

EFFECT OF DIASPORA REMITTANCES ON SERVICES SECTOR OF THE NIGERIAN ECONOMY

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Abstract

This study investigated the effect of diaspora remittances on growth of the services sector in Nigeria. The dependent variable is services sector output while the independent variables were migrant remittances, workers' remittances and exchange rate. The data spanned the period 1990-2022. The data were sourced from the CBN Statistical bulletin 2022 edition and the World Bank Development Indicator Data base 2022 edition. The data were analyzed using the Error Correction Model (ECM) technique. The variables were found to be stationary at first difference and co-integrated hence the adoption of the ECM technique in estimating the model parameters. The result revealed that both migrant and workers' remittances significantly increased growth of the services sector in Nigeria for the period reviewed while exchange rate decreased growth of the services sector. The model estimated a speed of adjustment of 8.7 per cent and a model fitness of 95.8 per cent. The general conclusion is that remittances has increased output of the services sector in Nigeria but the quantum of workers' remittances inflow to the services sector was found to be higher than that of migrant remittances. We recommended the intensification of technical exchange programmes between Nigeria and other advanced of the world which will further enhance investments in the services sector. In addition, unification of exchange rates should be pursued by the monetary authority as this will stabilize the local currency and enhance imports to the services sector especially.

Keywords: Economic growth, error correction model, exchange rate, interest rate, savings rate.

1.0 Background to the Study

There has been increased inflow of remittances to developing countries in the past two decades and Nigeria is at the top of recipients in Africa with over 50 percent of diaspora remittances coming to Nigeria (World Bank, 2021). The World Bank further reported that migrants to developed countries have surpassed the expected number and this trend is followed by an increase in the amount of remittances sent to developing countries by these migrants which achieved a level of over \$4 trillion in 2021 alone (World Bank, 2021). Migrant remittances, according to official statistics, provide a financial flow for developing countries in Africa that is higher than the official development aid (World Bank, 2022). Remittances in developing countries are currently put at 5.3 percent of GDP and this figure is expected to surpass 10 to 20 percent in the near future (Anetor, 2019).

Historically, Nigerians have migrated to the United Kingdom (UK), United State of America (USA) and other countries in Africa since after independence (World Bank, 2021). Nigerians have increasingly emigrated to countries such as Ghana, Cameroon, and particularly wealthier economies such as Gabon, Botswana and South Africa (Adepoju 2011). Since 1994, South Africa has developed as a major destination for migrants from various African countries, among which were many Nigerians. In particular, the skilled have found the booming economy of South Africa to be a convenient alternative to Europe, the United State (US) and the Gulf States (Adepoju 2011).

Nigeria as the highest recipient of diaspora remittances amongst African countries has seen her migrant remittances jump from N80.4 million in 1990 to about N142.1 billion in 2000 reaching N6.289 trillion in 2020. Similar movement was seen in the case of workers' remittances as it increased from N351 million in 1990 to N1.2 trillion in 2000 and N2.938 trillion in 2010 before increasing in multiple to about N10.571 trillion at the end of 2020 (World Bank, 2021). Specifically, in 2018 for instance, the total remittance inflows to Nigeria from both migrants and workers exceeded \$20.81 billion as against less than \$10 billion in 2010 which was about an increase of more than 150 percent in 10 years. As at 2020, remittance inflows were about 5 per cent of the gross domestic investment of Nigeria (World Bank, 2021). International financial inflows to Nigeria have complemented receipt from international trade, especially from goods exported to other economies. Such international financial flows came in form of foreign grants, development assistance, workers' remittances, Foreign Direct Investment (FDI) etc.

The World Bank (2021) estimates that as at 2020, Nigeria has moved into the top five recipients of remittances in the world and received up to 82 per cent of the total remittance inflow to West African countries in 2017 and 2020 respectively. Thus, this rapid growth of remittances in Nigeria raises the question of where these money(s) are being invested and whether these remittances help in any way to ensure expansion of the services sector of the economy. The main problem identified here is that despite the significant flow of remittances into the country in the recent past, not much is known about the impact of these remittances on the services sector of the Nigerian economy.

Again, empirical evidence shows that diaspora remittances and growth of the services sector has been less researched in recent economic literature. There is need therefore, to ascertain how the services sector of the economy benefit from diaspora remittances as this has been largely neglected in economic literature. We set out to achieve the specific objectives of

ascertaining the effect of migrant remittances and workers' remittances on the growth of the services sector in Nigeria. Two hypotheses are tested

- H₀₁: Migrant remittances do not have significant effect on the agricultural, industrial and services sectors outputs in Nigeria.
- H₀₂: Workers remittances do not have significant effect on the agricultural, industrial and services sectors outputs in Nigeria.

This study will provide the necessary background knowledge to donors and recipients on how their remittances back home improves welfare of their relations and households in terms of the investment in the services sector. Also, it will help to ascertain the quantum of diaspora remittances inflow to the services sector in Nigeria. The scope of the study is within the period of 1990-2021.

2. Literature Review

Alessandra and Ivo (2006) defined diaspora remittances as monetary and non-monetary items that migrants earn while working abroad and later send back to their families living in their homeland. Diaspora remittance implies funds transferred by nationals of Nigeria residing and working outside Nigeria, to their home economies. According to the World Bank (2021), there are two major types of remittances: workers' remittances and migrant remittances

Conceptually, workers' remittances are the remittances of workers living abroad to families at home. Remittance inflows from migrant workers is a significant source of capital flows globally and more particularly in developing countries with particular focus on Africa (Adeyi, 2015; Adarkwa, 2015). A suggestion by a theoretical strand stated that: Workers' remittances are mainly used for consumption purposes and hence, have nominal impact on investment. Migrant remittances on the other hand are remittances of those who want to change their base back home from abroad to come and invest at home.

The World Bank (2021) asserted that Nigeria received about 65% of the official recorded remittance inflow to Africa and about 20% of the global remittance inflows. It is estimated that migrant remittance inflows into the Nigerian economy have outgrown foreign direct investment and other capital inflows into the country (Onyeisi and Odo, 2018). The services sector comprises of the banking, retail and wholesale, trade, tourism, real estate, telecommunications, motion pictures, ICT, entertainment and education, According to the CBN (2021) classifications. For the services sector to be efficient there must be credit flowing more or less from the financial system to the real economy through the pooling of savings and allocation of capital to productive investments, among others.

Theoretical Framework

The earliest theoretical framework developed to explain labour migration is the New Economics of Labour Migration (NELM). According to Richter (2018), it sees migration as the result of geographical differences between labour supply and labour demand. These differences can exist at the international level or at the internal (or national) level. International migration is caused by the differences in wage levels between countries and labour markets. If wage differences were eliminated, labour migration would stop according to this theory. This theory suggests that the bulk of labour migration moves from capital-poor/labour force-

rich countries to capital-rich/labour force-poor countries, while by contrast capital moves in the opposite direction, expecting a higher return on investment made in capital-poor countries (Romer, 1990). This theory also suggests that high-skilled workers move from capital-rich to capital-poor countries to reap higher returns on their skills. Labour markets are the main mechanisms that influence international migration. Other markets have little role. Thus, governments can regulate migration through labour market policies (e.g. through wage increases in sending countries).

In relation to this study, when migration occurs, the capital are moved from the capital-rich countries to the capital-poor countries and the movement of these remittances are expected to go into the education, health, transportation, recreation, and even information communication sub-sectors. These are in the form of investments and when this theory is applied, the services sector gains from the diasporans.

Empirical Review

Gyimah Brempong and Asiedu (2015) investigated the effects of remittances on education in Ghana. Using cross-section and pseudo-panel data, the study finds that remittances significantly increase the probability that families enroll their children in primary and secondary schools, suggesting that remittances encourage education and contribute to human capital formation. Muiruri (2017) investigated the effect of Diaspora remittances on real estate sector growth in Kenya. Using GDP, unemployment (% of total labor force), inflation and interest rates, the study found that diaspora remittances, unemployment, GDP and lending interest rates negatively impacted on the real estate investment in Kenya. However inflation rate had a positive effect on the real estate investment in Kenya. The work of Akiode (2017) investigated the possibilities for diasporans' participation in transnational entrepreneurial activities. The descriptive analysis highlighted the willingness of diasporans to participate in transnational activities through their sentiments towards transnational activities. The study found strong sentiment among diasporans towards family support rather than an obligation to contribute to the development of the country of origin.

Amakom and Iheoma (2019) investigated the impact of international migrant remittances on health and education outcomes of 18 sub-Saharan African. They found that remittances impacted positively and significantly on health and education outcomes of selected countries. Adejo and Etowa (2019) drew evidences from literature to elucidate the role of information and Communication Technologies (ICTs) in bridging the gap between overseas migrant remittances and rural areas of Nigeria. Their discussion paper found that migrant remittances have been identified as better strategies for ameliorating rural poverty than the conventional sources of finance. Ilu (2019) found that that remittances inflow were not sufficiently directed towards productive channels which might have stimulated aggregate demand and ultimately appreciate the value of naira. Anetor (2019) in his study of the relationship between remittances, financial services sector development nexus in Nigeria found complementarity between remittances and financial sector development in in Nigeria.

More recently, Asongu and Odhiambo (2021) assessed the relevance of enhancing remittances on value added services in 25 sub-Saharan African countries including Nigeria. They found negative net effects of remittances on added value to the services sector. Emmanuel and Omeje (2022) examined remittance flows and health outcomes in Nigeria and its implication for

economic growth. Using the VAR-granger causality approach, the study found that shocks to personal remittances exerted significant negative impact on the health sector and Nigeria's economic growth. Wanger and Aras (2022) investigated the impact of remittances on human capital development in Nigeria and concluded that the amount of diaspora remittances received in Nigeria can and do impact positively on the quality of her residual domestic human capital.

Evidently, the effect of remittance on the growth of the services sector has remained under-researched in Nigeria. For example, Wanger and Aras (2022), Asongu and Odhiambo (2021), Muiruri (2017), Gyimah Brempong and Asiedu (2015) all researched on remittances and its effect on one aspect of the services sector; however, these studies are based on the peculiarity of other developing economies with little or no attention given to the Nigerian scenario. The few studies on the Nigerian economy (Anetor, 2019; Adejo and Etowa, 2019; Amakom and Iheoma, 2019, etc.) were on the health and education sectors and did not take the services sector as a whole. Also, these studies are not updated to recent years based on current events. In addition, the disaggregation of diaspora remittances into workers and migrant remittances with intervening effect of exchange rate has not been done in previous literature. This creates a gap in literature in this area of study.

3. Research Methodology

This study adopts the *ex-post facto* research design. This is informed by the use of secondary data on migrant and workers' remittances in order to ascertain their effects on the services sector of the Nigerian economy. The data are sourced from the Central Bank of Nigeria Statistical Bulletin (2022) and World Bank Development Indicator (2022). The data were analyzed using econometric procedures.

Model Specification

The model is derived from the specification of Amakom and Iheoma (2019) where they specified the impact of international migrant remittances on health and education sectors. We shall modify their specification by disaggregating remittances and aggregating the services sector. The model is of the form:

$$Y = f(x) \quad [3.1]$$

Where Y is dependent (services sector output) and X is the independent variables (diaspora remittances). By relating the above functional to our work, we specify as follows:

$$SVC = f(DR) \quad [3.2]$$

Where SVC is services sector output and DR is diaspora remittances. By disaggregating DR into the forms of diaspora remittances, we obtain the following specification:

$$SVC = f(WREM, MREM) \quad [3.3]$$

Where:

WREM = Workers' remittances

MREM = Migrant remittances

Furthermore, we introduce exchange rate as an intervening variable in the model and re-specify the model thus:

$$SVC = f(WREM, MREM, EXR) \quad [3.4]$$

Where:

EXR = Exchange rate (Annual average)

Transforming the functional equation into linear econometric form, we will include the coefficients and the time variant as follows:

$$SVC_t = \lambda_0 + \lambda_1 WREM_t + \lambda_2 MREM_t + \lambda_3 EXR_t + \varepsilon_{3t} \quad [3.5]$$

Where;

λ_1 - λ_3 are the unknown parameters of the model to be estimated

λ_0 = Constant or intercept of the model

ε = Stochastic disturbance or error term and

"t" = time period 1990-2022

The a-priori expectation of the model is such that $\lambda_1 > 0$, $\lambda_2 > 0$ and $\lambda_3 > 0$. That is to say that the coefficients of workers' remittances, migrant remittances and exchange rate are expected to have positive, direct and significant effects on the services sector output.

4. Data Analysis

The unit root test confirms the level of stationarity of the variables and their suitability for predictive purposes. The Table below summarizes the test:

Table 1: Unit Root Test

		ADF Test statistics			
Variables		At Level	1 st Difference	Decision	Order of Integration
Services Sector Output		0.1865 [0.9968]	-5.1566 [0.0013]**	Stationary at 1 st difference	I(1)
Workers' Remittances		-2.7951 [0.2098]	-4.6218 [0.0046]**	Stationary at 1 st difference	I(1)
Migrant Remittances		-0.7022 [0.9618]	-4.8669 [0.0413]**	Stationary at 1 st difference	I(1)
Exchange Rate		-2.2891 [0.4272]	-5.2519 [0.0010]**	Stationary at 1 st difference	I(1)
Critical Values	1%	-4.2846	-4.2967		
	5%	-3.5629	-3.5683		
	10%	-3.2153	-3.2184		

**implies significance at 5% level

The unit root test above reveals that the data on services sector output (SVC), migrant remittances (MREM), workers' remittances (WREM) and exchange rate (EXCR) are all stationary at first difference and are said to be integrated of order one, I(1). In other words, none of the data achieved stationarity at level but only after first differencing. We test for the existence of a long-run relationship or co-integration amongst the variables using the Johansen test.

Table 2: Johansen cointegration test

No of CE eqns	Trace statistic		Max-Eigen statistic	
	Trace	<i>p-value</i>	Max-Eigen	<i>p-value</i>
None *	52.97182	(0.0153)***	25.27371	(0.0960)*
At most 1	27.69811	(0.085)*	19.49361	(0.0434)***
At most 2	8.204498	(0.4438)	7.030099	(0.4856)
At most 3	1.174399	(0.2785)	1.174399	(0.2785)

Note: *** and * indicates that the test statistics are significant at the 5% and 10%, respectively.
Source: Researchers' Computation using E-view 9

The Table 2 above confirms the long run relationship between workers' remittances, migrant remittances and output of the services sector using the Trace and Max-eigen statistics. In the test, we have significant *p-value* at 5% and another one significant *p-value* at 10%. However, our focus is on 5% only. Thus, since the Trace and Max-eigen statistics show one cointegrating equation, we conclude that there is long run relationship between workers remittances, migrant remittances and output of the services sector in Nigeria. In other words, diaspora remittances have long run effect on the growth of the services sector in Nigeria.

Estimation of the model parameters

Since the variables were found to be integrated at first difference all through, we confirmed the existence of a long run relationship through the Johansen cointegration test. What remains to be seen is estimation of the relationship between diaspora remittance variables and growth of the services sectors. Appropriately, the estimation tool is the error correction model having found the variables to be integrated at first order and co-integrated (Egbulonu, 2019). In addition, we shall estimate the long run speed of adjustment of the models in order to ascertain the long run convergence rate of the variables.

Table 3: Error Correction Model Estimation

Error correction model estimates				
C	-1.363761	4.760500	-0.286474	0.7770
WREM	0.698374	0.203925	3.424652	0.0022**
MREM	0.432619	0.079110	5.468608	0.0000**
EXR	-0.034506	0.214858	-0.160600	0.8738
ECM(-1)	-0.087397	0.023489	-3.720763	0.0258**
<i>R-squared = 0.9582; F-stat = 137.45 (p=0.000); DW = 1.735</i>				

Note: ** indicates that the p-value of the F-statistic is significant at the 5% level
Source: Researchers' Computation using E-view 9

The Table 3 above summarizes the relationship between diaspora remittances and output of the services sector of the Nigerian economy. There is positive effects of migrant and service sectors on the services sector increasing the sector's output significantly by 0.6984 and 0.4326 unit respectively. However, exchange rate decreased the sector's output by 0.0345 units but not significantly. The speed of adjustment shows long run convergence at 8.7% annually. This implies that the short run model has good predictive properties. The intercept is negative which implies that there is decrease in services sector output by 1.364 units holding

remittances at constant or zero. This underlines the importance of remittances in driving output of the services sector in Nigeria.

The *Durbin Watson statistic* 1.735 is closer to 2 than to 0. We conclude that the error terms of the model are not serially correlated or there is negative autocorrelation in the model. This is based on the rule of thumb.

The R-squared gauges the overall fitness of the model and the R-squared value implies that workers' remittances, migrant remittances and exchange rate explain up to 95.82% of the changes witnessed in output of the services sector in Nigeria. The remaining 4.18% not accounted for are equally taken care of by the stochastic error term. The high model fitness is equally buttressed by the joint significance of the diaspora remittance variables since the p-value of the F-stat (0.0000) is less than 0.05 critical value.

Test of Hypothesis One

H₀₁: Migrant remittances do not have significant effect on the services sector output in Nigeria.

t-statistics = 5.4686 (*p-value* = 0.0000)

Decision Rule: Since the probability value of the t-statistic is less than 0.05 critical value, we reject the null hypothesis and conclude that migrant remittances have significant effect on the services sector output in Nigeria.

Test of Hypothesis Two

H₀₂: Workers remittances do not have significant effect on the agricultural, industrial and services sectors outputs in Nigeria.

t-statistics = 3.4247 (*p-value* = 0.0022)

Decision Rule: The probability value of the t-statistic is less than 0.05 critical value, therefore, we reject the null hypothesis and conclude that workers' remittances have significant effect on the services sector output in Nigeria.

Implication of Findings

The main objective of this research work was to examine the effect of diaspora remittances on the growth of the services sector in Nigeria for the period 1990 to 2022. Specifically, the study examined the effects of workers' remittances, migrant remittances and exchange rate on growth of the services sector in Nigeria. The result showed that while workers and migrant remittances grew the services sector, exchange rate proved to be a diminishing factor as it decreased the remittances-services sector output model. The implication of this is that while remittances continues to flow into the services sector, exchange rate serves as a stumbling block as Nigeria witnesses continued fluctuations in exchange rate Sectors like the education, health, transportation, ICT, etc. experiences inflow of remittances which needs to be encouraged by a favorable exchange rate. The values of the remittances are diminished by exchange rate scarcity and this discourages further remittances through the formal channels. Asongu and Odhiambo (2021) rightly found that there were negative net effects of remittances on added value to the service sector. Thus, the services sector gains more from both workers and migrant remittances and it also suffers more from exchange rate fluctuations.

Diaspora remittance variables were found to have joint significant effect on output of the services sector and they accounted for as much as 95.8% of the changes witnessed in the services sector output in Nigeria. Migrant and workers' remittances significantly increased growth in the services sector as shown in the test of hypothesis. In agreement with the finding of Emmanuel and Omeje (2022), remittances helps recipients to make extra expenses for services such as health, education etc. Also, Anetor (2019) found that financial services are enhanced through remittances. However, this study contends that just as migrant and workers' remittances increases output of the services sector, there should as well be investment activities in the services sector so as equalize the remittance utilization.

5. Conclusion and Recommendations

The conclusion emanating from the findings is that both migrant and workers' remittances have had direct positive and significant effect on growth of the services sector of the Nigerian economy. This serves as a boost to the Nigerian economy because through these remittances, households and individuals can invest in the services sector thus augmenting government efforts in sustaining output from the sector. However, the positive effect of diaspora remittances on output of the services sector was being hampered by increasing exchange rate which depreciates the value of the local currency and makes Nigerians to pay more for foreign services. Interestingly, based on the value of the model coefficients, the quantum of workers remittances inflow to the services sector was found to be higher than that of migrant remittances. The general conclusion is that remittances have helped to increase output of the services sector in Nigeria for the period 1990 – 2022.

In line with findings made in this research, we made some salient observations which forms the policy recommendations.

- Since workers' remittances are aimed at supporting consumption needs of the beneficiaries in Nigeria, and since they were found to positively enhance growth of the services sector, government should tap into this positive development by intensifying technical exchange programmes between Nigeria and other advanced of the world. This will create the needed synergy and will make Nigeria to reap greater rewards from her vast human and material resources which will further enhance investments and the multiplier effect in the economy will be high.
- Government, through the Central Bank of Nigeria, should set in motion the unification of exchange rates in Nigeria and advance a workable and favorable monetary policy that will maintain stable exchange rate of the naira to the dollar. The stabilization of the local currency against the dollar will enhance imports and still help the services sector especially.
- A database of migrants should be maintained by the Federal Government through the diaspora missions so as to keep record of all migrant remittances. This increases the tracking of all diaspora remittances into services sector in Nigeria and help government in policy formulations.

- The creation of advisory services to Nigerian workers and migrants in other countries through the nation's embassies is advocated. This will help to offer useful advice on areas in the services sector that these migrants and diaspora workers need to channel their investments.
- There is need for the Central Bank of Nigeria to intensify their naira4dollar policy which rewards every diaspora remittance made through the official financial system with monetary incentives. This helps in maintaining stable money supply in the economy.

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