Remittances and Inclusive Growth Nexus in Nigeria: Does Health-Oriented Official Development Assistance Matter?

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Abstract: For the past few decades, remittances, as a veritable source of foreign capital flow, have impacted the economies of many less developed countries through various channels as recorded in extant literature. However, these flows have been characterized by wide fluctuations occasioned largely by economic downturns migrants host countries with attendant consequences on recipient countries. Thus, this study seeks to investigate the impact of such volatilities in remittances on inclusive growth within the Nigerian context, using the Fully Modified Ordinary Least Square (FMOLS) for the period 2000 to 2018. The result shows that remittance-led economic growth hypothesis was not confirmed, as fluctuations in remittances inflow has negative impact on economic hypothesis as the health-oriented official development assistance impacted positively on economic growth. The study therefore recommends the implementation of relevant policies aimed at mitigating the volatilities in remittances inflow as well as improving on the administration and management of such health aid.

Keywords: Remittance; Official Development Assistance; Volatility; Growth

JEL Classification: F24; F35; 015; H51; J61

1. Introduction

Over the years, migrants' remittances have evolved to form a significant component of external financial flows into developing countries, Nigeria inclusive. Prior to the 1990s, migrants' remittances were narrowly conceived as a source of consumption spending rather than as investment in growth-producing activities. Thus, it was argued that remittances have little or no impact on long-run economic development. In fact, remittances were oriented as capable of generating distortions in the domestic economy as well as stagnating the structural changes that are needed to foster growth (Feiler, 1987; Looney, 1990). Lately however, studies have shown that for countries with high emigrant population, remittance and social implications for poverty, income distribution and economic welfare in a country.

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Thus, the recent consensus is that remittances have growth-enhancing capabilities (Rapport & Docquier, 2005).

In sub-Saharan Africa, remittances have grown remarkably over the years, reaching $32bilion in 2010, $42bilion in 2017 and $48billion in 2019. The 2019 value of $48billion represented about 0.5percent decline over that of 2018 value, driven largely by the corona virus outbreak in those countries where African migrants reside. It is however projected to grow by about 4 percent by 2021 (World Bank, 2020).

In Nigeria, the inflow of workers remittances has grown tremendously in the past four decades in absolute terms though with some measures of variability. For instance, remittances which stood at about $22bilion in 1980 declined to about $4bilion in 1998 before declining to about peaked at $1.57 billion in 2003, but reached a peak of $20.62billion in 2011. From that peak of $20.62 billion in 2011, it declined again to about $19.68 billion in 2016, but rose to about $24.31 billion in 2018. It was estimated to decline to about $23.8billion in 2019.

What becomes evident from the foregoing trend analysis is that, thought remittances inflow to Nigeria have grown tremendously over the past four decades, such growths have been characterized by fluctuations, a development that may have severe consequences on the growth trajectory of the economy.

Another external source of financing that has grown in prominence over the years is Official Development Assistance (ODA) or foreign aid. It is recognized as one of the three major sources of foreign exchange to developing nations. In the advancement of foreign aid to developing countries, three motives are considered as underlying reasons, namely, self-interest of donors, the needs of recipient and recipients merit (Nunnenkamp & Ohler, 2011). According to Easterly (2002) however, the needs of recipient take precedence when it comes to multilateral aid. Though foreign aids are targeted at meeting the needs of recipient, they are however not free gift, given, that while some forms of aid attract marginal interest, others have stringent conditions tied to them. Despite these conditions and financial requirements, foreign aid has continued to flow into these developing nations.

In Nigeria for instance, foreign aid, which stood at US$71.4bilion in 1980 rose to about $346.5billion in 1990. By the year 2000, it declines $231.9billion but rose significantly to $1991.9billion in 2010 and $3056.9billion in 2018 (World Bank, 2020).

Inspite of these increases in foreign aid, their impact on the poor in particular and the economy in general has continued to generate controversies. In the literature on aid, a number of factor have been identified. These range from information asymmetry (Adedokun, 2015) to donor misrepresentation and conflicting interest

(Bodomo, 2013). In view of the foregoing shortcomings of foreign aid, does it still meaningful impact inclusive growth in Nigeria? This study intends to fill this gap.

In all, the present study extends the current literature on the nexus between remittances and inclusive growth in three importance ways. First, the study attempts to account for the fluctuations in remittances by reutilizing the generalized autoregressive conditional heteroskedasticity (GARCH) approach a technique which models volatility as conditional on past behavior (Bollerslev, 1986). Taking cognizance of the likely impact of such fluctuations in the estimation process will help produce results better inform policy decision making. Second, though the literature on the nexus between remittances and growth in Nigeria quite available (Oshota & Badejo, 2015; Loto & Alao, 2016; Olusuyi, Adedayi, Gwan & Ebun; 2017); however, empirical studies on the role of official development assistance inflows in remittance-inclusive growth relationship is scanty. It is hoped that the finding from this study will shed some light on the convoluted relationship between fluctuations in remittances, official development assistance and inclusive growth trajectory with a view to aiding informed policy decisions in Nigeria and other African nations with similar development profile.

Third, the study utilizes the Fully Modified Ordinary Least Square (FMOLS) estimation technique, which allows for the estimation cointegration relations directly while accounting fore serial correlation occasioned by unit roots and system audogeneity caused by cointegration.

2. Review Literature

2.1. Conceptual/Theoretical Review

The economic literature is replete with a number theoretical models aimed at explaining the motivation of migrants to remit. These theoretical models can be broadly classified into two strands, namely, the individual models and the fairly models. At the individual level are the pure altruism model and the self-interest model. At the family level, there are two models that represent contractual agreements largely between the family and the migrants, viz; implicit contract of loan repayment and that of co-insurance.

According to the altruism model, migrants remit money home in order to improve the consumption level of their families. The intention of the migrants in this regard is to improve the general welfare of their families. They do this by incorporating the family's utility into their own utility (Lucas & Stark, 1985; Rapport & Docquier, 2005). Following Kaasschieter (2014), this theory has three underlying assumptions. First, how much the immigrants can remit home depends on his level of income viz, the higher his income, the more money he can remit. Second, the

higher the income level of the migrants family back home, the lesser the remittance and vice versa. Lastly, the level of attachment between the migrant and his family in the origin country, thus, the higher the level of attachment, the grater the remittance. The self-interest model of remittances sees the family as a business unit. Here, the migrant see his family members as trustworthy agents who can help manage his investments (e.g. land, captle or relatives at home while he is away. According to Rapport and Docquier (2005), such arrangements tend to signal desire to return home in the foreseeable future.

On the other hand, the implicit family contractual agreement model as proposed by Lucas and Stark (1985) is implicit contractual arrangement aimed at increasing family income. This implicit family loan repayment contract has both elements family. The investment may take the form of lending by parents to their children by way of financing their education and/or the cost of migration the repayment of the loan and interest start through remittance that the migrant remits when he finally settle in the host country. However, unlike in the altruism model, migrants' remittances may not decline over time, given that part of such remittances may be utilized to future generation migration coss. The co-insurance theory as proposed by the New Economics of Labour Migration (NELM) is another for of contractual agreement where the migrants transfer a portion of savings home the support their families they left behind in the face of shocks or economic downturns. These families in the home country may have invested in the initial education and livelihood of the migrants before their migration to their host country. A co-insurance arrangement of this sort tends to be of mutual benefit to the migrants as well as their family of origin. According to Azan and Gubert (2005), this co-insurances agreement not only helps to reduce risks and economic uncertain but also helps to raise the family revenue level of diversifying the available income sources.

2.2. Empirical Review

A number of empirical studies have been conducted to ascertain the impact (that is, the magnitude and direction) of migrants remittances on the economic growth, that is, with an increase in remittance into an economy, economic growth increase as well. in the regard Solimano (2003), Glystos (2005) World Bank (2006), Fullenkamp, Gapen and MoatielChami, Barajas, Cosimano (2008), Fayissa and Nsiah (2010) all establish a positive relationship between remittances inflow and the economic growth of the migrant's home country.

Specifically Ahmad (2015) examined the impact of workers remittances on the economic growth of Jordan using the Ordinary Least Square approach. The finding suggests that workers remittances have a positive impact of the economy of Jordan within the period under consideration.

Meyer and Shera (2017), using panel data set of six countries for the period 1999-2013, examined the impact of remittances on economic growth in those countries. The result revealed that remittances have a positive impact on economic growth in those countries.

Also, Olusuyi, Adedeji, Giwa and Ebun (2017) investigated the dynamics impact of remittance on economic growth within the Nigerian context using the generalized method of moment (GMM) estimation technique. The result confirmed the positive impact of remittances on economic growth. Specially, a unit increase in remittance caused the GDP to rise by about 0.7817 units.

Conversely, studies such as Aggarawal and Spatafora (2005), Barajas, Chami, Fullenkamp, Gapen and Montiel (2009), Nyamongo, MisatiKipyegon, and Ndirangu (2012) failed to establish a positive relationship between remittances and economic growth. Specialifically, Gini (2013) examined the role of remittances on economics growth in Central and Eastern European (CEE) countries for the period of 1996-2001. The result confirmed the negative effect of remittances on economics growth in four South Asian emerging economies for the period 1997-2016, utilizing balanced panel data. The result revealed that remittance impacted negatively on three of those four countries, namely, Bangladesh, Pakistan and Sri Lanka.

In a country-specific study, Anetor (2019) studied the nexus between remittances and economic growth in Nigeria. The result confirmed the negative impact of remittances on economic growth in Nigeria, both in the short-run and long-run.

However, studies such as Rao and Hassan (2011) on the impact of remittances on economic growth for forty countries over the period of 1960-2007 reported that remittances had no significant impact on the economies of those countries in the study.

3. Methodology

3.1. Data

The study utilized annual time series data covering 2000 and 2018. These data were obtained from the Central Bank of Nigeria (CBN) statistical Bulletin and the World Bank (World Development Indicators). The period (2000-2018) was chosen because of non-availability of data for health-oriented official development assistance before 2000.

We measure the volatility in remittances by employing the generalized autoreggresie conditional heteroskedasticity (GARCH) approach, with its high predictive power (Igbinedion, 2019).According to Bollerslev (1986), GARCH is an approach which models volatility as conditional on past behaviour. In this study,

the best fitting time series GARCH (11) model was obtained based on the Akaike Information Criteria (AIC).

3.2. Model

Essentially, the level of migrants remittance flow depends critically on a number of contending factors, namely the migrants monetary capability (measured by their levels of income and savings), expected duration of study in their host countries, migrants family situation at home and migrants' network (Organization for Economics Co-operation and Development 2006). Thus, thought there exists a number of motives behind migrants decisions to remit money to their home country (see sub-section 2.1 for details), no single, generally accepted theory of remittances exists (Stark, 1991).

Thus, drawing on the theoretical underpinnings in sub-section 2.1 and the review of the remittances-growth nexus as contained in sub-section 2.2, we specify the empirical model for Nigeria remittance-growth nexus, taking into cognizance the health-oriented official development assistance. In other words, we specify a simple model with four covariates, including health-oriented official development assistance (ODA) as follows:

$$RGDP_t = \alpha_0 + \Psi_1 REM_t + \Psi_2 HODA_t + \Psi_3 PCI_t + \Psi_4 TGHE_t + \sum_t \quad (1)$$

Where:

α_0, Ψ_1, ..., Ψ_4, are the parameters to be estimated, it is the Gaussian white noise. RGDP is the real GDP, REM is remittances as a percentage of GDP; HODA is health-oriented official development assistance (another form of mute national capital flow), PCI is the per capita income, while TGHE is total government expenditure on health (% of GDP).

However, given the possibility of occurrence of long-run endogeneityin the variables as contained in equation (1), the study utilized the Fully Modified Ordinary Least Squares (FMOLS) method of Phillips and Hansen (1990).

This approach makes it possible to estimate the co integrating relations directly while taking cognizance of likely serial correlation from unit roots and system endogeneity occasioned by co-integration.

4. Results and Discussion

4.1. Summary Statistics

The summary statistics of the variables and their characteristics are presented in Table 1A. From the results, health-oriented official development assistance (HODA), per capital income (PCI), personal remittance received (REM), real gross domestic product (RGDP) and total government health expenditure (% of GDP) (THE) had their average values reported as 2.3, 2095.43, 14.94, 334.94. Also, per capital income, personal remittances received, and real gross domestic product exhibited negative skewness, while health-oriented official development and total government health expenditure were positively skewed in their behaviour similarly, HODA has excess kurtosis value, implying a leptokurtic trend, while PCI, REM, RGDP and THE were platykurtic in their distributions. Likewise, the Jaquebera statistic revealed that, all the series (except HODA) were normally distributed in the period under review.

Tabel 1a. Summary Statistics

Statistic	Health-Oriented Official Development Assistance	Per Capita Income	Personal Remittances received	Real Gross Domestic Product	Total Government Health Expenditures (% of GDP)
Mean	2.39	2095.43	14.94	334.94	0.58
Std. Dev.	2.58	383.71	8.54	104.39	0.14
Skewness	2.39	-0.48	-0.90	-0.12	0.54
Kurtosis	8.68	1.94	2.05	1.61	2.54
JarqueBera	43.63	1.62	3.30	1.58	1.08
Probability	0.00	0.45	0.19	0.45	0.58
Observation	19	19	19	19	19

Source: Author's computation from the underlying data (2020).

4.2. Stationary Test

Several studies such as Grauger and Newbold (1997), Quah (1994) as well as Maddala and Wu (1998) have asserted that most time series variables do not trend in a stationary fashion over time. Thus, employing such data in regression analysis could result in spurious results. Against this backdrop, the study examined the stationary status of the variables utilized, using the Augmented Dickey-Fuller (ADF) and the Phillips-Person tests. The results from those unit root tests showed that all the series were stationary at first difference. This party informed the choice of estimation technique employed in the study. Table 1b gives the unit roof test results.

Tabel 1b. Unit Root Test Results

Series	t-stat	1% level	5% level	10 % level	t-stat	1% level	5% level	10%level	Order of Integration	Remark
	Augmented Dickey Fuller Test Statistic at Levels				Augmented Dickey-Fuller Test Statistic at First Difference					
HODA	-2.80	-3.86	-3.04	-2.66	-4.20	-3.89	-3.05	-2.67	I (0/1)	Stationary
PCI	-2.95	-3.86	-3.04	-2.66	-3.54	-4.62	-3.71	-3.30	I (0/1)	Stationary
REM	-1.39	-4.57	-3.69	-3.29	-4.30	-4.80	-3.79	-3.34	I (1)	Stationary
RGDP	-1.77	-3.89	-3.05	-2.67	-4.46	-4.67	-3.73	-3.31	I (1)	Stationary
THE	-2.24	-4.57	-3.69	-3.29	-4.86	-4.67	-3.73	-3.31	I (1)	Stationary
Series	**Phillips-Person Test Statics at Level**				**Phillips-Perron Test Statistic**				**Order of Integration**	**Remark**
HODA	-2.58	-3.86	-3.04	-2.66	-6.98	-3.89	-3.05	-2.67	I (1)	Stationary
PCI	-1.31	-4.57	-3.69	-3.29	-3.56	-4.62	-3.71	-3.30	I (1)	Stationary
REM	-1.39	-4.57	-3.69	-3.29	-3.41	-3.89	-3.05	-2.67	I (1)	Stationary
RGDP	-0.51	-4.57	-3.69	-3.29	-7.73	-4.67	-3.73	-3.31	I (1)	Stationary
THE	-2.06	-4.57	-3.69	-3.29	-6.31	-4.62	-3.71	-3.30	I (1)	Stationary
I (O)	-Stationary at level, I (1) – Stationary at first difference									

Source: Author's computation from the underlying data (2020)

4.3. The Fully Modified Least Squares Estimates

Essentially the assessment of the impact of fluctuations in remittances on inclusive growth was accomplished using the fully modified least square as reported in table 1c. From the result, the coefficient representing fluctuations in personal remittances received was negative and statistically significant at 1% level, suggesting that wide fluctuations, in remittances received occasioned by say economic downturns or other forms of economic shocks in migrants host countries have negative impact on the growth of recipient economy especially where such changes are large and of longer duration. This finding is in consonant with result from studies by Singh, Lee and Haacker (2009) and De, Islamaj, Kose and Yousefi (2016). Thus, much as remittances may well cushion volatility of consumption or financial constraints of remitters as contained in extant literature, wide and prolonged swings in such inflow of remittances ay inhibit investment level and by extensions, the economic growth trajectory of the home economy. Thus, there is need for implementing policies aimed at cushioning negative shocks from such educations on inclusive growth of the economy.

Conversely, health-oriented official development assistance (HODA) exerted positive and statistically significant (1%) impact on inclusive growth in Nigeria. Thus, a unit increase in HODA received will, ceteris paribus, enhance growth by about 10.63units. This implies that, as the average HODA increases, the average health status of individuals will improve a development that may enhance the labour force and enable them to contribute meaningfully to national growth and development. This result is consistent with those of Mishra and Newhouse (2009) and Negeri and Halemariam (2016), but contrary to that of Williamson (2008). This positive impact of health aid on economic growth via health outcomes suggests the need for improved targeting of such aid as well the procurement of modern health technologies with such foreign aid.

The coefficient representing total government health expenditure was negative, though statistically significant at 1 percent level. This finding tends to negate the health-led growth hypothesis, which sees health as a capital, when invested in, increases income and by extension, the overall economic growth. Studies such as Ogunshipe and Lawal (2011) and Sefa, Siew and Mehnet (2015) tend to corroborate this inverse relationship between government health expenditure and economic growth. This finding tends to confirm the poor health budgeting allocation prevalent in the country over the years. Also, income per capital emerged positive impact on growth of the economy. Specifically, a limit increases in per capital income brought about 0.07 units increase in economy. This implies that as the average income in the economy increases, individuals are able to raise their consumption expenditure an savings levels and by extension, the level of economic growth lastly, the adjusted coefficient of determination value of (R^2=0.75) implies that about 85% of the systematic variations in the model is explained by the four explanatory variables in the model, suggesting a good fit.

Table 1c. Method: Fully Modified Ordinary Least Squares (FMOLS)

Dependent Variable: RGDP

Variable	**Coefficient**	**Std. Error**	**t-statistic**	**Probability**
C	157.19	47.20	3.33	0.01***
THE	-249.99	24.85	-10.06	0.00***
REM	-10.63	1.09	9.72	0.00***
HODA	9.46	1.46	6.47	0.00***
PCI	0.07	0.02	2.77	0.02***
R-squared	0.85	Adj.R-squared	0.75	
Long-run variance	169.55	S.D dependent Var.	99.16	

**(***) imply significant at 5% (1%), respectively.

Source: Author's computation from the underlying data (2020)

4.4. RGDP Forecast

In order to further validate the empirical findings as contained in table 1c, it becomes expedient to simulate the actual behaviour of RGDP with changes in personal remittances received, health-oriented official development assistance, per capital income and total government health expenditures this is accomplished by utilizing forecasting procedures with E-view application and the result is reported in Figure 1A. Explicitly, the result indicates that the forecasted real GDP (RGDPFORECAST) remained inside the 2 standard error critical lines, thus validating the strength and accuracy of the forecast. Nevertheless, the relevance of the predication is demonstrated by the Theil inequality index of 0.079. Thus, the nearer the value of this index to zero, the more accurate the forecast technique.

Figure Ia, RGDP Forecast

5. Conclusion

Using the Fully Modified Ordinary Least Squares methodology this study investigate the effect of fluctuations in remittances inflow relatives to other external sources of capital such as health-oriented official development assistance on inclusive growth trajectory in Nigerian economy. The result reveals that vitality in remittances inflow tends to have a negative impact on economy growth within the period under consideration.

On the other hand, health-oriented official development assistance tend to have a positive statistically significant impact on inclusive growth in the economy. Specifically, we found that a unit increase in ODA lead to about 9.46 units increase in the real GDP. Furthermore, total government health expenditure was found to a negative and statistically significant impact on economic growth, a development that tends to negate the health-led growth hypothesis within the Nigeria context, while income per capital exerted a positive impact on economic growth within the same time period.

Arising from the foregoing findings, we make the following policy recommendations.

First, much as the local authorities may not be able to control volatilities in remittances inflows occasioned by economic shocks in migrants host countries, however, policies aimed at regulating high fees charged by financial institutions in the domestic economy will encourage remitters to maintain their remittances even in the face of such economic downturns.

Second, given the significant impact of health-oriented ODA on inclusive growth, there is the need for the implementation of relevant policies aimed at improving the administration and management of aid, thereby curtailing the prevailing high-level

corruption and enthroning probity and accountability in the use of aid. This can be achieved by adopting the bottom-up approach rather than the prevailing top-down approach at all levels.

Third, the health-led growth hypothesis can be realized in the country if the productive base of the economy is meaningfully diversified away from crude oil as that will enhance the revenue profile of the country and, by implication, the budgetary allocation to the health sector in line with the Abuja agreement of 15 percent of the country's GDP as against the 5.3 percent recorded in 2018.

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