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Diaspora Remittances and Human Capital Development in Nigeria

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ABSTRACT

A research examined Diaspora Remittances, the acclaimed developmental financial means and the development of human resources in Nigeria. The data collected for this study was sourced from World Bank World Development Indicator data base and the Global Economy.com. The data that spanned through 1981 to 2021 were analyzed using ordinary least square estimation technique. Various robustness checks were also performed to ascertain the validity of the included variables. It was revealed that diaspora remittances exact a positive and significant effect on the quality of the residual domestic human capital. It was therefore recommended, among others, that fund transfer be made easier and cheaper to enhance larger inflows especially through formal channels and that government should put in place social infrastructural facilities, such as improved social amenities and adequate security measures, and many more, that will encourage migrants to return home after some years of stay to allow for more improvement in human capital through brain-gain.

Keywords: *Brain-Drain, Brain-Gain, Diaspora, Human Capital, Remittances*

INTRODUCTION

The general believe in an economy is that brain-drain, especially in developing economies, is detrimental to economic development. Of recent, this assertion has generated a lot of controversies as some believed that brain-drain and corruption cause problem for the economy and lack of human resource and economic development (Adeagbo, 2015). Some scholars are of the notion that it leads to brain-gain and that the remittances of the diaspora serve as one of the veritable means of financing developmental projects in third world countries. However, specific stands have not been taken as to how these remittances impacted on human resources of the country of origin of the diaspora.

The spreading of Africans especially during the Trans-Atlantic slave trade has brought about the formation of African communities in many parts of the Western world which, nowadays, brings about the formation of African communities in Europe, America, the Caribbean and even in Latin America. The word Diaspora first came into lime light in the bible during the Jewish movement as it is used to refer to dispersion of Jews. Seeing that Africans have suffered the same fate later, the Africans dispersed outside Africa have appropriated the term, although the dispersal, this time around, is mostly voluntary in search for better living standard.

Since the early 90's, there has been a significant increase in the international migration which is characterized by increased youth population. This global trend of international migration is rising especially in the present time and its effect on both the host and home country has become a continuous pursuit of research exploration. This increased migration has thus become an integral part of globalization making the present epoch to be referred to as the diaspora age. Indeed the available data from the World Bank data on population as well as the migration data from the United Nations parades the active population in Africa among the highest emigrants to developed OECD countries in the world (OECD, 2015; United Nations, 2017). This has been traced to their underdeveloped nature coupled with poor infrastructural facilities which causes setback for the countries growth process. Diaspora has thus been taken as a reliable instrument that can aid development due to their diverse nature. The meaning of the term "development" becomes clearer with the understanding of the term "economic growth" (Adeagbo and Adeleke, 2021). To this end mobilizing and reconnoitering the potentials of those oversea emigrants are of fundamental interest for emerging nations. This thus calls for what we referred to today as Diaspora Remittances.

According to IMF, Diaspora remittances represent emigrants' income from foreign economies moved to their home country which can be as a result of temporary or permanent movement of people to those economies. It is a form of autonomous transfer on the current account of the country's balance of payment. They are transfers either in-kind or cash by migrants from an overseas resident to their relatives, households or friends in their home countries (GMDP, 2020). Diaspora remittances are of two types; the one to family members at home by their people living and working at the country of emigration (workers' remittances) and the one by those who are there majorly with the intent to return home shortly and invest, this is majorly referred to as migrants remittance (Lotto & Alao, 2016). These infer that diaspora remittances have both human capital development as well as investment financing potentials which makes it not just a push-over factor in the developmental process of an emerging economy (World Bank, 2020).

The Federal Government of Nigeria in her recognition of this strategic importance of Diasporas, especially those that are of Nigeria descent, established the Nigerians in Diaspora Commission (NIDCOM) bill and signed it into law in July 2017. The law was set up to engross and utilize the human capital and material resources of this demography for the development of socio-economic, cultural and political situation of the country while in 2019, July 25 of every year was set aside in commemoration of the day with the appointment of Mrs. Abike Dabiri-Erewa as the first chairman and chief executive officer of the commission.

As reported by Gelb, Kalantaryan, McMahon and Perez-Fernanz (2021), a sum of $702b was received as diaspora remittances worldwide in the year 2020 of which $17.2b came to Nigeria thus substantiating the importance of diaspora remittances by the federal government of Nigeria. These amounts constitute receipts from exports of human capital and it depends majorly on the quality of the country's human resources exported. There has been a continuous rise in the remittances over the years as $19.7b was remitted in 2016 with an increase of $2.3b recorded over this in 2017. The amount also rose to $25.1b in 2018 before the Covid-19 lockdown which causes a drop in the remittance and latter pick up of recent (GMDP, 2020). The contribution of the diaspora remittances to the country's economic growth has surpassed that of oil proceed as well as that of the Official Development Assistance (ODA) and Foreign Direct Investment as it encompasses both human resource and business cum economic contribution. Successive Nigerian government in the past decades till the present have been complaining of the loss incurred through subsidy payment on oil which have call for a total removal by the present administration of President Bola Ahmed Tinubu.

However, some scholar still alluded to the fact that the massive movement of human capital to overseas countries have caused brain drain rather than brain gain hence whether the diaspora activity is human resource development cum economic growth driven or not needs to be discussed. According to Adeagbo and Adeleke

(2021), massive movement of human capital to overseas constitutes capital flight and reduces the dynamics of economic growth and development in Nigeria.

Evidence abound from scholarly research reports that about 70% of the remittances by the diaspora to Nigeria economy is spent on consumption and only a negligible percentage, say 30%, is invested (Fonta, Ayuk, Chukwu, Onyukwu, Agu, & Umenwa, 2015; GMDP, 2020; Osinbajo, 2021) but the proportion that is spent on human resource development still remain imprecise. Education, which has been classified as consumption for the purpose of national accounting, is often considered as investment on other occasions as they provide future return to the nation and the individuals themselves (Gelh, Kalantarryan, McMahon & Perez-Fernandez, 2021) but most educated Nigerians, due to unemployment and search for better living standard, move out of the country. Do we now say this has a positive effect on the country's economy in terms of its growth potentials?

The impact of brain drain on developing economy has thus been a controversial issue with two basic opposing paradigms. The first posit that brain drain is unfavorable in terms of the contribution of the emigrants to the gross domestic product of their country as lots of valuable human capital are lost to the country of emigrants (Bhagwati & Hamada, 1974; Miyagiwa, 1991; Haque & Kim, 1995; Docquier & Rapoport, 2012). Scholars with this notion is of the believe that emigrants with a higher average education and income level causes reduction in GDP per capita and considerable shortfall in the human capital that remain in the economy of his country. This has been backed up by the endogenous growth theory which emphasizes the fundamental role of education in enhancing economic growth (Lucas, 1988).

The second prototype is positive in nature as it explains the financial remittance effect by the diaspora to their home country and/or their possible returns through the dissemination of social and institutional norms conducive to development; this is carried out through their participation in scientific, political and business networks which engender capital flows and technology transfers that aid growth and development (Mountford, 1997; Stark, Helmenstein & Prskawetz, 1997; 1998; Vidal, 1998; Meyer, 2001; Kerr, 2008; Rapoport, 2010; Docquier, Lodigiani, Rapoport, & Schiff, 2016). Based on these two diverse views, a stand needs to be taken on whether the proceeds from manpower exports exert a positive impact on the development of labour force and hence the growth of the emigrants nation or the contrary.

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This study majorly aims at ascertaining the effect of diaspora remittances on the development of human resource in Nigeria. Specifically, it aims at:

i. Measuring the effect of diaspora remittances on human capital development in Nigeria
ii. Appraising the contribution of national savings to human capital development in Nigeria, and,
iii. Evaluating the effect of brain drain on human capital development in Nigeria.

Research Question

Based on the objectives of this research work as highlighted above, the following research questions were set to guide the focus of the study

i. Of what effect are diaspora remittances on human capital development?
ii. Do national savings contribute to human capital development in Nigeria?
iii. What is the impact of emigration on human capital development in Nigeria?

Research Hypothesis

The following hypotheses were formulated for testing:

$H_0 1$: There is no positive effect of diaspora remittances on human capital development in Nigeria.
$H_0 2$: National Savings does not contribute positively on human capital development in Nigeria.
$H_0 3$: There is no positive effect of emigration on human capital development in Nigeria.

Empirical Literature

There are only few empirical studies that have analyzed the relationships between the diaspora remittances and human capital development in Nigeria. Most even view it vis-à-vis their effect on economic growth of which human resources is a pivot. For instance, Glytsos (2005) analyzed the effect of remittances on investment, consumption, import and output using a sample of five countries. He estimated the short and long run multiplier of remittances. From his findings it was revealed that reducing remittances have a greater effect than increasing it.

Chami, Fullenkamp, and Jahjah (2003) examine the effect of diaspora remittances on economic growth through workers' productivity using aggregate remittance data between 1970 and 1988 for a sample of 83 countries. Variables employed in the study include the growth rate of GDP per capital on workers' remittances, investment to GDP ratio, inflation rate, ratio of net capital flows to GDP, as well as regional dummy. All these were regressed on one another. In other to capture the dynamic nature of private transfers, the researcher replaced workers' remittances to GDP ratio with a change in that ratio. From the findings, it was observed that investment and GDP ratio exert a positive effect on economic growth while a negative relationship was discovered in changes in workers' remittances to GDP ratio and economic growth.

In a related study, the International Monetary Fund in the year 2005 used data from 1970 to 2003 for 101 countries with an aggregate of workers' remittances, compensation of employees and migrant transfers, which are the sum total of three components of balance of payments, serving as independent variables in addition to logarithm of initial income, education, logarithm of life expectancy, investments, inflation rate, balance budget, trade openness and financial development. In the study the effect of distance between the migrants' home and main destination country is also considered as a factor that affect remittances in addition to language differences between the home country of the migrant and the country of emigration. Findings from the study exposed that there is no statistically significant link between real per capita GDP growth and remittance.

Guiliano and Ruiz-Arranz (2009) on a sample of 73 countries between 1975 and 2002 investigate how remittances on workers' productivity influence economic growth using workers' remittances, compensation of employees and migrant transfers as the aggregate measure of remittances. It was revealed that a strong and robust relationship exist between remittances and economic growth of the migrant's country. Loto and Alao (2016) employed the vector error correction method to examine the effect of workers' remittances on the economic growth of a nation. They found out that workers' remittances exert a positive long run effect on the economic growth of the migrant's nation.

Nwaka (2021) in a study on emigration and human capital development in developing countries reports that there exists an inverse relationship between brain drain and human capital development in the long run and this even causes occupational distortion. A critical examination of the reviewed literature shows no consensus in the effect of diaspora remittances on human capital development, study

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revealed that there exists no statistically significant link between human capital development and remittance while others report positive relationship hence the need for this study.

METHOD

This research work employed a multiple regression statistics in its data analysis with the adoption of Ordinary Least Square (OLS) method to test the effect of the independent variables on the dependent variable. The OLS technique is adopted because of its Best Linear Unbiased Estimator (BLUE) property and its intrinsic assumption. Time series data which covered the period between 1981 and 2021 were used in the study and they are entirely secondary data. The data were obtained from World Bank World Development Indicator data base and Global Economy.com. All data are used as transformed variables.

Model Specification

Following from the above, the model below was used for the general estimation of the study

$$HDI_t = \beta_o + \beta_1 lnDRS_t + \beta_2 lnTNS_t + \beta_3 lnHCF_t + \mu \quad \ldots\ldots\ldots\ldots\ldots \text{(i)}$$

with
HDI = Human Development Index (Proxy for Human Capital Development)
DRS = Diaspora Remittances (taking as a percentage of GDP)
TNS = Total National Savings (as a percentage of GDP)
HCF = Human Capital Flight (Brain drain representing emigrant's population)
μ = the error term
on the a priori $\beta_o > 0$, $\beta_1 > 0$, $\beta_2 > 0$, $\beta_3 < 0$

To improve the reliability of the study, stationarity tests as well as cointegration tests (to examine the long run relationship between dependent and independent variables) were carried out using Augmented Dickey Fuller and autoregressive distributive lag (ARDL) bound test for each respectively. Conclusively, an OLS estimation technique was used to determine the contribution and significance of each explanatory variable included in the model.

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RESULTS AND DISCUSSION

In order to avoid the problem of spurious regression a unit root test was carried out using Augmented Dickey Fuller unit root test procedure (with constant and trend) as conducting regression analysis on non-stationary variable can lead to fallacious regression. The test was based on the null hypothesis which states that there is no unit root. The result of the analysis is presented as follow:

Table 1: Unit Root Test

Variables	ADF	1%	5% Critical Value	10% Critical Value	Order of Integration
HDI	-8.0791	-3.6330	-2.9510	-2.6144	I(1)
DRS	-3.6937	-3.6330	-2.9510	-2.6144	I(1)
TNS	-5.4636	-3.6611	-2.9601	-2.6160	I(1)
HCF	-6.0411	-3.6530	-2.9510	-2.6134	I(1)

Source: Author's Computation, 2023

Table 1 depicts the stationarity test for the variables employed during the period of investigation. From the result, it shows that all the variables are stationary at first order of integration hence OLS analytical method is adequate.

Table 2: Co-integration test Result
Sample (adjusted): 1981-2021
Included observations: 41 after adjustments
Trend assumption: No deterministic trend
Series: HDI DRS TNS HCF
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.6937	80.5033	41.8513	0.0000
At most 1 *	0.6572	41.6360	26.7807	0.0005
At most 2	0.2743	10.3007	15.4671	0.2390
At most 3	0.0007	0.0226	3.8456	0.7804

Source: Author's Computation, 2023
Trace test indicates 2 cointegrating equations at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

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From table 2, the Cointegration tests include Human Development Index (HDI), Diaspora Remittances (DRS), Total National Savings (TNS), and Human Capital Flight (HCF). The test statistics strongly reject the null hypothesis in favour of two co-integration relationship. The result of co-integration test shows that there is a long run relationship between the variables employed.

Table 3: Regression Result
Test Equation:
Dependent Variable: HDI
Method: Least Squares
Date: 12/27/23 Time: 08:37
Sample: 1981 -2021
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.7483	12.5305	13.2106	0.003
DRS	5.5175	1.3931	4.1600	0.002
TNS	-0.2092	0.0909	-0.0291	0.007
HCF	-0.8135	0.0321	6.3201	0.000

R-squared	0.8402	Mean dependent var	360.2382
Adjusted R-squared	0.8251	S.D. dependent var	200.8263
S.E. of regression	86.4007	Akaike info criterion	11.8107
Sum squared resid	2219.9	Schwarz criterion	12.0064
Log likelihood	-167.7402	Hannan-Quinn criter.	10.9221
F-statistic	60.0841	Durbin-Watson stat	0.4262
Prob(F-statistic)	0.0000		

Source: Author's Computation, 2023

From the result in table 3, a positive relationship exists between the constant related to HDI and was significant with probability values of 0.003. Diaspora Remittances showed a positive relationship with human capital development and was statistically significant at 5%. Total national savings which is also an important variable was negatively related to human capital development and was significant with probability value of 0.007. Human capital flight which was also an important factor that determines the growth of human resources in an economy was negatively related to human capital.

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The R^2 value of 0.84 implied that 84% variation in human capital development was explained by diaspora remittances, total national savings and human capital flight, while the adjusted R^2 value of 82% shows a goodness of fit for the regression. The measure of joint effect of the explanatory variables as indicated by the F statistics probability value of 0.000 at 1% indicated that the model is statistically significant. Thus, it can be concluded that DRS, TNS and HCF are not a push-over factor in the determination of HDI in Nigeria. The model also showed that positive effect among the variables as the Durbin-Waston result shows a value of approximately 0.42 which is within the acceptable region. Akaike information criterion and Schwarz criterion show 11.8 and 12.0 respectively. For the reliability of the result and to correct the problem of autocorrelation in the regression result, the study makes use of another statistical procedure called Breusch-Godfrey test.

Table 4: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	37.11826	Prob. F(1,29)	0.0000
Obs*R-squared	19.08733	Prob. Chi-Square(1)	0.0000

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 12/27/23 Time: 08:37
Sample: 1981-2021
Included observations: 41

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	43.4344	110.1072	0. 3556	0.6295
DRS	0.4544	0.9031	0.3017	0.6198
TNS	-0.0364	0.4201	-0.0589	0.9536
HCF	0.0903	0.186058	0.4893	0.6278
RESID(-1)	0.7061	0.127800	6.0926	0.0000

R-squared	0.6993	Mean dependent var	-6.19E-14
Adjusted R-squared	0.6789	S.D. dependent var	62.4205
S.E. of regression	58.9304	Akaike info criterion	10.1015
Sum squared resid	8233.80	Schwarz criterion	10.3221
Log likelihood	-166.7097	Hannan-Quinn criter.	10.1730
F-statistic	9.2065	Durbin-Watson stat	1.3497
Prob(F-statistic)	0.00051		

Source: Author's Computation, 2023

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The result gives the probability value of pro f(1,29)=0.000, and pro chi-square(1)=0.000 which is significant at 5% and move against the Durbin Watson the test of positive serial correlation. However, the Breusch and Godfrey test shows absence of serial correlation.

From table 3, the statistical significance of the coefficients, t-values and the related probability values of the human development index variables included in the model are used to test the various hypotheses relating to each variable. The hypotheses so tested vis-à-vis the encompassed variables and the domino effect were elucidated underneath:

Ho_1: Diaspora Remittances does not contribute positively to human capital development in Nigeria.
From the result in table 3, it was discovered that *DRS* have positive impacts on human capital development. The outcome showed that a 1% upsurge in diaspora remittances will bring about a 5.51unit upturn in the development of human capital in Nigeria; hence the alternate hypothesis is accepted.
Considering the second null hypothesis in respect of national savings as stated underneath:

Ho_2: National Savings does not contribute to human capital development in Nigeria.
As shown from the result on table 3, total national savings revealed a negative relationship with *HDI* as *lnTNS* have showed a coefficient of -0.2092 and p-value of 0.007 which is less than 5%. This indicate that 1% upsurge in *TNS* will bring about 0.2unit fall in *HDI* hence we accept the null hypothesis and reject the alternate one which says that national savings contribute to human capital development in Nigeria. The result is not surprising since such savings signifies withdrawal from the circular flow of income as they are excluded from spending like educational expenditure, training and re-training expenses, health care spending, etc. which boost human resource development.
As regard the third null hypothesis in relation to emigration, the third variable, as stated beneath:

Ho_3: There is no significant positive effect of emigration on human capital development in Nigeria.
As reflected in the result on table 3, with the coefficient of *HCF* as -0.8135 and p-value of 0.000 it can be deduced that there exist an inverse relationship between *HDI*

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(human capital development) and *HCF (brain drain)* in Nigeria as a 1% rise in the number of emigrant (brain drain) causes 0.8unit fall in human capital development. This may be due to the fact that brain drain (usually best brain) could lead to reduction in the available human capital at home the long run can at the same time bring about occupational distortions as most of the emigrants do not usually wish to return to the country (due to economic hardship in the country, unemployment and frustration, poor infrastructural facilities, etc.). The finding is in agreement with Nwaka, (2021) and Docquier, Lohest and Marfouk, (2007).

Diaspora remittances have been taken to be an important source of development finance especially, for developing countries contingent to the way in which the remittances are utilized. Pan-Africa credit agency and research firm, Agusto & Co says foreign exchange remittance flows into Nigeria will rise to about $26billion by 2025, and will be supported by improved economic conditions in advanced economies (Modestus, 2023). With the case in Nigeria, based on the findings of this study it was discovered that diaspora remittances contribute positively and significantly to the quality of the residual domestic human capital. However, it was discovered that withdrawal from the circular flow of income inform of national savings can affect the development of human capital negatively if not directed to human capital development programs like educational sector, health sector and skill acquisition as the misuse is capable of increasing the low standard migration level which in turn will bring about low remittances. In addition, findings revealed that the rate at which people are leaving the country have a negative effect on the remaining human capital. This might be due to various factors such as frustration, unemployment or underemployment which can make the migrant to find it difficult to remit as expected as he may be faced with hardship caused by frictional unemployment occasioned by job search in the country of migration at the onset which can cause family back home to still leave in penury.

CONCLUSION AND RECOMMENDATIONS

The Diaspora Remittances, the acclaimed developmental financial means and the development of human resources in Nigeria were examined. Based on the findings, diaspora remittances have statistically positive contributions to the development of human capital in Nigeria it was therefore recommended that fund transfer be made easier and cheaper to enhance larger inflows especially through formal channels. To accomplish this, government should provide incentives that will make money transfer cheaper through formal channel as against the use of informal one. This will allow banks and other financial institutions to have access and control to this source of investible capital.

Also the Nigerian Diaspora Commission should be made to be more alive to their responsibility by harmonizing migration policies towards enhancing the welfare of migrants overseas and their dependents back home. In addition, policies that will encourage remittances recipient's households to invest such in education, health and skill acquisition rather than mere spending on consumption should be instituted.

Furthermore, government should formulate policies that will enhance the utilization of diaspora remittances in supporting entrepreneurial activities in the economy as it will go a long way in skill acquisition and development. Also Nigerian government should enter into diplomatic treaties with other countries to reduce their discrimination on the type of employment that can be offered to immigrants as well as the number of hours an immigrant can work as obtained in some countries. Finally, government should put in place social infrastructural facilities, such as improved social amenities and adequate security measures, among others, that will encourage migrants to return home after some years of stay.

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