

## The impact of emigrant remittances on economic growth in Nigeria

Nicholas Attamah

Department of Economics Enugu State University of Science and Technology (ESUT) Enugu, Nigeria.

E-mail: [numanick@esut.edu.ng](mailto:numanick@esut.edu.ng)

---

### ABSTRACT

*In an ordinary parlance, emigrant remittance in the context of this study is a transfer of money by a foreign worker to an individual in their home country. Hence, it is the transfer of money from an emigrated individual or individuals to their home country. Remittances have become an important source of external capital and foreign exchange especially for the developing countries together with the removal of constraints on the cross-border factor movements. Migrant remittances are significant part of international capital flows, especially with regard to labour-exporting countries. It can be clearly seen from the results that the coefficient of emigrant remittances (EMGR) yielded a positive numerical coefficient (0.106711). This entails that emigrant remittances contribute positively to economic growth in Nigeria. In other words, an increase in emigrant remittances by 1% will lead to an increase in economic growth by 0.106711 and vice versa. This however conforms to economic a priori expectation because emigrant remittance inflow will through household expenditures or savings translate to economic growth through the simple multiplier effect. The regression output also reveals that the numerical coefficient of*

*Keywords: Emigrant, remittances, economic growth and Nigeria*

*exchange rate yielded a negative numerical coefficient at the magnitude of -9.746538. This simply entails that a 1% increase in exchange rate results in the reduction of economic growth (GDP) by -9.746538. It can also be clearly seen from the regression output that the numerical coefficient of inflation yielded a negative numerical coefficient at the magnitude of -11.14713. This entails that an increase in inflation will result to a reduction in GDP and vice versa. This is indeed true because inflation reduces the purchasing power of money and therefore reduces real aggregate demand and GDP. The main finding of this study is that emigrant remittances have no significant impact on economic growth in Nigeria. However, the numerical coefficient of the regression analysis shows that emigrant remittances have a positive contribution but the statistical significance test shows it is insignificant. The conclusive implication of this finding is that remittance inflows in Nigeria are not channeled to investment or growth generating expenditures. This also leads us to conclude that majority of the emigrant remittances is channeled to the house hold and hence major part of it is either saved or channeled to consumer expenditures.*

---

### INTRODUCTION

Emigrant remittances have been recognized as an important driver of the economy of most developing countries [1,2]. They play vital roles in poverty reduction, income redistribution and economic development, especially in rural areas. According to [3], Nigeria is the largest recipient of emigrant remittances in sub-saharan Africa. They reported that the country receives nearly 65 percent of

officially recorded emigrant remittance flows to the region and 2 percent of global flows [4]. Emigrant remittances can spur up economic growth through channels such as facilitating the financial market development, serving as sources of finance for entrepreneurial activities, insurance against shocks, financing household expenditure, financing of household capital formation, bridging

<http://www.inosr.net/inosr-arts-and-management/>  
Attamah

INOSR ARTS AND MANAGEMENT 3(1): 19-28, 2017.

savings gap and also bridging the external gap of financing. This has been empirically proven by a section of literature which found that remittances inflows lead to economic growth [5].

On the other hand, emigrant remittances can also retard economic growth. This can happen if the remittances received are used by recipients to reduce their labour supply to the economy [6,7]. When this happens, the recipients who are supposed to be part of the active labour force will automatically become dependent thus relying solely on the much appreciation of the local currency. Thus, it can also harm the economy of the country as it will discourage exportation thus reducing entrepreneurial competition in the recipients country [8]. According to [9], 21.8 million people are recorded to have emigrated from sub-Sahara African countries, and Nigeria is recorded to be one of the top ten countries that produced such massive numbers. The destination of migrants from sub-Sahara countries includes high-income countries while majority of them migrate to other African countries. Nigerians represent one of the most mobile populations in Africa and they are found virtually in every continent [10].

The publication of [11] reveals Nigeria as the top remittance country in Africa (Fifth

in the world following India (\$ 11 billion), Mexico (\$ 22 billion), Philippines (\$26 billion) and China (\$60 billion) and this invariably reflects that more Nigerians live abroad. The world bank further reported that \$ 20.89 billion was remitted into the country in 2013 fiscal year and predicted future increment of remittance inflow into the country. However, the prediction was actualized as the amount remitted into Nigerian economy in 2015 totaled US\$23.078.9 billion. It is noteworthy that Nigerians abroad were recorded to have remitted above 40 billion US dollars between 2013 to 2016, which has put the country ahead of other African countries as the biggest recipient of remittances [12].

In Nigeria, emigrant remittances reached a new record of \$35 billion. The United States accounts for the largest portion of official remittances, followed by United Kingdom, Italy, Canada, Spain and France. On the African continent, Egypt, Equatorial Guines, Chad, Libya and South-Africa are important source countries of migrant remittance flows to Nigeria. Based on the foregoing, this research is therefore focused on carrying out an empirical analysis of the impact of emigrant remittances on economic growth in Nigeria covering the period 1986-2016 [13,14,15].

#### Research questions

In the cause of this research, the following research questions will be addressed.

1. What level of impact do emigrant remittances exert on economic growth in Nigeria?

#### Objectives of the study

The general objective of this research is to empirically analyze the contribution of emigrant remittances on economic growth in Nigeria. Specifically, the following objectives will be actualized:

2. What is the direction of causality existing between emigrant remittances and economic growth in Nigeria?

1. To determine the impact of emigrant remittances on economic growth in Nigeria
2. To ascertain the direction of causality existing between emigrant remittances and economic growth in Nigeria

#### Hypotheses of the study

The following hypotheses will be tested during the course of this research

$H_0$ : Emigrant remittances has no significant impact on economic growth in Nigeria

$H_0$ : There is no causal relationship between emigrant remittances and economic growth

#### Significance of the study

The importance of carrying out a research in this area cannot be overemphasized given that growth is an area worthy of exploration. In line with this, the following is an expression of the significance of this study: this study will be of great importance to the ministry in charge of international affairs given that the concept of migrant remittances is an external variable and findings from this study would generate corresponding policies from this ministry.

The findings from this study will serve as a great instrument for the government in

formulating and implementing migrating policies. Students will find this research highly beneficial as it will expand their horizon on the concept of migrant remittances and economic growth in Nigeria.

Furthermore, researchers who are interested in carrying out an empirical investigation on this area will find this work relevant as it will be of great assistance in their literature generation. Finally, the output of this research will be an addition to the existing stock of knowledge.

#### Scope of the Study

The primary focus and area of study for this research is to estimate the impact of emigrant remittances on economic growth in Nigeria. Economic growth in this study will be measured by the rate of gross

domestic product (GDP). The durational scope of this study will be covering the period of 1986-2016. This covers thirty seven years (37) years of observation.

### METHODOLOGY

#### Research Design

The investigation employed the *Expost facto* design. This is because the researcher has no control over the data and variables used in the investigation. This study makes use of econometric procedure in estimating the impact of migrant remittances on economic growth in Nigeria. It is also pertinent to note that the research design will adopt the quantitative approach based on the fact that it will give room for statistical and

econometric estimations for the actualization of the research objectives. In researches that involves times series and secondary data, the appropriate methodology is the linear regression with the application of Ordinary least squares (OLS) technique. The primary justification for adopting the linear regression is based on the fact that it gives room conventional econometric tests and the data is secondary in nature.

#### Theoretical Framework

The theoretical anchor of this research is the optimistic theory of remittances. According to this theory, remittance is positive to the receiving household/countries, it could alleviate poverty and promote economic growth

and ease pressure on governments faced with large external deficits to engage in difficult structural reforms. In conclusion, this theory asserts that migrant remittance is a positive driver of economic growth.

#### Model Specification

Based on the objectives and hypotheses of this investigation, the following models are considered appropriate for econometric estimations.

remittances on economic growth, the following specified model follows the work of Johnson (2012) and it is specified thus:

To actualize objective one which is to analyze the impact of personal migrant

In an implicit form, we have:

$$GDP = f(EMGR, EXCHR, INF) \dots\dots\dots (1)$$

Transforming the above functional relationship to an econometric version, we have:

$$GDP = \beta_0 + \beta_1 EMGR + \beta_2 EXCHR + \beta_3 INF + \ell, \dots 2$$

Where:

GDP = Gross Domestic Product

EMGR = Emigrant Remittances

EXCHR = Exchange Rate

INF = Inflation Rate

e = Stochastic error term

A priori Expectation

$B_1 > 0$  = this entails that we expect a positive numerical coefficient for migrant.

$B_3 < 0$  = this means that we expect a negative relationship between Inflation Rate and economic growth in Nigeria.

To actualize objective two which is to estimate the granger causal relationship

$$V_{1t} = \alpha + \sum_{j=1}^k \beta_j XV_{t-j} + \sum_{j=1}^k \phi_j XV_{t-j} + \Psi_{1t}$$

$$XV_t = \Omega + \sum_{j=1}^k \theta_j V_{t-j} + \sum_{j=1}^k \phi_j V_{t-j} + \Psi_{2t} \quad \dots\dots 3$$

Where XV and V are the endogenous variables and the lagged values are the exogenous variables.

$B_2 < 0$  = this entails we expect a negative relationship between Exchange Rate and economic growth in Nigeria.

between migrant personal remittances and economic growth in Nigeria, the granger causality model is specified thus:

#### Technique of Analysis

##### Ordinary Least Squares (OLS) Technique

The OLS regression technique is used to predict values of a continuous response variable using one or more explanatory

variables and can also identify the strength of relationship between variables.

##### Diagnostic Tests

###### (i) Unit Root Test

To avoid the problem of spurious regression due to a non-stationary series, the stationarity test will be conducted using the Augmented Dickey Fuller test.

The following three models represent pure random walk, random walk with drift and random walk with drift and trend used in Augmented-Dickey Fuller tests:

$$\Delta \psi_t = \Omega \psi_{t-1} + \sum_{i=1}^p \beta_i \Delta \psi_{t-i} + \varepsilon_t$$

$$\Delta \psi_t = \alpha_0 + \Omega \psi_{t-1} + \sum_{i=1}^p \beta_i \Delta \psi_{t-i} + \varepsilon_t$$

$$\Delta \psi_t = \alpha_0 + \Omega \Psi + \beta_2 t + \sum_{i=1}^p \beta_i \Delta \psi_{t-i} + \varepsilon_t$$

where:  $\Omega = (\lambda - 1)$ . The null hypothesis is  $H_0 : \Omega = 0$  and the alternative hypothesis

greater than the critical value, we reject the null hypothesis and conclude that the series is stationary (there is no unit root).

is  $H_a : \Omega < 0$ . If ADF test statistic (t-statistic of lagged dependent variable) is

##### Cointegration Test

In an econometric analysis, there is the need to estimate the long-run relationship

of the variables under consideration. This will be applied on the concept of

<http://www.inosr.net/inosr-arts-and-management/>

Attamah

INOSR ARTS AND MANAGEMENT 3(1): 19-28, 2017.

Cointegration test. One of the most popular tests for cointegration has been suggested by [5]. The process is demonstrated thus; given a multiple regression:

$$y_t = \beta' x_t + \mu_t, t = 1, \dots, T,$$

where  $x_t = (x_{1t}, x_{2t}, \dots, x_{kt})'$  is the k-

dimensional I(1) regressors. For  $y_t$  and  $x_t$  to be cointegrated,  $\mu_t$  must be I(0). Otherwise it is spurious. Thus, a basic idea is to test whether  $\mu_t$  is I(0) or I(1).

#### Data Required and Sources

The data to be used in this research is time series data representing migrant remittances which will be extracted from World Bank migrant statistics while Gross

Domestic Product (GDP), exchange rate and inflation rates will be extracted from the Central Bank of Nigeria (CBN) statistical bulletin.

#### Software for the Analysis

The statistical software that will be used in the analysis is the E-

views version 9 econometrics software.

### PRESENTATION AND ANALYSIS OF RESULTS

#### The Empirical Results

The first crucial step in analyzing time series data is to ascertain if the variables are stationary. To test the stationary status of a data, the unit-root test was analyzed using the ADF

statistic technique. The summary results are displayed in table 1 below.

Table 1: Unit-Root Test Results

Variables	ADF Stat.	Critical Val.	Order of Int.
GDP	-4.818066	-2.967767	I(1)
EMGR	-4.000356	-1.952910	I(1)
EXCHR	-2.802861	-1.952910	I(1)
INF	-4.714311	-2.967767	I(1)

Source: Researcher's Computation Using E-views

Table 1 clearly shows that GDP is integrated at order two while EMGR, EXCHR and INF are integrated at order one.

Cointegration Test Result (Engel-Granger Method)

Table 2

Null Hypothesis: RESID01 has a unit root				
Exogenous: None				
Lag Length: 0 (Automatic - based on SIC, maxlag=7)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-2.313799	0.0223
Test critical values:	1% level		-2.644302	
	5% level		-1.952473	
	10% level		-1.610211	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(RESID01)				
Method: Least Squares				
Date: 09/12/16 Time: 06:28				
Sample (adjusted): 1987 2016				
Included observations: 30 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.312709	0.135150	-2.313799	0.0280
R-squared	0.155802	Mean dependent var		22.71488
Adjusted R-squared	0.155802	S.D. dependent var		3479.515
S.E. of regression	3196.987	Akaike info criterion		19.01057
Sum squared resid	2.96E+08	Schwarz criterion		19.05728
Log likelihood	-284.1586	Hannan-Quinn criter.		19.02551
Durbin-Watson stat	1.554063			

Source: *Researcher's Computation Using E-views*

The cointegration test was carried out to find out if there exists a long run relationship among the variables. To actualize this, the Engel-Granger method was employed and this was done by carrying out a unit-root root on the residuals extracted from the OLS estimation. It can be clearly seen from

table 2 that the residuals are stationary at level form. This therefore informs us to accept the decision that there exists a long-run relationship among the variables. Hence; the variables are cointegrated.

Regression (OLS Technique)

Dependent Variable: D(GDP)				
Method: Least Squares				
Date: 09/12/16 Time: 06:37				
Sample (adjusted): 1987 2016				
Included observations: 30 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1765.958	318.8478	5.538561	0.0000
D(EMGR)	0.106711	0.119284	0.894598	0.3795
D(EXCHR)	-9.746538	16.99038	-0.573651	0.5713
D(INF)	-11.14713	18.58531	-0.599782	0.5540
ECM(-1)	-0.109611	0.067085	-1.633907	0.1148
R-squared	0.204178	Mean dependent var	1756.442	
Adjusted R-squared	0.076847	S.D. dependent var	1493.226	
S.E. of regression	1434.704	Akaike info criterion	17.52632	
Sum squared resid	51459393	Schwarz criterion	17.75985	
Log likelihood	-257.8947	Hannan-Quinn criter.	17.60103	
F-statistic	1.603519	Durbin-Watson stat	0.587531	
Prob(F-statistic)	0.204502			

Source: *Researcher's Computation Using E-views*

The regression analysis was carried out to estimate the impact of emigrant remittances on economic growth in Nigeria. This was carried out and displayed in table 3. It can be clearly seen from table 3 that the coefficient of emigrant remittances (EMGR) yielded a positive numerical coefficient (0.106711). This entails that emigrant remittances contribute positively to economic growth in Nigeria. In other words, an increase in emigrant remittances by 1% will lead to an increase in economic growth by 0.106711 and vice versa. This however conforms to economic a priori expectation because emigrant remittance inflow will through household expenditures or savings translate to economic growth through the simple multiplier effect.

The regression output also reveals that the numerical coefficient of exchange rate yielded a negative numerical coefficient at the magnitude of -9.746538. This simply entails that a 1% increase in exchange rate results in the reduction of economic growth (GDP) by -9.746538. It can also be clearly seen from the regression output that the numerical coefficient of inflation yielded a negative numerical coefficient at the magnitude of -11.14713. This entails that an increase in inflation will result to a reduction in GDP and vice versa. This is indeed true because inflation reduces the purchasing power of money and therefore reduces real aggregate demand and GDP. The F-statistics ratio yielded 1.603519 and a corresponding probability value of 0.204502. This is a reflection that the test

<http://www.inosr.net/inosr-arts-and-management/>  
Attamah

INOSR ARTS AND MANAGEMENT 3(1): 19-28, 2017.

is not statistically significant at the entire regression plane. The R-Squared which is used to measure the explanatory power of the independent variables yielded 0.204178. This implies that the variations in economic growth is explained by changes in the explanatory variables by approximately 20.4%

Table 4

The ECM was estimated as a response to the fact that the variables are cointegrated. The ECM coefficient yielded -0.109611. This entails that the speed of adjustment to attain long-run equilibrium is at 10.9%. This is rather slow but has its inherent justifications.

Granger Causality Test

Pairwise Granger Causality Tests			
Date: 09/12/16 Time: 07:10			
Sample: 1986 2016			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
EXCHR does not Granger Cause EMGR	29	3.25277	0.0562
EMGR does not Granger Cause EXCHR		0.67801	0.5171
INF does not Granger Cause EMGR	29	0.19158	0.8269
EMGR does not Granger Cause INF		0.98831	0.3869
GDP does not Granger Cause EMGR	29	4.23462	0.0266
EMGR does not Granger Cause GDP		1.62442	0.2180
INF does not Granger Cause EXCHR	29	0.51500	0.6040
EXCHR does not Granger Cause INF		1.97800	0.1603
GDP does not Granger Cause EXCHR	29	2.01875	0.1548
EXCHR does not Granger Cause GDP		2.11462	0.1426
GDP does not Granger Cause INF	29	1.96947	0.1614
INF does not Granger Cause GDP		1.44318	0.2559

Source: *Researcher's Computation Using E-views*

The point of focus in this section is to ascertain the direction of causality existing between emigrant remittances and economic growth in Nigeria. It can be clearly seen that causality runs from GDP to emigrant remittances. This is informed

by the 0.0266 probability value associated to the hypothesis of GDP not Granger causing emigrant remittances. This entails that GDP granger causes emigrant remittances.

Hypothesis Test

Table 5

Variable	Computed t-Stat	Tabulated t	Decision
EMGR	0.894598	2.060	Insignificant

Source: *Regression Extraction*

Hypothesis One

H<sub>0</sub>: Emigrant remittances has no significant impact on economic growth in Nigeria

It can be clearly seen from table 5 that the computed t\*-stat (0.894598) is less than

the tabulated (2.060). This therefore compels us to accept the H<sub>0</sub> and therefore conclude that emigrant remittances have no significant impact on economic growth in Nigeria.



Null Hypothesis	Probability Value
GDP does not Granger Cause EMGR	0.0266
EMGR does not Granger Cause GDP	0.2180

Source: *Granger Causality Result Extraction*.

Hypothesis Two

$H_0$ : There is no causal relationship between emigrant remittances and economic growth.

Table 6 shows that the probability value of  $0.0266 < 0.05$  of the null hypothesis

that GDP does not Granger Cause EMGR shows the null is rejected. Hence, from the hypothesis of the study, we reject the  $H_0$  and accept that there is a causal relationship between emigrant remittances and economic growth.

#### SUMMARY, CONCLUSION AND RECOMMENDATION

##### Summary of Findings

This study has been primarily focused on estimating the impact of emigrant remittances on economic growth in Nigeria covering the period 1986-2016. To actualize the aims of this research, regression analysis and Granger causality techniques were employed and the following major findings were found out:

1. Emigrant remittances have no significant impact on economic growth in Nigeria given that the computed  $t^*$ -statistics (0.894598) is less than the tabulated  $t$ -statistics (2.060).

2. There is a causal relationship between emigrant remittances and economic growth with causality flowing from GDP to emigrant remittances in Nigeria given that the probability value of 0.0266 is less than 0.05.
3. There exists a long-run relationship between emigrant remittances, GDP, exchange rate and inflation. This was because the ADF = -2.313799 is absolutely greater than the critical value (= -1.952473) at 5% level of significance.

##### CONCLUSION

The main finding of this study is that emigrant remittances have no significant impact on economic growth in Nigeria. However, the numerical coefficient of the regression analysis shows that emigrant remittances have a positive contribution but the statistical significance test shows it is insignificant. The conclusive implication of this finding is that

remittance inflows in Nigeria are not channeled to investment or growth generating expenditures. This also leads us to conclude that majority of the emigrant remittances is channeled to the house hold and hence major part of it is either saved or channeled to consumer expenditures.

##### RECOMMENDATIONS

Findings from the study generated the following recommendations.

1. The government should conduct a massive reorientation on household who receive remittances from their emigrated loved ones to invest such receipts for future yield and the growth of the economy.
2. Nigerian diasporas should be encouraged by the government of Nigeria with the policies that are favourable and attractive for investment in the homeland. These include reduction in withholding tax

- by the Nigerian banks during money transfer and concessions on the establishment of cottage and small scale businesses in Nigeria.
3. The effectiveness of emigrant remittances in enhancing growth in Nigeria largely depends on the stability of exchange rate and inflation. The federal government should therefore make exchange rate and inflation stabilization a policy priority. This can be achieved through the systematic alteration of the monetary and fiscal instruments

REFERENCES

1. Adenutsi, O. (2011) Remittances, Liquidity Constraints and Human Capital Investments in Ecuador. *World Development* 37(6) 1143 - 1154.
2. Agu, C. (2009) The Remittance Service Industry in Nigeria: A Background Paper for Africa Migration Project Migration and Remittances Team, Development Prospects Group: Washington D.C.
3. Akinpelu, H., Andrew, L and Gregory, R.(1954) Estimation of parameters of econometric models. *Bulletin of International Statistics Institute* 34,122-8.
4. Addison, E. K. Y. (2004) The Macroeconomic Impact of Remittances in Ghana. Accra. Bank of Ghana
5. Anyanwu, J. C. and Andrew E. O. Erhijakpor (2011), Do International Remittances Affect Poverty in Africa? Migration Information Source, Washington.
6. Cox, B., Eser, R., and Jimenez, H. (1997) A Theory of Remittances as an Implicit Family Loan Arrangement, *World Development*, 25(4), 589-611.
7. Danmola, R. and Abba M. (2013) A Contribution to the Theory of Economic Growth, the Quarterly Journal of Economics
8. Davidson, R. and MacKinnon, J.G. (1993) Estimation and Inference in Econometrics. New York: Oxford University Press, pp. 320, 323.
9. Dilip, Ratha, Mohapatra, S., Vijayalakshmi, K. M., & Xu, Z. (2008) Revisions to Remittance Trends 2007. Migration and Development Brief 5
10. Docquier, F. and Rapoport, H. (2004) Skilled migration: The perspective of developing countries. Policy Research Working Paper No. 3381, Washington, DC. World Bank.
11. Emmanuel A. and Michael, U. (2003) Remittances by Emigrants: Issues and Evidence. *CEPAL-SERIE Macroeconomía del desarrollo*. United Nations, Santiago, Chile.
12. Engel, R.F and Granger, C.W.J (1987) Co-Integration and Error Correction: Representation, Estimation and Testing. *Econometrica*, Vol. 55, No. 2. (Mar., 1987), pp. 251-276.
13. Funkhouser H. (1995) Workers' remittances and economic growth in Selected Sub-Saharan African Countries: Ph.D thesis submitted to the Department of Economics and Development Studies, Covenant University, Ota, Ogun-state, Nigeria. Dec 1995
14. Fajnzylber, P and H. J. López (2008) *The Development Impact of Remittances in Latin America* in: Fajnzylber, P and H. J. López (eds) *Remittances and Development: Lessons from Latin America*. Washington, DC. World Bank
15. Fajnzylber, P., and J. H. Lopez, (2007) *Close to Home: The Development Impact of Remittances in Latin America*, mimeo (Washington: World Bank).