in economic growth in Nigeria. The empirical results of the paper conform with the existing studies in our literature that reveal that there is, indeed a long-run relationship among the investment, and total government expenditure, and economic growth in Nigeria. All the variables have short and long-run with each other as revealed by cointegration. The empirical result further proves investment as source through which output could be increased in Nigeria. It is evident that there is feedback mechanism between the investment and economic growth in Nigeria. Also it was revealed from the results that EDR exert an inverse impact on the economic growth in Nigeria.

5.1 Recommendations

From the econometric study of the impact of globalization on the growth of the Nigerian economy, the following recommendations are stated below:

- Government should establish a link between domestic investors and world market, in order, for them to have a place where their goods and services could be sold and hence economic growth.
- Government should encourage grassroots production through the promotion of Small and Medium Enterprises to meet their basic domestic needs and/or tailor their participation in the process of globalisation along serving the purpose of this initiative.
- Government should properly establish and sustain, overtime, and generate production externalities that could spearhead industrialisation, economic growth and development for a virile and prosperous economic future for the underdeveloped

countries of the world, which will inadvertently; strengthen their status within the confluence of globalisation.

- Government should double its spending effort on infrastructural (such as: power generation, portable water and good road networks) base of the economy to encourage influx of expatriates to invest in Nigeria.
- Government should encourage the import substitution initiative through the availability of short and long term credit facilities at a relative cheaper rate and/or hence economic growth.
- Government should ensure that both financial and capital markets in Nigeria are strengthened to its fullest capacity in order for the potential investors to have confidence in the source of start-up capital. This leads to globalization and/or thereby enhances economic growth.

6. CONCLUSION

Base on the econometric result on the impact of globalization on the growth of the Nigerian economy. This paper discovered that in the longrun the impact of globalization will be felt, since the coefficients of investment and total government expenditure are positive. The researchers also discovered that the coefficient of external debts is negative, in the long run the impact of globalization will not be felt, the because the tendency to borrow is high in developing countries—such as Nigeria. And this has a significant impact on the future generations.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Shuaib IM. The impact of human capital development in economic growth from 1970-2010: Cointegration Approach, Multi-Disciplinary Journal of Technical Education & Management Sciences. 2013;7(1):141-162, Nigeria, Research Publishing Services.
2. Todaro MP, Smith SC. Economic development in the World, 9th edition, England, Pearson Education Limited; 2006.

3. Musa JI. The effect of globalization on the development of underdeveloped economies; 2010.
4. Iyoha MA. Policy Environment and foreign investment inflow: the Nigeria Experience. Central Bank Nigeria, 2000.
5. Shuaib IM. The impact of foreign direct investment on the growth of nigerian economy, An M.Sc thesis being Presented to Economic department of Ambrose University, Ekpoma; 2011.
6. Shuaib IM, Asemota, FO. Managerial economics: Theories, applications & cases, Auchi-Edo State, Prosper Prints; 2010.
7. Shuaib IM, Peter OA. Principles of public finance: modern trend, Auchi-Edo State, Prosper Prints; 2010.
8. Romer MP. Two strategies for economic development: using ideas and producing ideas, proceedings of the Annual World Bank Conference on Development Economics; 1992.
9. Ohiorhenuan JFE. The Past and future of development, presented at the annual conference of the Nigerian Economic Society; 2000.
10. Sandilands RJ. Perspectives on allyn young in theories of endogenous growth, Journal of History of Economic Thought. 2000;22(3):1-10.
11. Obadan MI. International capital flows and the recent financial crises: What have we Learned? Presidential Address of the Nigerian Economic Society; 1999.
12. Eatwell J. International Financial Liberalization: The impact on World Development, UNDP, office of development studies, New York, Discussion Papers series 12; 1996.
13. Stiglitz J. Globalization and its discontents, W. W Norton, USA; 2002.
14. Jhingan ML. Money, Banking and International Trade, Delhi, Virnda Publishers Ltd.; 2006.
15. Stiglitz J Globalization and its Discontents, W. W Norton, USA; 2001.
16. Aluyor GBO, Shuaib IM. The impact of investment in education on the growth of the Nigerian Economy, A Paper Presented at the 1st Annual National Conference on School of General Studies Held at New Auditorium, Auchi Polytechnic, Auchi; 2011.
17. Romer P. endogenous Technological Change, Journal of Political Economy. 1990;98(5):200-210.
18. Mankiw GN, Romer D, Weil DN. A Contribution to the empirics of Growth, Quarterly Journal of Economics. 1992;107:407-37
19. Central Bank of Nigeria. Statistical Bulletin Various Issues; 2012.
20. Central Bank of Nigeria. Statistical Bulletin; 2013.
21. Johansen S. statistical Analysis of Cointegration Vector, Journal of Economic Dynamics and control. 1988;12(2-3):231-254.
22. Johansen S, Juselius K. Maximum Likelihood Estimation and Inference on Cointegration with Application to the Demand for money, Oxford Bullentin of Economics and Statistics. 1990;52(2): 162-210.

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