

# CAPITAL FLIGHT AND ECONOMIC DEVELOPMENT IN SUB -SAHARA AFRICA

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## **Abstract**

This study examined capital flight and economic development in Sub-Sahara Africa. Specifically, we ascertained the impact of foreign direct investments outflow, foreign portfolio investment outflow, remittances outflow and other development assistance outflow on economic development in Nigeria, Kenya and South Africa.

The nature of the study necessitated the use of secondary data covering the period of 1991 through 2020. We adopted a combination of Panel Corrected Standard Error (PCSE) and the Panel Data Regression techniques in examining the impact of capital flight and economic development in Sub-Sahara Africa. The Augmented Dickey fuller (ADF) Unit root tests were used to ascertain the series properties of the variables while the Correlation analysis was conducted to ascertain the degree of relationship between the dependent and independent variables.

The study revealed that Foreign Direct Investments Outflow (FDIO) exerted negative significant effect on economic development proxy (HDI) in Nigeria. This suggests that high FDIO stiffens HDI. Foreign Portfolio Investments Outflow denoted by FPIO exerted negative insignificant impact on economic development (HDI) in SSA countries throughout the study periods. Foreign Remittances Outflow denoted by REMO has a positive significant impact on economic development in SSA countries having controlled for both inflation and exchange rate. Lastly, Other Development Assistance (ODA) has a positive and insignificant impact on HDI in SSA countries in the periods under review having controlled for both inflation and exchange rate. This suggests that, a high ODA will lead to a more developed economy though weak. We therefore recommend that the government of SSA countries should ensure that all leakages attributed to foreign direct investment outflows should be closed. The Federal government in SSA countries must also shift their focus and policy directives from the oil sector to the industrial sector as this will attract the attention of foreign investors into the industrial sector.

**Keywords:** Capital Flight, Economic Development, Panel Data Regression Model.

**JEL Classification:** E22, F21, I13.

## 1. INTRODUCTION

Capital accumulation is important in every economy as it helps to raise the per capita income and strengthen the domestic currency purchasing power thereby resulting in an effective demand and the conversion of domestic assets into productive use. Inadequate capital to finance equality of opportunity is, nonetheless, a major issue facing the entire African continent. As a result, larger capital exports relative to foreign investment are required to close the present (saving-investment) mismatch. On this note, most SSA countries have adopted several means to attract and accumulate additional capital inflows.

Capital flight can be described as the transfer of capital from a domestic country with a relatively devalued currency to a more developed country with a relatively strong currency. Henry (2013) defined capital flight as a speculative short-term outflow of personal capital triggered by both political and economic policy failures. However, these movements can be described as legal illegal capital flight. On the other hand, economic development can be seen as the as the ongoing expansion in aggregate production capacity to meet demand for products and services, because of higher scale production and improved productivity.

According to Ndikumana and Boyce (2019), SSA countries experienced the biggest reversal of capital flight of US\$306.97 billion from 2004 to 2008 as a result of improved economic indicators, excellent institutions, and political stability. Capital flight, on the other hand, grew dramatically in 2009 due to the global financial crises of 2008-2009. Capital flight from SSA totaled US\$36 billion in 2009, following the financial problems. In 2011, the region experienced another capital flight reversal of US\$19.13 billion. The period from 2012 to 2015 was characterized by a significant rate of capital flight from SSA countries. Since a collective bargaining agreement of mutualism exists between migrants and their family members in the home country, it is therefore vital that as soon as immigrants are employed overseas, they remit. To back up this claim, World Bank (2017) statistics showed that from 2017 remittance inflows nearly doubled between 2005 and 2015. In 2014, the region (SSA) received US\$ 36.9 billion in remittances, which increased to US\$ 39.8 billion in 2015 for the years in question, these amounts amounted to 2.16 percent and 2.59 percent of GDP, respectively (World Bank, 2017). Similarly, between 1990 and 2015, remittances received in US dollars climbed dramatically. However, in measurable terms, remittance outflow appears to be minor in comparison to remittance intake to Sub-Saharan Africa (SSA) countries over the years, particularly from 1990 to recent time despite a considerable increase in remittance inflow and a small increase in remittance outflow both inside and outside Sub-Saharan Africa (SSA), the continent remains underdeveloped.

Again, Foreign Direct Investment (FDI) flows (inflows and outflows) inside and beyond Sub-Saharan Africa (SSA) countries have also shifted in the opposite way. FDI inflow has been the major source of external fund for Sub-Saharan Africa (SSA) countries since 1993, with Nigeria, Angola, South Africa, and

Kenya receiving the most FDI (World Bank, 2017). This is due to the fact that these countries absorbed roughly 65 percent of the region's FDI flows. Furthermore, current patterns in FDI inflows into Africa countries found that, whereas Nigeria, Egypt, and Ethiopia saw low FDI inflows between 2017 and 2018, South Africa and other Africa countries realized a significant FDI inflow during the same time period (World Investment, 2019). Similarly, minor FDI outflows have occurred in Sub-Sahara Africa (SSA) countries over the years. Despite a large rise in FDI influx and a modest increase in FDI outflow both inside and outside Sub-Sahara Africa (SSA), the continent is yet to be developed.

As a consequence of rapid oil price shock in 2014 and the global financial market crises of 2008/2009, many SSA countries have establish a trade relationship with China and other private bond holders other than the Paris Club as their trade terms are more affordable than those of the Paris Club. As a result, many SSA countries have increased their external interest payments and also increased the proportion of their investment portfolio in relation to capital inflows (Dhruv, 2018). However, Foreign Portfolio Investment (FPI) outflows from SSA region, on the other hand, have been negligible compared to inflows to SSA countries over the years.

However, previous studies on capital flight and economic development did not focus on how foreign direct investments (FDI) outflow foreign portfolio investments (FPI) outflow, remittances outflow and official development assistance outflow individually affects economic development in SSA countries and their scope were not extended to 2020 (Anetor, 2019; Adeola, 2017; Alley, 2017; Aizeman, Jinjarak & Park 2013). Additionally, unlike prior studies, we adopted the panel corrected standard error (PCSE) techniques which covers both the heteroskedasticity and accounts for contemporaneous correlation across units. This study therefore set to investigate the link and hence the impact of capital flight on economic development in Sub-Saharan African (SSA) countries.

## **2. LITERATURE REVIEW/THEORETICAL FRAMEWORK**

### **2.1. CONCEPTUAL REVIEW**

#### **Concept of Economic Development**

The phrase "economic development" has been expressed in a variety of ways by various academics. Simply described, urban prosperity is the transformation of a low-income simple country into an industrialized country. Economic progress is defined as the ongoing expansion in aggregate production capacity to meet demand for products and services, as a result of higher scale production and improved productivity. According to the United Kingdom's Department for Business, Innovations and Skills (2011) to put it another way, economic progress comprises of a long-term increase in national income or the level of output of goods and services, as well as human capital. Similarly, Haller (2016) defined economic development as the process of growing the size of

national economies over time as evidenced by macroeconomic measures such as GDP per capital and human capital index.

### **Concept of Capital Flight**

Despite the myriad of definitions of capital flight proposed by different experts, economists, theorist, and researchers, there is still no universal consensus over its meaning, and this has led to various schools of thought. Some scholars viewed capital flight as the-out-flow of capital from developed countries in the form of FDI (Akani, 2015). Following this viewpoint, Liew (2016) defined capital flight as a transfer of investment or capital in order to get a better return or prospect. In the same vein, Capital flight, according to Ameth (2014), is the transfer of money or cash equivalents from one country to another in order to escape part of the world risks (such as hyperinflation, political unrest, and expected inflationary pressures or devaluation) for a greater income. To add to this, Henry (2013) defined capital flight as a speculative short-term outflow of personal capital triggered by both political and economic policy failures. However, whether it is a capital influx or outflow, what distinguishes the two is how the inflow or outflow has been used.

### **Determinants of Foreign Capital Flight**

Despite the fact that there are numerous determinants in the research, the following important factors will be discussed: Foreign Direct Investment Outflows (FDIO), Foreign Portfolio Investment Outflows (FPIO), Remittance Outflows (REMO), and Other Development Assistance Outflows (ODA) are all examples of outflows. These determinants have a direct impact on individual portfolio selections and majority of them are intertwined.

**Foreign Direct Investments (FDI) Outflows:** The term “foreign direct investment” does not have any unified definition despite the various attempts by researchers to define the construct. Specifically, FDI is a term used to describe an investment made to obtain a long-term controlling interest (often 10% of voting stock) in a company that operates in a country other than the investor's home country (World Bank, 2018). Such operations can be either "barren landscape" (also known as "mortal and brick") or mergers & acquisitions (M&A) which involves the purchase of a developed detailed instead of just a fresh venture. As observed in the balance - of - payments, it is the investing of earnings and other lengthy capital including relatively brief capital (World Bank, 2013).

**Foreign Portfolio Investments (FPI) Outflow:** Investments of commodities that are less than 10% of voting stock, such as international funds, bonds, or other bank deposits. FPI can be either equity or debt. Equity includes shares, inventories, ability to participate and other documents that typically denote ownership interest. Because it is frequently easier to sell equities and withdraw foreign portfolio investments from a nation than it is to bring in FDI, it is considered a volatile source of foreign capital input. Some academics claim that capital inflows in the form of aid payments to emerging economies are a major source of capital flight because they occur at the same time (Okoli, 2014). The

presence of cheap exchange raises the possibilities for corrupt practices in cases involving public sector borrowing. Evidence demonstrates that over time, major portions of international inflows administered by the Government of Nigeria resulted in around half of the aid quantities reaching the set targets while the rest are being 'lost' within bureaucratic systems (Egbuwalo & Abere, 2018).

**Remittances Outflow:** All contributions from outside, whether in cash or in kind, received in a community by inhabitants are referred to as repatriation. It is a growing source of external financing which is a type of private cash directed at individuals. Total transmissions to countries are made up of three types of funds: migrant contributions, employee benefits and personal payments (WDI, 2014). Remittances outflow, on the other hand, is a form of resource flight, a loss of profit since employees' savings are exiting the country rather than being invested locally, decreasing investment potential.

**Official Development Assistance (ODA) Outflow:** The Development Assistance Committee (DAC) of the United Nations Conference on trade Co-operation and Development (OECD) uses development aid, commonly abbreviated as ODA, to quantify foreign aid. The notion was initially introduced in 1969, and it is now commonly used as a measure of international aid flow. In other terms, ODA refers to material resources provided mostly by the government of developed nations to poor nations in order to enhance their industrial prosperity as well as the welfare of their populations. Such resources may be disbursed by the donor government agency to the receiving country's government or through other institutions. The majority of ODA would be in the form of grants. In soft (low-interest) contracts, nonetheless, they are calculated in the tax concessions value.

## 2.2. REVIEW OF EMPIRICAL STUDIES

The influence of capital flight on any economy has made it to attract attention and several studies. Quite several the studies centers more on the measures of capital outflow than its effect won the economy and the studies being conducted on the Latin America. In recent time's emphasis have been shifted to the African continent and its impact on her economies.

Aga (2014) analyzed the impact of FDI on economic growth in Turkey over the period from 1980-2012 and concluded that there is no existing relationship between FDI outflows and economic growth in Turkey. Azziz, Khayyam, and Uddin (2014) investigated the drivers of capital flight from Bangladesh from 1973 to 2013. The multivariate analysis served as the estimation technique. The study established that external debt, foreign reserves, and FDI are the main drivers of capital flight. Ameth (2014) studied the impact of capital flow during the period from 1970 to 2010 on the economic growth of the French Franc Zone (FZ), and found that capital flight vis-à-vis FDI outflows from these countries was positive and on a large scale around USD86.8 billion which accounted for 12.21% of the country's GDP.

Anetor (2019) examined the effect of macro-economic fundamentals on capital outflows in SSA countries. The study spanned from 1985 to 2015. The independent variable in the study is macro-economic fundamentals measured by foreign direct investment outflows, foreign portfolio investment outflows, trade openness, foreign debts and economic growth while the dependent variable is capital flight. Data for the study were obtained from World bank for the periods under study. The researcher adopted the ARDL model techniques. The result proved that economic growth has negative but significant impact on capital flight both on the short and long-run. However, the rest independent variables under study (foreign direct investment, foreign portfolio outflows, trade openness, and external debt) had a positive and meaningful impact on capital flights both on the long and short run. Using the cointegration approach, Umoru (2013) studied the effect of capital flight on the Nigeria's economy. Variables considered included capital flight, foreign portfolio investment outflows, exchange rate, public expenditure, and industrial output. The study adopted the ARDL Approach. The study evidenced that capital flight vis-à-vis FPI outflows stimulates the growth rate of Nigeria though other proxies reported in the mixed results. Hence, there is need for effective capital outflow controls.

Rahmouni and Debbichel (2017) examined the impact of remittances on economic growth of Saudi Arabia from the period 1970 to 2014 by using standard model augmented by the amount of remittances outflows. The ARDL approach to Error correction modeling (ARDL-ECM) was used to estimate the short and long relation between remittances and gross domestic product (GDP) in Saudi Arabia in the studied period. The result reported that remittances outflows do not affect GDP. Alley (2017) examined the linkage between weak private capital flows and economic growth in Sub-Sahara Africa (SSA) countries from 2003 to 2013. The independent variable in the study is capital flows measured by FDI outflows, FPI outflows, and remittance outflows while the dependent variable is economic growth measured by RGDP growth rate, Capital control (School enrolment, real government expenditure, real capital formation, institutional quality, population growth, and change in terms of trade, trade openness, domestic credit, and trade partners' growth rate) served as the control variable. The study adopted the GMM as the estimation technique. The study found that, all the foreign capital flows proxies cited above contributed favorably to the growth of the selected SSA countries in the period under review. Also, capital controls have high absorptive capacity. Hence, the researchers recommend that, for SSA countries to enjoy the benefits accruable from capital flows, they should adopt appropriate target controls.

Adeola (2017) investigated the impact of various foreign capital flows proxies (FDI outflows, FPI outflows, foreign debt outflows, ODA outflows, and remittance outflows) on the growth in four (4) selected Sub-Sahara African countries from 1986 to 2016. The study used Vector Error Correction modeling to achieve this. The study found that, all the foreign capital flows proxies cited above contributed favorably to the growth of the selected SSA countries during the period under review. Ssemenda and Henry (2020) studied the effect of foreign aid on the

growth of Uganda from 1970 to 2017. The ARDL approach served as the estimation technique. However, the study affirmed that the inflows of foreign aids into Uganda reduced the growth of her economy both in short and long run. Similarly, Tasiyana (2020) empirically established the specific relationship between foreign aid and economic growth in Zimbabwe from 1991 to 2016. OLS methodology was adopted. The study reported that foreign aid deters economic growth.

### **2.3. THEORETICAL FRAMEWORK**

#### **Capital Flow Theory**

In neoclassical theory, it was previously stated that capital should flow from uphill to downhill. In other words, money flows from rich countries to developing nations (Qolbi & Kurnia, 2015). However, Lucas (1990) questioned the theory in his article entitled “Why doesn't capital flow from rich to poor countries?” In its calculations, capital did not flow from the US to India, so Lucas questioned the validity of the assumptions used in the neoclassical theory. The article found that money flows from developing countries to rich countries. Lucas's findings apply to develop countries. This condition is like the indication of capital flight. This phenomenon contrasts with the neoclassical theory known as Lucas Paradox. Then, the three assumptions used in this theory are differences in human capital, external benefits from human capital, and capital market imperfections. Besides, Lucas also assumes that the economy is small open, and the factors of production are capital and labor. The capital flow theory is therefore the framework on which this study is based.

From the review of the theoretical and empirical literature, it is obvious that scholars in the field of finance have tried over time to empirically investigate the nexus between capital flight and economic development. However, irrespective of the avalanche of empirical studies in this area, the findings tend to be inconclusive (Anetor, 2019; Adeola, 2017; Alley, 2017; Aizeman, Jinjarak and Park 2013). Major factors that have been attributed to these mixed findings include measurement of variables as well as methodological issues and the likes. This study contributes to already existing literature by measuring the impact of capital flight on economic development in Nigeria, Kenya and South Africa using the period of 1991 to 2020.

### **3. METHODOLOGY**

#### **3.1. RESEARCH DESIGN, POPULATION, SAMPLE, SCOPE AND SOURCE OF DATA**

The study adopted the causal research design. The rationalization for using this research design is adjudged based on the fact that it allows the researcher to establish the real sequence of events and also allow the researcher to gain insight into the cause and effect relationships between two or more variables. The study population for this research will cover the forty-six (46) countries that make up SSA countries. Meanwhile, our sample size will comprise of Nigeria, South Africa,

and Kenya. These countries will be chosen based on the fact that they are ranked among the best capital exporters in Africa, yet their impact in terms of economic growth and development has not been felt out-rightly. Hence, we are therefore motivated to carry out an empirical investigation on the impact of capital flight on economic development in Sub-Sahara Africa (SSA) countries from the period of 1991 through 2020. The filtering sampling technique was used based on the accessibility of data for the variables under investigation. The scope was chosen based on data availability and to strengthen validity. The secondary data which consist of data sourced from the Central Bank of Nigeria (CBN) statistical bulletin from various issues, Central Bank of Kenya (CBK) statistical bulletin from various issues, Johannesburg Stock Exchange (JSE) Report from various issues as well as World Bank Development Index (WBDI).

### 3.2. PRELIMINARY TEST AND ESTIMATION PROCEDURE

The various preliminary test carried out are descriptive statistic, correlation analysis and unit root test. We used descriptive statistic to summarize the statistical properties of data in a bid to presenting them in a convenient form. The group panel unit root technique of Augmented Dickey-Fuller (ADF) was used to ascertain how stationary the variables considered in the model are. Correlation analysis was used to ascertain the magnitude and direction of relationship that exists between the dependent and independent variables.

The panel data regression analysis was conducted to predict and forecast the dependent variable. First the Fixed Effect Method (FEM) and the Random Effect Method (REM) were carried out on the variables. Finally, the Hausman test is conducted on the REM to choose between the FEM and REM. If the chi-square statistics of the Hausman test is significant, then the FEM is preferred. Otherwise, the REM is preferred. In this wise, the researcher adopted the panel corrected standard error (PCSE) techniques. This technique unlike OLS estimation technique covers both the heteroskedasticity and accounts for contemporaneous correlation across the units. More so, the PSCE minimize estimation biases because of converting large values into a single time series.

### 3.3. MODEL SPECIFICATION

The study is modeled after the work of Alley (2017) with slight modifications.

The econometric model of this study is specified below:

$$ED = \beta_0 + \beta_1FDIO + \beta_2FPIO + e_t$$

Where:

ED	=	Economic Development
FDI	=	Foreign Direct Investment outflow
FPI	=	Foreign Portfolio Investment outflow
$e_t$	=	Error Terms
$\beta_0$	=	Constant
$\beta_1$ and $\beta_2$	=	coefficient of their respective variables



t = Time

However, the study adapt the scholarly work of Alley (2017) by employing additional capital flight variables such as remittances outflow and other development assistance outflow, inflation rate and exchange rate in order to deepen the scope due to the peculiarity of the region under investigation. Therefore, using the panel data regression analysis, the model is thus specified as:

$$ECD = f(\text{FDIO}, \text{FPIO}, \text{REMO}, \text{ODA}, \text{INFR}, \text{EXCR}) \dots \dots \dots (1)$$

Where:

- ECD = Economic Development (Human capital development index)
- FDIO = Foreign Direct Investments Outflow (Net FDI outflows (% of GDP))
- FPIO = Foreign Portfolio Investments Outflow (Net FPI outflows (% of GDP))
- REMO = Remittances Outflow (Migrant remittance (% of GDP))
- ODA = Official Development Assistance outflow (Financial Aids)
- INFR = Inflation Rate (Annual Inflation Rate)
- EXCR = Exchange Rate (Prime lending rate)

Putting equation (1) in an econometric form, it yields a sub-model which are:

$$HDI_{it} = \beta_0 + \beta_1 \text{FDIO}_{it} + \beta_2 \text{FPIO}_{it} + \beta_3 \text{REMO}_{it} + \beta_4 \text{ODA}_{it} + \beta_5 \text{INFR}_{it} + \beta_6 \text{EXCR}_{it} + \epsilon_{it} \quad (2)$$

Where:

- $\beta_0$  = Constant Term or Intercept
- $\beta_1 - \beta_5$  = Coefficient of the regressors
- HDI= Human development index
- t = Current Time

$\epsilon_{it}$  = Stochastic disturbance (or Error) Term. It is assumed to be normally and independently distributed with zero mean and constant variance, representing all explanatory variables not captured in the model but influence economic development in Nigeria, Kenya and South Africa.

#### 4. ANALYSIS OF RESULTS AND DISCUSSION OF FINDINGS

*Table 1: Summary of Descriptive Statistics (Nigeria, Kenya and South-Africa)*

Study Variables	Mean	Maximum	Minimum	Std. Dev.	Observations
HDI	0.564103	0.729942	0.439000	0.091167	90
FDIO	665.9817	2688.267	-2.892435	984.6103	90
FPIO	1611.994	18842.70	0.034460	3312.445	90
REMO	1.973198	8.311897	0.050733	2.013780	90
ODA	10.39403	90.39552	-0.350656	15.45159	90
EXCR	72.26869	358.8108	2.761315	76.12197	90
INFR	12.10136	72.83550	-0.69203	12.23105	90

*Source: Econometric Views Version 9.0 (2021).*

Table 1 above shows that HDI has average value of 0.564103 whereas the standard deviation was put at 0.439000. The lowest figure for HDI for the period was 0.729942 whereas the highest figure was 0.729942. As can be observed, the standard deviation was not far from the mean thus suggesting that the HDI within the 30 observations clustered around its mean value.

Similarly, FDIO and FPIO have average values of 665.9817 and 1611.994 whereas the standard deviation was put at 984.6103 and 3312.445. The lowest figure for FDIO and FPIO for the period was 2688.267 and 18842.70 whereas the lowest figure was -2.892435 and 0.034460. As can be observed, the standard deviation was not far from the mean thus suggesting that the FDIO and FPIO within the 30 observations clustered around its mean value.

Further, both REMO and ODA for the period revealed an average of 1.973198 and 10.39403 for the period under review while the standard deviation was put at 2.013780 and 15.45159. The lowest figure recorded 0.050733 and -0.350656 while the highest figure for the period was put at 8.311897 and 90.39552. It is observed here that the standard deviation cluster around its mean value.

Lastly, both EXCR and INFR for the period revealed an average of 72.26869 and 12.10136 for the period under review while the standard deviation was put at 76.12197 and 12.23105. The lowest figure recorded 2.761315 and -0.69203 while the highest figure for the period was put at 358.8108 and 72.83550. It is observed here that the standard deviation cluster around its mean value thus within the 90 observations.

#### 4.1. UNIT ROOT TEST

To determine whether the study variables are stationary or not, we first subjected the model to cross-country level with data analysis techniques using Augmented Dicker Fuller (ADF) test. They are therefore presented in table 2 below:

**Table 2: Panel Unit Root Test**

AT LEVEL (1(0))			
Variable	Chi-square	P-value	Decision
HDI	1.51876	0.9356	Non-Stationary
FDIO	-0.25647	0.3988	Non-Stationary
FPIO	-2.61177	0.0045	Stationary
REMO	-2.10773	0.0175	Stationary
ODA	-0.60159	0.2737	Non-Stationary
EXCR	0.88711	0.8125	Non-Stationary
INFR	-3.09583	0.0010	Stationary
AT FIRST DIFFERENCE (1(1))			
Variable	Chi-square	P-value	Decision
HDI	-2.93603	0.0017	Stationary
FDIO	-1.81764	0.0346	Stationary
FPIO	-4.50048	0.0000	Stationary

<b>REMO</b>	-4.45516	0.0000	Stationary
<b>ODA</b>	-4.91011	0.0000	Stationary
<b>EXCR</b>	-6.82158	0.0000	Stationary
<b>INFR</b>	-6.51315	0.0000	Stationary

Source: *Econometric Views Version 9.0 (2021)*.

The Panel unit root test exhibited mixed integration in that while FDIO, FPIO, and INFR attained stationarity at their natural level, the rest study variables became stationary at first differencing. In view of this, we rejected the null hypothesis which supports the presence of unit root and accepted the alternative hypothesis which states that there is no unit root in the series. On the overall, our model is stationarity. As such, it is fit for policy formulation (prediction).

#### 4.2. CORRELATION ANALYSIS

The correlation matrix explains the nature of relationship between the dependent and independent variables of the study as well as the independent variables among themselves. The summary of the associations among the variables of the study is presented in Table 3 below.

**Table 3: Summary of Correlation Analysis (Nigeria, Kenya and South-Africa)**

Model : HDI and Capital Flight Proxies							
Study Variables	HDI	FDIO	FPIO	REMO	ODA	EXCR	INFR
<b>HDI</b>	1.000000						
<b>FDIO</b>	-0.094590	1.000000					
<b>FPIO</b>	-0.268540	-0.331738	1.000000				
<b>REMO</b>	0.148741	0.449204	0.044613	1.000000			
<b>ODA</b>	0.489438	0.392131	0.351051	-0.013432	1.000000		
<b>EXCR</b>	-0.189092	0.306664	0.039956	0.264606	-0.057048	1.000000	
<b>INFR</b>	-0.385635	0.258181	-0.041729	0.047747	0.192706	-0.014646	1.000000

Source: *Econometric Views Version 9.0 (2021)*.

The correlation analysis for SSA Countries (Nigeria, Kenya and South-Africa) clearly reveals that REMO and ODA is positively correlated with the economic development (RGDPC and HDI) in SSA Countries throughout the study periods. This clearly indicates that the more REMO and ODA increase, the more the SSA countries will develop in terms of HDI. However, FDIO, FPIO, EXCR, and INFR with are negatively correlated with the economic development (HDI) in SSA Countries throughout the study periods. This implies that if FDIO, FPIO, EXCR, and INFR are reduced, SSA Countries will be more developed in terms of HDI.

Lastly, the correlation analysis clearly revealed that none of the regressors exhibited high correlation since none of their coefficient values were up to 70%. This suggests the possibility of absence of multi-collinearity problem.

#### 4.3. REGRESSION ANALYSIS

##### Panel Diagnostic Test

In a bid to ensure that the statistical inferences to be drawn for the study are reliable, valid, and accurate, the Hausman test was conducted. In this section,

we present the results of three (3) forms of estimation techniques/models vis-à-vis pooled ordinary least square (Pooled OLS), Random Effect Model (REM), and Fixed Effect Model (FEM) are carried out in this study. Also, Hausman cross sectional test was conducted to know the most appropriate model to adopt. The diagnostic tests results are presented in the table below:

**Table 4: Panel Diagnostic Test Results**

Diagnostic Test	Model 2: HDI and Capital Flight Proxies		
	Chi- Square (p-value)	Null Hypotheses	Decisions
<b>Breusch- Pagan LM</b>	14.74673 (0.0020)	Pooled OLS Model is not Adequate	Reject Pooled OLS estimate in favor of panel estimate.
<b>Hausman Test</b>	40.819699 (0.000)	Random Effect Model is not Adequate	Reject REM in Favor of the FEM. Hence, FEM was considered adequate for the study

*Source: Extracted from Analysis of results*

The Breusch-Pagan LM was used to choose between the Pooled OLS and the panel data. The Breusch-Pagan LM test with a Chi-Square (p-value) of 0.0001 and 0.0020 in the case of model 2 suggests that the Panel regression is the most appropriate for the study. When suggested further, the Hausman test for model 2 rejected the REM in Favor of the FEM. Hence, FEM was considered adequate for the study. This is because their p-values are less than 5%. More so, to ensure that the model is devoid of Heterogeneity problem, we subjected the model to Panel Corrected Standard Error. The regression result is presented below:

**Table 5: Panel Corrected Fixed Effect Model (Model 2)**

Dependent Variable: HDI  
Method: Panel Least Squares

Sample: 1991 2020				
Periods included: 30				
Cross-sections included: 3				
Total panel (balanced) observations: 90				
Cross-section weights (PCSE) standard errors & covariance (d.f. corrected)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.615698	0.028304	21.75313	0.0000
FDIO	-0.010117	0.004263	-2.373037	0.0214
FPIO	-0.006182	0.004695	-1.316582	0.1938
REMO	0.031446	0.006643	4.734007	0.0000
ODA	0.001071	0.000635	1.687206	0.0976
EXCR	-0.000153	0.000243	-0.628031	0.5327
INFR	-0.001800	0.000829	-2.172802	0.0344

Effects Specification			
Cross-section fixed (dummy variables)			
Period fixed (dummy variables)			
R-squared	0.814305	Mean dependent var	0.564103
Adjusted R-squared	0.682175	S.D. dependent var	0.091167
S.E. of regression	0.051396	Akaike info criterion	-2.802621
Sum squared resid	0.137362	Schwarz criterion	-1.747146
Log likelihood	164.1180	Hannan-Quinn criter.	-2.376992
F-statistic	6.162934	Durbin-Watson stat	1.828146
Prob(F-statistic)	0.000000		

Source: *Econometric Views Version 9.0 (2021)*.

—The F-statistics value for model 2 in table 5 above stood at 6.162934 while its P-value is estimated at 0.000000 indicating that on the overall, the model is highly statistically significant. This further revealed that foreign capital out-flows have high significant impact on HDI in Sub- Sahara Africa (SSA) countries. Also, the value of  $R^2$  is 0.814305 indicating that about 81.43% of the variations in HDI could be jointly explained by all the foreign capital outflow proxies while the remaining 18.47% could be accounted for by other unexplained factors, including the error term. Lastly, the Durbin-Watson test of first order autocorrelation which have a value of 1.828146 (approximately 2) indicates that errors are uncorrelated indicating absence of serial correlation within the period of the study.

#### 4.4. DISCUSSION OF FINDINGS

The panel corrected standard error (PCSE) regression result in table 5 above reported that having controlled for both inflation and exchange rate, foreign direct investment outflows (FDIO) exerted negative significant effect on the both economic development proxy (HDI) in Nigeria. FDIO in relation to HDI reported a negative coefficient and p-values of -0.010117 and 0.0214. The policy implication of the negative result is that the flow of foreign capital in terms of FDIO stiffens HDI. Meanwhile, the implication of the significant result is that the SSA countries must consider the flow of FDIO out of the shores of their countries since it does not stimulate development instead; it stiffens HDI significantly. This is due to the large funds that flow out of SSA countries over the years. This finding reaffirms the findings of Orimolade and Olusola (2018) who in a study on the effect of capital outflow on the growth of Nigerian economy from 1970-2016 discovered that FDIO specifically deter growth.

The PCSE regression result above reported that foreign portfolio investment outflows denoted by FPIO in table 5 had negative beta coefficient value of -0.006182 having controlled for both inflation and exchange rate. This implies that FPIO just like FDIO exerted negative impact on economic development (HDI) in SSA countries throughout the study periods. The negative result implies that, the

more FPI flows out of the shores of SSA Countries, the more under-developed the SSA countries will become. This assertion supports the capital flow theory which states that though it is expected that capital should flow from uphill (rich and developed) countries to downhill (developing countries-say SSA Countries), the reverse is the case in reality. By extension, funds which would have been used to better the developing (SSA) countries are used to advance the already developed countries. The above result is in line with the apriori expectation of this study. More so, the finding is in harmony with that of Kizito and Hooi (2019).

Table 5 reports that foreign remittance outflows denoted by REMO have a positive impact on economic development in SSA countries having controlled for both inflation and exchange rate. This suggests that a 1% increase in both workers and migrant remittance will lead to a corresponding increase in HDI by 0.031446, respectively. This implies that capital outflows per say (REMO) is not entirely bad in that if immigrants send money to their immediate and extended family members through legal means, it does not entirely slow down development. However, when money sent is used for consumption purposes, it does not develop an economy either. This is in tandem with the findings of Ighosewe and Agbogun (2020) on the impact of foreign remittance indicators on HDI among SSA countries. Again, Rahmouni and Debbichel (2017) found that REMO has a high impact factor on HDI.

Model 2 reports that ODA have positive and insignificant impact on HDI in SSA countries in the periods under review. This suggests that, a high ODA though increase HDI but not in a significant manner. This implies that ODA has a weak impact factor on HDI. This result is in tandem with the findings of Yiew and Lau (2018).

## 5. SUMMARY OF FINDINGS

The findings of the study are summarized below:

First, Foreign Direct Investments Outflow (FDIO) exerted negative significant effect on economic development proxy (HDI) in Nigeria. This suggests that high FDIO stiffens HDI.

Secondly, Foreign Portfolio Investments Outflow denoted by FPIO exerted negative insignificant impact on economic development (HDI) in SSA countries throughout the study periods.

Thirdly, Foreign Remittances Outflow denoted by REMO has a positive significant impact on economic development in SSA countries having controlled for both inflation and exchange rate.

Lastly, Official Development Assistance outflow (ODA) has a positive and in significant impact on HDI in SSA countries in the periods under review having controlled for both inflation and exchange rate. This suggests that, a high ODA will lead to a more developed economy though weak.

## 6. CONCLUSION AND RECOMMENDATIONS

This study sought to empirically investigate the effect between foreign capital outflows on economic development in three (3) SSA countries from 1991 to 2020. The study specifically focused on foreign direct investment outflows, foreign portfolio investment outflows, foreign remittance outflows, and other development assistance against their contribution to human capital development Index. The statistical package used in this study is E-Views 9.0 using the Panel Corrected Standard Error (PCSE) at the Aggregate Panel Data Level. In line with the major findings of this study, the study concludes that though foreign capital outflows have mixed impact on economic development of SSA countries.

In consonance with the findings of the study, the following recommendations were made:

1. The government of SSA countries should ensure that all leakages attributed to foreign direct investment outflows should be closed. Meanwhile, there is need for the Nigerian government to re-examine her import substitution policy on consumer goods.
2. The Federal government in SSA countries must shift her focus and policy directives from the oil sector to the industrial sector as this will attract the attention of foreign investors into the industrial sector. Also, there is the need for improve strategies to enhance the competitiveness of Nigerian industrial sector in attracting foreign portfolio investment.
3. Government and policy makers in SSA countries should encourage beneficiaries of remittances to spend such funds in productive adventures that would contribute to economic development rather than spending such funds in unproductive adventures.
4. The federal government in SSA countries must advocate for economic policies that are focused on domestic investment. This would help discourage her over dependence on foreign countries for assistance.
5. The federal government in SSA countries should ensure and advocate for a proactive economic policy that can cushion the effect of the persistent inflation rate and high exchange rates in SSA countries.

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