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External Capital Inflow and Human Development in Nigeria

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Abstract

External resources inflow to Nigeria has been on the rise over two decades but yet, its influence on the development of the Nigerian economy is still not noticeable. Thus, the need to examine the impact of external capital inflows on human development in Nigeria from 1981 to 2022. The objectives of the study are to; examine the impact of foreign direct investment inflow (FDI), diaspora remittance (DRI) and multilateral debt (MDI) on human development in Nigeria. Human Development Index (HDI) is proxy for human development while FDI, DRI, and MDI were proxy

for external capital inflow. Secondary data was sourced from World Development Indicators and Central Bank of Nigeria Statistical Bulletin and the technique of Auto Regressive Distributed Lag modelling was used. The results showed that, while FDI and DRI increases HDI, MDI reduces HDI in Nigeria during the period of study. Based on the findings it was recommended amongst others that, government should encourage external inflows by giving tax incentives and import duty exemptions in order to boost economic development in Nigeria.

Keywords: Capital-Inflow, Development, Diaspora, Multilateral Debt, Remittance

1. Introduction

In a world where nations are unequally endowed with financial resources, high degrees of interdependence do exist and interdependence is so vital that it cuts across ideological and potential political lines. Thus, these nations inevitably resort to policies that will increase the inflow of foreign capital needed for advancement (Easterly, 2003) ^[6]. By means of definition, external capital inflows which is otherwise called international or foreign capital inflows are the kinds of capital that are received by a country from other countries in the form of loan, remittances, export credit, and grants which are essential for economic development of the receiving nations. On the other hand, economic development is the process by which economic and social well-being of a nation are improved according to the targeted goals and objectives. Therefore, external capital inflows are required to enrich domestic economy as a result of the fact that, it serves as catalyst for the developmental stride of a nation (Garuba, Ohale, & Nenbee, 2023) ^[7]. Meanwhile, external resources inflow to Nigeria has been on the rise over two decades but yet, its positive impact on the development of the Nigerian economy in terms of augmenting the gap between desired and domestic investment, increasing revenue and improving technological transfer is still very low. For instance, as reported in the UNCTAD 2019 World Investment Report, Nigeria sits third in the host economy for FDI, only behind Egypt and Ethiopia. The inflow recorded in 2018 was US \$1.9 billion which corresponds to a whopping 45.7 per cent drop in FDI inflow from US \$3.5 billion recorded in 2017 (Garuba *et al*, 2023; World Development Indicator (WDI, 2018) ^[7, 17].

The influx of external resources is supposed to improve human development which serves as major indicator of the general welfare of the citizens. However, the Nigerian situation appears to be different. Economic growth has plummeted in recent time as the economy slipped into recession in the year 2016 following two consecutive negative growth rate (Nigeria Bureau of Statistics (NBS, 2016) ^[15]. Unemployment and inflation have been on the rise to the point that Nigeria was ranked the capital of world poverty in the year 2020. Thus, it is necessary to make a research of empirical works of eminent scholars in order to find out the impact of external inflows on economic development in Nigeria, specifically on human development index. Thus, the objectives of the study are to; examine the impact of foreign direct investment inflow on human development index in Nigeria;

investigate the effect of diaspora remittances on human development index in Nigeria; and determine the effect of multilateral debt on human development index in Nigeria.

2. Literature Review

The review of past work on the subject of external inflows and economic development was carried out under theoretical and empirical literatures. The theoretical foundation of the study is the dependency theory which links the international relations among countries of the world by emphasizing that, developed nations stimulates under-developed nations through their economic supremacy. Meaning that, a form of parasitic relationship exists between the exceedingly developed nations and the less developed ones in such a way that, the continual advancement of the developed nations will hurt of the less developed ones. This theory represents the advanced politico-economic relationship that binds the advanced capitalist countries of the World (Moses & Adeyemi, 2013)^[14].

The theory adherents prescribe foreign assistance in form of loan, aid, investment, as well as unhindered operations of the Multinational Corporations (MNCs) as remedial measures. The state of dependency on technologically advanced countries by Africans is attributed to bad leadership, mismanagement, poor institutional framework, corruption, low level of technology, and lack of close integration (Utomi, 2014)^[16]. As a result, most needy countries rely on imported products and financial services from Europe, America and China as lifeline.

Moreover, based on empirical evidences, Gökmenoğlu, Apinran and Taşpınar (2018)^[9] investigated the impact of FDI on three measures of human development namely; gross national income (GNI), school enrollment and life expectancy at birth in Nigeria. The study reveals a positive effect of FDI on GNI and school enrollment. While, FDI imposes a negative impact on the health indicator as FDI increases competitiveness which causes work related stress and undermines human health.

Asongu and Tchamyou (2019)^[4] carried out their study which resulted with the assertion that foreign aid improves educational attainment when measured using primary school enrollment, and life-long learning of fifty-three African countries. Education is a great ingredient to forestall poverty, hence foreign aids invested in education in Africa has reduced the poverty level among Nations.

Maruta, Banerjee and Cavoli (2020)^[13] examined the effect of foreign aid on health, education and agriculture, and institutional quality on growth of seventy-four developing economies across South America, Asia and Africa over the period 1980 – 2016. They applied the two-stage least squares estimation technique, and the outcome is that the extent of the effect was determined by the quality of institutions in the region. In South America, education aid was more effective, but not the same case in Asia where health aid was more effective. In Africa, agricultural aid is more effective in promoting growth and largely reducing poverty.

Adem and Güvercin (2020)^[1] tried to unravel the growth effect of foreign capital inflow. In their study, they included panel dataset of twenty-five (25) sub-Saharan African (SSA) countries from 1990 to 2016 in their dynamic model, while examining the tripartite relationship between foreign direct investment, foreign portfolio investment and economic growth. The methodology used in analyzing the dynamic

model was the panel vector autoregression (VAR), panel causality, panel unit root and cointegration methods. Their causality test showed no evidence of causality flowing between foreign direct investment and growth and foreign portfolio investment and growth. Their result showed that growth granger caused both foreign direct and portfolio investments, respectively. A feedback result or bidirectional causality was found existing between foreign direct investment and foreign portfolio investment. In analysis how growth respond to shocks to foreign portfolio and direct investments, they employed the impulse response function to which results indicated that shocks to both variants of foreign capital inflows significantly led to higher income per capita in the SSA countries. In terms of proportion of innovations in growth explained by FDI and FPI, their variance decomposition of growth revealed that shocks to FPI explained majority of the variance in growth, followed closed by shock to growth.

Anetor, Esho and Verhoef (2020) reviewed the effect of foreign direct investment (FDI), foreign aid and trade on poverty in twenty-nine selected Sub-Saharan Africa (SSA) countries for the period 1990-2017. Feasible generalized least squares estimation technique was adopted in the research work. The result showed that FDI and foreign aid did not reduce poverty, however, trade did.

Ayomitunde, Ololade, Moses and Babatunde (2020)^[5] examined the relationship between official development assistance and poverty alleviation in Nigeria by utilizing an error correction model. The results showed that, there is a significant negative relationship between official development assistance and household consumption per capita in Nigeria. However, FDI contributes to poverty alleviation in Nigeria though not significant.

Ali, Jehan and Sherba (2022)^[2] examined foreign capital and human development in 65 developing countries over the time period 1984-2014 with the use of two step system GMM estimation technique. They found that, the impact of foreign capital varies with respect to the indicators of human development and the type of foreign capital being studied. Both FDI and FPI negatively affect per capita income and secondary school enrollment, while, remittances affect all the indicators of human development positively, except for life expectancy.

Githaiga and Kilongi (2022)^[8] used the generalized method of moments (GMM) estimator to investigate the effect of institutional quality on the relationship between foreign capital flow and human capital development in sub-Saharan Africa. The study uses a sample of 34 countries in sub-Saharan Africa and data for 2009 to 2019. The results demonstrate a positive relationship between remittances, foreign direct investment (FDI), institutional quality and human capital development. Official development assistance (ODA), on the other hand, has a negative and significant effect on human capital development. The findings further revealed that, the effect of remittances and FDI on the human capital development is moderated by the institution's quality. However, the effect of ODA on the development of human capital is not influenced by institutional quality.

3. Methodology

The study use the autoregressive distributed lag model (ARDL) which measures both long and short run relationship between the dependent and independent variables. Analytically, this study borrow the model from

the work of Kizito and Hooi (2019)^[12], who relates foreign capital inflow such as foreign portfolio investment, FDI, foreign loans and foreign aid to gross domestic product (GDP). In order to have a robust analytical framework, the present study extends the scope and used human development index (HDI) as the dependent variable.

Model Specification

The functional form of the model

$$HDI = f(FDI, DMI, MDI) \tag{1}$$

The mathematical form of the model one takes the form of;

$$HDI = \lambda_0 + \lambda_1 FDI + \lambda_2 DRM + \lambda_3 MDI \tag{2}$$

The linear econometric form of the model one takes the form of;

$$HDI = \lambda_0 + \lambda_1 FDI + \lambda_2 DMI + \lambda_3 MDI + \mu_3 \tag{3}$$

Where; HDI = Human Development Index, FDI = Foreign direct investment, DMI = Diaspora Remittance (Personal remittances divided by GDP), MDI = Multilateral Debt (Proxied by External debt stocks divided by GDP), λ_0 = intercepts or the constant terms, λ_1, λ_2 and λ_3 are the slopes of the explanatory variables. Thus, it is expected that, an increase in foreign capital inflow will, improve the human development index in the Nigerian economy. Therefore, on the a priori; λ_1, λ_2 and $\lambda_3 < 0$.

4. Results and Discussion

Table 1: Descriptive Statistic Result

Description	HDI	FDI	DMI	MDI
Mean	0.451017	2.423571	8.963500	35.19857
Std. Dev.	0.065347	2.534156	9.874048	29.62077
Skewness	-0.295925	1.234442	0.352737	0.901820
Kurtosis	1.849774	3.337306	1.225605	3.219637
Jarque-Bera	2.928285	10.86603	6.380801	5.777375
Probability	0.231276	0.004370	0.041155	0.055649
Observations	42	42	42	42

Source: Author's Computation (2025)

Based on the descriptive statistic result, human development index (HDI) has a mean value of 0.45% with a standard deviation of 0.06%. The skewness value of HDI is negative (-0.2959), meaning that HDI has a short tail while the kurtosis value of HDI is 1.84 (i.e. less than 3), meaning that it is platykurtic. In summary, the result revealed that, an average HDI of 0.45 between 1981 and 2022 showed that, Nigeria is among the low ranked countries in terms of income, literacy level and longevity (health status). Furthermore, foreign direct investment inflow (FDI) has an average value of 2.42 and a standard deviation of 2.53%. The skewness value of FDI is positive (1.2344), meaning that FDI has a long-right tail. The kurtosis value of FDI is 3.33 (i.e. about 3), meaning that it is mesokurtic. In like manner, diaspora remittance (DMI) has a mean of 8.96 and a standard deviation of 9.87. The skewness value of DMI is positive (0.35), means that, DMI has a long tail while the kurtosis value of DMI is 1.22 (i.e. less than 3), meaning that, it is platykurtic. Multilateral debt (MDI) has a mean of

35.20 and a standard deviation of 29. 62%. The skewness value of MDI is positive (0.90), meaning that, DMI has a long tail. The kurtosis value of MDI is 3.2 (i. e. approximately 3), meaning that, it is mesokurtic.

From the summary of the result above, the variables to some extent are not normally distributed. Based on these observations, it is therefore necessary to test for the stationarity of the variables and the long run relationship since using the variables at level might give a spurious result.

Table 2: ADF Unit Root Test Result for Estimated Model

Variable	ADF at Level	ADF at 1 st Difference	Status	Remark
HDI	-4.13290		I(0)	Stationary
FDI	-1.45528	-7.401991	I(1)	Stationary
DMI	-0.47192	-5.912814	I(1)	Stationary
MDI	-1.45822	-5.734548	I(1)	Stationary
Critical Value @ 5% = 2.935001				

Source: Author's Computation (2025)

The result of the unit root test in Table 2 reveals that, HDI was stationary at level, while FDI, DMI and MDI were stationary at 1st difference. The result depicts that the dependent variable used in the estimated model was integrated of order zero I(0), while the independent variables used in the estimated model were integrated at one, that is I(1). Since the ADF results indicated that the series are of mixed order of integration, the appropriate test to use in this study is the Bounds co-integration test. According to Jawaid and Waheed (2011)^[10] when the series used in any study are of different order of co-integration, the appropriate test to use is the bound co-integration test.

Table 3: ARDL Bound Test for the Human Development Index

Model		F-Statistic = 15.609522	
F(FDI), (DMI) (MDI)		K = 3	
Critical Values	Lower Bound	Upper Bound	
10%	2.4500	3.5200	
5%	2.8600	4.0100	
1%	3.7400	5.0600	

Source: Author's Computation (2025)

The estimated bound test co-integration result on Table 3 showed that, the calculated f-statistic value of 15.609522 is higher than the theoretical critical value for the upper bound value of 4.0100 at 5 percent level. This simply means that, there is a co-integration, hence, a long run relationship exists between FDI, DMI, MDI and HDI in Nigeria within the period under review. Since there is a long run relationship among the variables, the estimated model was subjected to both ARDL long run test and short run dynamic.

Table 4: ARDL Long Run Estimation Result for the Estimated Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	0.30716	0.300242	0.600730	0.2590
DMI	0.50953	0.100049	4.672339	0.0000
MDI	-0.24600	0.030042	-0.718562	0.4803
C	0.431751	0.220286	9.372885	0.0000

Source: Author's Computation using (2025)

From Table 4 the result of the long run estimation shows that FDI has a positive relationship with the Human

Development Index (HDI), meaning that a percentage increase in FDI increases the HDI by 0.30716 percent in Nigeria during the period of study. But the positive sign of FDI on HDI is not statistically significant at 5 percent level. The study therefore accepts the null hypothesis that, there is no significant relationship between FDI inflow and HDI in the long run. Also, in the long run, diaspora remittance (DMI) has a positive relationship with the human development index. The positive relationship between DMI and HDI is statistically significant at 5 percent level. In the long run, multilateral debt (MDI) has a negative relationship with the human development index, suggesting that a percentage increase in MDI decreases HDI by about 0.246percent in Nigeria during the period of study. Also, the negative relationship between MDI and HDI is not statistically significant at 5 percent level.

Table 5: ARDL Short Run Estimation Result for the Estimated Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.534906	0.071470	7.484343	0.0000
D(HDI(-1))	0.911514	0.671173	1.358091	0.2648
D(FDI)	0.160040	0.04390	3.645558	0.0001
D(DMI)	0.116000	0.100831	1.150451	0.5848
D(MDI)	-0.136881	0.046008	-2.945151	0.0077
ECM (-1)	-0.660291	0.171673	-3.846218	0.0001
Adjusted-R ² = 0.6665; F-Stat. = 4.18417 (F-probability Value = 0.0032) Durbin Watson = 2.24365				

Source: Author’s Computation (2025)

From Table 5 the result of the short run estimation shows that FDI has a positive (0.16004) relationship with the Human Development Index (HDI), meaning that a percentage increase in FDI inflow increases the HDI by 16 percent in Nigeria during the period of study. The positive sign of FDI on HDI is statistically significant at 5 percent level. The study therefore reject the null hypothesis that, there is no significant relationship between FDI and HDI in the short run. The findings is in line with Garuba, Ohale and Nenbee (2023)^[7].

Also, in the short run, diaspora remittance (DMI) has a positive (0.1160) relationship with the human development index (HDI), meaning that, percentage increase in diaspora remittance increases human development index (HDI) by about 11.6percent in Nigeria. But the positive relationship between DMI and HDI is not statistically significant at 5 percent level. In the short run, multilateral debt (MDI) has a negative (-0.13688) relationship with the human development index (HDI), meaning that, a percentage increase in MDI decreases HDI by about 13.688percent in Nigeria during the period of study. Also, the negative relationship between MDI and HDI is statistically significant at 5 percent level. Thus, the study reject the null hypothesis which state that, there is no significant relationship between multilateral debt and human development index. The finding supports the empirical work of Kizito and Hooi (2019)^[12].

Based on the result, the coefficient of the ECM has the right sign (i.e. negative) and statistically significant at 5 percent level. This adjustment implies that, 66 per cent of errors are corrected within one year for the annual time series data. Furthermore, the calculated Adjusted-R² is 0.6665. This means that about 67 per cent of the total variations in human development index (HDI) are caused by the explanatory

variables FDI, DMI and MDI. The value of the Durbin Watson (DW) is 2.2436 suggested that, serial autocorrelation is not a problem of the estimated human development index model.

Table 6: Stability Test for the Estimated Model

Test Type	Value	Degree of Freedom	Probability
Estimated Model			
t-statistic	0.925787	29	0.5759
F-statistic	0.513397	(1, 29)	0.5759

Source: Author’s Computation (2025)

Ramsey reset test is performed by regressing the predicted value of the dependent variable on the explanatory variables and then testing the joint significance of the coefficients on the latter. If these are significant, the linear model is misspecified. Thus, the null hypothesis is that $H=0$, so it means that the powers of the fitted values have no relationship which serves to explain the dependent variable, meaning that the model has no omitted variables. The alternative hypothesis is that the model is suffering from an omitted variable problem.

Based on the Ramsey rest test results on Table 6, the estimated model is well specified since the null hypothesis of the estimated model is accepted at 5percent level of significance. Specifically, in the in the HDI model, the t-value of 0.9257 and the corresponding probability value of 0.5759 which is greater than the critical value at 5%, showed that the null (H0) hypothesis which states that, the powers of the fitted values have no relationship is upheld.

Normality Test

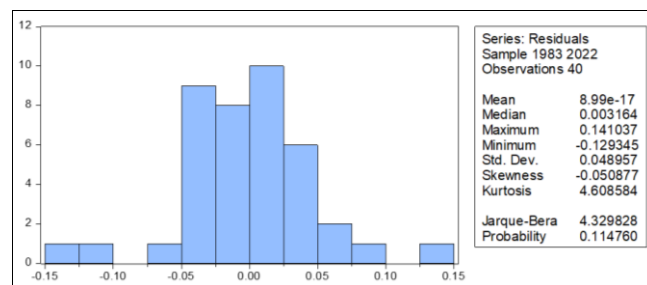


Fig 1: Normality Test for Human Development Index

The normality test result in Fig 1 showed that the error term is normally distributed at the 5% level of significance. This is because the probability value of the Jarque-Bera statistic is 0.1147, and this value is greater than the critical value of 5%. Meaning that the Jarque-Bera statistic hypothesis of normally distributed residuals in the model is accepted.

5. Conclusion and Recommendations

The study examined external capital inflows and human development in Nigeria from 1981 to 2022. The objectives of the study include to; examine the impact of foreign direct investment inflow on human development index in Nigeria; investigate the effect of diaspora remittances on human development index in Nigeria; and assess the effect of multilateral debt on human development index in Nigeria. Annual time series data of the dependent variable human development index, and the independent variables viz, – foreign direct investment (FDI) inflow, diaspora remittances (DMI) and multilateral debt (MDI) were collected from

secondary sources and analyzed using the econometric technique of Autoregressive Distributed Lag (ARDL) method of analysis. The findings from this study are as follows: Foreign direct investment enhanced Nigeria's human development in Nigeria through improve human development index. Diaspora remittances contributed to an increase in human development index. Multilateral debt did not help to improve the human development of the Nigerian citizenry during the period of study.

Conclusively, to a great extent external capital inflows have mixed effects on human development in Nigeria. Thus, it was recommended that, government should encourage FDI inflows by encouraging tax incentives and subsidies in infrastructures in order to make FDI to boost economic development in Nigeria. Also, remittances from abroad should be encouraged by removing all hitches. Recipients of such remittances should be exposed to opportunities in the economy where they can be invested.

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