International Journal of Economics and Development Policy (IJEDP)
Vol. 8 No. 1, June, 2025
Print - ISSN: 2651-5644
Online - ISSN: 2811-2288

# Foreign Capital Inflows and Economic Growth Nexus: An Analysis of Sub-Saharan African Countries

**[1] Ahmad Mukhtar Umar *, & [2] Aliyu Abba**

[1] Department of Economics and Development Studies, Faculty of Social and Management Sciences, Federal University Gashua, Yobe State – Nigeria
[2] Department of Economics, Faculty of Social and Management Sciences, Federal University Dutse – Nigeria

Corresponding Author's; E – mail: ahmedalmukhtari123@gmail.com

## Abstract

*This study is aimed at examining the effect of three (3) different types of foreign/external capital flow (foreign direct investment, official development assistance, and remittances) on the economies of 37 Sub-Saharan African countries for the period of 1987-2022. The data sourced from Central Bank of Nigeria (CBN) statistical bulletin, and World Bank Development Indicators (WDI) database. This study applied pooled mean group (PMG) estimation for dynamic heterogeneous panels. It is found that, foreign direct investment and official development assistance have impacted positively and significantly on economic growth among the countries in the long run. However, remittances was the only inflow variable that affected economic growth among the countries in the short-run. The paper therefore recommends that, government of SSA should design/enact some policies that are foreign investor-friendly. These would attract more capital from outside world. Part of the remittances would be invested into real sectors to create job opportunities, raise income and increased economic growth of Sub-Saharan African countries. Furthermore, the study recommends that, Sub-Saharan African countries should strengthen their local/domestic markets and other socio-political and economic institutions to attract foreign capital inflows to Sub-Saharan African countries.*

**Keywords:** Foreign capital inflow, foreign direct investment, official development assistance, and remittances
**JEL Classification:** B22, F21, F35, F24

**Contribution to/Originality Knowledge**

## 1.0 Introduction

Due to the shortage of resources to fill the domestic saving-investment and trade gaps, Sub-Saharan Africa (SSA) have begun seeking external capital to complement domestic savings. Sub-Saharan African countries need considerable and steady flow of external capital to fill these gaps to enhance economic growth and overcome widespread poverty in the region (Orji, Uche & Ilori, 2014).

Foreign capital inflows play a crucial role in shaping economic growth in recipient countries and it is an important source of finance capable of accelerating the speed of economic growth of less-developed countries through transfer of technical know-how, expertise and innovations of advanced countries to LDCs (Fambon, 2013). Even though, many studies that were conducted confirmed the existence of positive relation between external capital inflows and

economic progress, these relations had happened to differ from one nation to the other and from one region to another (Lipsey, 2000). The exact relationship that exists between foreign capital inflows and economic progress at times depends upon the type of foreign capital inflows (Orji, et, al., 2014). In view of this, many studies have been conducted to analyze the relationship that exists between external capital and economic progress of one nation or a group of nations and the studies had yielded mixed results (Adekunle & Sulaimon, 2018). Though there exists a consensus in both empirical and theoretical literature that external capital inflows should accelerate economic growth and development so long as the recipient countries have the absorptive capacity to make efficient and best use of such capital (Agbloyor, Abor, Adjasi & Yawson, 2014).

In Sub-Saharan African (SSA) countries, domestic investment has proven to be insufficient due to shortage of domestic savings in the last decades. In 2010 for example, the investment ratio to gross domestic product in Sub-Saharan African countries was put at about 20.3%. These figures were slightly above the ratio of 20.1% realized by Latin America countries and 30.9% that was realized by Asian countries (Adusah-Poku, 2016). The shortage of domestic investment SSA resulted from three main factors that include macroeconomic instability, political instability and in-adequate legal systems (Harnandez-Cata, 2000). These factors contributed largely and led to an increase in capital flight in SSA region. At this juncture, the main objective of the paper is to examine the effect of foreign capital inflows on economic growth in thirty seven SSA countries. The central contribution is that, it contributes to the existing literature as it considered 3 different types of external capital flows. It is believed that these external capital inflows may impact differently on economic progress, hence, the need to analyze the effect of each of these types on economic progress of SSA countries. In order to achieve the above main objective, the paper is arranged into the following sections as follows. Section one (1) entails introduction, section two (2) covers literature review, section three (3) entails methodology, section four (4) presents results and discussions and lastly, section five (5) is conclusions and recommendations.

## 2.0 Literature Review

### 2.1 Empirical Literature

Many of the reviewed literature on the relationships that exist between foreign capital inflow and economic growth are still inconclusive. Earlier studies showed that, foreign direct investment (FDI) and portfolio investment do affect macroeconomic indicators positively (Borensztein, 2008; Bekaert & Harvey, 2018). Moreover, some economists that include Griffin and Enos, (1970) argued that external capital flows have no effect on economic growth and that, they might even be harmful to growth. Wasiu and Mubarak (2018) was of the opinion that, growth effect of external capital inflows depend upon the socio-economic and political conditions of host countries (Orji, et, al., 2014).

Using panel data for 45 LDCs, Bailliu (2000) found that, foreign capital flows promote economic growth where financial sector had attained some level of growth and development. Benjamin, Ahmed and Odonye (2024) examined the effect of foreign capital inflows on Nigeria's economic growth employing error correction mechanism (VECM). They found that,

both foreign investment (FDI) and official development assistance, have positive and significant effect on Nigeria's real GDP. In contrast, foreign portfolio investment does affect Nigeria's real GDP negatively and insignificantly during the period under review. While, exploring the intricate relation that exists between external capital inflows and some selected West African economies, using econometric technique that include GMM model specification, Agbana, (2024) highlighted that, the varying degree of influence that external capital has on some selected West African economies. Foreign investment happens to be a consistently positive driver to West African economies, In contrast, foreign portfolio investment has indicated mixed impact, directly affecting economic growth in some West African countries, whereas, showing negative effect on others. Personal remittances are found to influence economic growth across countries. Official development assistance is revealed to have positive correlation with West African economic growth. Soto (2019) found that, foreign capital inflows exhibited a positive, direct and significant relation with growth in income in LDCs, while, long-term and short-term financially related influx exhibited inverse relation significantly with economic growth. Choong, (2010) investigated how foreign portfolio investments, foreign direct investment, and external debt inflows foster economic progress in advanced countries and LDCs via the channel of local/domestic financial institutions.

The study found that, external debt and foreign portfolio investment have affected economic growth negatively, while, foreign investment has a significant and direct effect. Using a time series data, Kim and Bang (2019) employed ARDL Model and found that, external capital inflows and economic progress has a long term relation in Ireland. The short-run and long-run results showed a positive significant correlation between foreign capital inflows and economic progress. Employing the Dynamic Ordinary Least Squares (DOLS) as well as an Engel-Granger two-step analysis, Insah (2013) established the growth elasticity as regards direct investment to be positive and direct at 1 percent significance level. Orji et al. (2014) analyzed the effect of FDI, foreign portfolio investment, external debt and remittances on economic growth of Nigeria, Ghana, Gambia and Sierra Leone. Applying the Seemingly Unrelated Regression Estimation (SURE), over the period 1981-2010. The study obtained that, foreign direct investment positively contributes and affects Nigerian economy and that of Gambia. Akilo (2013), Ukeje (2014), Kolowole (2014), Obichina and Ugwebe (2017) Jabir and Abdu (2018), employed vector error correction mechanism, OLS, vector autoregression (VAR), Toda Yamamoto causality test and 3 stage-least-squares (3SLS) to analyze the effect of foreign capital inflows on Nigeria's economic growth. The study obtained that, external capital inflow has affected Nigeria's economy significantly. It is pertinent to note that, most of the researches that were conducted on the relationship that exists between foreign capital inflows and economic growth in Sub-Saharan African countries examined the separate effects of either foreign direct investment or official development assistance. There is need to employ three most important foreign capital inflows that include foreign direct investment, official development assistance and personal remittances.

## 2.2 Theoretical Framework

### 2.2.1 Two gap Model

Chenery and Strout (1966) were the first to develop the Two-gap model to attract external capital to fill the savings-investment and trade gaps. The saving-investment gap is said to happen when the domestic investment opportunities outweighs domestic savings. The trade gap exists when a country's supply of foreign exchange to other countries of the world via importations is more than what it is being exported from other parts of the world through export. The Harrod-Domar theory of growth model corroborated the two-gap model of foreign assistance and they emphasized that, countries that are experiencing a shortage in saving vis-à-vis domestic investment should seek foreign capital inflow to complement domestic savings, thereby filling the savings-investment gap (Todaro & Smith, 2020). As opposed to the neo-classical models, endogenous theory of growth models propose that, public policy should play an active role in promoting economic growth and development via investments in human capital development and should encourage oversee investments (Todaro, et, al., 2020). Two-Gap Models theorists strove to detect the requisite for the economic growth of free-market economies. There are two preconditions that are indispensably entrenched into Sub-Saharan African economies and they are: inadequate savings (saving gap) and inadequate foreign exchange (trade gap), filling these gaps require foreign direct investment (FDI) and official development assistance.

## 3.0 Methodology

This section discovers the procedures and techniques employed in the collection, presentation and analysis of data. The section contains the following sub-sections that include data and estimation techniques, model specifications and long-run relationship estimation between variable. The paper applies 5-panel unit-root tests that include ADF-Fisher X2, Im-Pesaran-Shin's (IPS), Hadri's Z, Leivin-Lin-Chu's (LLC) t, and Bretung's t, tests. ADF-Fisher X2, Im-Pesaran-Shin's (IPS) panel unit tests are on the basis of the presumption of individual unit-root that, the auto-correlation parameters of the series that is being tested across cross sectional units differ. On the other hand, Hadri's, Leivin-Lin-Chu's (LLC), and Bretung's panel unit root tests are on the basis of the presumption of ordinary unit root that, the autocorrelation parameters of the series happens to be identical. The advantage of applying panel unit root tests is that, panel data incorporates both time series and cross-sectional data.

## 3.1 Data and Estimation Techniques

Annual data for thirty seven (37)[1] Sub-Saharan African countries spanning from 1987 to 2022 was collected and analyzed using a Pooled Mean Group (PMG) estimation for dynamic

[1] These countries were sampled and they include Burkina Faso, Botswana, Burundi, Cape Verde, Cameroun, Chad, Central African Republic, Cote d'Ivoire, Congo Republic, Eritrea, Equatorial Guinea, Ethiopia, Gambia, Gabon, Guinea, Ghana, Guinea, Guinea-Bissau, Liberia, Guinea, Liberia, Madagascar, Liberia, Mozambique, Mauritania, Namibia, Nigeria, Niger, Republic Democratic of Congo, Senegal, Rwanda, Sierra Leone, Sudan, South Africa, Tanzania, Uganda, Togo, Zimbabwe and Zambia

heterogeneous panels initiated by Pesaran and Shin (1999). The countries used in this studies have increasingly become open and integrated to international financial markets.

The data on remittances for Nigeria was collected from Central Bank of Nigeria (CBN) statistical bulletin. Data on foreign direct investment, official development assistance and remittances for all SSA countries, with an exception of Nigeria's remittances are obtained from World Bank Development Index (WDI) data base. Countries were sampled on the basis solely upon the availability of data. Given a combination of cross sectional units (N) and large time series (T), the Pooled Mean Group (MG) estimator is employed to compute (N) separate regressions and also estimate the coefficients. The Pooled Mean Group (MG) is an in-between process between the Mean Group (MG) parameter and dynamic fixed effects (DFE) and it involves pooling and averaging. The Pooled Mean Group (PMG) estimator assumed long run parameters to be identical while, allowing the short run parameters and the variances to vary through the groups.

### 3.2 Model Specifications

This study employs an aggregate production function (Yt) which incorporates foreign investment (FDI), official development assistance (ODA), remittances (R) and other controlled variables within the model. This production function is on the bases upon the endogenous theory of growth in which the aggregate production function happens to be in Cobb-Douglas form as follows;

$$Y_{it} = A_{it} K_{it}^{\alpha} L_{it}^{\beta} \tag{1}$$

Where $Y_t$ represents real GDP at time t; At means technological knowledge at time t;

$K_t$ is the stock of capital at time t; Lt is the labor at time t;

ε is the random variable; t entails time and ∞ is the base of natural logs; i represents country.

$T_t$ part of the aggregate production function captures the influence of foreign investment (FDI), official development assistance (ODA) and remittances (R) and Tt is assumed to be the function of all variables in question and can also be represented as follows;

$$A_{it} = f\left(FDI_{it}, ODA_{it}, R_{it}\right) = FDI_{it}^{\mu}, ODA_{it}^{\psi}, R_{it}^{*} \tag{2}$$

Where

FDI = foreign investment, OND = official development assistance

R = remittances

Equation 1 and 2 are combined below to obtain equation 3.

$$Y_{it} = K_{it}^{\alpha}, L_{it}^{\beta}, FDI_{it}^{\mu}, ODA_{it}^{\psi}, R_{it}^{*}, \infty, \varepsilon_{it} \tag{3}$$

α, β, μ, ψ, *and ∞ happen to be the constant elasticity parameters of income in relation to FDI, ODA, R, K, L.

Equation (3), while, taking natural logs would give the following;

$$\ln Y_{it} = \alpha \ln K_{it} + \beta \ln L_{it} + \mu \ln FDI_{it} + \psi \ln ODA_{it} + * \ln R_{it} + \varepsilon_{it} \quad (4)$$

Equation (4) can be rewritten for estimation purposes as follows;

$$\ln Y_{it} = \omega + \alpha \ln K_{it} + \beta \ln L_{it} + \mu \ln FDI_{it} + \psi \ln ODA_{it} + * \ln R_{it} + \varepsilon_{it} \quad (5)$$

ω happens to be the constant term, whereas, εt is the stochastic presumed to be normally and independently distributed that captures all other independent variables outside the model.

### 3.3 Long-Run Relationship Estimation between Variable

The estimation of the relationship in the long-run between the series is based on the presence of a co-integrating relation among non-stationary series. The vector error correction mechanism studies the long-run relation among variables, to do this, the F-test is employed so that, it would test the joint significance of the parameters of the series with lag. The Bound test that was initiated by Pesaran, et, al., (1999) happens to be the Wald test for the series with lag. Accordingly, the null of non-co-integrating relation is tested to perform the joint significance test on the series with lag. The null and alternative hypotheses for co-integration are as follows:

H0: Ϭ1 = Ϭ2 = Ϭ3 = Ϭ4 = Ϭ5 = Ϭ6 = 0

It is assumed that, the critical values (CV) that include upper and lower are selected on the basis of the integration order of the explanatory variables. The critical values (upper) are on the basis of the presumption that the regressors are I (1) while the lower part of critical values (CV) are on the basis of the presumption that, the regressors are I (0) at 10% level of significance. The null of no co-integration is going to be rejected if the F-statistic is outweighing the upper part of critical value (CV).

## 4.0 Result and Discussions

### 4.1 Results for Panel Unit Root Tests

The results from tables 1 showed that, there is no evidence of stationarity in most of the series used in this study at levels. The Hadri's Z and Breitung's t tests when conducted showed non-existence of stationarity in all the series in question. The Im-Pesaran-Shin's (IPS) panel unit test shows, with an exception of foreign direct investment (FDI) and labor stock (L) that, all the other series are not stationary. Panel tests for stationarity are to be conducted for the series that were found no-stationary at levels. The results are the following in Table 2.

Table 1: Panel unit root tests: @Level

| **Variables** | **ADF-Fisher $X^2$** | **IP.S W-t bar stat** | **Hadri's Z stat.** | **LLC t* stat** | **Breitung t-stat** |
|---|---|---|---|---|---|
| *Y* | $H_0$: Unit root<br>125.140<br>[0.0100] | $H_0$: Unit root<br>-1.32098<br>[0.0945] | $H_0$: Unit root<br>11.4657<br>[0.0000] | $H_0$: Unit root<br>1.74246<br>[0.8674] | $H_0$: Unit root<br>6.19444<br>[1.0000] |
| *FDIt* | 175.228<br>[0.0000] | -4.61411<br>[0.0000] | 7.85602<br>[0.0000] | -4.58882<br>[0.0000] | -0.24883<br>[0.4581] |
| *ONDt* | 55.9302<br>[0.9990] | 3.31258<br>[0.9781] | 13.9164<br>[0.0000] | -0.71951<br>[0.1476] | 1.94512<br>[0.2758] |
| *Rt* | 66.3103<br>[0.6410] | 0.71252<br>[0.8623] | 13.6970<br>[0.0000] | -2.05775<br>[0.2452] | 0.11012<br>[0.2060] |
| *Kt* | 105.641<br>[0.1322] | -1.40853<br>[0.0802] | 12.8276<br>[0.0000] | -1.97582<br>[0.0014] | -0.44332<br>[0.2500] |
| *Lt* | 283.632<br>[0.0000] | -11.7049<br>[0.0000] | 12.4902<br>[0.0000] | -30.0037<br>[0.0000] | 0.60502<br>[0.3189] |

Source: Author's computation using Eviews 10

Table 2: Panel unit root tests: @first difference

| Variables | ADF-Fisher $X^2$ | IP.S W-t bar stat | Hadri's Z stat. | LLC t* stat | Breitung t-stat |
|---|---|---|---|---|---|
| *Y* | $H_0$: Unit root<br>311.482<br>[0.0000] | $H_0$: Unit root.<br>-8.64117<br>[0.0000] | $H_0$: Unit root<br>8.43254<br>[0.0000] | $H_0$: Unit root<br>-8.20462<br>[0.0000] | $H_0$: Unit root<br>-6.47837<br>[0.0000] |
| *ONDt* | 254.890<br>[0.0000] | -6.37503<br>[0.0000] | 18.2664<br>[0.0000] | -6.38517<br>[0.0000] | -6.65003<br>[0.0000] |
| *Rt* | 373.321<br>[0.0000] | -8.90380<br>[0.0000] | 12.0187<br>[0.0000] | -8.27125<br>[0.0000] | -8.72119<br>[0.0000] |
| *Kt* | 378.632<br>[0.0000] | -12.2168<br>[0.0000] | 12.4230<br>[0.0000] | -9.54853<br>[0.0000] | -8.94626<br>[0.0000] |

Source: Author's computation using Eviews 10

Table 3 presents two types of panel co-integration that include the Kao's residual co-integration and Padroni panel co-integration tests. A presence of a panel co-integration among variables implies the presence of a long-run relation between the series. The Kao's residual co-integration and Padroni co-integration tests are based upon the long run residuals that place the lag length with the Schwartz Bayesian Information Criterion (SIC). Thus, the null of no co-integration is tested and the results are exhibited in table 3. Based on the Pedroni co-integration test, the results obtained do not show any evidence for the existence of co-integration among the series especially when the assumption of common autoregressive parameters holds. Moreover, when it is assumed between dimensions, the results indicate evidence of co-integration between the series, hence the non-acceptance of the null of no co-integration at 1%

significance level. The presence of co-integration in the Padroni test is affirmed by the Kao's co-integration test and it rejects the null hypotheses of no co-integration at 1% significance level.

Table 3: Results for Panel Co-integration tests

| | **Statistics** | **P-Value** | **Weghted Statistic** | **P-Value** |
|---|---|---|---|---|
| *Panel V* | -2.159457 | 0.7691 | -0.602374 | 0.5789 |
| *Panel rhD* | 0.109817 | 0.8513 | 0.157841 | 0.6564 |
| *Panel PP* | -2.855980 | 0.0010 | -2.475340 | 0.0010 |
| *Panel ADF* | -2.642205 | 0.0010 | -2.955705 | 0.0020 |

Individual autoregressive co-efficients between dimensions

| | | | | |
|---|---|---|---|---|
| *Group rho* | 0.672824 | 0.6755 | | |
| *Group PP* | -5.467870*** | 0.0001 | | |
| *Group ADF* | -3.542406*** | 0.0003 | | |

*** shows significance at 1% significance level.

| Kao's panel cointegration tests |
|---|
| Test Statistics= -4.071557 (0.0014) |

Source: Author's computation using Eviews 10

PMG estimation of the short-run/long-run relationships are presented in Table 4. The table shows four different models. In models one to three, the research includes only one of the foreign capital inflows at a time. In the last model, the research includes all the inflows under study that include FDI, official development assistance and remittances at the same time.

Table-4. Results for PMG Estimation for Short-run and Long-run Relationships

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| *Convergence* | -0.0352*** | -0.0723*** | -0.0736** | -0.0961*** |
| *Coefficients* | (0.0302) | (0.0131) | (0.0316) | (0.0200) |
| *Long-run coefficients* | | | | |
| *FDI* | | 0.0084*** | | 0.0092*** |
| | | (0.0022) | | (0.0021) |
| *INODA* | 0.2354*** | | | 0.0303*** |
| | (0.0385) | | | (0.0234) |
| *INK* | 0.3192*** | 0.2269*** | 0.2632*** | 0.6392*** |
| | (0.0638) | (0.0276) | (0.000) | (0.0377) |
| *INL* | 1.4338*** | 0.35002*** | 0.3250*** | 0.1354*** |
| | (0.1433) | (0.0358) | (0.0000) | (0.0321) |
| *INR* | | | 0.0203*** | 0.0524*** |
| *Short-run coefficients* | | | (0.0000) | (0.0559) |
| *ΔFDI* | | -0.0018 | | -0.0021 |
| | | (0.0019) | | (0.0025) |

| | | | | |
|---|---|---|---|---|
| *ΔINODA* | -0.0057 | | | 0.0044 |
| | (0.0063) | | | (0.0033) |
| *ΔINK* | 0.0430 | 0.0335 | 0.0033 | 0.0262 |
| | (0.0127) | (0.0371) | (0.2243) | (0.0127) |
| *ΔINL* | -2.1070* | -1.4315 | -1.4251 | -1.2342 |
| | (1.202) | (1.2175) | (0.1245) | (1.0834) |
| *ΔINR* | | | 0.0431** | 1.5018** |
| | | | (0.4332) | (2.5670) |
| *No. of Countries* | 37 | 37 | 37 | 37 |

*** ** * shows 1%, 5% and 10% significance level. All the series are in their natural log. Forms with an exception of FDI.

The results from the above mentioned models show that, all parameters understudy except that of FDI are presented as elasticities. The three variables that include foreign investment (FDI), official development assistance and personal remittances were found to impact economic growth in the long-run in the estimated models. Further, the signs of all the parameters of the series under study happened consistent in the estimated models. Foreign direct investment, in the long-run, as well as remittances, and official development assistance are having their own expected signs (theoretically). Thus, a 1% rise in foreign direct investment raises economic growth by 0.840% and in model two and model four respectively, a 1% rise in foreign direct investment raises economic growth by 0.920%.

All other variables that include Remittances and official development assistance seem constant. This finding corroborates that of Insah (2013) and Fambon (2013). The share of direct investment in gross domestic product of the sampled Sub-Saharan countries shows that, it affects economic growth insignificantly and this shows that, FDI is not a major contributor to economies of Sub-Saharan African countries. The reason why foreign direct investment has less effect on economic growth might not be un-connected to the non-existence of absorptive capacity in most Sub-Saharan African countries that would harness the full potential of the effect of foreign investment on economic growth. Expectedly, the remittances elasticity of economic growth is positive, though, inelastic in the long run. The five-percent significance level implies that, all other series are constant. Thus, a 1% rise in remittances raises economic growth by 0.0203% and 0.0524% in model three and model four respectively. These results are in line with what Benjami, et. Al, (2024) and Jabir, et. Al, (2018) found in their studies. In a recent fast, remittances to Sub-Saharan African countries raised from $3.2 billion in 90s to $21.50 billion in 2000s (World Bank 2015). This increase in remittances for a number of years have had direct effect on consumption expenditure, investment demand, health and education in SSA countries which in turn affects economic progress in a positive way. The results also found that, official development assistance and economic progress in SSA countries are positively related, though inelastic and statistically significant. Thus, a one-percent rise in foreign investment (FDI) raises economic growth in SSA countries by 0.2354% and 0.0303% in model one and model four respectively. The paper also estimated the short-run impacts of external capital inflows on economies of Sub-Saharan African countries. The results in Table 4 show that, it is only remittances that happens to be a short-run driver of economic growth in

Sub-Saharan African countries as indicated in model 3 and model 4. The effect of personal remittances on economic progress is direct and statistically significant at 5% significance level. Thus, a 1% rise in personal remittances leads to a surge in economic growth by 0.0431% and in model 3 and model 4 respectively, a 1% rise in personal remittances leads to a surge in economic growth by 1.5018% while, all other variables seem constant. Remittances is important to most SSA countries both in the short-run and long-run. Remittances via increased consumption spending and investment in the short-run can directly affect Sub-Saharan African economies.

Further, an increased spending on education, nutrition and health that has risen due to the inflow of remittances can also contribute to the peoples' living condition in SSA countries. In the estimated models, the error correction mechanisms are negatively signed, as expected, and statistically significant at 1% significant level. A negative sign and statistically significance of the vector error correction mechanism concludes that, there is an existence of co-integration between the series. The error correction mechanisms of (that is -0.0352, -0.0723, -0.0736 and -0.0961). This shows the ability for Sub-Saharan African economy to correct and or adjust any distortion in economy. Further, the Sub-Saharan African economy is capable of correcting/adjusting itself towards equilibrium. The adjustment speed indicates that, 35%, 72%, 73% and 96% of the deviation from equilibrium is adjusted/corrected every year.

## 5.0 Conclusions and Recommendations

This paper examined the effect of foreign investment, official development assistance, and personal remittances on the economies of thirty seven Sub-Saharan African countries for the period of 1987 to 2022. The main objective was achieved by employing a panel data that was being obtained from statistical bulletin of Central Bank of Nigeria (CBN), World Bank Development Index (WDI) data base and National Bureau of Statistics and the study also applies a newly established PMG model. All the three types of external capital, under consideration, positively influence economies of Sub-Saharan African countries in the long-run. Further, remittance was happened to be the only driver of growth in SSA countries, especially in the short-run. This paper recommends that, the government in Sub-Saharan African countries would create, enact and implement strong monetary, fiscal, and physical policies to provide conducive environment that would attract more investors from all sides of the world. Further, there is also the need to enlighten and educate the recipients of remittances to adopt savings and investment cultures. Finally, the paper recommends that, Sub-Saharan Africa would build/develop strong and well-functioning financial institutions and critical infrastructure. This would help in unleashing the potential for foreign capital inflows to strongly contribute and affect the economies of Sub-Saharan African countries.

## REFERENCES

Adekunle, W. and Sulaimon, M., 2018. "A Re-examination of the Relationship between Foreign Capital Flows and Economic Growth in Nigeria." Munich Personal RePEc Archive. Online at https://mpra.ub.uni-muenchen.de/87754/ MPRA Paper No. 87754, posted 9 July 2018 18:49 UTC.

Adusah-Poku, F., (2016). "Which Form of Foreign Capital Inflows enhances Economic Growth? Empirical Evidences in Sub-Saharan African Countries." Asian Economic and Financial Review. ISSN: 2222-6737.

Agbana, E.Z. (2024). Foreign Capital Flows and Economic Growth in Some Selected West African Countries. Journal of Public Administration, Policy and Governance Research (JPAPGR), Vol. 2, No. 3, 2024. Available online at https://jpapgr.com/index.php/research. ISSN:2787-0464. Covered in Google scholar.

Agbloyor, E., Abor, J., Adjasi, C. and Yawson, A., (2014). "Private Capital Flows and Economic Growth in Africa: The Role of Domestic Financial Markets." Journal of International Financial Markets. Institutions and Money, 2(3), 1-33.

Akinlo, A., (2004). "Foreign Direct Investment and Economic Growth in Nigeria: An Empirical Investigation." Journal of Policy Modeling, 26, 627-639.

Bailliu, J.N., 2000. "Private Capital Flows, Financial Development, and Economic Growth in Developing Countries." Bank of Canada Working Paper 15…

Bekaert, G., Harvey, C., 2018. "Foreign Speculators and Emerging Equity Markets.' Journal of Finance. 555, 565–613.

Benjamin, T.I., Ahmed, H.E., and Odonye, O.J., (2024). Impact of Foreign Capital Inflows on Economic Growth in Nigeria. UMM Journal of Accounting and Financial Management. (UMMJAFM) journals@umm.edu.ng. Volume 4, Issue 1, October, 2024, PP 37-56.

Borensztein, J.W., (2008). "How does Foreign Direct Investment affect Economic Growth?" Journal of International Economics, 45(1), 115–135.

Chenery, H. and Strout, A., (1966). "Foreign Assistance and Economic Development." American Economic Review. 56(4), 679-733.

Choong, C-K., 2010. "Private Capital Inflows, Stock Market and Economic Growth in Developed and Developing Countries: A Comparative analysis." Japan and the World Economy. 222 (2), 106–127.

Fambon, S., 2013. "Foreign Capital Inflow and Economic Growth in Cameroon." United Nations University-WIDER. Working Paper No. 2013/124.

Hernandez-Cata, E., 2000. "Raising Growth and Investment in Sub-Saharan Africa: What can be done?" Finance and Development. A Quarterly Magazine of the IMF, 27(4). Available from http://www.imf.org/external/pubs/ft/fandd/2000/12/hernande.htm.

Insah, B., 2013. "Foreign Direct Investment Inflows and Economic Growth in Ghana." International Journal of Economic Practices and Theories, 2(3): 115-121.

Iqbal, Z., 2010. "The Contribution of Workers Remittances to Economic Growth in Pakistan." Pakistani Institute of Development Economics Research Report. No. 187. pp: 1-25.

Jabir, A. and Abdu, M. (2018). "Foreign Direct Investment-Growth Nexus: The Case of Nigeria." European Scientific Journal, 13(1), 304-318.

Kim, K. and H. Bang, 2019. "The Impact of Foreign Direct Investment on Economic Growth: A case study of Ireland." KIEP Working Paper 08-08. Seoul: Korea Institute of International Economic Policy.

Kolawole, B.O., (2014). "Foreign Assistance and Economic Growth in Nigeria: The Two-Gap Model Framework." American International Journal of Contemporary Research. 3(10), 153-160

Lipsey, R.E., 2000. "Inward FDI and Economic Growth in Developing Countries." Transnational Corporations, 9(1): 67-95.

Obiechina, M. E. and Ugwebe, E.U., (2017). "Economic Growth, Capital Flows, Foreign Exchange Rate, Export and Trade Openness in Nigeria." International Journal of Economics and Management Sciences, 2(9), 1-13.

Orji, A., Uche, A.S. and Ilori, E.A., (2014). "Foreign Capital Inflows and Growth: An Empirical Analysis of WAMZ Experience." International Journal of Economics and Financial Issues, 4(4), 971-983.

Pesaran, M.H. and Y. Shin, 1999. "An Autoregressive Distributed-Lag Modelling Approach to Co-integration Analysis." Revised Version of a Paper Presented at the Ragnar Frisch. The Norwegian Academy of Science and Letters. Available from: http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.153.3246&rep=rep1&type=pdf.

Raza, S.A., 2011. "Capital Inflows and Economic Growth in Pakistan." European Journal of Economics, Finance and Administrative Sciences. MPRA Paper No. 36790 Greenwich.

Satter, D.S., 2008. "Growth Effects of FDI and Portfolio Investment Flows to Developing Countries: A Disaggregated Analysis by Income Levels." Applied Economic Letters, 16(3), 277-283.

Soto, H. M., (2019). "Which Types of Capital Inflows Foster Developing-Country Growth?" International Finance, 4(1), 1-14.

Todaro, M.P. and Smith, S.C., (2020). "Economic Development." 13th Edition. Pearson Education. Inc., 501 Boylston Street, Suite 900, Boston, MA 02116.

Ukeje, R., 2014. "Foreign Direct Investment, Financial Development and Economic Growth." Journal of Development Studies. 41, 142–163.

Vargas-Silva, C., Jha S. and Sugiyarto, G., 2009. "Remittances in Asia: Implications for the fight against Poverty and the pursuit of Economic Growth." ADB Working Paper Series. No.182.

Wasiu, A. and Mubaraq, S., (2018). A Re-examination of the Relationship between Foreign Capital Flows and Economic Growth in Nigeria. Centre for Econometric and Allied Reseasrch (CEAR), University of Ibadan, Nigeria, Winners Academy Ibadan, Nigeria.

World Bank, 2015. "World bank Staff Calculation based on Data from the IMF, Balance of Payments Statistics yearbook, 2011, and Data releases from Central Banks, National Statistical Agencies and World Bank Country Desks.

.