

**EFFECT OF FORMAL EDUCATION ILLITERACY ON ECONOMIC DEVELOPMENT IN  
NIGERIA**

**BY**

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**Abstract**

*The paper examines the effect of formal education illiteracy on economic development of Nigeria. The study employed the use of time series secondary data derived from NBS, CBN and World Bank data from 1990 to 2020. The data were analyzed using Augmented Dickey-Fuller (ADF) test, ARDL bounds cointegration test, and the diagnostic test of stability for ARDL model in order to have a suitable result. The research findings show that formal education illiteracy had significantly negative effect on economic development in Nigeria. Also, the result shows that there is a strong long run relationship between formal education illiteracy and economic development. The study therefore recommends on the government to make a constant upward review of budgetary allocation to education sector in Nigeria. This would perhaps look into increase in the number of people seeking formal education most importantly the tertiary levels because only trained labour force can meaningfully and optimally contribute to societal development and economic growth in Nigeria at large.*

**Keywords: Illiteracy, Formal education and Economic growth**

**Introduction**

Education is a great cause which affects every member of the society be it infants or adults. It affects every single aspect of society's total existence and life which covers – political, social, economic, religious, business, industrial and personal. Education is one of the most important investments a country can make in its future. Education is a powerful agent of change, and improves health and livelihoods, contributes to social stability and drives long-term economic growth. Therefore, education is basic and a fundamental human value which constitute the only basis for socio-economic development of individuals, society and the economy as a whole. Ordinarily, education is exclusively used for the development of human beings in the cognitive, affective, psychomotor and psycho-productive domains. It also involves a desirable approach in human behaviour through the process of teaching and learning. Fafunwa (2004) defines education as what each generation gives to its younger ones which makes them develop attitudes, abilities, skills and other behaviours which are the positive values to the society in which they live. Education can add to the value of production in the economy and also to the income of the person who has been educated. According to Kurtz-Costes (2001), Formal education is an important part of the everyday lives of children and—along with family—is the most important source of children's educational progress in most countries. Therefore, parents' attitudes toward school and involvement in school activities have long been studied as an important factor related to children's educational progress.

With this in mind, economic development is typically associated with improvements in a variety of areas or indicators (such as literacy rates, life expectancy, and poverty rates), that may be causes of economic development rather than consequences of specific economic development programs. For example, health and education improvements have been closely related to economic growth, but the causality with economic development may not be obvious. In any case, it is important to not expect that particular economic development programs be able to fix many problems at once as that would be establishing unsurmountable goals for them that are highly unlikely they can achieve. One of the objectives of education therefore is to adequately equip the child with the necessary skills and knowledge needed for effective participation and contribution to national development (Chima, 2006). In other words, education provides the intellectual feat which is required for social, economic, political and technological development of a nation. Education is intended to improve the personal life of the student in terms of the knowledge and skills, which he requires and which enhance his quality of life and contributes to the well-being of his society (Gbenda and Akume, 2009). Nigeria as a nation, needs a functional educational system that can equip learners with requisite knowledge, attitudes and skills to enable them relate and adapt successfully to the rapid socio-economic, cultural and political changes in the society. The importance of

education in the development of the society has made government at all levels to be committed to the provision of educational opportunities to its citizenry (Okubanjo, 2006). According to National Policy on Education (2021), education is an instrument par excellence for effecting national development.

Any functional and efficient education system should be able to improve the economic development of the nation. One of the major economic functions of education is to ensure that the needed manpower for economic development is trained. This can help the society to reduce poverty among its people by enabling them to employ effective tools of production. Apart from the above, nation building and industrialization is a major aim of education. Thus, producing citizens with appropriate occupational skills and knowledge to plan and manage the economy efficiently through education can lead to improving the status of the nation's economy. Countries that have a more educated population have more sustainable economic growth over the long term than those with a less educated population. This is evident where nations in the globalized world are competing against each other for economic dominance. Therefore, if a country is more educated, just like the western world, then the nation's productivity is bound to be higher and its workers more innovative in technology. On the contrary, nations that are poorer with high illiteracy rate have low productivity and low standard of living with low paying jobs.

Base on this, the study specifically intends to:

1. To determine the effect of formal education illiteracy on economic development of Nigeria;
2. To examine the relationship between formal education illiteracy and economic development of Nigeria.

## **Literature Review**

### **Concept of Illiteracy**

According to UNESCO, it defines illiteracy as “measured by assessing reading, writing and mathematical skills in the various domains of social life which influence individual identity and insertion into society. From this perspective, literacy involves not only reading and writing but also the acquisition of the skills necessary for effective and productive performance within society” (UNESCO, 2011). Of equal relevance is the concept of functional illiteracy, which means an individual may have basic reading, writing and numerical skills but cannot apply them to accomplish tasks that are necessary to make informed choices and participate fully in everyday life. Such tasks may include: Reading a medicine label, reading a nutritional label on a food product, balancing a cheque book, filling out a job application, reading and responding to correspondence in the workplace, filling out a home loan application, reading a bank statement, comparing the cost of two items to work out which one offers the best value and working out the correct change at a supermarket (UNESCO, 2010).

Therefore, illiteracy can be viewed as the number of persons aged 15 and above that cannot read and write or the inability to comprehend a short simple statement on everyday life. Generally, literacy also encompasses numeracy, and measurement may incorporate a simple assessment of arithmetic ability. Illiteracy should be distinguished from the failure to meet minimum proficiency levels of functional literacy. The latter is a more comprehensive measure assessed on a continuum in which multiple proficiency levels can be determined.

### **Concept of Formal Education**

Formal education or formal learning as seen by Ogbonnaya (2020) is that which usually takes place on the premises of the school, where a person may learn basic, academic, or trade skills. Small children often attend a nursery or kindergarten but often formal education begins in elementary school and continues with secondary school. Postsecondary education (or higher education) is usually at a college or university, which may grant an academic degree. Formal education is associated with a specific program of teaching and learning activities and is provided under a certain set of rules and regulations. Formal education is given by specially qualified teachers who are supposed to be efficient in the art of instruction. It also observes strict discipline. Both the student and the teacher are aware of these facts and engage themselves in the process of education (Hager 2012).

Therefore, Formal education corresponds to a systematic, organized education model, structured and administered according to a given set of laws and norms, presenting a rather rigid curriculum as regards

objectives, content and methodology which necessarily involves the teacher, the students and the institution. It corresponds to the education process normally adopted by our schools and universities.

### **Concept of Economic Development**

From the study perspective, economic development involves the allocation of limited resources – land, labor, capital and entrepreneurship in a way that has a positive effect on the level of business activity, employment, income distribution patterns, and fiscal solvency. California Association for local Economic Development (2020) sees economic development as a concerted effort on the part of the responsible governing body in a city or county to influence the direction of private sector investment toward opportunities that can lead to sustained economic growth. Sustained economic growth can provide sufficient incomes for the local labor force, profitable business opportunities for employers and tax revenues for maintaining an infrastructure to support this continued growth.

### **Relationship between Illiteracy and Economic Development**

There exist a strong relationship between illiteracy and economic development. Literacy is defined as the “ability to read and write”. Thus, an illiterate person, who cannot read or write, is unable to get a skilled job and is forced to take up an unskilled job. This has an impact on his wages, the standard of living and ultimately his ability to provide proper education to his children. This would also mean that his children will not be able to improve their skills and get a better job and eventually come out of poverty. An unlettered person is unable to access proper healthcare, understand their fundamental rights and demand for the same.

According to National Commission for Mass Literacy, Adult and Non Formal Education (2015), the most important effect of illiteracy on society is that, it works as an inhibitor. That is to say, the more illiterate people there are in a country, the harder it will be for the country to develop. Yusuf (2015) posits that Literacy and economic development have endless companionship, but the role played by literacy on economic development is quite dominant.

Therefore, for the better economic development in a country, it is more important to reduce illiteracy to the least minimum. This requires strategic planning and financial resources by the authority to facilitate the literacy programs that will serve as an investment to reap in the future. The strategic planning required for the development of literacy programs is the part of economic planning. The strong the economic planning is the better the result will be. From an analytical point of view, economic development and illiteracy are two indirectly proportional elements where illiteracy has a negative relationship with economic development.

### **Formal Education Illiteracy and Economic Development**

Acquisition of basic and functional Education is the power for development. It liberates the mind and prepares individuals for something worthwhile. It is a tool that prepares manpower to meet the requirement for modern world in areas such as technology, health, security, agriculture, computer etc. Research indicates that about 45 per cent of Nigerians do not have access to basic education, and out of these youths are the most affected. To be precise about 7.5 million mahajerins do not have access to primary education - these are found mainly in northern states of the federation, and about 1.5 million are distributed in the West and Eastern Nigeria (Osugwu, 2011).

The ratio of persons acquiring education has no bearing with population. This is so because the percentage of people accessing education is an indication that when people are educated, it is plus to the economy — adds value to the people — care for themselves and the environment which they live. They would also contribute positively to economy thereby stimulating employment. Thus, it is indubitable that education is the most potent instrument for alleviating and eventually abolishing poverty as well as a means creating employment which will lead to economic development of a country. That is to say economic development depends on the qualitative workforce and this qualitative workforce can be acquired by developing professional, social and communication skills through literacy and education. As the people of a country are literate they will work much better for their own and as they will work to satisfy their needs, simultaneously country’s economy will grow and develop.

**Methodology**

The study employed the use of time series secondary data derived from NBS, CBN and World Bank data from 1990 to 2020 which is a period of thirty (31) years. The data were analyzed using Augmented Dickey-Fuller (ADF) test, ARDL bounds cointegration test, and the diagnostic test of stability for ARDL model in order to have a suitable result.

**The Model**

The econometric model considered for the study was illiteracy level, population growth and human capital development as the explanatory variable while gross domestic product is the dependent variable. This was used to obtain a reliable parameter estimates in the time series regression. The model captured the first objective of the study, which is to determine the effect of illiteracy on economic development in Nigeria. Therefore, the model was adopted from the study of Obi, Obi and Ejefobihi (2020) with some modifications.

The functional relation of the model is specified as follows:

$$RGDP = f(ILLIT, POPG, HCD) \dots\dots\dots 3.1$$

Where, RGDP represents the real gross domestic product, ILLIT represents illiteracy level, POPG represents population growth, HCD represents human capital development.

For this objective, the multiple linear regression model is specified for estimation and is expressed in stochastic form as;

$$\ln(RGDP_t) = \beta_0 + \beta_1 ILLIT_t + \beta_2 POPG_t + \beta_3 HD_t + \varepsilon_t \dots\dots\dots 3.2$$

Where, RGDP represents the real gross domestic product,  $\beta_0$  is the constant term (intercept),  $\beta_1, \beta_2, \dots, \beta_n$  are the regression parameters, ILLIT represents illiteracy level, POPG represents population growth, HCD represents human capital development, t is the time (t = 1,....., n) and  $\varepsilon$  is the error term.

**Results**

**Unit Root Test**

The knowledge of the time series properties of the variables of interest is important in order to avoid the possibilities of spurious regression. This was implemented using the conventional – Augmented Dickey-Fuller (ADF) unit root test. For convenience, table 4.1 below shows the computed Augmented Dickey-Fuller unit root test for each of the variables under observation for the model.

**Table 1: Unit Root Estimation**

Models	Variables	ADF Statistic	1% Critical Value	5% Critical Value	10% Critical Value	Ord er of Int.	Durbin- Watson Stat	P- Value
Model	RGDP	-5.197071	-4.339330	-3.587527	-3.229230	1(1)	2.057581	0.0014
	HCD	-6.639247	-3.699871	-2.976263	-2.627420	1(2)	1.963481	0.0000
	ILLIT	-3.511334	-3.711457	-2.981038	-2.629906	1(0)	1.843296	0.0158
	POPG	-4.054507	-4.356068	-3.595026	-3.233456	1(1)	1.788592	0.0193

**Source: Author’s Compilation Using E-views 10 Output**

From the result in Table 1, the empirical test shows that illiteracy rate (ILLIT) was stationary at level, which is 1(0) in the model. Again, GDP growth rate (RGDP) and population growth (POPG) are integrated of order one, 1(1) in the model. Also, human capital development (HCD) was integrated of order two, that is, 1(2) in the model. The result indicates that variables were integrated of different orders. ADF Statistic test for each of the variable is less than the critical values at 5% and 10%. This suggests a need to examine the existence or otherwise of some pattern of long-run association among these variables. Hence, to confirm the reliability of this result, the Durbin Watson statistic value for each variable is significant at approximately 2.00, which confirms the absence of autocorrelation problem in the time series data in the model. Thus, we can now proceed to the second stage of testing for the long run relationship among the chosen variables using ARDL bounds testing approach to cointegration.

**ARDL Bounds Test for Cointegration**

The result of ADF unit root test showed that the series used in this study are either I(0), I(1) or I(2), the consideration of ARDL Bounds test for cointegration is plausible. Therefore, the model utilizes the F-statistics to test the significance of lagged levels of the variables in a univariate error correction system

when it is unclear that the data generating process underlying a time series is trend or first difference stationary. The result for this Bound test is given as follows.

**Table 2: Result of the Bound Test for Cointegration**

Model	Functional form $f(\text{HCD, ILLIT, POPG})$	K = 3	F-statistic value 5.402738	Critical Values Bounds		
				Significance	I(0) Bound	I(1) Bound
	RGDP			10%	2.72	3.77
				5%	3.23	4.35
				1%	4.29	5.61

**Source: Author's Compilation Using E-views 10 Output**

The bound test for co-integration test reveals that there is long run relationship associated with the dependent variable and independent variables in the respective models at 5% level of significance. This indicates that the *F*-statistic for this Bound test is 5.402738 in the model, which is greater than the critical values of both the lower and the upper bounds at 5% and 10% levels of significance for the model.

### Long-run and Short-run ARDL Models

The findings for the long-run and short-run coefficient of the variables under investigation were estimated using the optimal ARDL model selection according to the AIC criterion. The discussion of results was based on research objective stated in chapter one. The long-run and short-run and its corresponding coefficients of the model is given below.

### Discussion of Results

**Table 3: Estimated Short-run and Long-run Coefficients based on ARDL Approach**

Model:	Variable	Coefficient	Std. Error	t-Statistic	Prob.
ARDL	<b>Long Run Coefficients</b>				
	HCD	-43129016	20755465	-2.077960	0.0619
	ILLIT	-172884.1	51779.26	-3.338867	0.0066
	POPG	-0.713129	0.296509	-2.405085	0.0349
	C	-44499875.705766	15542645.932632	-2.863082	0.0154
	<b>Short Run Coefficients</b>				
	D(RGDP(-1))	0.550669	0.161892	3.401449	0.0059
	D(HCD)	-24890950.081040	14707229.014643	0.000000	0.0000
	D(HCD(-1))	108360626.924638	18291348.007334	0.000000	0.0000
	D(HCD(-2))	89013267.660689	22528221.810862	0.000000	0.0000
	D(HCD(-3))	-11632181.396377	21672067.473947	0.000000	0.0000
	D(ILLIT)	-203152.001397	45760.942024	-4.439419	0.0010
	D(POPG)	212.867595	56.640569	3.758218	0.0032
	D(POPG(-1))	-416.070356	143.443122	-2.900595	0.0144
	D(POPG(-2))	415.446165	148.904207	2.790023	0.0176
	D(POPG(-3))	-150.197043	55.944739	-2.684739	0.0212
	CointEq(-1)	-1.121794	0.222374	-5.044614	0.0004
	R-squared =	Adjusted R-squared	F-statistic = 2032.989	Prob(F-	Durbin-
	0.999584	=		statistic) =	Watson stat
		0.999092		0.000000	= 1.676503

**Source: Author's Compilation Using E-views 9 Output**

Table 3 shows the long-run and Short-run behaviour of the variables in model one (1) as presented. In the Long-run, all the variables, that is human capital development (HCD), illiteracy level (ILLIT) and population growth (POPG) has an estimated value of -43129016, -172884.1 and -0.713129 respectively and this indicates that they are negatively related to economic growth in Nigeria. This means that an increase in HCD, ILLIT and POPG will leads to a decline in economic growth by 431%, 173% and 71.3% in the long-run respectively. This implies that illiteracy level and population growth have negative but significant impact on economic growth in Nigeria at 5 percent level of significance while human capital development has a negative but insignificant impact on economic growth at 5 percent level of significance.

The outcome of this result is almost in consonance with the apriori expectation for the study where in the long-run, increase in illiteracy level in Nigeria will lead to decrease in economic growth and development as a result of high number of uneducated adult. Again, increase in human capital development in Nigeria

will lead to an insignificant decrease in economic growth as a result of non-attention of the government towards upgrading schools and hospitals in order to have best quality education among the populace. Also, population growth shows a negative impact on economic development in Nigeria. This is because an increase in population growth without a corresponding increase in literacy level and human capital development will lead to a decline in economic growth.

In the short-run, the coefficient of human capital development (HCD) and lag three (HCD-3) values of human capital development have negative but significant impact on economic growth while human capital development lag one (HCD-1) and lag two (HCD-2) values have positive and also significant impact on economic growth at 5 percent level of significance. This implies that at some point, either increase or decrease in human capital development will lead to increase or decrease in economic growth in Nigeria. The coefficient of illiteracy (ILLIT) has a significant negative impact on economic growth at 5 percent level of significance. This indicates that a 1% increase in illiteracy level will lead to a drastic decline in economic growth in Nigeria.

Remarkably, the estimate of short-run dynamics shows the coefficient of ECM-1 is negative and statistically significant in the model with a probability value of 0.0004. This result confirms the convergence of short-run to the long-run equilibrium. The coefficient is approximately -1.121794, indicating that, 112.17% of the deviations or disequilibrium in economic growth from the previous shocks will converge back to the long-run equilibrium in the following period. In relation to the relative adjustment, the speed of adjustment shows a very strong convergence towards the equilibrium period within the system. According to Gujarati (2004) "a highly significant lagged CointEq (-1) is further proof of the existence of stable long-run relationship". This implies that the adjustment to restore long-run equilibrium is reasonably high.

A close look at multiple of determinations ( $R^2$ ) show that about 99% of variation in economic growth is explained by the independent variable. This implies that the model exhibited high explanatory power, and is a good fit. The adjusted R-squared ( $R^2 = 0.999092$ ) shows high explanatory power still after adjustment for degree of freedom. The F-statistics value of 2032.989 indicates significance at 1% level and also revealed that there is a considerable harmony between the economic growth and the explanatory variables put together. This result is reliable as the Durbin-Watson statistic value of 1.676503 reveals to us that there is some degree of positive autocorrelation in the residual. As a result of this, our model estimate can be confidently relied upon for making inferences.

### **Conclusion**

From the result of the study, we therefore conclude that increase in the level of formal education illiteracy has a negative effect on economic development of Nigeria and vice versa where a decrease in illiteracy level in formal education tend to increase the level of economic development in Nigeria. Also, we were able to see that a long run relationship exists between formal education illiteracy and economic development in Nigeria. Therefore, illiteracy level in formal education can influence economic growth of Nigeria in the long run.

### **Recommendations**

The study recommends that:

1. Government should make a constant upward review of budgetary allocation to education sector so that the compulsory education for all Nigerians will be actualized. This would perhaps looks into increase in the number of people in formal education because only trained labour force can meaningfully and optimally contributes to societal development and economic growth in Nigeria as a whole;
2. There is the need for mass mobilization of adult population to embrace formal education. This will go a long way in promoting socio-economic development in the society;
3. There is the need the governments at all levels to make education a priority. They should strive to provide the required infrastructure that promotes effective teaching and learning.

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