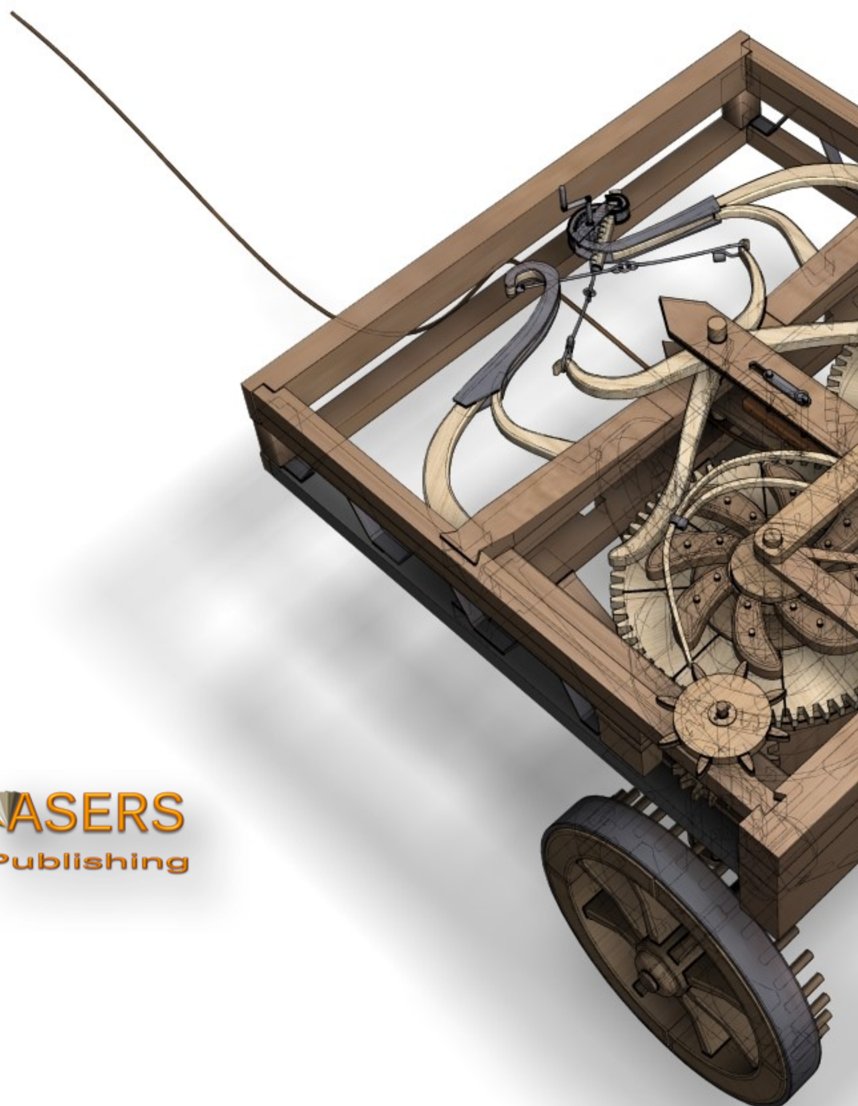
Theoretical and Practical Research in Economic Fields



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Call for Papers
Volume XV, Issue 2(30), Summer 2024
Theoretical and Practical Research in Economic Fields

Many economists today are concerned by the proliferation of journals and the concomitant labyrinth of research to be conquered in order to reach the specific information they require. To combat this tendency, **Theoretical and Practical Research in Economic Fields** has been conceived and designed outside the realm of the traditional economics journal. It consists of concise communications that provide a means of rapid and efficient dissemination of new results, models, and methods in all fields of economic research.

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Does Remittance Inflow and Foreign Direct Investment Spur Economic Development in Developing Countries? Insights from Nigeria

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Abstract: *Given the rising inflows of remittance and foreign direct investment into developing countries, the study examined their importance on economic development in Nigeria using the ordinary least squares method and time series data collected from secondary sources, and the Error correction models (ECM) were estimated. Findings showed that remittances and foreign direct investment impacted positively and significantly on economic development and the exchange rate negatively influenced economic development. Thus, recommended that the government should remove strict transaction costs of remitting money to expand the overall inflow of remittances and more personal remittances should be encouraged for investment in human capital development. Additionally, improvement in the investment climate for existing and expected foreign investors, relaxation of the strict laws on profit repatriation, and the improvement in the macroeconomic environment by curbing security challenges, social unrest, and corruption will encourage foreign investors to increase their investments. It also recommends that the government take advantage of these inflows to stabilize the volatility of the exchange of the domestic currency.*

Keywords: remittance; foreign direct investment; economic development.

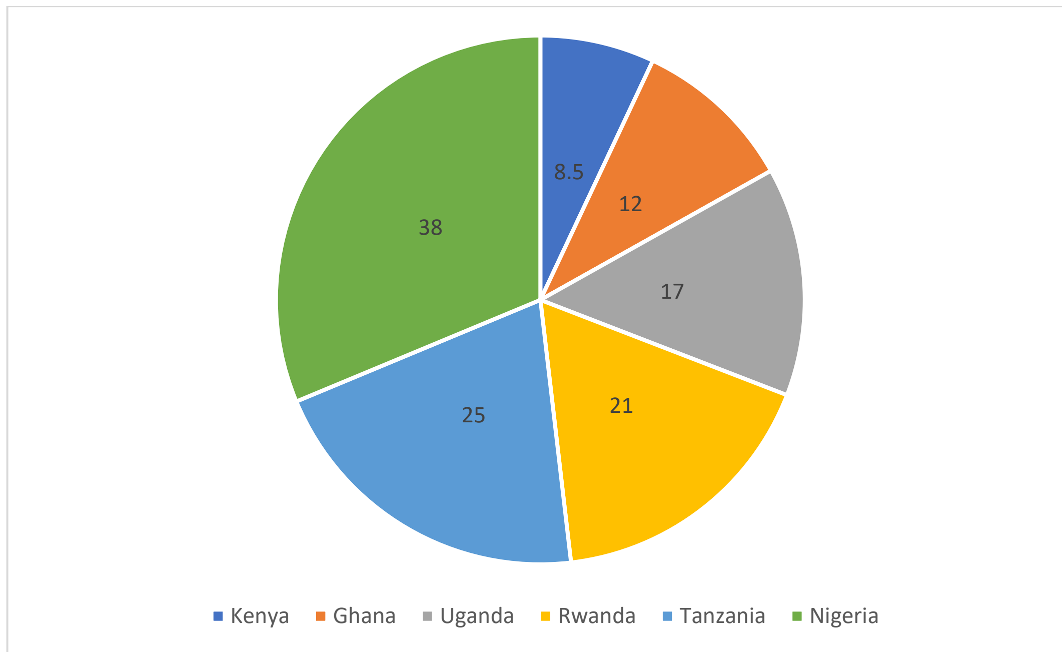
JEL Classification: F24; F21; F63; R11.

Introduction

People work and send part of their income in the form of cash or goods to assist or give support to their households, relatives, and friends through different means or transfers as remittances. This provides a useful link between remittances and development constitutes part of the largest sources of income for low-income earners and increases the well-being of recipient households by improving their condition of living and consumption smoothing. Compared to foreign direct investment, remittances from the diaspora are seen as a significant vehicle in alleviating poverty and a channel of foreign exchange earnings to the country and act as protection against economic hardship to the recipient household.

According to IMF (2009), remittances lower poverty, raise welfare and supply foreign currency that assists countries in paying for necessary imports, service their external debt, and boost access to international capital markets. Commercial banks in some countries have utilized future progressions of remittances as a guarantee to generate finances at less expensive financing costs and longer maturities.

Figure 1. Remittance inflow to selected countries in Sub-Saharan Africa in Percentage



Source: Author's computation from World Development Indicators 2023

Remittance inflows to Sub-Saharan Africa increased in size by six percent in 2022 to $53 billion. The tendency was motivated by the remittance growth of twelve percent in Ghana, about nine percent in Kenya, twenty five percent in Tanzania, Rwanda, twenty one percent, and Uganda seventeen percent. Remittances to Nigeria, representing about thirty eight percent of total remittance inflows to the region, increased by three percent to $20.1 billion (World Bank 2023).

Prominence has been gained among researchers in the policy debate on the effect of remittances on growth, development and poverty. Studies in Nigeria on remittances from their consequences on economic growth and development such as (Agu, 2009; Adarkwa 2015; Adeyi 2015) effect on poverty (Adams *et al.* 2005; Ajayi *et al.* 2009; Fonta *et al.* and Olowa *et al.* 2013) amongst others are of the rationale behind the heightened interest in monetary remittances and the sharp rise in the number of remittances transferred to developing countries. Because of similar monetary policies by countries in the SSA, have considered large-scale foreign aid, as not only a source of solving the problem of developing countries but bridging the gap of resource unavailability (World Bank, 2019).

Dimensions of globalization that emerged with global flows are people, capital, goods and services. Capital flows include Foreign Direct Investment (FDI), remittances, Foreign Portfolio Investment (FPI), and Official Development Assistance (ODA). Personal remittances and FDI can prompt monetary dependability, advance supportable turn of events, and guarantee the prosperity of societies (World Bank, 2013). Policymakers and researchers are of the view that FDI aids the performance of host nations and encourages economic growth and development. The certainty about the credence of FDI is that it does not only give capital financing, in addition, brings in positive externalities by annexing foreign technology and technical know-how (Alfaro *et al.* 2004)

For many years, developing nations have continually expanded their share of FDI earnings and are now one of the largest sources of external financing for development. This is evidence of the relevance of FDI to economic development and has various expected advantages to be realised in the host economy. For instance, FDI is less unpredictable than other private capital flows and gives a stable source of finance to meet capital necessities in developing countries (Reisen & Soto, 2011). It serves as capital investments across national borders and contributes to growth and development through capital formation and transfer of new technology. In relation to lasting interest and long-term connection, FDI is viewed as a veritable source of global investment (Organisation for Economic Co-operation and Development, 2016).

Despite the effect of the COVID-19 pandemic, the initial rise and trend of remittance inflow and FDI to the economy and the impact of these inflows are supposed to appear in improving the lives as well as poverty reduction of Nigerians in the areas of Gross Domestic Product (GDP) per capita and human capital development.

But this seems an illusion given the worsening economic development indicators of Nigeria over the years. As indicated by the African Development Bank Group (2023), Real GDP growth decreased from 3.6 percent in 2021 to 3.3 percent in 2022, resulting from a decline in oil production and a shrinking in public consumption and net exports. Growth in income per capita decreased to 0.8 percent in 2022 from 1.2 percent in 2021 with Inflation peaking at a two-decade high of 18.8 percent, powered by energy and food price increases and traverse effects of exchange rate depreciation. The importance of these flows seems to be relevant for developing countries owing to the quest for financial need for development. The current situation of personal remittances and FDI is of major interest and their volume of fluctuation is of particular interest. The increase and imperative nature of the flows into the country heighten the question of their effect on development in Nigeria.

1. Literature Review

Adams and Page (2005) analyzed the effect of worldwide migration and remittance on poverty in emerging economies with data from 71 developing nations utilizing OLS and instrumental factors. Findings showed that remittances from migrating abroad can decrease the extent of poverty in the remittance-receiving country. While Okodua (2010) studied the relationship between remittances and economic development in 21 selected countries in sub-Saharan Africa (SSA). By employing the system Generalized Method of Moments (GMM) estimation technique and evaluating the connection between output growth and remittances, remittances and homegrown investment, and remittances and external trade balance, findings revealed that remittances hurt output growth, homegrown investment, and external trade balance.

To determine whether remittances can lead to economic growth and development, Joseph *et al.* (2014) investigated their effectiveness in household welfare and health care in emerging countries and their cause and effect between economic growth and remittances in remittance-receiving nations such as Nigeria, Senegal and Togo. Findings showed a unidirectional causal relationship for Nigeria and Senegal, and in Togo, no causal link between remittances and economic growth.

Applying Panel estimation methods, Goschin (2014) studied remittances as a factor of economic development with evidence from the Central and Eastern Europe (CEE) countries. The models were tested using aggregate data that covered ten countries. Findings showed a positive impact of remittances on relative and absolute GDP growth. In Bangladesh, however, Pradhan and Khan (2015) in their contribution to remittance earnings using the human development index and quality of life, found a long-run spontaneous relationship from remittances to HDI; indicating that remittance earnings have a long-run impact on the quality of life. On their part, Matuzeviciute and Butkus (2016) examined the impact of remittances on long-run economic growth covering 116 countries with dissimilar development patterns and found remittances to possess a positive effect on long-run economic growth, but the influence differs based on the country's economic development level and the abundance of remittances in the economy. In Cameroon, Ofeh and Ali (2017) studied the effects of remittances on Economic development with the least squares method of Multiple regression. Results revealed that migrant remittances insignificantly explained Economic development in Cameroon.

Employing a survey and logistic regression techniques, Ehinomen (2019) examined the impact of remittances on household well-being in southwestern Nigeria. Evidence showed that the household's ties with the remitter increase the likelihood of households being non-poor and an increase in the employment status of the remitter increases the probability of the household being non-poor. Oshota and Badejo (2015) found a significant impact of FDI and economic development and the values for individual remittance into the country reflected a positive impact on economic development in the economy and an increase in personal remittance spills over to an increase in economic development in Nigeria. Furthermore, in Ghana, Minta and Nikoi (2015) with emphasis on growth and poverty found remittances and human development index to be positively related to economic growth and development. However, remittances do not impact significantly on poverty reduction in Ghana.

Evidence from empirical findings showed that remittances may increase income inequality and reduce poverty. For instance, Lee (2020) found that FDI increases income inequality in Vietnam and the presence of a non-linearity relationship between FDI and income disparity was substantiated. Additionally, the investigation revealed that the impacts of FDI on income inequality are different depending on the level of education and institutions. Also, in Kosovo, Arapi-Gjini *et al.* (2020) with the dose-response function approach found that remittances reduce both relative and absolute poverty levels and lead to an insignificant growth in inequality.

Ngoc (2021) examined the link between foreign direct investment, human development and endogenous growth in 102 developing countries. Utilizing the two-stage least squares method and correcting for endogeneity and instrumental variables, the findings confirmed the role of foreign capital flows, human capital and institutional

quality in fostering economic growth. The estimate is related to Orji and Mba (2010) who tested for simultaneity and the nexus between foreign flows, capital formation and growth in Nigeria. More so, Cleeve *et al.* (2015) on FDI and human capital in 35 SSA countries. Their Findings showed the extant relationship between FDI and human capital, market, and factor endowments, infrastructure and economic crises as the determinants of FDI.

Investigations have heightened arguments on the positive or negative effects of remittances and foreign direct investment. Coon and Neumann (2015) investigated the linkages between remittances and FDI in 118 developing countries and found increased in FDI inflows to lead to increase in remittances. Suggesting that migrant remittance and FDI are complementary. In confirmation that capital flows vary and are country-specific and their roles in economic growth, Javaid (2017) studied the effect of external capital flows such as remittances, FDI and ODA on Pakistan's GDP growth. The outcome indicates that FDI and ODA had an overall positive influence on GDP growth in Pakistan in both short and long run and remittances play no identifiable aspect in explaining the variations in economic growth. Additionally, the study by William (2018) in 109 developing countries found a positive effect of remittances on growth in efficient economies.

On the Impact of FDI, remittances and ODA on economic growth in developing countries, Zardoub and Sboui (2023) introduced the panel data approach and the results indicate proof of an uncertain impact of financial flows on economic growth. Findings also recommend the utilization of economic-type solutions to determine the defect encountered in the unanticipated effects. Intriguingly, Fagbola *et al.* (2020) inquired if FDI and remittance inflows constitute vital sources of economic growth in Nigeria. Evidence showed that FDI has a positive but non-significant effect on growth and remittances inflow has a negative and insignificant impact. However, Nwosa and Akinbola (2019) ascertained the substitutability effects of capital flows on economic growth and found that FDI and foreign aid are substitute investments in influencing economic growth, foreign aid and remittances are complement investments in producing economic growth and FDI and remittances are substitute investments in influencing economic growth in Nigeria. While Orji *et al.* (2019) found remittance and exchange rates to negatively impact on economic development in Nigeria in the long run.

Based on the studies reviewed, it is apparent that there is a dearth of research work done on this area with regard to economic development in Nigeria and most of the research on remittances are focused on its impact on poverty reduction and inequality, economic growth and labour supply. Irrespective of the increasing importance of remittance in capital flows, their nexus with economic development has not been sufficiently studied. However, this study seeks to investigate personal remittances and their nexus with foreign direct investment in accelerating development in Nigeria. Specifically, the objectives are to: examine the impact of personal remittances and foreign direct investment on GDP per capita and their effect on human capital development in Nigeria.

2. Research Methodology

The framework for the study is anchored on the endogenous growth theory. It postulates that people accumulate capital, then, learning by doing produces technological progress that may raise the marginal product of the capital, thereby offsetting the possibility for the marginal product to diminish when technology is unchanged. The major component of the model is the absence of diminishing returns to capital and investment. The model is expressed as:

$$Y = AK \qquad (2.1)$$

Where Y = Total production in an economy

K = Capital

The nexus between remittance inflows, FDI and economic development has been identified in the literature but often contend that both remittance and FDI affect economic growth positively. The significance of remittance and FDI are identified as bridging the capital gap pointed out by Romer (1993) as obstacles cladding developing countries to catch up with advanced countries. The gap could be in human capital or physical capital.

Model Specification

Model 1

The model is specified as follows:

$$Y = A \cdot K\alpha \qquad (2.2)$$

Where Personal remittance and FDI enter the model as capital, and A represents technology innovations.

$y = a + \emptyset\ REM + \beta\ FDI$

Incorporating other variables that impact output per capita and replacing y with *GDPPC*

$$GDPPC = \beta_0 + \beta_1 REM + \beta_2 FDI + \beta_3 GOX + \beta_4 EXR + \mu_1 \quad 2.3$$

Where:

$\beta_0,\ \beta_1,\ \beta_2,\ \beta_3,\ \beta_4$ are parameters to be estimated.

GDPCC = GDP per-capita income (measured as real per-capita gross domestic product in billions of Naira)
REM = Personal remittances are transfers from international migrants.
FDI = Foreign direct investment.
GOX = Government expenditure
EXR = Exchange rate
$\beta_0,\ \beta_1,\ \beta_2,\ \beta_3,\ \beta_4$ are parameters to be estimated.

Model 2:

$$HDV = \delta_0 + \delta_1 REM + \delta_2 FDI + \delta_3 GOX + \delta_4 EXR + \mu_2 \quad 2.4$$

Where:
HDV = Human capital development

μ_1, μ_2 = Error terms

The study data were obtained from the Nigerian Central Bank bulletin, Bureau of Statistics, and the World Development Indicators 2022.

3. Result and Discussion

3.1 Unit Root Test Result

The unit root tests result as revealed in Table 1 showed GDPPC, HDV, REM, FDI, GOX and EXR were all integrated of order 1. This implies that the variables are stationary at first difference. The ramifications of the unit root test results are that all the tried time series variables (*i.e.*, GDPPC, HDV, REM, FDI, GOX and EXR) are coordinated of order one, that is I(1).

Table 1. Augmented Dickey-Fuller (ADF) unit root tests result

Variables	ADF Statistics		Remark
	Level	First Difference	
GDPPC	0.353498	-26.80881**	I(1)
HDV	0.129244	-5.516743**	I(1)
REM	0.187184	-4.926507**	I(1)
FDI	2.115634	-4.632275**	I(1)
GOX	-0.636034	-7.518593**	I(1)
EXR	3.902410	-5.096167**	I(1)

Source: Author's computation with output from EViews

3.2 Co-integration Test Results

The Johansen test is carried out since the time series variables (GDPPC, HDV, REM, FDI, GOX and EXR) are of order of integration one (*i.e.*, I(1)).

Table 2. Cointegration test results for model one

Hypothesized No. of Cointegrated Equation(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	Probability Value**
None *	0.731281	143.2576	69.81889	0.0000
At most 1 *	0.678439	92.00813	47.85613	0.0000
At most 2 *	0.568658	47.75999	29.79707	0.0002
At most 3	0.312332	14.96669	15.49471	0.0599
At most 4	0.009268	0.363153	3.841466	0.5468

Source: Author's computation with output from EViews.

From Table 2, it can be observed that the trace indicated 3 cointegrating equations at a 5% level of significance. In light of this evidence, it suggests a long-run equilibrating relationship between the variables in the GDPPC model.

Table 3. Cointegration test results for HDV model

Hypothesized No. of Cointegrated Equation(s)	Eigenvalue	Trace Statistic	5 Percent Critical Value	Probability Value**
None *	0.814950	157.0546	69.81889	0.0000
At most 1 *	0.630655	91.25648	47.85613	0.0000
At most 2 *	0.573650	52.41150	29.79707	0.0000
At most 3 *	0.362184	19.16421	15.49471	0.0133
At most 4	0.040828	1.625721	3.841466	0.2023

Cointegrating equations at a 5% level of significance indicated
Source: Author's computation with output from EViews

Table 3 shows the trace test statistics indicating 4 cointegrating equations at the 5% level of significance. This shows that a long-run equilibrating relationship exists between the variables that entered the HDV model.

3.3 Regression Result for Model 1

The error correction regression results for GDPPC model in Table 4 provide estimates of short-run and long-run dynamics of the time series variables in the model. The ECM coefficient measures the speed with which the system converges to equilibrium in the long run. The results showed that the coefficient of the one-period lagged value of the error correction term (*i.e.*, ECM(-1)) is properly signed and statistically significant at a 5% level of significance. The negative sign of the coefficient of the ECM(-1) indicates that the adjustment is in the direction of restoring the long-run relationship. The magnitude of the ECM(-1) coefficient (*i.e.*, 0.78) shows that the speed of adjustment is quite high as about 78% of the disequilibrium is corrected annually.

Table 4. Estimated error correction model for GDPPC

Dependent variable: $\Delta \widehat{GDPPC}_t$

Regressors	Coefficient	Standard Error	t-Statistic	Probability
Intercept	10330.49	4942.176	2.090272	0.0441
ΔREM_t	43.72410	14.89031	2.936413	0.0031
ΔFDI_t	32.34611	9.977320	3.241963	0.0002
ΔGOX_t	5.266131	1.633207	3.224411	0.0017
ΔEXR_t	-0.865828	0.904463	-0.857284	0.4504
ECM_{t-1}	-0.776762	0.096458	-8.052852	0.0000
$R^2 =$ 0.79				D.W = 2.04
$\bar{R}^2 =$ 0.76				F-Stat = 26.16814 Prob = 0.000000

Source: Author's computation with output from EViews

The respective signs of the short-run variables in the error correction model for GDPPC conformed to the a priori expectations. With the exception of the exchange rate, all other explanatory variables (*i.e.*, personal remittances, foreign direct investment and federal government expenditure) impacted positively and significantly on GDP per capita in the short-run. The positive coefficients of REM, FDI and GOX imply that a percentage change in personal remittances (REM), foreign direct investment (FDI) and federal government expenditure (GOX) on average, increases per capita GDP by 43.72%, 32.35% and 5.27% respectively. Conversely, the negative coefficient of EXR suggests that a percentage change in exchange rate (EXR), on average, reduced the GDP per capita by 86.58 percent. The adjusted coefficient of determination showed that the estimated error correction model has a good fit as about 76% of the variation in GDP per capita was explained.

3.4. Regression Result for Model 2

Results for HDV in Table 5 showed that the coefficient of the one-period lagged value of the error correction term (*i.e.*, ECM(-1)) is statistically significant at a 5% level of significance. The magnitude of the ECM(-1) coefficient (*i.e.*, 0.92) indicates that the speed of adjustment is quite high as about 92% of the disequilibrium is corrected annually.

Table 5: Estimated error correction model for HDV

Dependent variable: $\Delta\widehat{HDV}_t$

Regressors	Coefficient	Standard Error	Statistic	Probability
Intercept	0.057747	0.009159	6.304667	0.0000
ΔREM_t	6.411138	2.725653	2.352148	0.0040
ΔFDI_t	5.947415	1.104695	5.383762	0.0000
ΔGOX_t	7.590625	1.930845	3.931245	0.0004
ΔEXR_t	-0.001280	0.000448	-2.859330	0.0072
ECM_{t-1}	-0.922134	0.037530	-24.57027	0.0000
$R^2 = 0.95$				D.W = 1.95
$\bar{R}^2 = 0.92$				F-Stat = 122.7726 Prob = 0.000000

Source: Author's computation with output from EViews

The signs of the short-run variables conformed to the a priori expectations. Personal remittances (REM), Foreign Direct Investment (FDI) and Federal Government Expenditure (GOX) impacted positively and significantly on Human Capital Development (HDV) in the short run. Thus, a percentage change in REM, FDI and GOX on average, increased the HDV by 6.41%, 5.95% and 7.59% respectively. As REM and FDI increase, the receiving households will have other streams of income and could engage in other productive activities and employment. This agrees with the study by Minta *et al.* (2015), Pradhan *et al.* (2015) and Ehinomen (2019) who posit in their works that remittances and FDI are related to employment and quality of life. On the other hand, the Exchange Rate (EXR) negatively but significantly impacted on HDV such that a percentage change in EXR, on average, significantly reduced HDV by 0.13 percent.

Conclusion and Recommendation

The analyzed economic development determinants such as personal remittance and foreign direct investment have emerged as an important component of foreign capital inflows needed for economic development. The study findings showed that personal remittances and foreign direct investment respectively impacted positively and significantly on economic development. This is an indication that in the long run, personal remittances and FDI improvements can stimulate the developmental needs of Nigeria.

Based on the above evidence, the study recommends that the government should remove the restrictions on remittances by reducing the transaction cost incurred in remitting money from foreign country, for example, fees for transferring and receiving countries such as Western Union, consequently bringing down the overall inflow of remittances. Remittances likewise come in types of tangible products which further braces the need to eliminate restrictions on remittance as implanted in emigration laws. It additionally recommended government exploiting the benefit of these inflows in stabilizing the unpredictability of the exchange of the domestic currency. It further recommends that government ought to improve on the investment climate for existing and potential foreign investors such as the regulatory frameworks on FDI and relaxing the strict laws on profit repatriation. This will spur existing foreign investors to increase their investments as well as attract new foreign investors. Government could improve the business environment by curbing security challenges, social unrest and corruption practices.

Credit Authorship Contribution Statement

Authors have contributed equally to this work.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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