EXTERNAL FINANCIAL FLOWS, FISCAL POLICY AND HUMAN DEVELOPMENT INDEX IN NIGERIA

Abstract

The sustainable development goals that was rolled out and adjusted from the un-attainment of Millennium development goals of 2015, lacks a notable financial option and channel that would help developing countries like Nigeria to achieve goal 3, goal 4 and goal 8, which this study captured with the human development index. This study examines the effect of external financial flows, fiscal policy and human development index in Nigeria. The used the secondary data that was collected from World development indicators and Central bank of Statistical Bulletin. The period was between 1991 to 2022 bot year inclusive. The external financial flows was captured with foreign direct investment, foreign aid, remittances, net exports, external debt while fiscal policy was captured with government expenditure for education and government expenditure for health. The findings from the external financial flows revealed that foreign direct investment and remittances have a negative significant effect on human development index while net export have a positive significant human development index. The fiscal policy measures revealed that government expenditure on education have a positive significant effect on human development index while government expenditure on health have a negative significant effect on health. The Nigerian government should focus on policies that boost export sectors, especially those that add significant value to raw materials. This can be achieved through subsidies, tax incentives, and investment in infrastructure. The Nigerian government should allocate a larger portion of the national budget to education. This increase in funding should aim to address infrastructural deficits, enhance teacher training, and provide adequate learning materials. Implement robust mechanisms to ensure that health funds are used efficiently and transparently.

Keywords: Human development Index; External financial flows and Fiscal Policy

Word Count: 269

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INTRODUCTION

Developing countries like Nigeria face massive challenges in terms of availability of quality education, good health infrastructure and increasing poverty level (Aliedan, 2020). In 1999, 1.2 billion people lived on less than $1 per day (in PPP US$), and another 2.8 billion lived on less than $2 per day (World Bank, 2003). The majority of the population in the least developed countries are illiterate, with over 854 million illiterate adults globally, 543 million of whom are women (Human Development Report, 2000). Additionally, many people in developing countries lack access to healthcare. UNICEF reports that more than 10 million children under five die annually from preventable diseases in these countries. By the end of 2000, 34 million people were living with HIV/AIDS (Human Development Report, 1998). These statistics highlight the severe low human development in developing countries, leading to poor and sub-standard living conditions for the poor (Adebayo and Oluwaseun 2020). In recent times among 194 countries of the world, Nigeria ranking according to the level of human development report of 2020 ranked Nigeria at number 164, which shows that level of challenges in three major areas based on the measurement of human development index which is the level of quality education, level of health infrastructure (life expectancy) and gross domestic national product. The three components are the re-structured sustainable development goals that are goal 8 (decent work and economic growth); goal 3(Good health and Well-being); goal 4 (Quality Education).

Nigeria, which was one of the richest 50 countries in the early 1970s, has retrogressed to become one of the 25 poorest countries at the threshold of the twenty first century. It is ironic that Nigeria is the sixth largest exporter of oil and at the same time host the third largest number of poor people after China and India (Igbuzor, 2006; Idris, 2019). Recent years have seen a surge in calls for more ODA, foreign direct investment and net export to developing countries including Nigeria, in order to eliminate poverty. Developed countries, international organizations and other Philanthropists have all made renewed pleas for a massive infusion of development aid to Nigeria. Experts who argued in favour of more aid and other financial flows are of the view that injecting more of this flows would materially benefit the people of the recipient country.

However, the human capital development of any economy is anchored on the level of financial availability at their disposal. Nigeria which is a bank-based economy depends majorly on the financial intermediation process and the fiscal policy implementation that would help in generating fund and also implore those fund in the attainment economic and human development in the country (Asongu and Nnanna, 2019). The fiscal deficit in budgetary system and tax system have continually stifled the level of development in the country, so the dependence of external funding in form of foreign direct investment, foreign aid, remittances, external debt and net export. These financial options have their own attributes and channels they use to flow into the economy, to complement the internal flows like the government expenditures on various sectors that would argument the level of economic and human development (Ayamba, et al, 2020).

The primary objective of this study is to empirically examine the effect of external financial flows, fiscal policy and human development index in Nigeria. This study proceeds as follows. Section II entails theoretical framework and empirical literature. Section III which is the methodology entails the source of data and population of the study. Section IV which would entail analysis and the conclusion and recommendation

2. THEORETICAL FRAMEWORK

2.1 The Human Capital Theory

The theory emphasizes the importance of investment in education and technical skills for individual productivity (Becker, 1962; Schultz, 1961). It posits that investing in the education of the population leads to increased productivity, efficiency, and comprehensive socio-economic development. Schultz (1961) describes the human capital theory as focusing on educational investment to achieve socio-economic development goals. Education is considered a productive force within the economy, influencing factors such as social progress, productivity, growth, and technological innovation (Becker, 1994; Benhabib and Spiegel, 1994). From this perspective, education is seen as a deliberate investment that enhances the labor force, boosts individual and organizational productivity, and drives national development and growth. Human capital theory suggests that individuals make various investment decisions based on their educational capital. Financial inflows into a country can support higher educational attainment and health improvements, which are crucial channels for development. Increasing foreign inflows, especially remittances, can alleviate financial and credit constraints, thus promoting productive investment. Remittances, in particular, have a positive effect on educational investment in children by easing credit constraints and reducing household risk, enabling families to invest more in education (Ali Baret et al., 2022).

2.2 REVIEW OF LITERATURE

Onyekwelu (2022) examined international capital inflows and human capital development in Nigeria. Other specific objectives is to investigate the effect of foreign portfolio investment on human capital development in Nigeria, examine the effect of external debt stock on human capital development in Nigeria, determine the effect of foreign direct investment on human capital development in Nigeria, access the effect of official development assistance on human capital development in Nigeria. The study adopted an *ex-post facto* research design because the data for the study are secondary data which were sourced from the Central Bank of Nigeria (CBN), Statistical Bulletin and Annual reports and Statement of Accounts, The data were analyzed with econometric techniques involving descriptive statistics, Augmented Dickey Fuller Tests for Unit Roots and the Ordinary Least Square (OLS). The result of the study indicates that foreign portfolio investment, external debt stock, foreign direct investment and official development assistance has positive and significant effect on human capital development index (HDI). The study concludes that international capital inflow has positive effect on human capital development in Nigeria within the period under review. In line with the objective of the study, the study recommends that, there is the need for greater foreign participation in the stock market which could enhance foreign portfolio investment in the country and maintain sustainable human capital development. External

debts should be contracted solely for economic reasons and not for social or political reasons. An effective policy should be made based on the fiscal and monetary policies which should be aimed at achieving a realistic foreign direct investment in human capital development in Nigerian. Since theories have supported that these capital channels should boost human capital development in Nigerian, it is pertinent that Nigeria government should investigate the spending pattern of the funds obtained through official development assistance.

Oloke, Olabisi, Johnson, Awofala and Aderemi (2022) examines into the nexus between foreign capital inflows and human capital development in Nigeria spanning from 1990 to 2020. This study relied on secondary data which was sourced from the World Development Indicators. Consequently, the FMOLS method was utilized to analyze the data. The findings revealed that trade openness has a negative and significant relationship with human capital development. In the same vein, FDI and portfolio investment have a significant inverse relationship with human capital development in Nigeria. However, official development assistance has a direct relationship with human capital development, the relationship is significant at 10 percent level of significance. And exchange rate has a positive and significant relationship with human capital development. Both external debt and remittances have insignificant positive relationship with human capital development in Nigeria. In a nutshell, the majority of the inflows of foreign capital in Nigeria have a significant and negative relationship with human capital development in this study. Steaming from the above findings, this study recommends that the policymakers in Nigeria should deploy the inflows of foreign capital in the direction of the human development oriented programmes in the country.

Olowookere, Olowo, Mabinuori and Aderemi (2021) investigated into the examining the contributions of the different components of foreign capital inflows in driving one of the key goals of sustainable development-poverty reduction in Nigeria. In achieving the objective of this study, annual data between 1990 and 2019 were utilized with the application of FMOLS and Granger causality technique of estimation. The findings of this research work are as follows; firstly, foreign capital inflows and poverty reduction have a long run equilibrium relationship in Nigeria. Furthermore, there is a unidirectional causality flowing from poverty reduction to foreign direct investment. Poverty reduction Granger causes foreign portfolio investment. Also, feedback relationship exists between poverty reduction and remittances. This implies that poverty reduction is a strong factor causing the inflows of foreign capital such as FDI, FPI and remittances in Nigeria. Moreover, the majority of the components of foreign capital inflows such as FDI, FPI and remittances contributed immensely to the reduction of poverty in Nigeria. This implies that foreign capital inflows have the capacity to propel the achievement of Sustainable Development Goal one poverty reduction in Nigeria. Therefore, this study makes the following recommendations for the policymakers in Nigeria and by extension Africa that, any time these policymakers set to achieve Sustainable Development Goal one i.e poverty reduction, foreign capital inflows such as remittances, foreign portfolio investment, FDI and external debt should be given priority in their country. And such, the policy that facilitates the sporadic inflows of these variables should be embarked upon by the Nigerian policymakers in particular and African policymakers in general.

Amaefule (2020) examines into the impact of the dynamical nature of foreign direct investment inflow and official development assistance inflow on growth and trade indicators in Ghana and Nigeria. Secondary data sourced from Word development indicators for the period covering 1970 to 2017 were utilized. The Nonlinear ARDL Bound F-test showed a long-run relationship between global capital inflow and growth and trade. Particularly, positive rise in foreign direct inflow would

generate capital inflows and growth and trade. A positive rise on foreign direct investment positive impact on real gross domestic product in Ghana and a negative impact on real gross domestic product in Nigeria. It also shows that foreign direct investment in Nigeria would generate positive foreign aid causes a positive impact on real gross domestic product.

Mohamed (2020) investigated into the dynamic relationship between foreign capital inflows on economic growth of Mediterranean countries2 over the period 1980-2018 Foreign direct investment (FDI) and official development aid (ODA) were used as a main source of capital inflow in this study. A standard growth model are estimated using panel co-integration approach. In addition, both fixed-effects and random effects models were used to check for the significant of the parameters. Panel unit root are employed to check for the efficiency of the data. The long run relationship is estimated using fully modified OLS and: Panel Dynamic Least Squares (DOLS) methods. The empirical results reveal that there exist a long run co-integrating relationship between foreign aid, FDI and economic growth in Mediterranean countries. The results of FMLOS and DOLS show that FDI ODA variables are positive and have significant impact on the long run growth of the Mediterranean economy. Further, fixed –effects method is selected as random effect model is rejected based on Hausman test result. The results of fixed effect show that FDI and Foreign aid variables ate positive and statistically significant. As a policy recommendation the study, suggest that proper absorptive capacity should be met in order to attract FDI and ODA such as sound macroeconomic policies, good institutions, deep financial institution, low inflation rate and supplementing public expenditures.

Ehigiamusoe and Lean (2019) examines the impact of foreign capital inflows on economic growth in Nigeria for 1980–2015 period. It employs Autoregressive Distributed Lagged (ARDL)-bounds test, and finds a co-integration relationship between foreign capital inflows and growth. Specifically, foreign portfolio investment has positive impact on growth, while the impact of foreign loans is negative. Nevertheless, foreign direct investment and foreign aid have insignificant impact on growth, suggesting that Nigeria cannot rely on foreign direct investment and foreign aid as vehicles to stimulate growth. Rather, an increase in foreign portfolio investment or reduction in foreign loans has beneficial effects on the economy.

Lozi and Shakatreh (2019) investigated intothe impact of international capital flows on the economic growth in Jordan during the period from 2005 to 2017, the study also examines trends and composition of capital inflows. The study used descriptive analytical research method which was appropriate for the purpose of research. By using time series data, the study found that Foreign Direct Investment (FDI), foreign portfolio investment (FPI), grants (Gr) and Worker remittances (WR) are positively affecting the economic growth direct contribution. Based on the research results, the study came with a several recommendations, the most important recommendation is; the government of Jordan should create and relax the rules and regulations to attract more investors, and also the government should work hand in hand with the developed countries to create economic and employment opportunities, improve the country's competitiveness, and expand growth within the private sector so that everyone in Jordan has the opportunity to contribute to a brighter future.

Adams and Klobodu (2018) examines into the differential effects of capital flows on economic growth in five Sub-Saharan African (SSA) countries over the period 1970–2014. Using the autoregressive distributed lag methodology, the findings show that in the long-run capital flows (i.e. foreign direct investment (FDI), aid, external debt, and remittances) have different effects on

economic growth. FDI has a significant positive effect in Burkina Faso and negative effects in Gabon and Niger whereas the impact of debt is negative in all countries. Aid, however, promotes growth in Niger and Gabon whiles it deters growth in Ghana. Remittances, on the other hand, have a significant positive effect in Senegal. Finally, gross capital formation is significant in most of the countries and the impact of trade is mixed. These results suggest that the benefits of capital flows in SSA have been overemphasized.

Klobodu and Adams (2016) examines into the differential effects of capital flows on economic growth in Ghana over the period 1970–2014 using autoregressive distributed lag (ARDL). Breakpoint unit root tests are employed to cater for structural change and breaks in time series. Afterwards, these break dates are fed into the ADRL model as dummy variables to allow for the computation of a more robust cointegrating vector. The findings indicate that in both the short and long run capital flows (i.e. FDI, aid, and external debt) have negative effects on economic growth. However, remittances exhibit positive insignificant elasticity in all the regressions. Further, the empirical results show that while the impact of trade, gross capital formation and population growth on growth are mixed, that of inflation is negative. The results of the study are consistent with the idea that the impact of capital flows in Africa has been exaggerated.

ur Rehman and Ahmad (2016) investigated into the effect of foreign capital inflow variables to analyze their impact on economic growth of 21 developing countries for the period of 1990 to 2013. Modern econometric techniques are applied for data analysis including panel unit root test and pooled mean group (PMG) estimation for short-run and long-run analysis. The results indicate that inflows including net external debt and net official development assistance have significantly negative impact on economic growth of developing countries, while net foreign direct investment and net remittances have positive and significant impact on economic growth in the long-run. The negative sign of error correction term shows the convergence of the variables towards equilibrium in the long-run. The study highlights the need of allocation of foreign resources effectively and efficiently.

Nwosa and Akinbobola (2016) investigated into the role of macroeconomic policies (monetary, fiscal and trade policies) in the relationship between capital inflows (proxy by foreign direct investment, foreign aid and international workers' remittances) and economic growth in Nigeria for the period 1970 to 2013. The study employed Autoregressive Distributed Lag (ARDL) Bound co-integration technique. The study found that macroeconomic policy plays a fundamental role in the relationship between capital inflows and economic growth in Nigeria.

Adamu, Kabuga and Suleiman (2015) investigated into relationship between remittances, aid, foreign direct investment, financial development and economic growth. The study employed the ARDL bounds test for co-integration using the annual time series over the period of 1977 to 2014. The findings revealed that in the short run remittance and aid have negative and statistical significant effects on growth in the country. On the other hand, Foreign Direct Investment has a positive and statistically significant effect on growth. These relationships are also true in the long run albeit not statistically significant. The study concludes that Foreign Direct Investment and financial development are important determinants of economic growth in Nigeria. These findings highlight the importance of improving financial deepening in the toolkit of Nigeria's economic

policy and underpin the reasoning behind giving capital inflows a prominent role in the development strategy of the country.

3.1 Methodology

The secondary was sourced from the world development index and Central Bank statistical bulletin of 2022. The human development index would be used to capture outcome variables and independent variables includes foreign direct investment, remittances, foreign aids, external debt and Net export. The fiscal policy includes government expenditure on health and government expenditure on education. The Auto-regressive distributed lag (ARDL) model was used to draw inference after the stationary test gave the validity in other not to violate Engel Granger (1949).

Linear Representation:

$$HDI_t = (\beta_0 + \beta_1 FDI_t + \beta_2 FA + \beta_3 Rem_t + \beta_4 NetE + \beta_5 ExtD_t + \beta_6 GEE + \beta_7 GEH_t + \varepsilon_t)$$

$$\begin{aligned}\Delta LHDI_t = {} & \rho\varrho_{t-1} + \sum_{i=1}^{q} \alpha_{1i}\, \Delta LHDI_{2_{t-i}} + \sum_{i=0}^{q} \alpha_{2i}\, \Delta LFDI_{t-i} + \sum_{i=0}^{q} \alpha_{3i}\, \Delta LFA_{t-i} \\ & + \sum_{i=0}^{q} \alpha_{4i}\, \Delta LRem_{t-i} + \sum_{i=0}^{q} \alpha_{5i}\, \Delta LNetE_{t-i} + \sum_{i=0}^{q} \alpha_{6i}\, \Delta LExtD_{t-i} \\ & + \sum_{i=0}^{q} \alpha_{7i}\, \Delta LGEE_{t-i} + \sum_{i=0}^{q} \alpha_{8i}\, \Delta LGEH_{t-i} + \beta_1 LFDI_{t-1} + \beta_2 LFA_{t-1} \\ & + \beta_3 LRem_{t-1} + \beta_4 LNetE_{t-1} + \beta_5 LExtD_{t-1} + \beta_6 LGEE_{t-1} + \beta_7 LGEH_{t-1} \\ & + \varepsilon_t \end{aligned} \quad (1.1)$$

The short-run model (Error-correction model):

$$\begin{aligned}\Delta LHDI_t = {} & \rho\varrho_{t-1} + \sum_{i=1}^{q} \alpha_{1i}\, \Delta LHDI_{t-i} + \sum_{i=0}^{q} \alpha_{2i}\, \Delta LFDI_{t-i} + \sum_{i=0}^{q} \alpha_{3i}\, \Delta LFA_{t-i} \\ & + \sum_{i=0}^{q} \alpha_{4i}\, \Delta LRem_{t-i} + \sum_{i=0}^{q} \alpha_{5i}\, \Delta LNetE_{t-i} + \sum_{i=0}^{q} \alpha_{6i}\, \Delta LExtD_{t-i} \\ & + \sum_{i=0}^{q} \alpha_{7i}\, \Delta LGEE_{t-i} + \sum_{i=0}^{q} \alpha_{8i}\, \Delta LGEH_{t-i} + \varepsilon_t \end{aligned} \quad (1.2)$$

Where:

HDI= Human development index, FDI= foreign direct Investment, FA= Foreign Aid, Rem= Remittances, NetE= Net export, ExtD= External Debt, GEE= Government expenditure on Education, GEH: Government expenditure on health $\rho\varrho_{t-1}$ is the lagged error correction term for

equation 1.1-1.2 α_1- α_8 are the short-run coefficient β_1- β_7 is the long-run parameter for the explanatory variables, t is the period in the inquiry, ε_t are the error term.

Table 1 : Description of Variables

S/N	Description	Unit	Source
1	Foreign Direct Investment (FDI)	₦' Billion	CBN Statistical Bulletin (2022)
2	Foreign Aid (FA)	US Dollars	World Development Indicators (2022)
3	Remittances (Rem)	US Dollars	World Development Indicators (2022)
4	External Debt (ExtD)	US Dollars	World Development Indicators (2022)
5	Net Export (NetE)	US Dollars	World Development Indicators (2022)
6	Government Expenditure on Health	₦' Billion	CBN Statistical Bulletin (2022)
7	Government Expenditure on Education	₦' Billion	CBN Statistical Bulletin
8	Human development Index	Scale	World Development Indicators (2022)

Author's Compilation, 2024

4. RESULTS AND DISCUSSION

Table 2 : Descriptive Analysis

	HDI	EXT_DEBT	FDI	FOR_AID	GEE	GEH	NET_EXPT	REMIT
Mean	0.399651	3.281089	3.483937	8.994511	2.160876	1.957320	6.628978	3.661185
Median	0.432000	3.212587	3.546409	9.257645	2.137101	2.010938	6.919588	3.998536
Maximum	0.577300	4.534918	4.593828	10.05812	2.596487	2.507382	7.299083	8.333830
Minimum	0.000000	2.642356	2.155943	8.181815	1.600755	1.350319	5.313048	0.118105
Std. Dev.	0.152519	0.530335	0.657173	0.577609	0.342817	0.387844	0.616041	2.252081
Skewness	-1.850182	0.630027	-0.405812	-0.126114	0.072610	-0.211088	-0.853167	0.063689
Kurtosis	5.545216	2.447183	2.371540	1.540015	1.342765	1.519025	2.563353	1.885666
Jarque-Bera	31.09668	2.445565	1.361025	2.835434	3.574708	3.063212	4.007054	1.624871
Probability	0.000000	0.294410	0.506357	0.242266	0.167403	0.216188	0.134859	0.443776
Sum	14.78710	101.7138	108.0021	278.8298	66.98715	60.67692	205.4983	113.4967
Sum Sq. Dev.	0.837437	8.437666	12.95629	10.00897	3.525710	4.512684	11.38519	152.1560

Author's Compilation, 2023

Note; HDI (Human development Index), FDI (Foreign direct investment), FA (Foreign aid), EXTD (External debt), REM (Remittances), NetE (Net export), GEE (Government expenditure on education), GEH (Government expenditure on health).

The above table depicts the descriptive statistics used in the study. HDI (Human development index) has a mean value of 39.9%, a median value of 43.2%, and a Standard deviation has a variation of 15.2. FDI (Foreign Direct Investment) has a mean value of 3.48%, a median value of 3.54%, and a Standard deviation has a variation of 0.65. FA (Foreign aid) has a mean value of 8.99%, a median value of 9.25%, and a Standard deviation has a variation of 0.57. REM (Remittances) has a mean value of 3.66%, a median value of 2.99%, and Standard deviation a variation of 2.25. Ext D (External Debt) has a mean value of 3.28%, a median value of 3.21%, and Standard deviation a variation of 0.53. NetE (Net export) has a mean value of 6.62%, a median value of 6.91%, and a Standard deviation of a variation of 0.61. GEH (Government expenditure on health) has a mean value of 1.95%, a median value of 2.01%, and a Standard deviation of a variation of 0.42. GEE (Government expenditure on education) has a mean value of 2.05%, a median value of 0.38%, and a Standard deviation has a variation of 0.34.

The skewness in the variable includes; HDI (Human development index) indicates a short-tailed (negative skewness) at -1.85. FDI (Foreign Direct Investment) indicates a short-tailed (negative skewness) at -0.40. FA (Foreign aid) indicates a short-tailed (negative skewness) at -0.12. REM (Remittances) indicates a long-tailed (positive skewness) at 0.06. ExtD (External debt) indicates a long-tailed (positive skewness) at 0.63. NetE (Net export) indicates a short-tailed (positive skewness) at -0.85. GEH (Government expenditure on health) indicates a short-tailed (negative skewness) at -0.21. GEE (Government expenditure on education) indicates a positive-tailed (positive skewness) at 0.07.

The Kurtosis in the variable include: HDI (Human development index) is leptokurtic at 5.54, since (5.54<3), FDI (Foreign Direct Investment) is leptokurtic at 2.37, since (2.37<3), FA (Foreign aid) is leptokurtic at 1.54, since (1.54<3), REM (Remittances) is leptokurtic at 1.88, since (1.88<3), ExtD (External Debt) is platykurtic at 2.44, since (2.44<3), NetE (Net export) is leptokurtic at 2.56, since (2.56>3), GEE (Government expenditure on health) is leptokurtic at 1.51, since (1.51<3), GEE (Government expenditure on education) is leptpkurtic at 1.34, since (1.34<3), TAXR (Tax revenue) is leptokurtic at 2.12, since (2.12<3).

4.2 table 3 : Correlation Matrix

	HDI	NET_EXP	GEH	GEE	FOR_AID	FDI	EX_DEBT	REMI
HDI	1.000000							
NET_EXPORT	-0.784632	1.000000						
GEH	-0.34972	0.668813	1.000000					
GEE	-0.529735	0.670670	0.616078	1.000000				
FOREIGN_AID	0.397524	0.638019	0.688810	0.652149	1.000000			
FDI	-0.349854	0.683226	0.670475	0.685242	0.618368	1.000000		
EXTERNAL_DEBT	-0.784267	0.724541	0.603118	0.646547	0.541298	0.642482	1.000000	
REMITTANCES	-0.898637	0.601788	0.601117	0.715019	0.602570	0.769184	0.440442	1.000000

Author's Compilation, 2023

The table above show is the correlation matrix table that helps to test for multicollinearity among the outcome and explanatory variables. The multicollinearity of 0.90 shows to be very high and would generate spurious results if used for any ordinary least square estimation. The above shows that the relationship between the variables in is below the threshold of 0.90. The explanatory variables of net export, foreign direct Investment, external debt and remittances has a negative relationship with HDI (Human development index) while foreign aid has positive relationship with HDI (Human development index) in Nigeria.

4.3 table 4 : Unit Root Analysis

Variable	Level T-Stat	Critical Value @ 5%	First Difference T-stat	Critical Value @ 5%	Prob	Order of Integration
HDI	-2.2948	-3.5400	----------	----------	0.0000	I(0)
FDI	-1.8819	-3.56837	----------	----------	0.0013	I(0)
FA	-2.34611	-3.5875	-5.3015	-3.5806	0.0010	I(1)
REM	-2.6000	-3.5683	----------	----------	0.0000	I(0)
EXTD	-1.50601	-3.5742	-3.7468	-3.5742	0.0349	I(I)
NEtE	-1.7390	-3.5683	-5.5735	-3.5742	0.0005	I(I)
GEE	-2.6623	-3.5683	-5.8412	-3.5742	0.0002	I(I)
GEH	-1.9051	-3.5683	-6.4024	-3.5742	0.0001	I(I)

Author's Compilation, 2023

The Augumented Dickey-Fuller unit root results which are a pre-estimation test, help to give direction on the actual econometrics analysis that would be suitable for drawing inferences for the outcome and explanatory variables in the model specification. The FDI (Foreign Direct Investment), REM (Remittances) and HDI (Human development index) are stationary at level I(0). FA (Foreign aid), ExtD (External debt), NetE (Net export), GEE (Government expenditure on education), GEH (Government expenditure on health) and TAXR (Tax revenue) are stationary at the level I(I). Based on the order of integration of the variables, the ARDL (Auto-regressive distributed lag) technique was used to investigate both short and long-run relationships. This has

to be followed, so as not to validate the position of Granger 1957, in drawing inference from faulty unit root expressions.

4.4 table 5 : Lag Length Selection Criteria

Lag	LogL	LR	FPE	AIC	SIC	HQ
0	-25.99684	NA	1.02e-09	1.999814	2.358958	2.122292
1	169.3151	287.2234	5.00e-13	-5.724417	-2.492124	-4.622113
2	267.3871	98.07197	1.34e-13	-7.728651	-1.623209	-5.646520
3	436.2754	89.41147*	3.37e-15*	-13.89855*	-4.919962*	-10.83660*

Author's Compilation (2023)

The Akaike information criterion depicting the lag order length of (II) for the model is selected. After establishing the lag order length, the ARDL, short and long-run equation results were estimated and explained.

4.5 ARDL Bound Test

The ARDL Bound test helps to ascertain whether there is a long-run Co-integration relationship between the dependent variable of HDI and the independent variables FDI, FA, REM, EXTD, NETE, GEE and GEH

t-statistics	Value	K	I(0)	I(I)
F-statistics	10.19929	7	2.32	3.5

Author's Compilation, 2023

The result of the F-statistics value is 10.19929 higher than the I(I) and I(0) result which is 2.32 and 3.5 at a 5% level of significance. The calculated F-value is higher than the upper bound critical value, this implies that there is a long-run co-integration relationship between the outcome and explanatory variables.

4.6.1 table 6 : Co-integration Form

Variable	Coefficient	Std-Error	t-Statistic	Prob
D(FDI)	-0.005094	0.083350	-0.061121	0.9532
D(FDI(-1))	0.011759	0.145726	0.080694	0.9383
D(FDI(-2))	1.117673	0.235914	4.737628	0.0032
D(FA)	-0.694594	0.141278	-4.916518	0.0027
D(FA(-1))	-0.484976	0.126178	-3.843579	0.0085
D(FA(-2))	-0.071551	0.057496	-1.244443	0.2597
D(REM)	0.022163	0.012382	1.790019	0.1236
D(REM(-1))	0.096263	0.020302	4.741512	0.0032
D(NETE)	0.211018	0.129592	1.628330	0.1546
D(NETE(-1))	-0.201842	0.180652	-1.117299	0.3066

D(NETE(-2))	-1.318744	0.260344	-5.065393	0.0023
D(EXTD)	-0.858691	0.174680	-4.915805	0.0027
D(EXTD(-1))	-0.840716	0.248304	-3.385837	0.0148
D(EXTD(-2))	0.735437	0.162100	4.536946	0.0039
D(GEE)	1.012990	0.227340	4.455827	0.0043
D(GEE(-1))	0.461746	0.242415	1.904777	0.1055
D(GEH)	-0.758641	0.183988	-4.123319	0.0062
D(GEH(-1))	-0.426956	0.187798	-2.273490	0.0634
D(GEH(-2))	0.416247	0.107930	3.856621	0.0084
ECM(-1)	-1.649014	0.194881	-8.461639	0.0001

The results shows that the speed of adjustment from an earlier disturbance away from the long run identified by the CointEq(-1) is negative and significant with a coefficient estimate of -1.6490. The value of the error correction term is -1.6490 depicts the deviation from the long-run equilibrium in one year is corrected by 64%. These outcomes further validates the presence of long-run relationship among the variables in the model. At the speed of adjustment of 64%, there is a short-run relationship among external financial flows, fiscal policy and human development index.

4.6.2 table 7 : Long-run Coefficients

Variable	Coefficient	Std-Error	t-Statistic	Prob
FDI	-0.870459	0.129004	-6.747530	0.0005
FA	-0.077301	0.076041	-1.016569	0.3486
REM	-0.077114	0.012503	-6.167665	0.0008
NETE	1.163967	0.127470	9.131282	0.0001
EXTD	0.019419	0.028184	0.689022	0.5166
GEE	0.318854	0.099627	3.200458	0.0186
GEH	-0.256061	0.083336	-3.072642	0.0219
C	-3.486851	0.594403	-5.866136	0.0011

Foreign direct investment has a negative significant effect on human development index in Nigeria. Foreign aid has a negative insignificant effect on human development index in Nigeria. Remittances has a negative significant effect on human development index in Nigeria. Net export has a positive significant effect on human development index in Nigeria. External debt has a positive insignificant effect on human development index in Nigeria. Government expenditure on education has a positive significant effect on human development index in Nigeria. Government expenditure on health has a negative significant effect on human development index in Nigeria.

In terms of magnitude, the interpretation is important due to the fact that the model is a log-log model, in such cases the functional form should be considered (Asteriou & Hall, 2011). A percentage increase in foreign direct investment will lead to -0.87 unit decrease in human development index. A percentage increase in foreign aid will lead to -0.07 unit decrease in human development index. A percentage increase in remittances will lead to -0.07 unit decrease in human development index. A percentage increase in net export will lead to 1.16 unit increase in human development index. A percentage increase in external debt will lead to 0.01 unit increase in human development index. A percentage increase in government expenditure on education will lead to

0.31 unit increase in human development index. A percentage increase in government expenditure on health will lead to -0.25 unit decrease in human development index.

4.6.3 Diagnostic Tests of Financial Flows and Sustainable Development in Nigeria

Table 8 : Ramsey Resent Test and CUSUM Test

	Value	Probability
F-statistics	13.8793	0.8953
Likelihood	28.09853	0.0097

Author's Compilation, 2023

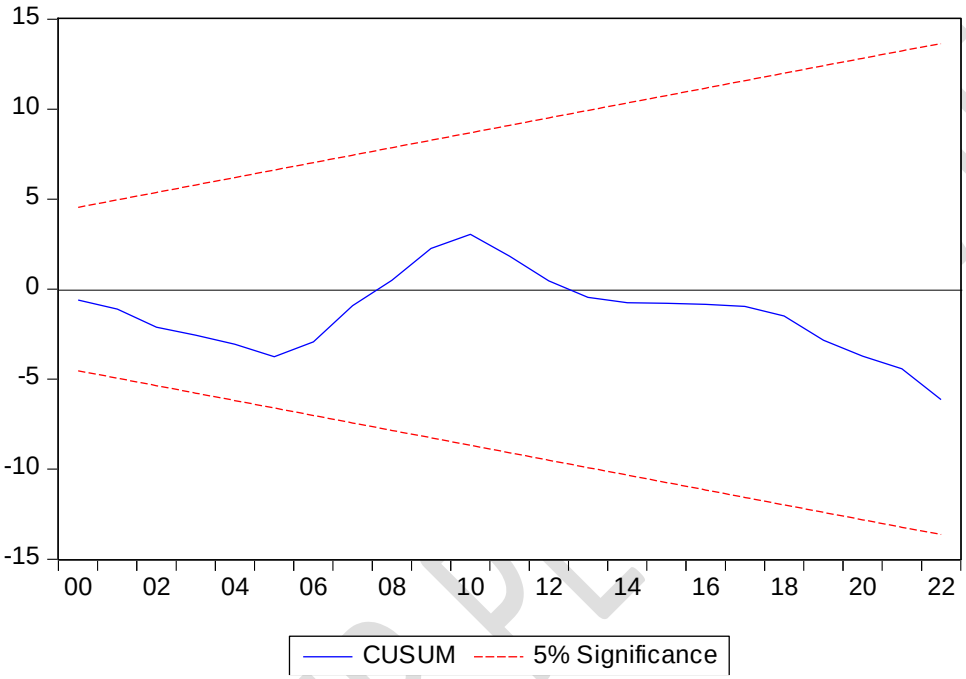

Fig 1 : CUSUM Test for Autoregressive Distributed Lag model stability

The diagram above depicts that the model and internal parameters falls within the 5% level of significance critical bounds. This reveals that the model estimated is stable dynamically which makes the model valid for policy recommendations.

5. CONCLUSION AND RECOMMENDATION

The findings reveals that foreign direct investment has a negative significant effect on human development index in Nigeria. This finding suggests that, contrary to the expected positive influence, FDI in Nigeria has been associated with a decline in the overall human development metrics, which encompass health, education, and income levels. The negative effect indicates that FDI, in its current form and implementation, may not be contributing effectively to the socio-economic advancement of the Nigerian population. This outcome could be attributed to several factors, including the nature of the investments, the sectors in which they are concentrated, potential exploitation, and inadequate integration of FDI with local development goals.

Remittances has a negative significant effect on human development index in Nigeria. It implies that remittances, which are expected to improve living standards by increasing household incomes and facilitating access to better education and healthcare, are instead correlated with a decline in human development metrics. The negative impact could be due to several factors, including misallocation of remittances, dependency syndrome, or the use of remittances for consumption rather than productive investments. Net export has a positive significant effect on human development index in Nigeria. It implies an increase in net exports contributes to improvements in key dimensions of human development, including health, education, and standard of living. A robust net export position likely enhances economic stability, increases national income, and enables greater investment in social infrastructure and public services, which are critical for human development. Government expenditure on education has a positive significant effect on human development index in Nigeria. This implies that increased spending on education leads to improvements in key human development indicators such as life expectancy, literacy rates, and overall living standards. Investment in education is crucial for equipping individuals with the skills and knowledge necessary for personal development and economic participation, thereby fostering broader societal progress. Government expenditure on health has a negative significant effect on human development index in Nigeria. This counterintuitive result suggests that increased government spending on health may not be translating into better health outcomes and overall human development. Potential reasons could include inefficiencies in healthcare delivery, misallocation of resources, corruption, or inadequate management of health programs. The recommended that Nigeria should reassess its FDI policies to ensure that foreign investments align more closely with national development objectives. This might involve creating stricter guidelines and incentives for investments that directly contribute to improvements in health, education, and income. Implement nationwide financial literacy and management programs to educate recipients on effective ways to use remittances. Emphasis should be on investing in education, healthcare, and small businesses to promote sustainable development. The Nigerian government should focus on policies that boost export sectors, especially those that add significant value to raw materials. This can be achieved through subsidies, tax incentives, and investment in infrastructure. The Nigerian government should allocate a larger portion of the national budget to education. This increase in funding should aim to address infrastructural deficits, enhance teacher training, and provide adequate learning materials. Implement robust mechanisms to ensure that health funds are used efficiently and transparently. This includes regular audits, accountability frameworks, and anti-corruption measures to prevent the misallocation of resources.

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