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Foreign aids and human capital development in Nigeria

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Abstract

Government efforts towards the development of human capital in Nigeria from government budgetary allocations have not yielded the desired result. This study therefore examined the impact of foreign aids on human capital development in Nigeria from 1985 to 2022. The variables of the study consist of human capital development (HCD), foreign aids (AIDS), gross fixed capital formation (GFCF), literacy rate (LITERACY), exchange rate (EXCHR) and inflation rate (INFLA). These variables were sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin and the National Bureau of Statistics (NBS). The analytical technique of this study was the error correction model (ECM). The key findings show that foreign aids has a positive but insignificant impact on human capital development in Nigeria. Also, there is unidirectional causality relationship between foreign aids and human capital development in Nigeria. The study recommended that the Nigerian government should optimize the use of aids funds by adequately monitoring and supervising how aid funds are being utilized in the health and education sectors.

Keywords: Foreign Aids; Human Capital Development; Literacy Rate; Gross Fixed Capital Formation

1 Introduction

Human capital development can be defined as the transformation of the population into a productive labour force capable of driving the process of economic growth and development. Essentially, it focuses on prioritizing investments in healthcare and education, which are core indices of human development, aimed at improving the productive capacity of a relatively unskilled individuals to enable them contribute meaningfully to the rapid and sustained growth of the economy (Eze, Okpara & Madichie (2020). Human capital development encompasses national budgetary allocations or expenditure on education and healthcare aimed at improving individuals' performances and standard of living thereby increasing national productivity. Ukpogon (2017) also noted that the productive capacity of human beings as income producing agents of the economy can be improved via investments in education, on-the-job training and healthcare.

Foreign aids or official development assistance (ODA) is a supplementary source of funding or finance in countries characterized by low savings, inadequate export earnings and low tax base. It is often provided directly or indirectly through developed nations, international non-governmental agencies and other philanthropic organizations in order to support the economic growth and development of developing countries (Fashina et al., 2018; Sowemimo and Iyoha, 2018). Foreign aids can take the nature of sharing technical expertise, out-and-out grants of money, and loans at concessional charge channeled via global intergovernmental institutions such as International Bank for Reconstructions and Development, the World Bank and the International Monetary Fund (IMF). Foreign aids can further be classified into tie aid, bilateral aid, multilateral aid, military aid and project aid. Tie aid occurs when the recipient country is required to invest the aid on goods and services produced in the donor country, while bilateral aid is given directly by one country's government to that of another country's government. This occurs when money flows from a country with a developed economy to a country with a developing economy. Bilateral aid is directed by strategic, political, and humanitarian interests aimed at fostering democracy, economic growth, peace, and sustainability of long-term

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programs. Whereas multilateral aid is the support offered by several countries that share funds to foreign organizations such as the United Nations, the World Bank, the International Monetary Fund (IMF) etc. These funds are used to relieve hunger in developing nations. Military aid typically allows the recipient country either to procure weapons or security contracts while project aid occurs when the funds are used to support a certain project, such as a hospital or school. Aids funds are mainly used in reducing the level of poverty, promote economic development, protect environments, reduce the amount of money spent on military, improve economic management, ensure and promote democratic governance as well as human rights, etc in developing nations (NOUN, 2015).

Foreign aids can also take the form of money or compassion such as medical practitioners, lawyers, rescuers and engineers. Or in the form of materials including medications, food, building materials, weaponry and the likes. Almost every developed nation has an aid agency through which it gives help to poor countries of the world. One of such agencies that gives billions of dollars to poor countries across the globe as aid is the United States Aid for International Development (USAID). These poor countries, mainly in Africa, Latin America and Asia receive aids from the developed Western Europe and Northern America, and international organizations such as the United Nations, the World Bank, the IMF, the European Union, etc to tackle one developmental need or the other (NOUN, 2015).

1.1 Statement of the Problem

Studies on the impact of foreign aids on human capital development have become imperative in developing countries given the recently adopted Sustainable Development Goals (SDGs) by the international community whose major goal is the realization of 17 cardinal objectives in the world by the year 2030. The militating factor to the accomplishment of these global development targets of the United Nations as entrenched in the SDGs, particularly the objectives of building resilient infrastructure, promoting inclusive and sustainable industrialization and fostering innovation and ending poverty in all its forms everywhere by 2030, is the insufficiency of domestic capital resulting from inadequate domestic savings and foreign exchange (United Nations, 2015b).

Foreign aids accounts for a sizeable proportion of human capital development funding in developing nations including Nigeria. The Nigerian economy is ranked among the highest recipients of foreign aids in Africa, having received over \$10billion as aids between the years 1986 till date, however, the pace of human capital development is still unusually slow. Rather, the incidence of poverty, disease and illiteracy is on the rise. The misalignment between the huge receipts in aids and the slow pace of human capital development in Nigeria has been a source of concern to both policy makers and researchers. Previous studies have identified several factors including corruption, high cost of governance, institutional rigidities, government ineffectiveness etc as being responsible for the ineffectiveness of foreign aids in promoting human capital development in Nigeria.

The impact of foreign aids is debatable among development economists. Some are of the opinion that external aid has no positive impact on economic growth, let alone economic development (for example, Boone, 1996 in Fasanya & Onakoya, 2022). Others such as Burnside and Dollar (2000) as cited in Fasanya & Onakoya (2022) hold a strong belief that foreign aids contributes significantly in improving economic development of less developed countries like Nigeria. This is particularly true if the recipient country executes proper policies. Also, other scholars such as Ewubare & Ozigbu (2019) and Nderitu & Wenani (2023) argued that foreign aid has both positive and negative impact on the economic growth and economic development of the third world countries (Fasanya & Onakoya, 2022). It is based on this that the paper aims to investigate the impact of foreign aids on human capital development in Nigeria with a view to closing the precarious gap that exists between foreign aids and human capital development in Nigeria.

1.2 Objectives of the Study

The main objective of the study was to examine the impact of foreign aids on human capital development in Nigeria. The specific objectives were to:

- determine the impact of foreign aids on human capital development in Nigeria.
- determine the long-run relationship between foreign aids and human capital development in Nigeria.
- determine the causality relationship between foreign aids and human capital development in Nigeria.

2 Conceptual Literature

2.1 Foreign Aids

Fashina, Asaleye, Ogunjobi and Lawal (2018) opined that foreign aids is the voluntary transfer of resources from one country to another country. This transfer includes any flow of capital to developing countries. A developing country usually does not have a robust industrial base and is characterized by a low human development index (HDI). Hamidu, Jelilov, Isik and Akyuz (2020) defined foreign aids as money that one country voluntarily transfers to another, which can take the form of a gift, a grant or a loan. Oxfam America (2008) as cited in Obu-Cann, Fosu, and Bondzie (2022) defined foreign aids as “abroad category of grants to other countries for economic development, health, and emergency response to disasters. It also may be used for security and military assistance, counter narcotics and counter terrorism activities, and programs to fight corruption and increase public transparency”.

Development Assistance Committee (DAC) (2021) defined foreign aids as official development assistance (ODA) and technical aid. The term excludes military assistance. ODA flows must satisfy all three of the following criteria; - their primary objective must be developmental, thus it excludes military aid and private investment, - they must be concessional, that is the terms and conditions of the financial package must be softer than those available on a commercial basis, and the flows should come from governmental agencies and go to developing country governments. Official development finance comprises ODA plus international flows satisfying only the first and third criteria. Flows from voluntary agencies may also be counted as aid but do not satisfy the third criterion. Foreign aids can be in the form of a concessional loan and/or a grant.

2.2 Human Capital Development

Generally, human capital development involves building and sustaining the productive capacity of the population through investment in healthcare and education. Isiaka and Makinde (2020) explained that investing in human capital development is critical as it is targeted at ensuring that the nation’s human resource endowment is knowledgeable, skilled, productive and healthy to enable the optimal exploitation and utilization of other resources to engender growth and development. The UNDP Human Development Report in 1990 described human capital development based on the achievements of a country on the three basic components of human development such as healthcare delivery, education and standard of living.

Michiel (2022) offered more encompassing view of human capital formation by describing it as gross investment in education, healthcare, training and other forms of capacity building that boost earnings, improve health, or contribute positively to the lifetime of an individual. Therefore, formation or accumulation of human capital and economic development for human welfare remain the major targets of economic policy pursued by each country. Gyimah-Brempong and Asiedu (2018) argued that human capital defines the factor which offers a specific character to every organization. In view of this, individuals are perceived as an important tool in organization for innovation, stimulating and making necessary changes as well as creative thinking.

In modern economic literature, expenditure on human capital are regarded as investment rather than consumption. Thus, human capital is similar to physical means of production. Investment in human capital means all activities that influence future real income through the embedding of resources in people. This covers expenditure on education, training, health, information, and labour mobility. Among the generally agreed causal factors responsible for the impressive performance of the economy of most of the developed countries is huge commitment to human capital formation.

2.1 Theoretical Literature

2.1.1 Human Capital Theory

Human Capital theory as postulated by Paul Romer (1986) emphasizes how education increases the productivity and efficiency of workers by increasing the level of their cognitive skills. The original idea of human capital can be traced back at least to Adam Smith in the 18th century. The modern theory was popularized by Gary Becker, an economist and Nobel Laureate from the University of Chicago, Jacob Mincer, and Theodore Schultz. As a result of his conceptualization and modeling work using Human Capital as a key factor, the 2018 Nobel Prize for Economics was jointly awarded to Paul Romer, who founded the modern innovation-driven approach to understanding economic growth.

Schultz (1961) introduced the notion that people who invest in education increase their stock of human capital. Examples of such investments include expenditure on education, on the job training, health, and nutrition. Such

expenditures increase future productive capacity at the expense of current consumption. However, the stock of human capital increases only in a period when gross investment exceeds depreciation with a passage of time, with intense use or lack of use. The provision of education is seen as productive investment in human being; an investment which the proponents of human capital theory consider to be equally or even more worthwhile than that of physical capital. In fact, contemporary knowledge in the United States acknowledges that investment in human capital is three times greater than that in physical capital. Human capital theorists have established that basic literacy enhances the productivity of workers in low skilled occupations. They further stated that an instruction that requires logical or analytical reasoning or provides technical and specialized knowledge, increases the marginal productivity of workers in high-skilled professional positions. It has been proven that the greater the provisions of schooling, the greater the stocks of human capital in the society, and consequently, the greater the increase in national productivity and economic growth.

2.1.2 Dependency Theory

The dependency theory was formulated by Andre Gunder Frank in 1971. The dependency theory is an approach that seeks to explain the underdevelopment of certain nations by emphasizing upon the putative restraints imposed upon them by the global economic and political order. This theory which gained popularity especially in the 1960s and the 1970s, is a reaction to modernization theory (Ahiakpor, 1985). It holds that a core of rich nations benefit from the resources that flow into them from a periphery of underdeveloped and impoverished nations. The central tenet of the dependency theory is that these poor states' integration into the world system is primarily responsible for their plight as well as the enrichment of the wealthy states. Dependency theory refers to the idea that ex-colonial powers retain wealth at the expense of the impoverished former colonies due to the wide-ranging effects of colonialism in Africa, Asia, and Latin America. Resources are extracted from the 'peripheral' underdeveloped ex-colonies to the 'core' wealthy, advanced states. Dependency theory is broadly based on a Marxist theory of development. According to the theory, the ex-colonies are being economically exploited by former colonial powers and need to isolate themselves from capitalism and the 'free market' in order to develop. Andre Gunder Frank (1971) argued that the developed West has 'underdeveloped' developing nations effectively by relegating them to a state of dependency. It is important to study dependency theory to understand how this has come about. According to Frank, the global capitalist system we know today developed in the sixteenth century. Through its processes, nations in Latin America, Asia, and Africa became involved in a relationship of exploitation and dependency with the more powerful European nations. This global capitalist structure is organized so that the rich 'core nations' like the USA and the UK are at one end, and the undeveloped or 'peripheral nations' are at the other end. The core exploits the periphery through its economic and military dominance.

2.3 Empirical Literature

Obu-Cann, Fosu and Bondzie (2022) examined the impact of foreign aid inflow on economic growth in Ghana. The specific objective of the study was to investigate the impact of stock of capital human (h), stock of physical capital (k) and foreign direct investment (FDI). The error term is represented as $u=(U)$. The policy index is exogenously determined and it is given as the weighted average of budget surplus (as a proxy for fiscal policy), inflation (as a proxy for monetary policy) and import and export as a share of GDP (as a proxy for index of trade) on real GDP for the period 1975 to 2010. Ordinary Least Squares technique was adopted in the study and used Augmented Dickey-Fuller Unit Root Test, co-integration test, granger causality test, error correction model (ECM) to estimate data employed. The study indicated that foreign aid has a positive but insignificant effect on economic growth of Ghana. The study suggested that donor agencies and the government must come up with policies and strategies that can lead to effective and efficient utilization of the aid funds in Ghana.

Olowoniyi (2022) examined the impact of foreign aid on female human capital formation in Nigeria. The study adopted the survey research method, using a random sample size of 240 females engaged in five sectors; academia (senior lecturers), medical profession (doctors and nurses), entrepreneurs (business owners), students (secondary/tertiary) and those in politics and governance. This study is hinged on the theory of liberalism and liberal feminism and post-gender theories. The study revealed that there is no significant impact of foreign aid on female human capital formation in Nigeria. The research concluded that the impact of foreign aid on female human capital formation is not significant in Nigeria. The study recommended that foreign aid should be sector specific in order to enhance measurement of the attainment of objectives. The study further recommended that the disbursement process should be made more transparent and donor agencies must work with non-state actors to ensure effective management of funds, proper coordination and monitoring.

Fasanya and Onakoya (2022) analyzed the impact of foreign aid on economic growth in Nigeria during the period of 1987-2019. The variables employed are the growth rate of GDP (GDPGR), growth rate of population (POPGR which is a

proxy for the growth rate of labour force), investment/GDP ratio represents the growth rate of domestic capital stock and AID is the foreign aid. The rate of inflation captures the monetary policy tool and government expenditure is used to capture the fiscal policy. The method of data analysis was the error correction model. Their findings showed that aid inflows has significant impact on economic growth in Nigeria: domestic investment increased in response to aid inflows and population growth has no significant effect on aid inflows. Aid inflows also provides free resources to increase domestic investment, thus confirming the aid-policy growth hypothesis. The study recommended that donor governments should be aware of the political situations in recipient countries, and work with international bodies to ensure as much stability as possible. Finally, foreign aid transfers should henceforth pledge to abide by the oath of doing no harm.

Akintoye and Daniel (2021) conducted a study to examine the effect of foreign aid on economic development in Nigeria. Specifically, the study sought to explore the effect of net official development assistance on government expenditure since the emergence of the Fourth Republic from 1999 till 2018. Secondary data was sourced from the World Bank. Ex-post facto research design was used and the Ordinary Least Squares (OLS) was used to measure the effect of foreign aid on government expenditure, while coefficient of correlation is used to measure the degree of relationship between them. The result showed that there is no significant relationship between foreign aid and the Nigeria economy. Adopting the Aid-Growth Relationship Theory, the paper concluded that the amount of aid received in relation to its size in terms of GDP is too low, thereby having insignificant effect. It therefore recommended that efforts and policies on economic development should not be based on foreign aid inflows. Rather, efforts and policies on economic development should be channeled internally on how to enhance national savings and investments.

Hamidu, Jelilov, Isik and Akyuz (2020) examined the impact of foreign aid and infrastructural development on poverty reduction. The study utilized the annual dataset to examine the impact of foreign aid and infrastructural development on poverty reduction in Nigeria over the period of 1981 to 2016. Data on foreign aid measured by Total Official Development Assistance received (constant 2010 US\$), infrastructural development (proxied by total electricity net generation). The error correction model (ECM) was adopted to estimate the data employed. The major findings of the study are three: one, foreign aid exerts a positive impact on poverty reduction in Nigeria in both short and long terms. Two, the infrastructural development also impacts positively on poverty reduction in Nigeria both in the short and long run; and three, the interaction of foreign aid inflows with infrastructural development yields a negative impact on poverty reduction in Nigeria. The study recommended that foreign aid donors should give high priority to sectors that benefit the poor such as agriculture and infrastructure development to facilitate poverty reduction. By doing so, Nigeria has a better chance of achieving sustainable transition out of poverty while promoting growth in both short and long run.

Duru, Okafor, Eze and Ebenyi (2020) explored the relationship between foreign aid and economic growth in Nigeria from 1984 to 2017. Specially, the study sought to evaluate the relationship between official development assistance, private investment on economic growth. The Autoregressive Distributed Lag (ARDL) Bounds method to co-integration was employed for this study. The results revealed that foreign aid did not contribute to economic growth in Nigeria. Also, the macroeconomic policy environment did not contribute to economic growth in both the short-run and long-run. Furthermore, the results revealed that the impact of foreign aid on economic growth in Nigeria was contingent on the quality of the macroeconomic policy environment. Hence, the claim that the effectiveness of aid is dependent on the policy environment was valid for Nigeria. The study recommended that government should put in place a sound macroeconomic policy environment that is stable to stimulate domestic saving and ensure the effective utilization of foreign aid.

Eze, Okpara and Madichie (2020) examined the impact of foreign aid on economic growth in Nigeria. The specific objective of the study was to evaluate the impact of disaggregated foreign aid into health aid, education aid, industry aid and economic infrastructure aid and to ascertain how each aid affected Nigeria's economic growth from 1995 to 2017 using time series data. The Canonical Co-integrating Regression (CCR) procedure was employed to guarantee the robustness of the estimates. Empirical results indicated that within the study period, the impacts of education aid, health aid, industry aid, and economic infrastructure aid on economic growth varied. The study obtained evidence that only education aid drives economic growth significantly in Nigeria. However, the impact of health aid on growth was positive but insignificant; industry and economic infrastructure aid also impeded economic growth. The study recommended that government and policymakers need to create an enabling policy environment for aid inflow as the review of development plans of Nigeria since independence revealed the absence of policy thrust of government towards appropriating foreign aid in its quest for enhancing economic growth.

Isiaka and Makinde (2020) investigated the impact of foreign aids on economic growth in Nigeria. Specifically, the study sought to explore the impact of foreign direct investment, human development and official development assistance on

real GDP using time series data spanning from 1990 to 2017. The research considered the secondary data that were gathered from CBN statistical bulletin and World Bank Data Indicators. The error correction model (ECM) was adopted to estimate data employed. The findings revealed that real gross domestic product responds inversely to changes in official development assistance and foreign direct investment. Based on these findings, the study concluded that foreign aids have a significant impact on economic growth in Nigeria. Therefore, the study recommended among others that government needs to formulate strong and effective education and healthcare policies to facilitate and attract investment in the sectors and improve their efficiency in the long-run that will influence productivity.

Ewubare and Ozigbu (2019) estimated the dynamic relationship between foreign aid and infrastructure development in Nigeria. Specifically, the study sought to examine the relationship between official development assistance (ODA), broad-based grants and technical cooperation grants and public capital expenditure, which forms the basis for measuring infrastructure development. The data analysis tool was the Autoregressive Distributed Lag (ARDL) model. The short run result revealed that the contemporaneous value of ODA has significant positive relationship with public capital expenditure. With 1 percent increase in ODA inflows, Public investment increases to about 0.8850 percent. Additionally, the second and third lags of technical cooperation grants are positively and significantly linked to public capital expenditure in the short run. The long run result revealed that ODA and broad-based grants positively influenced public capital expenditure. As observed from the regression estimates, ODA has the larger positive impact on public investment expenditure than broad-based grant in the long run. This is a pointer that ODA is an important channel through which foreign aid bolster infrastructure development in Nigeria. Hence, it is recommended that the General Budget Support (GBS) development aid from donor countries and agencies should prioritize public capital expenditure with a view to improving the level of infrastructural development in Nigeria.

2.4 Gap in Literature

Most of the previous literature focused on the effect of foreign aids on economic growth and utilizing mostly international cross sectional statistical investigations rather than individual country case study. Although these studies are informative, but they have limited policy relevance as the policy makers in the recipient country would want to know how foreign aids work for the respective country like Nigeria. Again, available empirical evidence revealed there are limited studies on the impact of foreign aids on human capital development in Nigeria and so the study aims at providing empirical evidence on the relationship between foreign aids and human capital development in Nigeria with a view to bridging the existing gap(s) in literature.

Furthermore, the current study is anchored on the human capital theory that was postulated by Paul Romer (1986) whereas most previous studies were anchored on the dependency theory that was formulated by Andre Gunder Frank (1971), which opined that a core of rich nations benefits from the resources that flow into them from a periphery of underdeveloped and impoverished nations.

3 Methodology

This study made use of the ex post facto research design. The variables consist of Human capital development (HCD), Foreign aids (AIDS), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), Exchange rate (EXCHR) and Inflation rate (INFLA) for the period between 1986 and 2022 as defined in our model specification. All the variables were sourced from the Central Bank of Nigeria (CBN) statistical bulletin for the various years. The data collected was subjected to descriptive statistic, correlation matrix, Augmented Dickey-Fuller (ADF) unit root test and Johansen Co-integration test. The technique of data analysis was the error correction model.

3.1 Model Specification of the Study

The model of the study is represented in the functional form as shown below:

$$HCD=f(AIDS, GFCF, LITERACY, EXCHR, INFLA).....(3.3)$$

Where HCD is human capital development (proxied by government health and education capital expenditure), while AIDS is foreign aids, GFCF is gross fixed capital formation, LITERACY is Literacy rate, EXCHR is exchange rate and INFLA is inflation rate. The linear function is represented as follows:

$$HCD = \beta_0 + \beta_1AIDS+ \beta_2GFCF + \beta_3LITERACY - \beta_4 EXCHR- \beta_5 INFLA + \mu t.....(3.4)$$

Where: β_0 = Constant term, β_1 to β_5 = Regression coefficients of the independent variables and μt = Error term. To reduce the outliers among the variables, all the variables will be expressed in logarithmic form.

$$\text{LogHCD} = \beta_0 + \beta_1 \text{LogAIDS} + \beta_2 \text{LogGFCF} + \beta_3 \text{LITERACY} - \beta_4 \text{EXCHR} - \beta_5 \text{INFLA} + \mu t \dots\dots(3.5)$$

First in estimating the model, the data collected was subjected to Augmented Dickey-Fuller Unit Root test statistic, descriptive statistics, Johansen Co-integration test. Thereafter, we carried out the error correction model and granger causality test. The following post-estimation tests were also carried out namely: Breuch-Godfrey Serial Correlation LM, Ramsey Reset and Jarque Bera.

3.1.1 Error Correction Model (ECM).

$$\Delta \text{LogHCD}_{t-1} = \delta_0 + \delta_1 \Delta \text{AIDS}_{t-1} + \delta_2 \Delta \text{LogGFCF}_{t-1} + \delta_3 \Delta \text{LITERACY}_{t-1} - \delta_4 \Delta \text{EXCHR}_{t-1} - \delta_5 \Delta \text{INFLA}_{t-1} + \epsilon_{ct-1} \dots\dots(3.6)$$

Δ denotes the first difference value of the time series in the function, $t-1$ denotes Lag one, δ_1 denotes the coefficients of the independent variables. The coefficient of the Error correction term (ϵ_{ct-1}) is used to measure the speed of adjustment back from the short-term to the long-term equilibrium.

3.2 Presentation and Analysis of Results

Table 1 Results of Descriptive Statistics of the Variables

	HCD	AIDS	GFCF	LITERACY	EXCHR	INFLA
Mean	1552587.	1.95E+09	2638719.	33.86026	94.66228	20.21579
Median	17517.37	6.17E+08	1526861.	32.93500	57.37225	12.65000
Maximum	30916198	2.20E+10	6702782.	56.21000	342.5430	72.80000
Minimum	204.2600	109886.1	7502.500	23.00000	0.546400	5.400000
Std. Dev.	5140576.	3.97E+09	2602401.	9.620282	100.3847	16.75163
Skewness	5.129759	3.884062	0.333800	0.501248	0.861473	1.511667
Kurtosis	29.59552	19.01725	1.357430	1.975954	2.792833	4.458459
Jarque-Bera	1286.584	501.7522	4.977564	3.251642	4.768150	17.84045
Probability	0.000000	0.000000	0.083011	0.196750	0.092174	0.000134
Sum	58998316	7.39E+10	1.00E+08	1286.690	3597.167	768.2000
Sum Sq. Dev.	9.78E+14	5.85E+20	2.51E+14	3424.343	372851.9	10382.83
Observations	38	38	38	38	38	38

Source: E-view 9 Result

The table shows descriptive statistics of the variables. In the model established in the study, there is one dependent variable and five independent variables. These variables consist of Human capital development (HCD), Foreign aids (AIDS), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), Exchange rate (EXCHR) and Inflation rate (INFLA), respectively.

3.2.1 Correlation Matrix of the Variables

Table 2 Result of Correlation Matrix

	HCD	AIDS	GFCF	LITERACY	EXCHR	INFLA
HCD	1.000000	0.862005	0.657194	0.870847	0.571210	0.769320
AIDS	0.862005	1.000000	0.334235	0.377116	0.337649	0.172339
GFCF	0.657194	0.334235	1.000000	0.909672	0.885917	0.218999
LITERACY	0.870847	0.377116	0.909672	1.000000	0.826974	0.223548
EXCHR	0.571210	0.337649	0.885917	0.826974	1.000000	0.249352
INFLA	0.769320	0.172339	0.218999	0.223548	0.249352	1.000000

Source: E-view 9 Result

This correlation matrix presents a table showing correlation coefficients between sets of variables. Each random variable (Xi) in the table is correlated with each of the other values in the table (Xj). This test presented clear understanding on the assumption of ordinary least squares that there is no perfect or exact linear relationship among the explanatory variables. The result of the correlation matrix showed that every explanatory variable in the study is linearly independent of each other.

3.2.2 Unit Root Test using Augmented Dickey-Fuller Test

Table 3 Results of Stationarity (unit root) test

Variables	Variables' Name	ADF- Statistic	5% Critical Value	Remark
HCD	Human Capital Development	-4.837884	-2.943427	1 (1)
AIDS	Foreign Aids	-4.992637	-2.945842	1 (1)
GFCF	Gross Fixed Capital Formation	-4.916722	-2.945842	1 (1)
LITERACY	Adult Literacy Rate	-6.873580	-2.945842	1 (1)
EXCHR	Exchange Rate	-5.090027	-2.945842	1 (1)
INFLA	Inflation Rate	-3.053066	-2.943427	1 (1)

Source: Author's Computation

In the table 4.1, the variables that were tested for unit root are shown, the values for Augmented Dickey-Fuller (ADF) statistic is presented, the lag level of each variable is identified. The Mackinnon critical values at 5% level of significant were pointed out. The order of integration of each variable was enumerated, and finally the stationarity position of each variable was also stated. When Augmented Dickey-Fuller statistic is greater than Mackinnon 5 percent critical value in absolute term, it is concluded that the variable is stationary. These variables: Human capital development (HCD), Exchange rate (EXCHR), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), inflation rate (INFLA) and Foreign aids (AIDS) were stationary at first difference, that is they are integrated at order one, which is represented as I(1). Therefore, they contain unit root. The existence of unit root in most variables paves way for further investigation on the nature of the long run relationship among the variables.

3.2.3 Co-integration Test Results

Since all the variables were integrated at order 1 (1), we turned to determine the existence of long run equilibrium relationship between the variables. Separate co-integration tests were carried out on Human capital development (HCD), Foreign aids (AIDS), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), Exchange rate (EXCHR) and Inflation rate (INFLA) respectively. The co-integration tests are based on the Johansen and Juselius (1989) test. Tables 5 and 6 present the co-integration test results.

Ho = There is no co-integration (no long run relationship among Variables)

Table 4 Co-integration Test Results

Date: 05/23/23 Time: 12:59				
Sample (adjusted): 1987 2022				
Included observations: 36 after adjustments				
Trend assumption: Linear deterministic trend				
Series: HCD AIDS GFCF LITERACY EXCHR INFLA				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.748110	124.1335	95.75366	0.0002

At most 1 *	0.587657	74.49805	69.81889	0.0201
At most 2	0.379589	42.60567	47.85613	0.1424
At most 3	0.321918	25.42026	29.79707	0.1470
At most 4	0.204641	11.43473	15.49471	0.1861
At most 5	0.084853	3.192128	3.841466	0.0740
Trace test indicates 2 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

Source: E-view 9 Result

The co-integration results in table 4.2.1 for the model (HCD, AIDS, GFCF, LITERACY, EXCHR and INFLA) reveals that both trace test and the Max-eigenvalue test indicates 2 co-integrating equation(s) at the 5 percent level of significance. Thus there is a long-run relationship among the variables (HCD, AIDS, GFCF, LITERACY, EXCHR and INFLA). We therefore reject the null hypothesis of no co-integration amongst the variables and accept the alternative hypothesis.

3.2.4 Estimation of Regression Model

Table 5 Empirical Results of the Error Correction Model (ECM)

Dependent Variable: LOGHCD				
Method: Least Squares				
Date: 05/23/23 Time: 13:17				
Sample (adjusted): 1986 2022				
Included observations: 37 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.455800	1.394776	4.628555	0.0001
LOGAIDS	0.008590	0.146425	0.058663	0.9536
LOGGFCF	1.315733	0.239737	5.488230	0.0000
D(LITERACY,1)	0.050585	0.073681	0.686538	0.4976
D(INFLA,1)	-0.010628	0.015410	-0.689651	0.4957
D(EXCHR,)	-0.020273	0.012372	-1.638534	0.1118
ECM-1	-1.123770	0.266549	-4.216001	0.0002
R-squared	0.888163	Mean dependent var		10.18688
Adjusted R-squared	0.865795	S.D. dependent var		3.638545
S.E. of regression	1.332943	Akaike info criterion		3.581314
Sum squared resid	53.30212	Schwarz criterion		3.886082
Log likelihood	-59.25430	Hannan-Quinn criter.		3.688759
F-statistic	39.70781	Durbin-Watson stat		0.302709
Prob(F-statistic)	0.000000			

Source: E-view 9 Results

The error correction model was carried out to examine the parameter estimates. In testing this hypothesis, Foreign aids (AIDS), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), Exchange rate (EXCHR) and Inflation rate (INFLA) were regressed against Human capital development (HCD). The result of the regression analysis represents the

model for the impact of foreign aids on human capital development in Nigeria. The empirical result shows that the coefficient of Foreign aids (AIDS) has a positive but insignificant impact on Human capital development (HCD) because the P-values of the t – statistics (0.058663) is greater than the significant value (0.05). Also, the empirical result shows that the coefficient of Gross fixed capital formation (GFCF) has a positive and significant impact on Human capital development (HCD) because the P-values of the t – statistics (5.488230) is less than the significant value (0.05). Furthermore, the empirical result shows that the coefficient of Literacy rate (LITERACY) has a positive but insignificant impact on Human capital development (HCD) because the P-values of the t – statistics (0.686538) is greater than the significant value (0.05). Again, the empirical result shows that the coefficient of Inflation rate (INFLA) has a negative and insignificant impact on Human capital development (HCD) because the P-values of the t – statistics (1.638534) is greater than the significant value (0.05). The empirical result shows that the coefficient of exchange rate (EXCHR) has a negative and insignificant impact on Human capital development (HCD) because the P-values of the t – statistics (1.638534) is greater than the significant value (0.05). Again, our empirical result shows that the R-squared (R^2) is 0.8881. The ECM statistics was (-4.216001). The ECMt-1 result indicates that 11% numbers of errors have been corrected from the short run adjustment to the long run. In other words, ECM statistics shows that the model has 11 percent degree of adjustment from short-run to long-run equilibrium.

3.2.5 Granger Causality Test Result

The essence of causality analysis using the Granger causality test is to ascertain whether a causal relationship exists between the variables of interest.

Table 6 Result of Causality Test

Pairwise Granger Causality Tests			
Date: 05/23/23 Time: 14:11			
Sample: 1985 2022			
Lags: 1			
Null Hypothesis:	Obs	F-Statistic	Prob.
LOGAIDS does not Granger Cause LOGHCD	37	7.81366	0.0085
LOGHCD does not Granger Cause LOGAIDS		1.46462	0.2345
LOGGFCF does not Granger Cause LOGHCD	37	5.16285	0.0295
LOGHCD does not Granger Cause LOGGFCF		0.02811	0.8678
LITERACY does not Granger Cause LOGHCD	37	7.77486	0.0086
LOGHCD does not Granger Cause LITERACY		4.98646	0.0322
INFLA does not Granger Cause LOGHCD	37	0.15579	0.6955
LOGHCD does not Granger Cause INFLA		1.74755	0.1950
EXCHR does not Granger Cause LOGHCD	37	0.05453	0.8168
LOGHCD does not Granger Cause EXCHR		1.73238	0.1969

Source: E-view 9 Result

Evaluating the results in table 4 based on the decision rule, there is a uni-directional relationship between Foreign aids and Human capital development (HCD) in Nigeria.

3.3 Econometric /Second Order Test

The null hypothesis: There is no Autocorrelation.

The Breuch-Godfrey Serial correlation LM Test was used to identify whether the model suffers from autocorrelation problem. The autocorrelation problem violates one of ordinary least squares assumptions that says there is no correlation among the error terms of different observations. Breuch-Godfrey Serial correlation LM Test is a statistic that ensures that the assumption of ordinary least squares was not violated. The null hypothesis; there is no autocorrelation problem because the Prob. Value of Breuch-Godfrey Serial correlation LM Test (0.3400) was greater than its significant

value (0.05), we reject alternative hypothesis and accept the null hypothesis. It is concluded that the model is free from autocorrelation problem. This denotes that the Ordinary Least Squares estimates were efficient and unbiased.

Table 7 Result of Breuch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	1.89525	Prob. F(2,28)	0.3400
Obs*R-squared	1.49359	Prob. Chi-Square(2)	0.3800

Source: E-view 9 Result

3.4 Result of Ramsey Reset Test

The null hypothesis: There is no specification error.

Table 8 Result of Ramsey Reset Test

Ramsey RESET Test			
Equation: UNTITLED			
Specification: (LOGHCD,1) C (LOGAIDS,1) (LOGGFCF,1) D(LITERACY,1)			
D(INFLA,1) D(EXCHR,) ECM-1			
Omitted Variables: Squares of fitted values			
	Value	df	Probability
t-statistic	0.298942	29	0.6700
F-statistic	0.967667	(1, 29)	0.6300
Likelihood ratio	0.689821	1	0.8900
F-test summary:			
	Sum of Sq.	df	Mean Squares
Test SSR	30.79431	1	30.79431
Restricted SSR	53.30212	30	1.776737
Unrestricted SSR	22.50781	29	0.776131
LR test summary:			
	Value	df	
Restricted LogL	-59.25430	30	
Unrestricted LogL	-43.30520	29	
Unrestricted Test Equation:			
Dependent Variable: LOGHCD			
Method: Least Squares			
Date: 05/23/23 Time: 13:44			
Sample: 1986 2022			
Included observations: 37			

Source: E-view 9 Results

This second order test checks whether the model of the study suffers model specification error. The null hypothesis: There is model specification error. The Ramsey reset test showed that there was no specification error because the P-value of Ramsey reset test (0.6700) was greater than it significant value (0.05). Therefore, we accept the null hypothesis and conclude that the model does not suffer from specification problem. This means that the study includes core

variables in the model, and does not include superfluous variables. The functional form of the model was very well specified, there is no error of measurement in the regressand and regressor.

3.4.1 Histogram Normality Test

Normality test is done to check if the residuals of the error term have a normal distribution. Normality test is conducted using Jacques-Bera (JB) test. In testing for normality, the approach used by Paavola (2006) for testing normality using Jacques-Bera test was adopted.

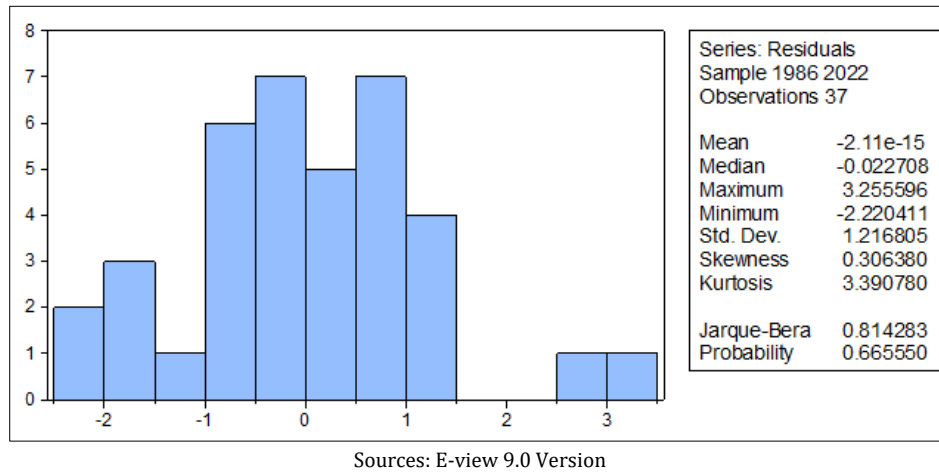


Figure 1 Normality test for each of the Distribution

Jarque-Bera (JB) test is a statistic that computes both skewness and Kurtosis. Skewness shows the degree of symmetry (normal distribution). The normal measurement is zero/0. Kurtosis is a statistic that computes the degree of peakedness. The normal measurement is three/3. A distribution is skewed if one of its tails is longer than the other. A skewed distribution can be positive or negative. A positively skewed distribution means that it has a long tail in the positive direction while a negatively skewed distribution means that it has a long tail in the negative direction. The null hypothesis is that there is Skewness and Kurtosis in the model. We reject the null hypothesis and accept the alternative that there is no Skewness and Kurtosis in the model because its P-value of Jarque-Bera (JB) test (0.814283) is greater than its 5% significant level (0.05). This implies that the standardized residuals from the estimated model in the regression framework is normally distributed, which is consistent with the OLS assumption.

3.5 Test of Hypotheses

The results for the various hypotheses testing are presented in the section.

3.5.1 Test of Hypothesis one

H₀₁ Foreign aids has no significant impact on human capital development in Nigeria.

In testing this hypothesis, Foreign aids (AIDS) was regressed against human capital development. The empirical result shows that the coefficient of Foreign aids (AIDS) has a positive but insignificant impact on Human capital development (HCD) because the P-values of the t – statistics (0.058663) is greater than the significant value (0.05). The empirical finding reveals that Foreign aids has a positive but insignificant impact on the Human capital development in Nigeria.

4.3.1 Test of Hypothesis two

H₀₂ There is no long-run relationship between Foreign aids and Human capital development in Nigeria.

The Johansen co-integration statistic was carried out to ascertain the long run relationship among Inflation rate (INFLA), Foreign aids (AIDS), Gross fixed capital formation (GFCF), Literacy rate (LITERACY), Exchange rate (EXCHR) and Human capital development (HCD). Trace statistic test and the Max-eigenvalue statistic test indicates 2 co-integrating equation(s) at the 5 percent level of significance. Thus there is a long run relationship between Foreign aids and Human capital development in Nigeria.

4.3.2 Test of Hypothesis Three

H₀₃ There is no causality relationship between Foreign aids and Human capital development in Nigeria.

Foreign aids (AIDS) granger causes Human capital development (HCD) because its Prob. value (0.0085) is less than its significance value (0.05) while Human capital development (HCD) does not granger cause Foreign aids (AIDS) because its Prob. value (0.2345) is greater than its significant value (0.05). There is a unidirectional relationship between Foreign aids and Human capital development (HCD) in Nigeria.

4 Summary of Findings

The following are the major findings of the study:

- Foreign aids has a positive but insignificant impact on human capital development in Nigeria (P-values of t – statistics (0.058663) >Sig-value (0.05). Foreign aids has 8 percent positive but insignificant impact on human capital development in Nigeria. This implies that a percentage change in foreign aids will result to 8 percent increase in human capital development in Nigeria.
- There is a long-run relationship between foreign aids and human capital development in Nigeria. Trace statistic and the Max-eigenvalue statistic of Johansen co-integration test indicates 2 co-integrating equation(s) at the 5 percent level of significance. This further implies that foreign aids will have a positive and significant impact on human capital development in Nigeria in the long-run.
- There is unidirectional relationship between foreign aids and human capital development (HCD) in Nigeria. There is unidirectional relationship between gross fixed capital formation and human capital development (HCD) in Nigeria. There is a bi-directional relationship between adult literacy rate and human capital development (HCD) in Nigeria. There is no causality relationship among inflation rate, exchange rate and human capital development (HCD) in Nigeria.

5 Conclusion

This study concludes that foreign aids has a positive but insignificant impact on human capital development in Nigeria. This is in line with the postulation of the dependency theory that was formulated by Andre Gunder Frank in 1971 who stated that a core of rich nations benefit from the resources that flow into them from a periphery of underdeveloped and impoverished nations. The central tenet of the dependency theory is that these poor states' integration into the world system is primarily responsible for their plight as well as the enrichment of the wealthy states. Dependency theory refers to the idea that ex-colonial powers retain wealth at the expense of the impoverished former colonies due to the wide-ranging effects of colonialism in Africa, Asia, and Latin America.

The study has noted the insignificant impact of foreign aids given to the less developed countries in order for them to improve their economic development. It nonetheless, takes into consideration the fact that the improper usage of foreign aids has serious effects on the economic condition of the beneficiary countries. Therefore, it is more proper to see foreign aids as a business affair in its aim and content rather than being considered as merely a demonstration of generosity between countries. Foreign aid is also a means of yielding interest by the donor nations; meaning that what is given as aid to the less developed countries is not a gift as it is accompanied or tied to various ideological underpinnings meant to increase the power of the donor nations at the expense of the recipients.

Recommendations of the Study

Based on the findings of this study, the following recommendations were made.

- Nigerian Government should optimize the use of foreign aids inflow by adequately monitoring and supervising how aid funds are being utilized in the education and health sectors.
- Nigerian Government should encourage foreign aids in the form of technical assistance instead of financial aid in order to discourage the mismanagement of resources and corruption. Technical aid will also go a long way in improving human capital development and sustaining the growth and development of the economy.
- Nigerian government should stop relying on foreign aids as a major source of funding for human capital development since foreign aids does not have a significant impact on human capital development in Nigeria. Rather, the focus should be on reducing the cost of governance, and reinvesting the proceeds on healthcare and education.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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