International Capital Inflow and Human Capital Development in A Developing African Economy: A Study Of Nigerian Economy 1987-2018

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Abstract

Extant literatures show that savings gaps in developing countries constitute critical constraints to investments in human capital and this has propelled the scramble by developing countries for international capital to fill the gaps. The paper principally examines the effect of international capital inflows (ICI) on human capital development (HCD) in a developing African economy with Nigeria as case study. The specific objectives are to investigate, determine, assess, examine and ascertain the effects of foreign portfolio investment (FPI), foreign direct investment (FDI), official development assistance (ODA), foreign remittance (RMT) and external debt stock (EXDSK) respectively on HCD. Ex-Post Facto research design on data from the Central Bank of Nigeria Statistical Bulletin and Annual Reports and the World Bank Development Indicators were adopted using Descriptive Statistics, Augmented Dicker Fuller tests for unit roots and diagnostics. The results of the Autoregressive Distributive Lag indicated that FPI had positive and significant long run and short run effect on HCD while FDI, ODA, RMT and EXDSK, only have positive and significant short run effects on HCD. The study concluded that ICI has only short run significant effects on HCD with the exception of FPI. Some of the recommendations are that: government should strengthen and deepen the capital market system in Nigeria to sustain existing FPI and attract new ones; government should avoid using ODA for long term project financing in Nigeria and that EXDSK should be contracted solely for short term investments with economic reasons as against white elephant projects without economic justifications.

Keywords: *International Capital Inflow, Foreign Portfolio Investment, Foreign Direct Investment, Foreign Remittance, External Debt, Official Development Assistance, Human Capital Development, Human Development Index, Economic Development.*

Introduction

According to the Economic Commission for Africa (ECA) (2010), Nigeria has continued to face a perennial shortage of capital resources to finance investments despite being one of the developing economies that receives large chunk of international capital inflow, but yet the country's growth has been low. The quest for the understanding of the relationship between international capital inflow and human capital development in a developing African economy has remained relevant because of their increasing savings gaps and their scramble for international capital inflows.

International capital inflow has been identified as an important vehicle for augmenting the supply of funds for domestic investment (Fosu and Magnus, 2006). Research findings on the nexus between international capital inflows and human capital development have shown conflicting and mixed results. These findings therefore suggest that there are still inconsistencies in developing African Economies on the topic. These conflicting and mixed findings of past studies compelled the researcher to embark on this study. Additionally, despite the widespread concerns and attempts by international donors to promote rapid human capital development in developing economies such as Nigeria, developing economies are still lagging behind as compared to developed economies (Fashina, 2016). Nigeria is the largest recipient of remittances in Sub-Saharan Africa (Ekwe & Inyiama, 2014). Likewise, Nigeria is one of the largest receivers of all forms of international capital but be that as it may, Nigeria, like most developing economies has been bedeviled by the twin economic crises of mounting debt burden and foreign investment inadequacies accompanied with more than proportionate foreign direct investment income remittance (Ezirim, Anoruo & Muoghalu, 2006).

This study, therefore aims at determining whether the aggregated variables of international capital (foreign direct investment, foreign portfolio investment, external debt stock, official development assistance and foreign remittance) positively and significantly impact on the human capital development of Nigeria. The outcome of this study will be of interest and beneficial to the Nigerian government and its policy making agencies, researchers and the academia, the debt management office and the general public.

Review of Related Literature

International capital inflows refer to the influx of usable funds into a country from source(s) outside the country for the purpose of investment, trade or business. Developing and less developed countries rely on foreign sources to finance their activities due to insufficient domestic savings leading to growing mismatch of their domestic capital stock and actual investment capital needs. This explains the drive and scramble for foreign capital especially by developing countries. The relative advantage(s) of foreign capital inflow as a productivity-enhancing package is now widely acknowledged especially since the latest financial crises of 2007 – 2008 and 2016 (Okafor, Ugochukwu, & Chijindu, 2016). **Foreign portfolio investment (FPI)** involves the transfer of financial assets such as cash, stock or bonds across international borders in want of profit. Foreign portfolio investment comprises of debt and equity investments with financial derivatives recently included. **Foreign direct investment (FDI)** relates to

investment that confers controlling ownership of a business in one country to a different entity in another country. The United Nations defines foreign direct investment as 'investment in enterprise located in one country and effectively being controlled' by residents of another country. **Official Development Assistance (ODA)** is a term associated with the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD), to serve as an indicator or measure of international aid flow. It is a government aid aimed at promoting economic development and welfare of developing economies. **Foreign Remittances** are funds transferred by migrants to their home country. They represent the personal savings of workers and families that are repatriated back home to drive the home economy while **External debt Stock** is the total debt a country owes to foreign countries. Debt is derived from Latin word "Debere" meaning to owe.

According to Harbison and Myers (1964), **human capital development** can be seen as the deliberate and continuous process of acquiring requisite knowledge, skills and experiences that are applied to produce economic value for driving sustainable national development. Among the generally agreed causal factors responsible for the impressive performance of the economy of most developed and newly industrializing countries is an impressive commitment to human capital development (Fashina, 2016).**The human development index (HDI)** measures the standard of living and provides a useful tool for a comparative evaluation of nations in terms of several indicators including education, literacy, average life expectancy and life quality. **Economic growth** refers to an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It is a process by which a nation wealth increases over time. **Economic development** refers to the process by which the economic well being and quality of life is improved. Economic development seeks to achieve long-term sustainable development in a nation's standard of living, an increase in the per capita income of every citizen, adjusted for purchasing power parity (Porter, 1998).

Theoretical Framework

The theoretical framework of this study is anchored on the Harrod-Domar growth model (1946) and the Chenery & Strout Two Gap Model (1966) because both models are associated with transfer savings, investment and productivity by human capital.

The Harrod – Domar model is a classical Keynesian model of economic growth used in development economics to explain an economy's growth rate in terms of the level of savings and productivity of capital. The model was developed independently by Roy F. Harrod in 1939 and Evsey Domar in 1946. According to Harrod-Domar model, three kinds of growth exist and they are (1) the rate of growth at which the economy does not expand indefinitely or go into recession (2) the actual growth which is the real rate of increase in a country's GDP and (3) the natural growth which refers to the growth an economy require to maintain full employment. The model suggests that the economy's growth rate depends on (1) the level of national savings where it postulates that higher savings trigger higher investment (2) the productivity of capital investment or capital output ratio. It opined that to boost economic growth rate, it is necessary to increase savings either domestically or from international capital. Higher savings create virtuous circle of self sustaining economic growth

The two gap model of Chenery and Strout (1966) asserts that developing economies face two gaps in their economies that they have to fill. In this model the first gap is between the amount of investment necessary to attain a certain rate of growth and the available domestic savings (the saving gap). The second gap is the trade gap or foreign exchange gap or the gap between exports and imports. This occurs when there is a gap between import requirements for a given level of production and foreign exchange earnings. This leads to deficit in current accounts. It is argued that at any moment there is the existence of one of these two gaps in a developing country and as such it requires international capital to fill the gap.

Empirical Literature Review

Various literatures were reviewed by the researcher to analyze the effect of international capital inflows and its variables on human capital development in Nigeria in order to establish their relationship.

Variables	Works reviewed
Foreign Portfolio Investment (FPI)	Iheanachor O. and Ikenna N. (2018), Felix and Amuche (2017), James and Johnson (2016), Paul, Chibueze and Callistus (2016), Frank and Garry (2015), Imran, Fatima and Arzoo (2014), Kennedy (2015), Nwosa and Amassoma (2014), Okoafor, Ezeaku and Izuchukwu (2015), Paul and Callistus (2016) , Nwaokoro (2016), Omowuni (2015); Musa (2014), Isiwu, Ngwu, Chukwu, Sancho and Ojiya, (2018), Micheal and Emmanuel (2013).
Foreign Direct Investment (FDI)	Kanu (2015), Nwosa and Amassoma (2014), Hideaki (2105), Chigbu, Ubah and Chigbu (2015), Korhan, Gokmenoglu, Apinran, and Taspinor (2018), Okafor, Ezeaku, and Eje (2015) , Akanyo and Ajie (2015) , Raheem and Adeniyi (2015), Adegboye, Ogbebor and Egharvba (2014), Ali (2014), Ekwe and Inyiama (2014), Nkoro and Uko (2013) Muhammad, Saleem, Zalina, Namasivayam and Farah (2015), Orji, Uche and Ilori (2014), Nweke (2015), Okafor, Ugwuegbe and Ezeaku (2016)
Official Development Assistance (ODA)	Fashina, Asaleye, Ogunjobi and Lawal (2018), Yiew and Lau (2018), Anuli and Ebele (2015), Wasiu and Mubaraq (2018), Anthony, Akachukwu and Elijah (2014), Akpan and Udoma (2013), Veledinah (2014), Bashir (2013), Ferdaous (2016), Makori, Kagiri and Ombui (2015), Sethi and Patnaik (2005)
Foreign Remittance) RMT	Samer and Ala' Bashayreh (2017), Pradhan (2016), Peter and Mabel (2018), Okodua (2010), Minta and Nikoi (2015), Adenutsi (2010), Bayar (2015), Beatrice and Samuel (2015), Abdul, Muhammad and Umaima (2010), Adeyi (2015), Adarkwa (2015), Nyeadi, Yidana and Imoro (2014), Pradhan and Khan (2015)
External Debt Stock (EDS)	Ezeabasili, Isu and Mojekwu (2011), Egungwu (2018), Yesuf (2014), Sulaiman and Azeez (2012), Ajayi and Oke (2012), Ekperiware and Oladeji (2012), Kasidi and Said (2013), Ibi and Aganyi (2015), Ijeoma (2013), Obademi (2012)

The findings of the literature reviews show that international capital inflows have mixed and conflicting effect on human capital development.

Model Dimension

The study adopted the ex-post facto research design. The Secondary data used in this study were sourced from the archives of the World Bank Development Indicators and the Central Bank of Nigeria (CBN), Statistical Bulletin from 1987 to 2018.

FPI Work Used	**Work Model**	**Modified Model**
Iheanachor and Ikenna (2018)	HDI = f (FPI, MKC, ITR)	HDI=f(FPI, MKC, ITR, EXR)
FDI Work Used	**Work Model**	**Modified Model**
Uchenna and James (2016)	HDI =f(FDI,GFCF,EXR)	HDI=f(FDI,GFCF,EXR,ITR,MKC)
ODA Work Used	**Work Model**	**Modified Model**
Fashina, Asaleye, Ogunjobi and Lawal (2018)	RGDP= f (SER, GEE, GHE, RI, FDI)	HDI= f (PAID, PRAID, TA, HA, FA)
RMT Work Used	**Work Model**	**Modified Model**
Peter and Mabel (2018)	HDI= f (REM, LF, FDI)	HDI = f (MW, MPA, IAW, EW)
EDS Work Used	**Work Model**	**Modified Model**
Egungwu (2018)	HDI= f (EXTD,EXR, INFR)	HDI= f (EXDSK, EXDS, EXR, ITR, IFR)

Key: HDI= Human capital development index, FPI = Foreign Portfolio Investment, MKC= Market Capitalization, ITR = Interest Rate, EXR = Exchange Rate, HDI = Human capital development index, FDI= Foreign Direct Investment, GFCF= Gross Fixed Capital Formation, MKC= Market Capitalisation, PAID = Project Aid, PRAID = Programmed Aid, TA = Technical Assistance, HA= Humanitarian Aid, FA = Food Aid, MW = Migrant workers MPA= Military personnel serving abroad, IAW = International aid workers, EW = Embassy workers HDI= Human capital development index EXDSK= External Debt Stock
EXDS= External Debt Servicing, IFR= Inflation Rate.

A Priori Expectation

The theoretical expectation of the study is that International Capital Inflows will have positive effect on human capital development. The relationship is $\beta_1 > \beta_2 > \beta_3 > \beta_4 > \beta_5 > 0 < \beta_6$

Methods of Analysis

Econometric techniques using descriptive statistics, diagnostic test using Augmented Dickey Fuller test and the Auto Regressive Distributive Lag (ARDL test) (Bounds test) was used to analyse the data. Descriptive statistics describe the basic feature of the data in the study as they provide simple summaries about the samples and the measures. Augmented Dickey fuller test was applied to carryout diagnostic test for unit roots and the ARDL was used in testing the short run and long run relationships between the dependent and the independent variables.

Descriptive Statistics

The mean of 0.453%, insinuates that the level of human capital development Nigeria is not

	HDI	FPI	EXDSK	EXR	FDI	MKC	GFCF	EXDS	IFR	ITR	ODA	RMT
Mean	0.453000	2.892571	71.72356	130.0147	3.154246	138.5466	3575.155	5840.827	20.82613	18.81645	1.569066	3.516338
Median	0.475000	8134.140	78.46170	129.0041	2.697492	54.20470	1358.200	1269.320	13.70000	17.98000	0.587100	3.000530
Maximum	0.500000	113711.6	228.3717	150.2980	10.83256	899.8630	11076.10	24140.63	76.80000	29.80000	8.120000	11.64283
Minimum	0.350000	121.5000	4.131000	111.9433	0.652160	1.933200	6.000000	23.81000	0.200000	10.50000	0.301200	0.010418
Std. Dev.	0.053759	35967.95	63.85491	12.21667	2.308008	234.5915	4159.263	7898.456	19.40322	3.836578	1.384615	3.345372
Skewness	1.241875	1.055818	0.594693	0.442803	1.746330	2.094772	0.829723	1.132418	1.569589	0.913481	4.662941	1.072105
Kurtosis	2.913926	2.692842	2.642950	2.366218	6.017820	6.165754	2.000906	2.831894	4.248810	4.446283	24.53509	3.393579
Jarque-Bera	2.573511	5.881416	1.991907	0.494157	27.52014	35.61678	4.846271	6.662078	14.74304	7.013135	711.3622	6.138704
Probability	0.276165	0.052828	0.369371	0.781079	0.000001	0.000000	0.088643	0.035756	0.000629	0.030000	0.000000	0.046451
Sum	4.530000	896697.0	2223.430	1300.147	97.78164	4294.944	110829.8	181065.6	645.6100	583.3100	30.04105	109.0065
Sum Sq. Dev.	0.026010	3.88E+10	122323.5	1343.224	159.8070	1650995.	5.19E+08	1.87E+09	11294.55	441.5799	57.51475	335.7454
Observations	31	31	31	31	31	31	31	31	31	31	31	31

improving. The maximum and minimum values for the variables showed 0.5000% and 0.350% for HDI respectively. The standard deviation 0.054% asserts a very wide variation in human capital development which signifies unstable human capital development in Nigeria. The mean of external debt stock (EXDSK) show that 71% of human capital development (HDI) in Nigeria is affected by the external debt stock. This value is pegged at 3.15% for FDI, 1.56% for ODA,

3.51% for RMT and 2.89% for FPI. The maximum and minimum values showed 228% and 4.13% for EXDSK respectively while the standard deviation is 63.33% and these show that external debt stock is very high in Nigeria, suggesting that Nigeria is heavily indebted. Exchange rate (EXR) has mean of 130.0147% with minimum value of 111.9433% and maximum values of 150.2980% respectively. However, the standard deviation of 12.21667% indicates high variation in exchange rate (EXR) showing that the Nigerian economy is relatively unpredictable, risky and capable of discouraging investment in the country. Interest rate (ITR) has a mean of 18.81645%, standard deviation of 3.836578% with minimum and maximum values of 10.50000% and 29.80000% respectively, suggesting also asserts that the Nigerian economy is unpredictable and risky.

Augmented Dickey-Fuller Unit Root Test

Summary Unit Root test for Stationarity.

Variables	ADF Statistic	Order Of Integration	Level of Significance
HDI	-5.328712	1(1)	5%
FDI	-4.729234	1(0)	5%
EXR	-4.130362	1(0)	5%
ITR	-6.657659	1(0)	5%
IFR	-5.128101	1(0)	5%
GFCF	-5.369621	1(1)	5%
MKC	-4.379914	1(0)	5%
EXDSK	-4.298724	1(1)	5%
EXDS	-4.030147	1(1)	5%
PAID	-5.137321	1(0)	5%
TA	-4.266713	1(1)	5%
HA	-3.426741	1(1)	5%
FA	-4.357237	1(1)	5%
MW	-5.472436	1(1)	5%
MPA	-4.554952	1(0)	5%
IAW	2.323468	1(0)	5%
EW	-3.152754	1(1)	5%
ODA	-3.888541	1(0)	5%
RMT	-4.037522	1(0)	5%
FPI	-5.149579	1(0)	5%
MPA	-4.554952	1(0)	5%

The Auto Regressive Distributive Lag (ARDL) test is applied because of stationarity at two levels as it is the most suitable tool of analyses that accommodates both the short and long run trends in testing the relationship between the dependent and independent variables.

Auto Regressive Distributive Lag Test (Bounds Test).

Model One: Result of the ARDL (Bounds) Test for Cointegration Between Foreign Portfolio Investment and Human Capital Development in Nigeria.

ARDL Bounds Test

Date: 10/18/19 Time: 14:25
Sample: 1987 2018
Included observations:31
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	5.81478	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.67
5%	2.59	3.84
2.5%	2.82	4.26
1%	3.24	4.58

The result of the study revealed that the F-statistics is greater than the lower and upper critical values for the model. This connotes the existence of co-integration or long run relationship between foreign portfolio investment and human capital development.

Long Run Relationship Between Foreign Portfolio Investment and Human Capital Development.

ARDL Cointegrating And Long Run Form
Dependent Variable: HDI
Selected Model: ARDL
Date: 10/18/19 Time: 14:43
Sample: 1987 2018
Included observations: 31

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(FPI)	8.792413	3.589053	3.021623	0.0010
D(MKC)	2.656331	2.610355	2.530053	0.0034
D(MKC)	7.801246	3.618564	2.160672	0.0002
D(ITR(-1))	5.842601	7.062700	0.217931	0.8302
D(ITR(-2))	3.875030	5.562704	2.442088	0.0006
D(EXR)	4.663552	6.724510	3.206379	0.0001
D(EXR(-1))	1.157115	9.919621	3.626037	0.0051
D(EXR(-2))	-3.237873	1.097709	-1.507913	0.1511
CointEq(-1)	-5.359410	4.013707	4.315947	0.0005

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
FPI	3.559357	6.65731	0.021631	0.9830
MKC	2.616155	4.82033	0.523706	0.6077
ITR	4.347565	2.12467	0.989744	0.3370
EXR	7.849711	3.26624	-2.202710	0.0426
C	4.556863	2.64308	-0.171613	0.8659

The result from the model on foreign portfolio investment and human capital development showed that the error correction term [CointEq(-1)] is rightly signed. The negative value indicates that foreign portfolio investment can be used to return deviations of human capital development to the equilibrium point. This implies that any fluctuation in human capital development can be restored to equilibrium through foreign portfolio investment. The coefficient indicates about -5.359410% errors in human capital development from foreign portfolio investment can be corrected within a year. The probability value is less than 0.05 indicating a statistically significant effect of the speed of adjustment. This suggests that foreign portfolio investment have a significant policy adjustment effect on human capital development in Nigeria.

Short Run Relationship Between Foreign Portfolio Investment and Human Capital Development.

Dependent Variable: HDI
Method: ARDL
Date: 10/18/19 Time: 14:21
Sample (adjusted): 1987 2018
Included observations: 31 after adjustments
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic)
Fixed regressors: C
Number of models evalulated: 2048
Selected Model: ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	7.59160	0.013707	2.26958	0.0000
FPI	8.79241	3782.589	3.41623	0.0030
MKC	2.46563	244.6104	2.53053	0.0024
ITR	3.87812	365.6186	4.60672	0.0006
ITR(-1)	4.34657	377.0816	3.52789	0.0049
ITR(-2)	5.84260	247.0627	2.21791	0.0002

ITR(-3)	6.33750	259.5627	2.44258	0.0266
EXR	4.66355	206.7245	3.26379	0.0001
EXR(-1)	3.26846	202.4782	5.64419	0.0030
EXR(-2)	12.5157	199.9196	0.62603	0.5401
EXR(-3)	33.2379	201.0977	2.50791	0.0051
C	21.2881	1199.718	3.17528	0.0011

R-squared	0.79214	Mean dependent var	31664.68
Adjusted R-squared	0.75824	S.D. dependent var	35940.06
S.E. of regression	1333.094	Akaike info criterion	17.53024
Sum squared resid	2843426	Schwarz criterion	18.14316
Log likelihood	24.11884	Hannan-Quinn criter.	17.72220
F-statistic	2.694616	Durbin-Watson stat	2.860650
Prob(F-statistic)	0.57382		

From the ARDL test result, the regression equation for foreign portfolio investment and human development index is presented thus: HDI = 7.59160 + 8.79241 FPI + 2.46563 MKC + 3.87812 ITR + 4.66355 EXR + U. The ARDL revealed that the constant parameter (HDI) is positive at 7.59160 which imply that if all the independent variables are held constant, HDI as the dependent variable will grow by 7.59160 units. The result of the analysis indicates that human capital development is an endogenous variable in the model of the effect of foreign portfolio investment on human capital development in Nigeria.

Foreign Portfolio Investment (FPI): The positive coefficient of FPI of 8.79241 with t-statistics of 3.41623 and probability value (p. =0.0030< 0.05) show that FPI has positive and significant effect on HDI. This implies that a unit increase in foreign portfolio investment leads to further growth in human capital development in Nigeria by 7.59%. Market Capitalisation (MKC): The coefficient of MKC being positive at 2.46563 with t-statistics of 2.53053 and probability value (p. =0.0024< 0.05) show that MKC has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in MKC leads to further growth of 2.46% in human capital development in Nigeria. Interest Rate (ITR): The positive coefficient of ITR at 3.87812 with t-statistics of 4.60672 and probability value (p. =0.0006< 0.05) shows that ITR has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in ITR leads to further growth in human capital development in Nigeria by 4.60%. Exchange Rate (EXR): The positive coefficient of EXR at 4.66355 with t-statistics of 3.26379 and probability value (p. =0.0030< 0.05) shows that EXR has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in foreign portfolio investment leads to further growth in human capital development in Nigeria by 4.66%.

Model Two: Result of the ARDL (Bounds) Test for Cointegration Between Foreign Direct Investment and Human Capital Development.

ARDL Bounds Test
Date: 10/18/19 Time: 15:05

Sample: 1987 2018
Included observations: 31
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	2.13454	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

The result of the bound test shows that the F-statistic is 2.13454 and is less than the lower bound at 1%, 2.5%, 5% and at 10% significant levels, showing a case of no co-integration between the variables. This implies that there is no long run relationship between foreign direct investment and human capital development in Nigeria.

Short Run Model Test Result of the Relationship Between Foreign Direct Investment and Human Capital Development.

Dependent Variable: HDI
Method: ARDL
Date: 10/18/19 Time: 15:04
Sample (adjusted): 1987 2018
Included observations: 31 after adjustments
Maximum dependent lags: 3 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (4 lags, automatic):
Fixed regressors: C
Number of models evalulated: 1875
Selected Model: ARDL

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	4.802931	0.316268	2.538769	0.0354
HDI(-2)	6.363963	1.288493	3.261603	0.0018
FDI	3.610199	2.510272	2.438171	0.0042
FDI(-1)	7.565170	1.812875	2.362141	0.0026
FDI(-2)	322.9638	1.698009	-1.902015	0.0896

GFCF(-1)	1.224529	4.259021	4.856901	0.0047
GFCF(-2)	3.214576	1.858411	2.842744	0.0325
EXR	1.135233	0.472942	2.400363	0.0399
EXR(-1)	0.403888	0.488474	3.826836	0.0497
EXR(-2)	0.157569	0.601321	0.262038	0.7992
EXR(-3)	-0.350325	0.560356	-0.625183	0.5474
EXR(-4)	-1.502368	0.566028	-2.654227	0.0263
ITR	3.001000	1.001916	2.522059	0.0042
MKC	5.456371	1.239654	3.174820	0.0002
MKC(-1)	1.105181	9.838467	2.123326	0.0014
MKC(-2)	7.364920	2.213962	3.120276	0.0069
MKC(-3)	9.961166	1.154773	3.088084	0.0038
MKC(-4)	-2.011176	1.116474	-1.801365	0.1052
C	5.378284	5765.054	0.932911	0.3752

R-squared	0.672460	Mean dependent var	32780.59
Adjusted R-squared	0.641681	S.D. dependent var	36084.32
S.E. of regression	1310.582	Akaike info criterion	17.41649
Sum squared resid	15458637	Schwarz criterion	18.32049
Log likelihood	224.8309	Hannan-Quinn criter.	17.69285
F-statistic	11.36603	Durbin-Watson stat	2.601601
Prob(F-statistic)	0.82310		

From the ARDL test result, the regression equation for foreign direct investment and human development index is presented thus: HDI = 4.802931 + 3.610199 FDI + 1.224529 GFCF + 1.135233 EXR + 3.001000 ITR + 1.105181 MKC + U. The ARDL revealed that the constant parameter (HDI) is positive at 4.802931 which imply that if all the independent variables are held constant, HDI as the dependent variable will grow by 4.802931 units. The result of the analysis indicates that human capital development is an endogenous variable in the model of the effect of foreign direct investment on human capital development in Nigeria. Foreign Direct Investment (FDI): The coefficient of FDI is positive at 3.610199 with t-statistics of 2.438171 and probability value (p. =0.0042< 0.05) showing that FDI has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in foreign direct investment leads to further growth in human capital development in Nigeria by 4.80%. Gross Fixed Capital Formation (GFCF): The coefficient of GFCF which is positive at 1.224529 with t-statistics of 4.856901 and probability value (p. =0.0047< 0.05) shows that GFCF has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in GFCF leads to further growth in human capital development in Nigeria by 1.22%. Exchange Rate (EXR): The coefficient of EXR which is positive at 1.135233 with t-statistics of 2.400363 and probability value (p. =0.0399< 0.05) shows that EXR has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in EXR leads to further growth in human capital development in Nigeria by 1.14%. Interest rate (ITR): The coefficient of ITR which is positive at 3.001000 with t-statistics of 2.522059 and probability value (p. =0.0042< 0.05) shows that ITR has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in ITR leads to further growth in human capital development in Nigeria by 3.00%. Market Capitalisation: (MKC): The coefficient of MKC being

positive at 5.456371 with t-statistics of 3.174820 and probability value (p. =0.0002< 0.05) shows that MKC has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in MKC leads to further growth in human capital development in Nigeria by 5.45%.

Model Three: Result of the ARDL (Bounds) Test for Cointegration Between Official Development Assistance and Human Capital Development in Nigeria.

ARDL Bounds Test
Date: 10/18/19 Time: 15:21
Sample: 1986 2018
Included observations: 31
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	1.702164	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

The result of the bound test shows that the F-statistic is 1.702164 is less than the lower bound at 1%, 2.5%, 5% and at 10% significance levels and indicates a case of no co-integration between the variables. This implies that there is no long run relationship between official development assistance and human capital development in Nigeria.

Short Run Model of the Relationship Between Official Development Assistance and Human Capital Development in Nigeria.
Dependent Variable:HDI
Method: ARDL
Date: 10/18/19 Time: 15:19
Sample (adjusted): 19187 2018
Included observations: 31 after adjustments
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic)
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	5.310668	0.347960	2.892827	0.0047
HDI(-2)	1.722942	0.353766	4.870288	0.0165
PAID	2.105525	3.108211	6.774074	0.0066
PAID(-1)	10.03577	5.964195	3.682670	0.0010
PAID(-2)	4.003275	3.741916	2.069846	0.0321
PAID(-3)	2.739711	5.959118	4.597511	0.0193
TA	5.050742	1.495445	3.102417	0.0049
TA(-1)	1.521955	0.783739	2.941916	0.0524
TA(-2)	0.002915	0.496826	0.005868	0.9957
TA(-3)	-1.088764	0.555446	-1.960162	0.1448
HA	2.296855	0.537354	4.274382	0.0235
HA(-1)	7.608590	0.757016	3.803932	0.0002
HA(-2)	3.290622	0.711690	2.408355	0.0042
HA(-3)	-0.422621	0.712217	-0.593388	0.5947
FA	-819.5464	253.9891	-0.226700	0.4583
FA(-1)	-769.1222	2.657879	-1.893745	0.2628
FA(-2)	18.07251	20.05280	0.090125	0.9339
FA(-3)	-1028.980	3282449	-0.508229	0.0204
C	8200.561	1285525	3.588043	0.0371

R-squared	0.879968	Mean dependent var	31807.60
Adjusted R-squared	0.829741	S.D. dependent var	38736.05
S.E. of regression	6.232940	Akaike info criterion	15.34765
Sum squared resid	1165486.	Schwarz criterion	16.42026
Log likelihood	-169.8456	Hannan-Quinn criter.	15.64515
F-statistic	4.413902	Durbin-Watson stat	2.534685
Prob(F-statistic)	0.37215		

From the ARDL test result, the regression equation for official development assistance and human development index is presented thus: HDI = 5.310668 + 2.105525 PAID + 5.050742 TA + 2.296855 HA + 819.5464 FA + U. The ARDL reveal that the constant parameter (HDI) is positive at 5.310668 meaning that if all the independent variables are held constant, HDI as the dependent variable will grow by 5.310668 units. The result of the analysis indicates that human capital development is an endogenous variable in the model of the effect of ODA on human capital development in Nigeria. Project Aid (PAID): The coefficient of PAID which is positive at 2.105525 with t-statistics of 6.774074 and probability value (p. =0.0066< 0.05) shows that PAID has positive and significant effect on HDI. This implies that a unit increase in PAID leads to further growth in human capital development in Nigeria by 2.11%. Technical Assistance (TA): The coefficient of TA which is positive at 5.050742 with t-statistics of 3.102417 and probability value (p. =0.0049< 0.05) shows that TA has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in TA leads to further growth in human capital development in Nigeria by 5.05%. Humanitarian Aid (HA): The coefficient of HA being positive at 2.296855 with t-statistics of 4.274382 and probability value (p. =0.0235< 0.05) shows

that HA has positive and significant effect on human capital development in Nigeria. This implies that a unit increase in HA leads to further growth in human capital development in Nigeria by 2.30%. Food Aid (FA): The coefficient of FA which is negative at 819.5464 with negative t-statistics of 0.226700 and probability value (p. =0.4583> 0.05) shows that FA has negative and insignificant effect on human capital development in Nigeria. This implies that a unit increase in FA leads to a decline in human capital development in Nigeria by 819%.

Model four: Result of the ARDL (Bounds) Test for Cointegration Between Foreign Remittance and Human Capital Development.

ARDL Bounds Test
Date: 10/18/19 Time: 15:33
Sample: 1987 2018
Included observations: 31
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	2.23575	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

The result of the bound test reveals that the F-statistic is 2.235795 and is less than the lower bound at 1%, 2.5%, 5% and at 10% significant levels which shows a case of no cointegration between the variables. This implies that there is no long run relationship between foreign remittance and human capital development in Nigeria.

Short Run Model of the Relationship Between Foreign Remittance and Human Capital Development.
Dependent Variable: HDI
Method: ARDL
Date: 10/18/19 Time: 15:32
Sample (adjusted): 1987 2018
Included observations: 31 after adjustments
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic):

Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
HDI(-1)	1.193870	0.160995	5.415553	0.0000
HDI(-2)	0.158059	0.173993	2.908421	0.0080
MW	-335.0290	1.696675	-1.974620	0.6170
MW(-1)	4.932647	2.727323	2.855660	0.0120
MW(-2)	-212.2841	12.56812	-1.689069	0.1119
MW(-3)	441.6968	109.0648	4.049858	0.0010
MPA	-4.213872	1.621922	-0.598073	0.8202
IAW	-260.8788	151.1650	-1.725788	0.1049
IAW(-1)	-335.3802	174.9579	-1.916919	0.0745
EWK	0.000120	0.000313	0.384695	0.7059
EW(-1)	-0.000740	0.000435	-1.700982	0.1096
EW(-2)	0.000993	0.000340	2.923417	0.0105
C	1725.406	1028.297	1.677926	0.1141

R-squared	0.799508	Mean dependent var	32000.21
Adjusted R-squared	0.762114	S.D. dependent var	36553.29
S.E. of regression	1088.163	Akaike info criterion	17.12679
Sum squared resid	17761476	Schwarz criterion	17.74531
Log likelihood	-226.7750	Hannan-Quinn criter.	17.31588
F-statistic	25.37662	Durbin-Watson stat	2.140239
Prob(F-statistic)	0.46272		

From the ARDL test result, the regression equation for foreign remittance and human capital development index is presented thus: HDI = 1.193870 + 335.0290 MW + 4.213872 MPA + 260.8788 IAW + 0.000120 EW + U. The ARDL revealed that the constant parameter (HDI) is positive at 1.193870 which implies that if all the independent variables are held constant, HDI as the dependent variable will grow by 1.193870 units. The result of the analysis indicates that human capital development is an endogenous variable in the model of the effect of foreign remittance on human capital development in Nigeria. Migrant Workers (MW): The coefficient of MW which is negative at 335.0290 with negative t-statistics of 1.974620 and probability value (p. =0.6170 > 0.05) shows that remittance from MW has negative and insignificant effect on HDI. The positive coefficient of 4.932647 with t-statistics of 2.855660 and probability value (p. = 0.0120 < 0.05) indicates that remittance by migrant workers has positive and significant effect on human capital development in Nigeria. Military personnel Abroad (MPA): The coefficient of MPA which is negative at 4.213872 with negative t-statistics of 0.598073 and probability value (p. =0.8202 > 0.05) shows that remittance from MPA has negative and insignificant effect on human capital development. International Aid Workers (IAW): The coefficient of IAW being negative at 260.8788 with negative t-statistics of 1.725788 and probability value (p. =0.1049 > 0.05) shows that remittance from IAW has negative and insignificant effect on human capital development. Embassy Workers (EW): The coefficient of EW being positive at 0.000120 with t-

statistics of 0.384695 and probability value (p. =0.7059 > 0.05) shows that EW has negative and insignificant effect on human capital development.

Model Five: Result of the ARDL (Bounds) Test for Cointegration Between for External debt and Human Capital Development.

ARDL Bounds Test
Date: 10/18/19 Time: 15:41
Sample: 1990 2018
Included observations:31
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	1.03773	5

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.26	3.15
5%	2.62	3.79
2.5%	2.96	4.18
1%	3.41	4.68

The result of the bound test shows that the F-statistic is 1.03773 and is less than the lower bound at 1%, 2.5%, 5% and at 10% significance levels which indicates that there is no cointegration between the variables. This implies that there is no long run relationship between external debt and human capital development in Nigeria.

Short Run Model of the Relationship Between External Debt and Human Capital Development in Nigeria.

Dependent Variable: HDI
Method: ARDL
Date: 10/18/19 Time: 15:40
Sample (adjusted): 1987 2018
Included observations: 31 after adjustments
Maximum dependent lags: 2 (Automatic selection)
Model selection method: Akaike info criterion (AIC)
Dynamic regressors (3 lags, automatic):
Fixed regressors: C

Variable	Coefficient	Std. Error	t-Statistic	Prob.*

HDI(-1)	1.009542	0.020069	4.330472	0.0000
EXDSK	5.354320	0.236378	2.844943	0.0123
EXDSK(-1)	3.001402	0.140545	2.570296	0.0222
EXDSK(-2)	1.001971	0.000609	3.237202	0.0060
EXDSK(-3)	-0.621418	0.000512	-1.767653	0.3151
EXDS	-45.66151	12.35098	-0.696996	0.6124
EXR	-0.241815	0.001893	-0.958762	0.7539
EXR(-1)	-0.000834	0.001854	-0.449686	0.6598
EXR(-2)	-0.004077	0.002037	-1.001636	0.8651
ITR	-251.9292	1.090582	-0.310043	0.5366
IFR	6.330635	3.374839	1.875833	0.3817
IFR(-1)	-16.87217	2.914867	-0.578832	0.5719
IFR(-2)	-20.03034	2.731053	0.733429	0.4754
IFR(-3)	-59.69446	21.26970	-1.806549	0.2140
C	12192.43	3.100438	3.932485	0.0015

R-squared	0.799277	Mean dependent var	31664.68
Adjusted R-squared	0.738553	S.D. dependent var	35940.06
S.E. of regression	1367.045	Akaike info criterion	17.58494
Sum squared resid	26163385	Schwarz criterion	18.29216
Log likelihood	-239.9816	Hannan-Quinn criter.	17.80643
F-statistic	13.81362	Durbin-Watson stat	2.641325
Prob(F-statistic)	0.93573		

From the ARDL test result, the regression equation for external debt stock (EXDSK) and human capital development index is presented thus: HDI = 1.009542 + 5.354320 EXDSK + 45.66151 EXDS + 0.241815 EXR + 251.9292 ITR + 6.330635 IFR + U. The ARDL revealed that the constant parameter (HDI) is positive at 1.009542 which implies that if all the independent variables are held constant, HDI as the dependent variable will grow by 1.009542 units. The result of the analysis indicates that human capital development is an endogenous variable in the model of the effect of external debt stock on human capital development in Nigeria. External Debt Sock (EXDSK): The coefficient of EXDSK being positive at 5.354320 with positive t-statistics of 2.844943 and probability value (p. =0.0123 < 0.05) shows that EXDSK has positive and significant effect on human capital development in Nigeria. External Debt Servicing (EXDS): The coefficient of EXDS which is negative at 45.66151 with negative t-statistics of 0.696996 and probability value (p. =0.6124 > 0.05) shows that EXDS has negative and insignificant effect on human capital development in Nigeria. Exchange Rate (EXR): The coefficient of EXR being negative at 0.241815 with negative t-statistics of 0.958762 and probability value (p. =0.7539 > 0.05) shows that EXR has negative and insignificant effect on human capital development in Nigeria. Interest Rate (ITR): The coefficient of ITR is negative at 251.9292 with negative t-statistics of 0.310043 and probability value (p. =0.5366 > 0.05) shows that ITR has negative and insignificant effect on human capital development in Nigeria. Inflation Rate (IFR): The coefficient of IFR which is positive at 6.330635 with positive t-statistics of 1.875833 and probability value (p. = 0.3817 > 0.05) shows that IFR has positive and significant effect on human capital development in Nigeria.

DIAGNOSTIC TESTS:

Multicolinearity Test

Decision Rule: "if any of the Variance Inflation Factor (VIF) exceeds 10 (or 5), then it is an indication that the associated regression coefficients are poorly estimated because of multicollinearity" (Ranjit, 2006). The result of the study indicates that all the Variance Inflation Factor (VIF) are below five (5) which means that there is absence of Multicolinearity in the models.

Serial Correlation Test

The presence of serial correlation is tested using the Breusch-Godfrey Serial Correlation LM Test. The null hypothesis is no presence of serial correlation. **The Decision Rule:** is to reject the null hypothesis if the p. value is less than 0.05 level of significance. From results obtained, the p. values of the models are greater than 0.05, and this shows that the models are not serially corrected at 5% level of significance.

Heteroskedasticity Test.

The Presence of heteroskedasticity means that there is an unequal error variance in the model from the data observations. The null hypothesis connotes that the residuals are homoscedastic and the alternate hypotheses are that the residuals are heteroskedastic. **The Decision Rule is** to reject the null hypothesis if the p. value is less than 0.05 level of significance. From result, the p.values of the model is greater than 0.05 meaning that the models are not homoscedastic at 5% level of significance. This confirms that the estimated models are not biased values.

Regression Estimation Specification Error Test (RESET Test)

The Regression Estimation Specification Error Test is employed to identify the existence of any significant non-linear relationships in the developed linear regression model. The null hypothesis shows that there is a non-linear relationship in the regression model. **The Decision Rule** is to reject the null hypothesis where the p.values is less than 0.05 level of significance. From the results of the study, the p. values are less than 0.05 levels, indicating that the models are well specified and are good for the estimation of the models in the study.

TEST OF HYPOTHESIS

The hypothesis was tested at 0.05 level of significance. **Decision Rule:** The decision rule applied is to reject the null hypothesis if F-statistics is greater than the bounds lower and upper bounds.

Test of Hypothesis One

Ho_1: Foreign portfolio investment has no positive and significant effect on human capital development in Nigeria.

H_1: Foreign portfolio investment has positive and significant effect on human capital development in Nigeria.

Long run F-Statistics	**5.81478**	**10% significance**	**5%. Significance**	**2.5% significance**	**1% significance**
1(0) Bounds		2.45	2.59	2.82	3.24
1(1) Bounds		3.67	3.84	4.26	4.58
Short Run	**F-statistics**	2.694616	**P.value**	0.57382	

The F-statistics for Bound test at (5.81478) is greater than the lower (2.26) and upper (3.35) critical bounds values indicating a long run effect in the model. However, the F-statistics for short run ARDL model is 2.694616 with p.value of 0.57382.

Test of Hypothesis Two

Ho_2: Foreign direct investment has no positive and significant effect on human capital development in Nigeria.

H_2: Foreign direct investment has positive and significant effect on human capital development in Nigeria.

Short run F-Statistics	**2.13454**	**10% significance**	**5%. Significance**	**2.5% significance**	**1% significance**
1(0) Bounds		2.45	2.86	2.25	3.74
1(1) Bounds		3.52	4.01	4.49	5.06

The F-statistics for Bound test (2.13454) is less than the lower (2.45) and upper (3.52) critical bounds values indicating no long run effect in the model. The F-statistics for short run ARDL model is 11.36603 with p.value of 0.82310. The p.value is greater than 0.05.

Test of Hypothesis Three

Ho_3: Official development assistance has no positive and significant effect on human capital development in Nigeria.

H_3: Official development assistance has positive and significant effect on human capital development in Nigeria.

Short run F-Statistics	**2.13454**	**10% significance**	**5%. Significance**	**2.5% significance**	**1% significance**
1(0) Bounds		2.45	2.86	2.25	3.74
1(1) Bounds		3.52	4.01	4.49	5.06

The F-statistics for Bound test (1.702164) is less than the lower (2.26) and upper (3.35) critical bounds values indicating non existence of long run effect in the model. The F-statistics for short run ARDL model is 4.413902 with p.value of 0.37215. The p.value is greater than 0.05.

Test of Hypothesis Four

Ho_4: Foreign remittance has no positive and significant effect on human capital development in Nigeria.
H_4: Foreign remittance has positive and significant effect on human capital development in Nigeria.

Short run F-Statistics	**2.13454**	**10% significance**	**5%. Significance**	**2.5% significance**	**1% significance**
1(0) Bounds		2.45	2.86	2.25	3.74
1(1) Bounds		3.52	4.01	4.49	5.06

The F-statistics for Bound test (2.23575) is less than the lower (2.45) and upper (3.52) critical bounds values indicating no long run effect in the model. The F-statistics for short run ARDL model is 25.37662with p.value of 0.46272. The p.value is greater than 0.05.

Test of Hypothesis Five

Ho_5: External debt has no positive and significant effect on human capital development in Nigeria.
H_5: External debt has positive and significant effect on human capital development in Nigeria.

Short run F-Statistics	**2.13454**	**10% significance**	**5%. Significance**	**2.5% significance**	**1% significance**
1(0) Bounds		2.45	2.86	2.25	3.74
1(1) Bounds		3.52	4.01	4.49	5.06

The F-statistics for Bound test (1.03773) is less than the lower (2.26) and upper (3.15) critical bounds values indicating no long run effect in the model. The F-statistics for short run ARDL model is 13.81362 with p.value of 0.93573. The p.value is greater than 0.05.

DISCUSSION OF FINDINGS.

The findings are in tandem with the objectives of this study.

Foreign Portfolio Investment (FPI) and Human Capital Development:

The study reveals that portfolio investment has positive and significant Long Run and Short Run effect on human capital development in Nigeria. The implication is that the government can rely on foreign portfolio investment in its tactical and strategic planning for international capital inflows. The finding is in consonance with the works of Felix and Amuche (2017), Kanu (2015), James & Johnson (2016), Paul, Chibueze and Callistus (2016), Samuel (2016) and Frank and Garry (2015).

Foreign Direct Investment (FDI) and Human Capital Development:

The findings from this study showed that foreign direct investment has no long run effect on human capital development Nigeria but rather has positive and significant short run effect on human capital development in Nigeria. The result of our findings is consistent with the work of Muhammad, Saleem, Zalina, Namsivayan and Farah (2015) and Nweke, (2015).

Official Development Assistance (ODA) and Human Capital Development:

The study showed that official development assistance has no long run effect on human capital development in Nigeria but has positive and significant short run effect on human capital development in Nigeria. The implication of the finding for government is that official development assistance is only useful as short term grants and should be committed to projects with short gestation period for full benefit and effects. The results of our findings are consistent with the work of Yiew and Lau (2018) and Wasiu and Mubaraq (2018).

Foreign Remittance (RMT) and Human Capital Development:

From the result of this study, it was revealed that foreign remittance has no long run effect on human capital development in Nigeria but has positive and significant short run effect on human capital development in Nigeria. The implication of the findings is that foreign remittance inflow should be channeled to short projects like education, training and welfare of human capital. Migrants of Nigerian decent should also be educated on the short run effect of their remittance while the government should create conducive environment in Nigeria to stem further migration and brain. The finding is consistent with the work of Abdul, Muhamad and Umaina (2010).

External Debt Stock (EDS) and Human Capital Development:

The finding asserts no long run effect of external debt stock on human capital development in Nigeria but the existence of a positive and significant short run effect on human capital development in Nigeria. The implication of this is that long term debts do not impact positively on human capital development. Also the huge external debt of the Nigeria has negative effect on the well being of its human capital. The result of our finding is consistent with the work of Egungwu, (2018).

CONCLUSION AND RECOMMENDATIONS.

This study on the effect of international capital inflows and human capital development in Nigeria: 1987-2018 which employed Descriptive statistics, Augmented Dickey Fuller test for

unit roots, Autoregressive Distributive Lag and Diagnostic tests on data obtained from CBN and World Bank Development Indicators indicates that both the dependent and independents variables attained stationarity at level 1(0) and first differences 1(1) of stationarity which necessitated the use of Autoregressive Distributive Lag (ARDL) for the analysis. Again the study carried out diagnostic test to analyse the reliability of the models with the Normality, Serial Correlation, Multicolinearity, Heteroskedasticity, and Ramsey RESET Tests. Our findings are summarized as follows:

1. **Foreign Portfolio Investment (FPI):** The variables employed showed mixed stationarities when subjected to ADF test. ARDL test showed existence of both long and short run relationships. The adjusted R-Squared is 0.75824 which means that 76% of the total variables of Human Development Index (HDI) can be explained by the dependent variables of FPI, MKC, ITR and EXR while the remaining 24% is due to stochastic variables. The Durbin Watson at 2.860650 means the model is free from autocorrelation. The F-statistics is 2.694616 which imply that all the explanatory variables in the study have significant effect on human capital development in Nigeria. Foreign portfolio investment therefore has positive and significant long run and short run effect on human capital development in Nigeria.
2. **Foreign Direct Investment (FDI):** The variables showed mixed stationarities when ADF test was applied. ARDL test showed existence of only short term relationship. The adjusted R-Squared is 0.641681 which means that 64% of the total variables of Human Development Index (HDI) can be explained by the dependent variables of FDI, GFCF, EXR and ITR while the remaining 36% is due to stochastic variables. The Durbin Watson at 2.601601 means the model is free from autocorrelation. The F-statistics is 11.36603 which imply that all the explanatory variables in the study have significant effect on human capital development in Nigeria. Foreign direct investment therefore has no long run effect on human capital development but has positive and significant short run effect on human capital development in Nigeria.
3. **Official Development Assistance (ODA):** The variables employed had mixed stationarities when subjected to ADF test. ARDL test confirmed only the existence of short run relationship. The adjusted R-Squared is 0.829741 which means that 83% of the total variables of Human Development Index (HDI) can be explained by the dependent variables of PAID, TA, HA AND FA while the remaining 17% is due to stochastic variables. The Durbin Watson at 2.534685 means the model is free from autocorrelation. The F-statistics is 4.413902 which imply that all the explanatory variables in the study have significant effect on human capital development in Nigeria. Official development assistance therefore has no long run effect on human capital development but has positive and significant short run effect on human capital development in Nigeria.
4. **Foreign Remittance (RMT):** Variables used revealed mixed stationarities when subjected to ADF test. ARDL test revealed only the existence of short run relationship. The adjusted R-Squared is 0.762114 which means that 76% of the total variables of Human Development Index (HDI) can be explained by the dependent variables of MW, MPA, IAW AND EW while the remaining 24% is due to stochastic variables. The Durbin Watson at 2.140239 means the model is free from autocorrelation. The F-statistics is 25.37662 which imply that all the explanatory variables in the study have significant

effect on human capital development in Nigeria. There is no multicolinearity in the model used, there is no presence of serial correlation and there is Foreign remittance therefore has no long run effect on human capital development but has positive and significant short run effect on human capital development in Nigeria.

5. **External Debt Stock (EXDSK):** The variables used for external debt stock showed mixed stationarities. ARDL test confirmed only the existence of short run relationship. The adjusted R-Squared is 0.738553 which means that 74% of the total variables of Human Development Index (HDI) can be explained by the dependent variables of EXDSK, EXDS, EXR, ITR AND IFR while the remaining 26% is due to stochastic variables. The Durbin Watson at 2.641325 means the model is free from autocorrelation. The F-statistics is 13.81362 which imply that all the explanatory variables in the study have significant effect on human capital development in Nigeria. External debt stock therefore has no long run effect on human capital development but has positive and significant short run effect on human capital development in Nigeria.

   Finally, the variables used revealed mixed stationarities when subjected to ADF test. ARDL test revealed only the existence of long and short run relationships between foreign portfolio investment and human capital development while the other independent variables exhibited only short run relationships. There is no existence of multicolinearity in the models and no presence of serial correlation. There is no heteroskedasticity in the models which are therefore well specified and good for estimation.

5.2 Conclusion

International capital inflows variables can be a veritable tool for short run human capital development planning for a developing country like Nigeria. Specifically, the use of international capital inflows, especially, foreign direct investment, official development assistance, foreign remittance and external debt stock to address human capital development challenges would be productive in the short run because they have significant effect on human capital development planning in the short run basis only. However, foreign portfolio investment is a reliable policy instrument for boosting both short term and long term planning for human capital development sustainability in Nigeria.

The study therefore concludes that international capital inflows instruments have short run significant effects on human capital development but have no long run significant effect on human capital development in Nigeria with the exception of Foreign Portfolio Investment.

5.3 Recommendations

The recommendations of the study are as follows:

1. Government should strengthen capital market in Nigeria to sustain existing foreign portfolio investments and attract new ones. Greater foreign participation in the capital market will give credence to the market and attract further foreign portfolio investments. This would obviously involve the elimination of factors that discourages and hinder the

attraction of foreign capital investment in the country and promote sustainable human capital development.

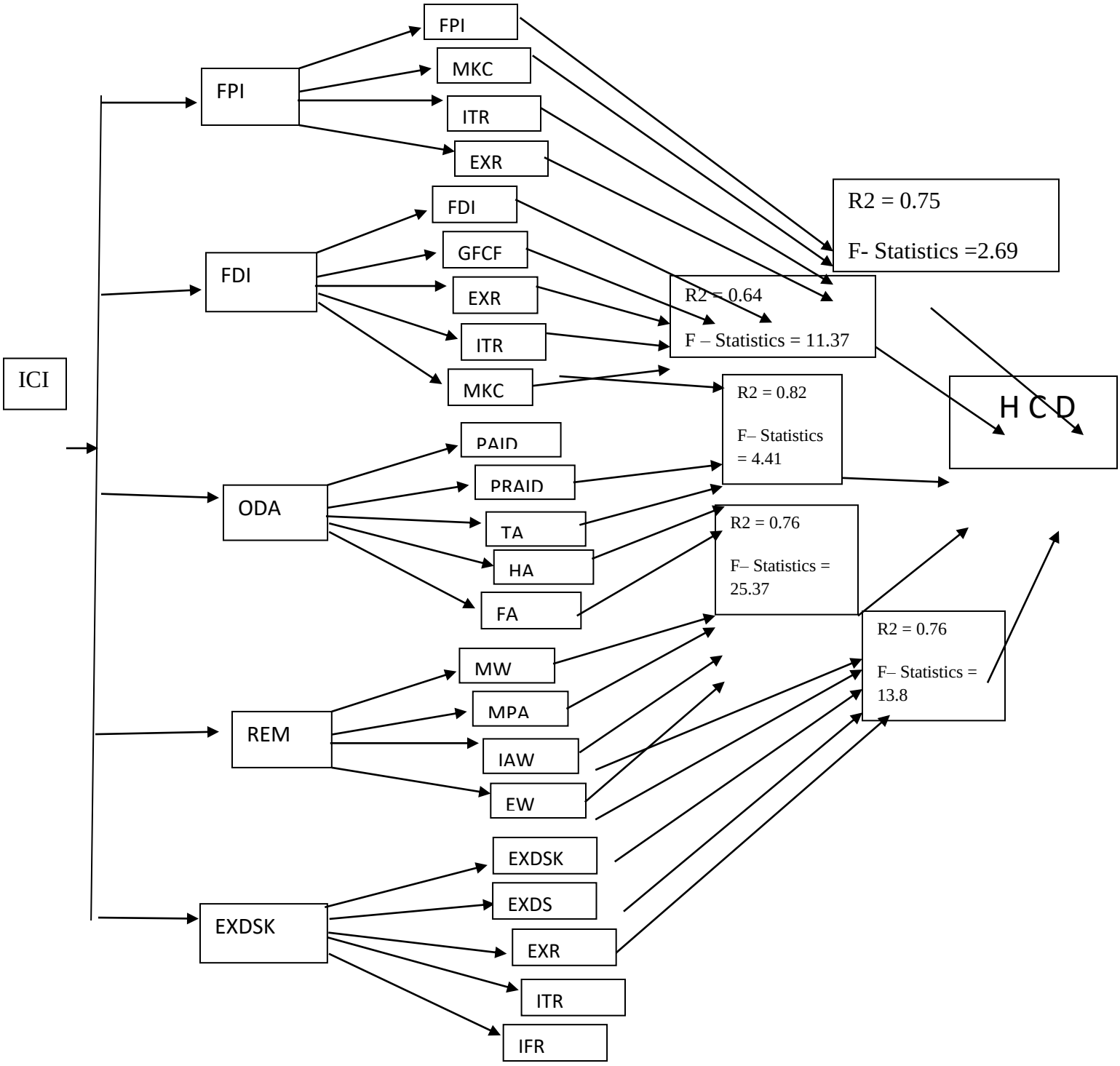
2. Government should lay less emphasis on foreign direct investment as it does not have long run effect on human capital development in Nigeria. This may also explain why a lot of foreign firms are divesting and exiting the Nigeria space.

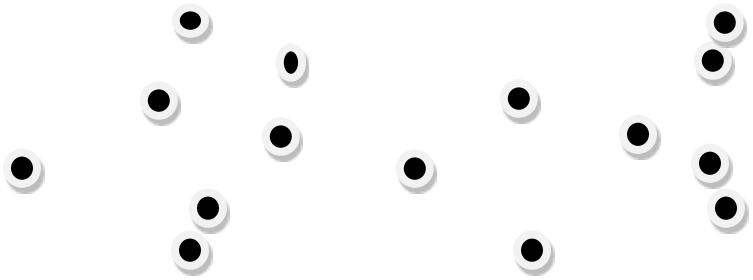
3. Government should avoid the use of official development assistance for long term project financing in Nigeria since findings from this study shows that there is no long term relationship between official development assistance and human capital development in Nigeria.

4. Government should set up a good framework for the implementation of best in class performance reward and value system that would enhance the retention capacity of its skilled human capital in Nigeria. This dovetails from the fact that this study confirms the existence of only short run relationship between foreign remittance and human capital development which connotes brain drain on the part of migrants that stay long abroad. This recommendation will not only discourage brain drain but also engender healthy competition that would trigger economic growth and human capital development. Governments should also device means of registering its entire migrants and ensure that remittance from these migrants are duly received, captured, and compensated accordingly.

5. External debt should be contracted solely for short term investments with economic reasons and not for socio-political reasons or white elephant projects without economic justifications. This is to avoid accumulation of unserviceable external debt stock overtime leading to debt overhang. The Debt Management Office (DMO) must ensure that projects financed with external debt are not regenerative. Additionally, the DMO must ensure that external debt are not appropriated through corruption and are repaid with other resources, leading to double jeopardy.

CONCEPTUAL FRAMEWORK -INTERNATIONAL CAPITAL INFLOWS AND HUMAN CAPITAL DEVELOPMENT





KEY:

ICI = International Capital Inflow FPI = Foreign Portfolio International FDI= Foreign Direct International
ODA = Official Development Assistance REM= Foreign Remittance EXDSK= External Debt Stock
MKC=Market Capitalization ITR = Interest Rate EXR = Exchange Rate
GFCF = Gross Fixed Capital Formation PAID = Project Aid PRAID = Programmed Aid
TA = Technical Aid HA = Humanitarian Aid FA = Food Aid MW = Migrant Workers
MPA = Military Personnel Abroad IAW = International Aid Workers EW = Embassy Workers
EXDS = External Debt Servicing IFR = Inflation Rate HCD = Human Capital Development

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