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**INTERNATIONAL TRADE AND ITS EFFECT ON
ECONOMIC GROWTH IN NIGERIA
(1986-2017)**

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Abstract

Purpose: International trade is believed to contribute significantly to the growth of an economy. In order to examine the contribution of international trade to the growth of the Nigerian economy, time series data was collected between 1986 and 2017 to investigate the trends of trade openness, investment, and expenditure on education and GDP per capita in Nigeria within the study period. It also examined the effect of trade openness on economic growth in Nigeria.

Methodology: Annual secondary data was used for the study. Data on GDP per capita, trade openness, investment and expenditure on education were sourced from World Development Indicator and Central Bank of Nigeria Statistical Bulletin. The study employed The Ordinary Least Square (OLS) methods to investigate the effects of trade openness on economic growth in Nigeria.

Findings: Results showed that international trade is inversely related to GDP per capita within the study period however, the result is insignificant.

Recommendation: The study recommended that government should adopt essential trade oriented policy to enhance economic growth via high exports in order to accumulate more foreign earnings to boost output growth in the country

Key words: *international trade, economic growth trade openness and education.*

Introduction

The nature of the relationship that exists among nations of the world has shown that no nation can exist in isolation. This implies that the growth and development of any economy depend on the level of integration to other economies of the world. To this end, the role trade plays in promoting growth among nations of the world cannot be overemphasized. Trade can be done both locally and on the international scene. Exchange of goods and services among nations is referred to as international trade. Several other factors have been identified to play important roles in the growth and development process of any nation. Some of those factors include agricultural productivity, technical and technological progress, physical and human capital among others. Adeleye, Adeteye & Adewuyi (2015). However, Adeleye, et al (2015), Pazim. (2009) have argued in favors of international trade to be the major driver of growth and development in a nation's economy.

Theoretically, Adams Smith (1776) pioneered the arguments in favors of the role of international trade in enhancing growth. This theory is referred to as the absolute trade theory. He supported free trade as the best trade policy for the nations of the world if trade would be beneficial to countries involved. According to him, in a situation where there are no restrictions to trade, international trade would promote the efficient allocation of resources and nations of the world should concentrate on the production and exportation of goods and services in which they have absolute cost advantage and import those in which it has absolute cost disadvantage. The Ricardian theory of trade, which could rather be described as an expansion of Adams Smith's theory, opined that nations of the world should engage in the production of goods and services in which they have the highest comparative cost advantage and import those in which they have a least comparative advantage Egbetunde1 & Obamuyi (2018). However, the mercantilist differs in their approach to gain from trade. They do not support free trade among nations of the world as proposed by Adams Smith. To the Mercantilists, a nation's gain from trade is at the expense of its trading partners. The Mercantilist sees trade as a zero-sum game in which a winner and a loser must emerge Hewings (1892).

The prospect of international trade to enhance economic growth has attracted the attention of economists and researcher to examine the effect of international trade on economic growth over the last decade both in the developed and the developing countries. While the extant literature has argued that international trade has the capacity to boost economic growth and contribute positively to the development of any country, the recent growing body of the literature has cast doubt on this assertion. According to authors in this category (Egbetunde & Obamuyi 2018; Adeleye, Adeteye & Adewuyi (2015) are of the opinion that openness to trade cannot promote growth. They argued that the idea behind trade openness a criteria for increased growth is moribund. The authors advocated for development strategies that are internally oriented for the desired growth and development. Another strand of arguments in the literature that refutes the ability of trade openness to enhance growth stem from the fact that when a developed country and another developing countries engage in trade, developed country will be benefiting at the expense of the developing countries. According to them, developing countries will only be

market for developed countries as the developed country has much more capacity to produce and has greater advantage over the developing country.

Looking at the case of Nigeria, data released by the National Bureau of Statistics (NBS) in 2017 showed that Nigeria exported more goods than she imported. Prior to 2015, Nigeria had an import of \$35.1 billion which ranked her 57th largest importer in the world with the largest import to be refined petroleum, followed by wheat. During the same period, an export of \$36.9 billion was also recorded with the largest export being crude petroleum, followed by petroleum gas. Since the inception of the present administration in 2015, the narrative of the country had changed. As at the fourth quarter of 2017, non-oil export accounted for 16.8% of goods and services traded in the Nigerian economy. This implies the diversification policy of the present administration has increased the size of the economy.

However, the more the country opens up her borders for international trade, the more the country experiences complications in reaping benefits of international due to her actions. Rather than benefitting from trade, externally, the country is bedeviled with issues of balance of trade disequilibrium and exchange rate instability. Internally, there are cases of high unemployment, signaling that the country has become dumping ground from their trade partners, price instability, financial market instability and redundancy of factor inputs, Studnika and Howe (2016). All these have been attributed to the composition of the country's export. Crude oil has been adjudged to be the major export of the country. The quest to investigate the impact of diversification campaign of the recent civilian administration provides the justification for this study.

Results show that openness to trade is inversely related growth in the country between 1986 and 2017. Furthermore, human capital development, measured as government expenditure on education, has negative effect on economic growth in Nigeria. However, investment has positive effect on economic growth. This implies as the level of investment increases, economic growth will also increase. The study confirms that as Nigerian economy open-up her border, such action has negative effects on the economy.

Theoretical and empirical review.

Theoretical review

Harrod-Domar Growth Theory

This theory was propounded by Harrod R. Roy in 1939 and Domar Evsey contributed to it in 1946. This growth theory states that the growth rate of any economy is a function of the saving rate. According to the theory, the more growth an economy desires, the more savings the country should make. The theory believed in the classical assertion that savings equals investment. When a country increases her level of savings, investment level will also increase. As the level of investment increase, factor inputs will be employed as such, the level of output will increase.

Based on the believe of the proponents and assumptions of the theory, for an economy to attain long run full employment, the level of investment less depreciation and real income growth must grow at a rate that can provide full utilization of increasing capital that is available. The submission of this theory is that additional stock of capital which is also refers to as investment will ensure increase in the level of output in the economy. The model is presented as follows:

$$g = \frac{s}{k}$$

Where:

g = Rate of economic growth
 s = Level of savings
 k = Capital-output ratio

Neo-Classical Growth Theory

This theory was first propounded by Robert Solow 1987 and according to him, a sustained increase in capital investments increased the growth rate temporarily because the ratio of capital to labour goes up. The marginal product of additional units is assumed to decline and thus an economy eventually moves back to a long term growth-path with real GDP growing at the same rate as the growth of the workforce and capital inputs to reflect productivity. Neo-classical economists who subscribe to the Solow model believes that raising an economy long run growth rate requires an increase in labour supply and also a higher level of productivity of labour and capital. Differences in the rate of technological change between countries are said to explain much of the variation in growth rates. The neo-classical model treats productivity improvements as an exogenous variable which means that productivity improvements are assumed to be independent of the amount of capital investment. The model is presented as follows:

$$Y_t = A_t K_t^\alpha L_t^{1-\alpha} \quad 0 < \alpha < 1$$

Where:

Y_t = the level of output
 A_t = Technological Progress
 K_t = Physical Capital
 L_t = Labour
 α = output elasticity of capital
 $1 - \alpha$ = output elasticity of labour

Unlike the fixed proportion of Harrod-Domar model of economic growth, neo-classical growth model uses variable proportion production function, that is, it considers unlimited possibilities of substitution between capital and labour in the production process. That is why it is called neo-classical growth model as the earlier neoclassical considered such a variable proportion production function. The second important departure made by neoclassical growth theory from

Harrod-Domar growth model is that it assumes that planned investment and saving are always equal because of immediate adjustments in price. With these assumptions, neoclassical growth theory focuses its attention on supply side factors such as capital and technology for determining rate of economic growth of a country. Therefore, unlike Harrod-Domar growth model, it does not consider aggregate demand for goods limiting economic growth. The growth of output in this model is achieved at least in the short run through higher rate of saving and therefore higher rate of capital formation. However, diminishing returns to capital limit economic growth in this model. Though the neoclassical growth model assumes constant returns to scale which exhibits diminishing returns to capital and labor separately.

Endogenous Growth Theory

Endogenous growth economists believed that improvements in productivity can be linked directly to a faster pace of innovation and extra investment in human capital. They stress the need for government and private sector institutions which successfully nurture innovation and provide the right incentives for individuals and businesses. There is also a central role for the accumulation of knowledge as a determinant of growth. Supporters of endogenous growth theory believed that there are positive externalities to be exploited from the development of a high value-added knowledge economy which is able to develop and maintain a competitive advantage in fast-growth industries within the global economy.

The main points of the endogenous growth theory are that the rate of technological progress should not be taken as a constant in growth model. Government policies can permanently raise a country's growth rate if they lead to more intense competition in markets and help to stimulate product and process innovation. There are increase returns to scale from new capital investment. The assumption of the law of diminishing returns is questionable. Endogenous growth theorists are strong believers in the potential for economies of scale to be experienced in nearly every industry and market. Private sector investment in research and development is a key source of technical progress. The protection of private property rights and patents is essential in providing appropriate and effective incentives for businesses and entrepreneurs to engage in research and development. Investment in human capital is an essential ingredient of long-term growth. Government policy should encourage entrepreneurship as a means of creating new businesses and ultimately as an important source of new jobs, investment and innovation. The example of endogenous growth model is AK model.

Empirical review

In the developed countries, Grossman and Helpman (1991) investigated the growth performance of a small open economy in which its volume of technological imports equals the level of export. Results of the study showed that a small economy that opens up its border for international trade will experience increased level of income and consumption more than the closed economy and not that the small open economy will grow faster than the closed economy.

In addition, Fetahi-Vehapi Sadiku and Petkovski (2015) employed system GMM technique to estimate the contribution of trade openness to economic growth in the South East European countries given that the countries in this region had common goal as regards international trade. Using a panel data of 16 countries that spanned between 1996 and 2012 on variables such as initial level of income per capita, gross fixed capital formation, FDI, labour force and some interactions with trade openness, it was found that trade openness on its own had negative effect on growth. However, when it was interacted with initial income per capita, the result was positive. It was also discovered that trade openness will be beneficial to countries that have higher income per capita, FDI and Investment.

Singh (2010) surveyed the extant literature on the existing association between trade openness and economic growth. It also reviewed the contribution of GATT/WTO in promoting free trade among member countries. Results on macroeconomic evidence showed that the relationship between trade openness and economic growth is positive and significant.

Makhmutova and Mustafin (2017) examined the contribution of openness to trade to economic growth in four developed nations of the world namely China, USA, Germany and Russia. At the beginning of this study, a survey was conducted and respondents were asked to rank these powerful nations according to their dependency on their foreign trade. Results of the survey ranked China as the best with 51 percent followed by Russia with 19.6 percent, USA with 12 percent and Germany with 3 percent. After this survey, data were collected and analyzed on the macroeconomic performance of each country. Results therefore negate the survey. Results of the analysis showed that Germany occupied the first position. Her economy depends on the level of trade with other nations. USA and China occupied the second position while Russia came third.

For studies on developing countries, Maswana (2015) examined the effects of trade-induced technology imitations on economic growth in Africa using a panel system- GMM. Variables such as GDP per capita, investment, trade openness, education index population and infrastructure index were used. The GDP per capita was the dependent variable. Result showed that trade induced technology has positive and significant effect on growth. In addition results showed that growth is greater in countries with higher rate of technological imitation.

Musila and Yiheyis (2015) examined the role trade openness played in enhancing economic growth in Kenya using time series data between 1982 and 2009. Data on variables such as GDP per capita, capital stock, human capital stock, inflation, polity score, trade openness and growth in budget deficit were used in the study. The study employed regression and granger causality to analyze the data. Results showed that trade openness positively impacted the level of investment and economic growth. However, the result of trade openness on economic growth is statistically insignificant.

In the same vein, Zahonogo (2017) examined the channel through which trade openness influence economic growth in the Sub-Saharan African countries. The study used a panel of 42 countries between 1980 and 2012. The study used variables such as investment, financial development, inflation, trade, population and education. Using pooled mean group approach, the

study found out that there exists a threshold of 134.21 percent below which trade openness is beneficial to the growth of the countries in sub-Saharan Africa. Above this threshold value, trade openness becomes inimical to trade in the region.

In Nigeria, Yakubu and Akanegbu (2015) investigated the role of international trade in promoting growth in the country between 1981 and 2012. Variables such as real GDP, degree of openness, foreign exchange and interest rate were used. The study employed regression technique as a means achieving the objectives of the study. In addition, data on variables of interest were garnered from world development indicators and Central Bank Statistical Bulletin. Findings from the estimation showed that degree of openness has positive and robust effect on economic growth in Nigeria during the study period.

Agbo, Ebere and Oluchukwu (2018) investigate the effects of trade openness on economic growth in Nigeria. The study further estimated the disaggregated impact of export and import on the Nigerian economy. The study employed data on import, export and economic growth between 1980 and 2012. Multiple regression technique was used to estimate the data over the study period. Results showed that while export significantly influences growth in the country over the study period, import had no significant effect on economic growth in the country. Based on these results, the study recommended that efforts should be geared towards creating enabling environment for foreign trade in the country.

Empirical studies reviewed above dwelt extensively on trade openness to the exclusion of other variables capable of having a significant impact on the effect of international trade on a country's economy. It is the identification of this gap that motivates the researchers to address by introducing the quantum of investment and the extent of the education in the country in addition to trade openness so as to have a more comprehensive result on international trade as it affects the economy of Nigeria in particular.

Methodology

The aim of this discussion is to highlight the key activities that were undertaken, and to indicate their relevance to this study. The discussion covers the following topics: research design; method of data collection; method of data analysis and model specification.

Research Design

This study is quantitative by nature and this is anchored on the fact that it carried out a statistical analysis of the panel data of the variables specified in the models. Therefore, *ex-post facto* and explanatory non-experimental research design were adopted to analyze the impact of international trade on economic growth in Nigeria. *Ex-post facto* research design was used not because it seeks to find out the factors that are associated with certain occurrences, conditions and behavior of international trade but also that the historical data to establish possible causal factors could not be manipulated by the researchers. The explanatory non-experimental research design is also appropriate since the researcher is attempting to explain the influence of international trade on the economic growth with the aid of descriptive and inferential statistics.

This paper used secondary data (time series data) for Nigeria and empirical investigation was carried out on the basis of the sample covering the period 1986 to 2017. Gross Domestic Product (GDP) was used as an indicator of economic growth, measured as the sum of GDP divided by the population. Other variables are investment that is the size of the capital stock in the economy, education also measured based on the level of investment on education and lastly trade openness.

Method of Data Analysis

Descriptive statistics will be adopted to give a snapshot of the entire data on international trade and its effect on economic growth in Nigeria. Thereafter regression analysis will be used to test the research hypotheses to decide the impact of international trade on economic growth and development in Nigeria. This is because, it is one of the most suitable method of testing the level of relationship between an independent and dependent variable.

Model Specification

This study employed a modified version of the econometric model of Miyajima, Omi and Saito (2003) as adopted by Coleman and Nicholas- Biekpe (2006). The Econometric model of Miyajima (2003) is therefore seen below as;

$$GDP = f(TOP, ED, INV) \dots\dots\dots \text{equation 1}$$

The simple linear form is stated below

$$GDP = \beta_0 + \beta_1 TOP + \beta_2 ED + \beta_3 INV + e_i \dots\dots\dots \text{equ1}$$

Where:

GDP= Gross Domestic Product.

TOP =Trade Openness

ED = Educational Development

INV = Investment

e_i =Standard error

β_0 = Intercept

β_1 = Regression Coefficient ;

Explanation of Variables

Investment: This is the measure of capital stock in a country. Increase in capital stock will eventually bring about increase in growth. A priori, investment is expected to have positive relationship with economic growth in any economy. It usually called Gross fixed Capital formation. In this study, investment is measured in constant local currency unit (Naira). Before the data was used for regression analysis, the logarithm value of the data was obtained. The data is sourced from World Development Indicator (WDI) (online version).

GDP per Capita: This variable is explained in terms of the total population of the country. It is used to measure the participation of each worker in the country and contribution of each labourer to the economic growth. It is defined as:

$$GDP \text{ per Capita} = \frac{GDP}{Population}$$

GDP is defined as the monetary value of all goods and services produced in a country in a financial year. It is a measure of development as it captures the level of economic activities in the country. It is measured in constant local currency unit, that is, Naira. The data is sourced from World Development Indicator (online version).

Trade Openness: This measures the contribution of trade openness to economic growth in Nigeria. It is defined as:

$$\text{Trade Openness} = \frac{\text{Import} + \text{Export}}{GDP} \times 100$$

It is obtained in constant local currency unit. The data is sourced from World Development Indicator (online version).

Government Expenditure on Education: This is defined as total government expenditure on education in Nigeria. It is measured in constant local currency unit. Data on government expenditure on education is obtained from the Statistical Bulletin, a publication of the Statistics Department of the Central Bank of Nigeria, 2018 edition.

Times Series

A time series data is the arrangement of data set collected on a variable and arranged in an orderly manner over a period of time. Time series is symbolically represented as Y_t where t stands for time. Variable Y_t have the capacity to assume different values in the successive years. There are four major factors that can affect time series data and which must be separated from the data before use. These factors are: Trend, Cyclical, Seasonal and Irregular. Trend is said to be the performance of a variable over a period of time. This could take any form. It could increase, decrease, or remain constant for the period under study. Thus, it can be said that trend is a long term movement in a time series. Seasonal factors are regarded as volatility in the performance of a variable in the year. This is an important signal for business owners, firms and other investors as it helps them in make investment decisions. Cyclical changes are referred to as medium- term changes in the performance of a variable. This may extend for more than one year depending on the nature of shock the variable is responding to. Lastly, irregular variation is also referred to as zigzag movements in the performance of a variable which is as a result of unforeseen circumstances. This could be caused by war, accidents of any kind and revolution. To date, no known approach has been established for determining the extent of irregular factors in time series data.

Data analysis and interpretation of result

Table 4.1 Descriptive Statistics

	GDP PER CAPITAL	OPENNESS	EDUCATION	INVESTMENT
Mean	257171.5	44.52518	117.1703	8.14E+12
Median	224555.5	42.84557	61.37000	8.04E+12
Maximum	376849.5	68.84908	403.9600	1.06E+13
Minimum	192359.5	31.12457	0.230000	5.67E+12
Std. Dev.	65035.57	9.723911	138.2202	1.31E+12
Skewness	0.625602	1.081087	0.983400	0.208266
Kurtosis	1.806519	3.721916	2.423008	2.471844
Jarque-Bera	3.986545	6.928207	5.601630	0.603263
Probability	0.136249	0.031301	0.060761	0.739610
Sum	8229488.	1424.806	3749.450	2.60E+14
Sum Sq. Dev.	1.31E+11	2931.188	592249.7	5.32E+25
Observations	32	32	32	32

It is necessary to check the characteristics of the data to be used for analysis in order to determine their level of suitability for the analysis. To achieve this objective, the features of each of the variables are examined. Results of the descriptive statistics are provided in table 4.1. Looking at the table, information about sample statistic is given. Statistics such as mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-Bera, probability and total number of observations are provided. It can be deduced that all the variables are consistent and they are within their intervals. For all the variables, their mean values which measured their performance over the study period fall within their bound. Looking at the mean and median values, trade openness has the least values while investment has the highest values. By implication, in the study period, level of investment in the country has the highest level of performance while trade openness is the least performed variable. GDP per capita is the second highest performer followed by government expenditure on education.

Looking at the values of standard deviation, trade openness is the least volatile while level of investment has the highest level of volatility. This implies, level of investment will respond greatly to any shock in the economy, whether positive or negative. Looking at the value of

skewness, results showed that all the variables are positively skewed, that is, the shape of all the variables are not normal but move to the right. Kurtosis measures the degree of peakness of all the variables. This is otherwise known as height of the shape of the variables. Trade openness has the highest height, followed by investment while GDP per capita has the lowest height. This implies all the variables are leptokurtic when compare to normal distribution. This is because their kurtosis values are greater than one.

Table 4.2: Correlation Matrix

	GDP PER CAPITAL	OPENNESS	EDUCATION	INVESTMENT
GDP PERCAPITAL	1.0000			
OPENNESS	-0.1644 (0.3687)	1.0000		
EDUCATION	0.9496 (0.0000)*	-0.2606 (0.1497)	1.0000	
INVESTMENT	0.7504 (0.0000)*	0.0311 (0.8658)	0.7209 (0.0000)*	1.0000

Values in parenthesis are probability value.

Test of Multicollinearity

Multicollinearity is one of the problems that could undermine the reliability of regression result. This problem arises when the independent variables in a regression model are correlated. To check whether this problem is present among the variables of interest, correlation matrix test needs to be conducted. For our variables of interest, correlation matrix test was carried out and its result is presented in table 4.2. It could be observed that GDP per capita and education has the highest coefficient (0.94). All other coefficients are normal. Of the two variables with the highest coefficients, one is the dependent variable (GDP per Capita) and the other is independent variable (education). While inverse relationship exists between GDP per Capita and openness and openness and education, all other relationships exhibit positive relationships. Overall, the result is free of multicollinearity problem.

Time series data are known for non-stationary. Non-stationary implies the mean and variance of the variables are not constant over the study period. For regression result to be valid, the non-stationary property must be eliminated. Regression analysis works with stationary assumption. For any meaningful result to be achieved, this assumption must hold. The variables of interest could be stationary a levels for some variable. If otherwise, the test will be conducted at first difference. To verify the stationary assumption, the study employs two methods namely: Augmented Dickey-Fuller and Philip-Peron. The test was conducted with null hypothesis of non-stationary and intercept with trend condition. The outcomes of the test are given in table 4.3. It could be deduced from table 4.3 that the dependent variable (GDP per capita) trade openness and education were not stationary at levels while investment was stationary at level. The test was

later conducted at first difference. All the variables, except investment, were therefore stationary after first difference. The first difference graph of all variables were presented at the appendix.

Table 4.3: Stationarity Test Result

Variable	Augmented Dickey-Fuller			Philip-Peron		
	Levels	1 st Diff.	Order	Levels	1 st Diff.	Remarks
Investment	-5.239083*	-	I(0)	-5.139029*	-	I(0)
Education	-1.640926	-5.066749*	I(1)	-1.212402	-9.283001*	I(1)
Openness	-2.558009	-6.594859*	I(1)	-2.547787	-8.001724*	I(1)
GDP Per capita	-1.584412	-3.761567**	I(1)	-1.521120	-3.847204**	I(1)

*and ** represent 1% and 5% level of significance. The test was carried out using intercept and trend options

To estimate the contribution of trade openness to economic growth and also examine the nature of relationship that exists between the two variables, equation (1) was developed.

$$\Delta \ln gdp_{pc\ t} = \alpha + \beta_1 \Delta tradeopenness_t + \beta_2 \Delta \ln education_t + \beta_3 \ln investment_t + \varepsilon_t \quad (1)$$

The a priori is that all the coefficients are expected to have positive and significant effects on the dependent variable. The contributions of trade openness and other independent variables to economic growth are examined using regression analysis. Because two of the three independent variables are stationary after first difference, the two variables (trade openness and education) were differenced. A variant of equation (1) is developed in which investment was removed from the model in order to verify effect of expenditure on education as the only investment in the economy. Estimates of equation (1) are presented in table 4.3. OLS estimates indicate an inverse relationship between GDP per capita and international trade. An increase in international trade will reduce GDP per capita by 0.04 %. This implies rather than for trade to spur growth in Nigeria, it serves as a withdrawal in the economy. Trade openness in this context does more harm than good to the Nigerian economy as it opens-up the economy to external shocks. It can also be said that Nigeria is not benefitting from international trade. This finding supports the Mercantilist trade theory that most countries trade in order to protect their indigenous industries at the expense of their trade partners. In that case, as these countries are benefitting from trade, they will be doing that at the expense of others countries that are trading with them. This is the case with the Nigerian economy. Most of their trading partners are developing countries that are exporting to Nigeria, they make Nigerian economy markets for their products without exporting from them. This is because, in terms of technical know- how and production ability, Nigeria cannot compete with their trading partners. Therefore, the country is a market for their trading partners without benefitting from trade. The result also supports the findings of Zahonogo (2017), Barro and sala-i- Martin (1997), Baldwin et. al. 2005 and Almeida and Fernades (2008) Foreman-Peck, (1995); O'Rourke and Williamson (1999) and Vamvakidis (2002).

In addition, government expenditure on education was used to measure human capital development and its effect on economic growth in Nigeria. Results showed that expenditure on

education has negative effect on economic growth within the study period. An increase of 1% in expenditure on education will reduce economic growth by 0.08%. The result implies government expenditure on education is less than the required expenditure for human capital development in the country. Therefore, the bulk of labor in the country is unskilled and semi-skilled. This result is supported by the neoclassical growth theory. The theory states that for labor to contribute significantly to output in a country, the productivity of labor must be very high. Looking at the quality of labour we have in Nigeria, they are mostly unskilled. As a result, their level of productivity is very low. This is evidenced in the regression result. Lastly, results in table 4.4 show that investment has positive effect on economic growth in the country. A 1% increase in investment increases economic growth by 0.7%. However, all the results are statistically insignificant. R^2 also showed that the independent variables explained 4% of changes in economic growth.

Furthermore, by comparing results of model (2), in which the level of investment was removed from the model, the performance of the independent variables was still the same. Result of this model is presented in table 4.4 Trade openness has negative effect on economic growth and government expenditure on education has negative effect on economic growth. R^2 of model (1) performed better than that of model (2). In conclusion, results showed that trade openness in Nigeria does more harm than good to the economy as it opens the economy to external shocks and attack.

Table 4.4: Regression Result
Dependent Variable: $\Delta \ln g d p p e r c a p i t a$

Variable	Coefficient	Std. Error	t-statistic	Prob
Constant	-0.178496	1.526205	-0.12	0.908
$\Delta(\text{Openness})$	-0.000396	0.0009301	-0.43	0.673
$\Delta \ln \text{Education}$	-0.007653	0.0099535	-0.77	0.449
$\ln \text{Investment}$	0.006702	0.0513323	0.13	0.897
R^2	0.0353			
Adjusted R2	-0.0718			
DW	1.60			
F-statistic	0.33			

Table 4.5: Regression Result
Dependent Variable: $\Delta \ln g d p p e r c a p i t a$

Variable	Coefficient	Standard Error	t-statistic	Prob
Constant	0.0207623	0.0079131	2.62	0.014
$\Delta(\text{Openness})$	-0.000371	0.0008934	-0.42	0.681
$\Delta \ln \text{Education}$	-0.0078412	0.009674	-0.81	0.424
R^2	0.0347			
Adjusted R2	-0.0342			
DW	1.61			
F-statistic	0.50			

CONCLUSION AND RECOMMENDATION

Based on the results and findings of the study, the study concludes that:

1. The coefficient of determination is 3.4% which shows that the independent variables in the model explain 3.4% of the variation in GDP per capita, which is the dependent variable. Also the relationship is significant as demonstrated by the p values which are greater than 0.05
2. Trade openness has negative effects on economic growth in Nigeria within the study period. Thus, the finding provides support for the claim that trade openness has negative effect on GDP and that it does more than good for the Nigerian economy as it opens the economy to external shock.
3. The model stability test also shows that the estimated model is structurally unstable as the value of determinant of variation is 4%.

Implications

Based on the conclusions drawn from the study, the following recommendations are made for the government and policy makers:

1. Government should exercise a bit of caution on trade openness by placing restrictions on not so essential goods.
2. Domestic production should be expanded to increase export by diversifying the economy away from the dominance of energy sector.
3. Government should develop strong stabilization policy to mitigate effect of external shocks that could arise as a result of openness on the economy

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