

PERSPECTIVES ON THE IMPACTS OF REMITTANCES ON ECONOMIC GROWTH IN NIGERIA

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Abstract

Migrant remittances have been acknowledged to be increasingly important to developing countries even though little incentives seem to have been put in place strengthen them in many countries like Nigeria. This paper set out to investigate the impact of remittances on economic growth in Nigeria using secondary source of data on the time series from 1988 to 2018. The study utilized the techniques of Vector Autoregressive (VAR) and Error Correction Model (ECM) and the results indicates that remittances have a positive and significant impact on economic growth in Nigeria and that there is long run relationship between remittances and economic growth, even as it also reveals that exchange rate and inflation rate are some of the important determinants of remittances in Nigeria. The study however recommends amongst others that remittances inflow should be directed towards investment channels by increasing investment opportunities in the country.

Keywords: Error Correction Model, Exchange Rate, Investment, Remittances, VAR

JEL Classification: H2; O4

1. Introduction

Remittances are now an important segment of financial flows and in Nigeria are only second to oil as a source of foreign exchange earnings; outpacing other flows. But policy to channel its use is still rudimentary and uncoordinated. With so many remittance instruments, senders, channels, service providers, operators, recipients, agents and corridors, the Nigerian remittance industry could hardly be said to be positioned to help economic growth in any meaningful way. The failure of traditional sources of development finance in jumpstarting quantum growth necessitates critical thinking into the potential of other forms of flows and remittances is just one such option needing further examination. But there are other reasons to be interested in remittance flows in Nigeria.

The Nigerian financial sector is maturing quickly in both depth and scope. Even though the link between such growth and real sector performance is still weak, policymakers are working hard to improve incentives to grow the sector and increase its impact on the real sector in the near future. Such efforts are based on the understanding of the huge resource needs for economic growth in the country. In the same vein, a thousand and one policies are put in place to attract foreign direct investment into the country. United Nation notes that in 2005 alone, there were over three thousand changes made to national policies in order to improve the environment for foreign direct investment, particularly in

developing countries. Nigeria is definitely one of the many developing countries stretching its policy space thin to and making a number of such changes to attract FDI and official development assistance. The market has become extra-liberalized even for portfolio flows paving way for not-too healthy flows of disruptive short term capital. These are accommodated with all the potential damages because they are deemed to provide relief, albeit temporary, to funding constraints faced by agents within the economy.

While migrant remittances have been acknowledged to be increasingly important to developing countries, little incentives seem to have been put in place to strengthen them. Indeed, for a country like Nigeria, there is not even enough data on the size and implications of alternative remittance sources and channels to be able to do so. Recently, the Central bank of Nigeria in collaboration with some development partners, initiated a survey of the remittance industry. Among other mandates, the work was to evaluate trends in the industry and propose policy options to improve the sector. The work acknowledged, like many others before it, that the size of remittance transfers may be bigger than variously estimated.

Measured by the policy measures and incentives, it is safe to assert that policy interest in migrant remittances is still weak in Nigeria despite intensive human capital export from the country since the adoption of structural adjustment programme. This is strange given that such

huge emigration as witnessed since the 1980s should make the surge in remittances predictable given the structure of social ties among African families. Without doubt, the lack of policies to channel remittances to 'appropriate' (preferably investment sectors) over time has impacted on the overall contribution of remittances to economic development in Nigeria.

Economic performance has been highly unsatisfactory in Nigeria in the last thirty years. The per capita GDP for Nigeria has remained almost the same as it was in 1972 and GDP growth rate has been slow, with negative growth in 1981-84. This situation coupled with other macroeconomic problems led the country to adopt the Structural Adjustment Programme (SAP) in 1986. Despite this the growth rate was still negative in 1987. This poor economic performance characterized by economic stagnation, macroeconomic instability, corruption, poor resource management and untold economic hardship has continued in Nigeria forcing international migration in the country. The need to accelerate the rate of economic growth has motivated policymakers to make effort to encourage foreign capital flow into the country, which could be in the form of Foreign Direct Investments (FDI), a remittance which is of particular interest to this study, Overseas Development Assistance (ODA) and the like.

This study is an attempt to help make contributions on the understanding if there is of the impacts of remittances to economic growth. Empirical investigation into the impact of remittances on economic growth and the macroeconomic determinants of remittances in Nigeria is relevant given the volume of remittances inflow into the country and the increasing role economist now place on remittances as an alternative source of development finance.

Since remittances received are a potential source of investments and are therefore able to bring about concrete economic benefits, estimating their macroeconomic effects is an issue of both economic and political interest. The macroeconomic effects of remittances and especially their economic growth potential have been under-researched in Nigeria. Consequently, our research objective is to investigate, through regression analysis using OLS, the contribution of the remittances received in Nigeria to its long-term economic growth.

In the light of the above, this research is to achieve the following broad objectives

1. To determine the impact of remittances on economic growth in Nigeria.

2. To investigate the macroeconomic determinants of remittances inflow in Nigeria.

2. Literature Review

2.1 Theoretical Background

Although individual amounts of remittances might be negligible, their cumulative sum adds up to substantial amount which should contribute significantly towards foreign currency build-up (Singh & Sausi, 2010) and consequently impact growth. Ratha (2003) calls remittances "an important and stable source of external development finance". A review of some growth theories therefore, will help in understanding the remittance-growth nexus.

Harrod-Domar Model

In Keynesian literature, development and growth models emerged according to Harrod (1939) and Domar (1946). This model which is a synthesis of two growth models is one of the earliest fall out of Keynes's (1936) General Theory aimed at extending Keynes's analysis into the long run (Hacche, 1979). According to Keynes in the short run the overriding significance of investment is its influence on effective demand and the stock of capital may be taken as given and independent of it. However in the long run this is not so, investment expenditure does augment capital stock. The Harrod – Domar Model attempts to show the relationship between the Savings Ratio (SR), the Capital – Output Ratio (COR) and Economic Growth (Iyoha et al, 2002). Where Capital – Output Ratio (COR) is the unit of capital required to produce a unit of output while the savings ratio is the ratio of aggregate savings to the national income.

According to Harrod and Domar every economy must save a percentage of its national income and invest in new investments in order to increase its capital stock, a condition necessary for growth. The basic assumptions of the model are as follows:

1. The model assumes a closed economy without government intervention.
2. It is assumed that for equilibrium to exist planned investments should equal planned savings.
3. The assumption of only two factors of production i.e labour and capital and no technical progress.
4. It assumes the homogeneity of labour which grows at a natural constant rate.
5. The model also assumes a constant return to scale.

The economic reasoning behind the Harrod – Domar Model is that to grow the economy, a nation must save and invest a certain proportion of its GDP and that the more a nation can save and invest the faster the rate of growth of that economy. However the actual rate of growth of an economy for any level of saving and

investment will depend on how much additional output they get from an additional unit of investment. The implication of the Harrod – Domar Model was that the automatic maintained of the steady state growth, with full employment was unlikely to be accomplished in a free market capitalist economy. The Harrod – Domar Model is described as a knife-edge model because it has no building stabilizers that tend to move an economy back to a full employment equilibrium rate of growth once it has deviated from it. The Harrod – Domar Model is also criticized for its absolute rigidity of the assumptions upon which the model was built; the growth rate of the labour force is exogenously determined, and hence if the savings ratio and the capital-output ratio are fixed which means they cannot be determined within the system, then the model leaves no room for flexibility.

New Economics of Labour Migration (NELM) Theory

The New Economics of Labour Migration (NELM) Theory associated with the work of Oded Stark (1991) seen as a criticism of the micro version of the Neo-classical theory conceptualizing migration as an individual decision. According to Stark (1991), migration is a tool that households use to maximize income as well as diversify sources of income. By sending a family member away from home to work, a household makes an investment that will be recovered given that the migrant's remit some income later. They posit that if individuals migrate to increase their own income, as suggested by Hay and Co (1980) in Stark, (1991), then they are not expected to send remittances back home. The NELM theory fits into the Nigerian situation where a household pulls resources together to send one member out of the country with an agreement/unvoiced expectation to remitting back home. This was collaborated by Stark and Lucas (1988) in their argument that there exists an implicit or explicit contractual arrangement between the family and the migrant. The family angle of migration is also articulated by Taylor (1999). According to him, although individuals migrate, they do not sever ties with their source households. In this case the family seeks to maximize utility instead of the individual. Migration may have significant effects on household economic activities regardless of the theories. Migrant-sending households are often recipients of remittances from migrants. According to NELM theory, missing, inefficient, or poorly functioning markets are conditions necessary for the migration of labour to occur.

Concept Remittances

Remittances are the portion of international migrant workers' earnings sent back from the country of employment to the country of origin, and play a central role in the economies of many labour-sending countries.

Workers' remittances consist of goods or financial instruments transferred by migrants living and working abroad to residents of the home economies of the migrants. It is limited to transfer made by workers who have stayed in foreign countries for at least one year, while workers who are self-employed are excluded (IMF, 1999). Remittances" has now become a commonly used term, which is however rarely defined. Analytical studies define remittances as the sum of selected balance of payments flows. In some studies, the sum of workers' remittances and compensation of employees (Harrison 2003 and DFID 2003), in others the sum of the above balance of payments component plus migrants' transfer are used as proxy for remittances, resources freely sent to migrant's households in the home countries. They have contributed immensely in financing domestic investments as well as providing home-keep funds for dependent relatives, thereby alleviating poverty in developing economies.

Ncube and Brixiova (2014) define remittance as unrequited, non-market financial transfers between individuals living in different countries, mostly associated with migration. Therefore migration, which involves both voluntary migrants and international refugees are the major driver of remittances inflow. The size of remittances seems to suggest that they could be of immense economic importance to developing countries. The magnitude of remittances to developing countries relative to income flows and deliberate efforts of fiscal authorities to promote more inflows give credence to this conclusion.

2.2 Empirical Review

Barua et al (2007) analyze remittances using two broad approaches to remit; altruism and portfolio investment. They formulated the remittance-determination model selecting variables according to the objective of the study and in line with the existing literature in this field. The variables used include Workers' remittances, Migration stock, Host country economic condition, Home country economic condition, Income differential, Dummy variables, Inflation Differential, Return on financial assets, Exchange rate. The main variable of interest was income differential between host and home country, which they found to be positively correlated with the inflow of remittances to Bangladesh in all the regression results, an indication of altruistic motive to remit. There was no evidence of investment motive to remit in their preliminary model. They found Stock of migrants abroad and exchange rate to be positively significant in most of their regression analysis but found inflation differential (difference of home-host country inflation using consumer price index) to be negatively correlated with the remittances where real interest rate was excluded.

Adeyi (2015) on his part investigates the causal link between remittances and economic growth in one country each from Africa and Asia continents that is; Nigeria and Sri Lanka. The study employed Granger-Causality under the Vector Autoregressive Regression (VAR) framework on the time series annual data from 1985 to 2014. The results revealed that there is a unidirectional link in Nigeria, that is, remittances are found to lead to economic growth while economic growth does not lead to remittances inflow; but in Sri Lanka, a two way directional causality is found, that is, remittances influences growth in economic growth and vice versa.

Abeng (2006) in his review, he indicates that the Turkish economy was similar to that of the Nigerian economy because historically the Turkish economy just like the Nigerian economy in the 1960s was predominantly agricultural before being transformed into an industrialized economy. He employed the Ordinary Least Squares (OLS) technique. The findings included that higher interest rate in Turkey attracted remittances while political instability significantly discouraged remittance flows. They found that for the period 1979–1993, macroeconomic variables such as black market premium, interest rate differentials, growth, inflation rate, and period of military rule significantly affected remittance flows. The central thrust of their findings was that a sound exchange rate policy coupled with economic and political stability was key factors in attracting remittance flows.

Bouhga-Hagbe (2004) provided a model on how altruism, “attachment” to the home country, and portfolio diversification may act as potential motives behind workers’ remittances. Their findings show that the impact of workers’ remittances on Morocco’s external position and the conduct of monetary policy were significant. Remittances almost covered the trade deficit and had contributed to surpluses of the external current account, as well as the overall BOP. The study shows

that remittance increase with poor economic performances in the home country. Altruism as a motive for remittance according to them, could also contribute positively to the stability of remittances in the long run, also exchange rate through the “substitution” and “wealth” effects could influence the level of remittances. Bouhga-Hagbe (2006) presents investigation on “altruism,” as a motive for sending remittance and argues this motive could contribute to the stability of its inflow. Using cointegration techniques, they estimated the long-run relation between remittances and some of their potential determinants for Egypt, Jordan, Morocco, Pakistan, and Tunisia.

Agricultural real GDP was used as a proxy for “hardship”. According to Bouhga-Hagbe (2006), real agricultural GDP was used as an indicator of ‘hardship’ for a country that receives remittances from migrants resident abroad. In other words, a fall in real agricultural GDP may be interpreted as an increase in ‘hardship’ which according to the literature should be a ‘push’ for migration. It is expected that as ‘hardship’ increases indicated by a fall in real agricultural GDP emigration rates would rise. Their results suggest that the statistical model explained the evolution of remittances in the long-run in the five countries, which means the variable “Agricultural GDP” significantly enters the long-run relation and remittances tend to be negatively correlated with agricultural GDP which supports the view that altruism played an important role in workers’ decision to send money .

3. Methodology

The source of data used is secondary data. To achieve the first objective, this study adopt the model of Bichaka and Christian (2008) with some modifications and utilize Vector Autoregressive (VAR) and Error Correction Model (ECM), which give adequate understanding into the remittance-growth nexus relative to other sources of external capital, also taking into consideration other traditional sources of economic growth and the institutional factor as one of the variables.

The model takes the form:

$$\ln GDP_{it} = \beta_0 + \beta_1 \ln REM_{it} + \beta_2 \ln GCF_{it} + \beta_3 \ln AID_{it} + \beta_4 \ln ENR_{it} + \beta_5 \ln FDI_{it} + \beta_6 \ln TOT_{it} + \beta_7 \ln INY_{it} + \beta_8 \ln PRI_{it} + \epsilon_{it} \dots \dots \dots (3.1)$$

Where

GDP_{it} is real GDP.

REM_{it} is official remittances.

GCF_{it} is gross fixed capital formation as a percent of real GDP measure investment in physical capital.

ENR_{it} is investment in human capital measured by government expenditure on education and health.

AID_{it} is foreign aid.

FDI_{it} is foreign direct investment.

TOT_{it} is the degree of openness measured by the terms of trade.

INY_t is the initial level of GDP per capita.

PRI_t is political right index which captures the effect of institutional factors.

The political rights index goes from 1 to 7, where 1 denotes “most free” and 7 denotes the least level of political liberty.

$$GDP_t = \beta_0 + \beta_1 REM_t + \beta_2 GCF_t + \beta_3 AID_t + \beta_4 ENR_t + \beta_5 FDI_t + \beta_6 TOT_t + \beta_7 INV_t + \beta_8 PRI_t + \varepsilon_t \dots \dots \dots (3.2)$$

Equation 3.1 is adapted to include portfolio investment (INV) while the initial level of GDP per capita is excluded.

The *a priori* expectations are as follows: $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7 \geq 0$

The Ordinary Least Square (OLS) will be used to estimate.

The VAR is expressed in terms of vectors and is specified below in mathematical form:

$$X_t = c_0 + c_1 X_{t-1} + \dots + c_p X_{t-p} + U_t, \dots \dots \dots (3.3)$$

Where according to equation (3.3)

$$X_t = [REMIT, AGRGDP, EXCH, INF] \dots \dots \dots (3.4)$$

$X_t = (X_{1,t}, \dots, X_{k,t})'$ is a vector time series of macroeconomic variables,

c_0 is a k -vector of intercept parameters,

the C_j are $k \times k$ parameter matrices, and

U_t is the error vector, which is assumed to be i.i.d. k -variate normally distributed with expectation the zero vector.

We determine the optimal lag length for the VAR system by using the Schwarz (1978) Criterion (SC), the Akaike (1974) Information Criterion (AIC), Log likelihood and HQ.

4. Results of the Unit Root Test

From table 1, all the variables are stationary at 5%. GDP, REMIT, GCF, AID, FDI, TOT, INV, PRI, AGRGDP, EXCH, AGRGDP, ENR and INF are and are stationary 5% .

Table 1: Unit Root Test for the Model.

Variable	Absolute critical Value of ADF Stat	ADF Stat5%	ORDER OF INTIGRATION
GDP	2.590881	3.504330	FIRST DIFFERENCE
REMIT	0.134900	3.508508	FIRST DIFFERENCE
GCF	0.686240	3.568308	SECOND DIFFERENCE
AID	2.931475	2.916566	FIRST DIFFERENCE
ENR	3.541683	2.916566	FIRST DIFFERENCE
FDI	0.143399	3.508508	FIRST DIFFERENCE
TOT	2.280055	3.506374	FIRST DIFFERENCE
INV	3.225661	3.496960	FIRST DIFFERENCE
PRI	2.179898	2.915522	FIRST DIFFERENCE
AGRGDP	3.041240	3.500495	FIRST DIFFERENCE
EXCH	1.509353	3.493692	FIRST DIFFERENCE
INF	1.333479	3.493692	FIRST DIFFERENCE

Source: Author's computation from E-views 8.0

4.1 Empirical Results and Interpretations

To find out the impact of remittances on economic growth in Nigeria, GDP is used as a proxy for growth of the economy. We find the relative contribution of remittances alongside the contributions of other sources

of foreign capital like FDI and foreign aid and some other traditional sources of growth to the Nigerian economy using OLS. The results of our estimation is shown in equation 4.1

$$\begin{aligned}
 D(\text{GDP}) = & 1937.85 + 0.011D(\text{REMIT}) - 139.34D(\text{GCF}) + 0.969D(\text{AID}) + 0.026(\text{ENR}-1) - \\
 & [1.869] \quad [2.30229689477] \quad [-27.845739157] \quad [5.7318733168] \quad [3.16590548995] \\
 & \{0.0680\} \quad \{0.0259\} \quad \{0.0000\} \quad \{0.0000\} \quad \{0.0027\} \\
 & 0.25D(\text{FDI}) - 0.0065D(\text{TOT}) + 0.049D(\text{INV}) + 1925.5D(\text{PRI}) \\
 & [-2.42859548] \quad [-3.1847815843] \quad [8.52742063229] \quad [1.03959035061] \dots\dots\dots (4.1) \\
 & \{0.0191\} \quad \{0.0026\} \quad \{0.0000\} \quad \{0.3040\} \\
 \text{R-squared} & \quad \quad \quad 0.946 \\
 \text{Adjusted R-squared} & \quad \quad \quad 0.937 \\
 \text{Akaike info criterion} & \quad \quad \quad 19.52619 \\
 \text{Schwarz criterion} & \quad \quad \quad 19.85466 \\
 \text{Prob(F-statistic)} & \quad \quad \quad 0.000000 \\
 \text{F-statistic} & \quad \quad \quad 100.96
 \end{aligned}$$

The t-statistics are in parenthesis, the P-values are in brackets

Several versions of equation 3.1 are tested in order to obtain a model which yields robust results and best fits the data. We thus base the discussion of our findings on the more robust results reported above. The result shows that the model is an excellent model with an R-squared value of about 0.95 and an Adjusted R-squared of about 0.94. This shows that 94% of the dependent variable (which is economic growth for Nigeria measured by GDP) is explained by the explanatory variables (remittance, foreign aid, investment in physical capital, investments in human capital, investments, degree of openness, FDI and institutions) while only 6% is explained by other variables outside the model (i.e. the error term). Also the Durbin- Waston statistic which is given as 1.74 falls within the determinate region and implies the absence of serial correlation among the explanatory variables in the model. The F-statistic given as 100.96 which measures the joint significance of the explanatory variables in the model shows that the variables are jointly significant with a probability value of 0.0000. Broadly, some of the results reveal the expected relationship between growth measured by GDPt and the explanatory variables representing the sources of

growth having the expected signs according to the a priori predictions. The results from our model indicate that remittance, foreign aid, investment in human capital and investments have positive and statistically significant effects on economic growth in Nigeria. Accordingly, we find that a naira change in the volume of remittances would result in a rate of change of about ₦0.01 in GDP (growth) in Nigeria.

4.2 Johansen's Co-integration

To select the optimal lag length this study took the criteria of Akaike (AIC), Hannan-Quinn (HQ) and Schwarz (SC) for lags from 1 to 4 using the lag length criteria test. Lag 4 was chosen by all three criteria, however at lag 4 the VAR does not satisfy the stability condition and there is the presence of autocorrelation. We find the optimal lag length in which the VAR is stable and makes the residuals free from autocorrelation to be lag 2. These various checks are to ensure the consistency, reliability and efficiency of the results to be obtained in the VAR. We therefore selected lag 2. The Johansen's cointegration test was carried out and the results are shown on table 4.3 and equation 4.2.

Table 4.2: Results of Analysis of the Maximum Number of Lags in the VAR Representation

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1541.800764	NA	2.49E+21	60.61964	60.77115	60.67754
1	-1485.548165	101.4753	5.16E+20	59.04110	59.79868	59.33060
2	-1401.746177	138.0268	3.66E+19	56.38220	57.74584	56.90329
3	-1347.833262	80.34081	8.53E+18	54.89542	56.86513	55.64810
4	-1315.497899	43.11382*	4.77E+18*	54.25482*	56.83059*	55.23910*

Source: Author's computation from E-views 8.0

Table 4.3: Johansen's Cointegration Test Results

Trace Rank Test					
Hypothesis	$r=0^*$	$r \leq 1$	$r \leq 2$	$r \leq 3$	
Trace statistics	66.06	23.05	8.17	0.02	
5 Percent		47.21	29.68	15.41	3.79

Maximum Eigen Rank Test

Hypothesis	$r=0^*$	$r \leq 1$	$r \leq 2$	$r \leq 3$
Max Eigen statistics	43.01	14.88	8.15	0.02
5 percent	27.07	20.97	14.07	3.76

Source: Author's computation from E-views 8.0

The normalized cointegration equation is shown below in equation 4.2

$$D(LREMIT) = 491.39D(LAGRDP) + 32736.52D(LEXCH) + 86183.81D(LINF) - 11928.1 \dots 4.2$$

(27.6709) (30279.9) (59374.1) (13981.9)

Note: t- statistic in brackets

The results suggest that there is evidence of cointegration for both the trace and maximum-eigen value statistics. The trace suggests one cointegrating equation at 5%. The result of the Johansen's cointegration test therefore suggests that there is a long run relationship between AGRGDP, EXCH, INF and REMIT in the model. From the normalized cointegration equation AGRGDP, EXCH and INF are statistically significant and positively correlated to REMIT, which suggests that the variables explain the evolution of remittance in Nigeria in the long-run.

4.3 Error Correction Model (ECM)

The estimated specification suggests that the speed of adjustment (error correction mechanism) to the long run equilibrium is low with the appropriate negative sign as is required for dynamic stability. This agrees with the validity of an equilibrium relationship among the variables in the cointegrating equation. Specifically, about 5% of the disequilibrium errors which occurred in the previous period are corrected in the current period.

Table 4.4: ECM Estimation Results of Alremit

Regressor	Coefficient	t-values	S.E
Intercept	0.03	1.78	0.017
DLREMIT(-1)	0.75	12.64	0.059
DLAGRIGDP(-1)	0.311	3.39	0.09
DLEXCH(-1)	0.028	0.388	0.072
DLINF(-1)	-1.498	-3.455	0.434
ECM(-1)	-0.053	-6.014	0.009

Source: Author's computation from E-views 8.0

R-square Adjusted = 0.76, S.E=0.096, F-stat=34.19

The above table 4.5 can be shown as a linear equation below

$$\Delta \text{REMIT} = 0.03 - 0.053\text{ECM} + 0.75\text{D}(\text{LREMIT})_{t-1} + 0.31\text{D}(\text{LAGRIGDP})_{t-1} + 0.02\text{D}(\text{LEXCH})_{t-1} - 1.498\text{D}(\text{LINFL})_{t-1} \dots \dots \dots (4.2)$$

$$(1.78)^* \quad (-6.014)^* \quad (12.64)^* \quad (3.39)^* \quad (0.388)^* \quad (-3.455)^*$$

Note: t- statistic in parentheses

* = significant at 5 per cent level

From the results, the model is a good model with an R-square adjusted of 0.76. This means that 76% of changes in remittances is explained by the explanatory variables and are jointly significant given the value of the F-statistic (34.19). Remittance to Nigeria is driven by agricultural GDP (LAGRIGDP), exchange rate (LEXCH) and inflation (LINFL). The coefficient of real agricultural GDP (LAGRIGDP) has the expected sign and is significant in determining remittances flow to Nigeria. However exchange rate (LEXCH) and inflation (LINFL) does not have the expected sign but are statistically significant. The estimated specification suggests that the speed of adjustment (error correction mechanism) to the long run equilibrium is low with the appropriate negative sign as is required for dynamic stability. This agrees with the validity of an equilibrium relationship among the variables in the cointegrating equation. Specifically, about 5% of the disequilibrium errors which occurred in the previous period are corrected in the current period. The short run adjustment model suggest that past changes in remittances, real agricultural GDP and exchange rate are positively related to the current changes in remittances and are statistically significant. While past changes in inflation is negatively related to the current changes in remittances and is statistically significant. This means that in the short run a rise in inflation in the last period will be followed by a decrease in remittances in the current period. This finding supports the investment motive for remitting. The implication of this result is that high inflation rates (indicating worsening economic conditions in Nigeria) make migrants lose confidence in the economy.

4.4 Summary

The study used the Cointegration, Vector Autoregression (VAR) and the Error Correction Model (ECM) for its analysis. The following are the major findings;

- i. Remittances have a positive and significant impact on economic growth in Nigeria.
- ii. Real agricultural GDP, exchange rate and inflation are determinants of remittances in Nigeria.

- iii. There is a long run relationship between remittances and economic growth.
- iv. Based on the results we have achieved, the most plausible explanation for remittances from Nigerian residents abroad are investment and altruism motives.

5. Conclusion and Recommendations

This study undertook an empirical investigation of the impact of remittances on economic growth and the macroeconomic determinants of remittances in Nigeria. As the country in the face of mass unemployment migration could help ease the load on the domestic labor markets. In this light, migrant transfers in the form of remittances can ease the immediate budget constraints of families by bolstering crucial spending needs on food, health care, and are also a valuable resource that provides access to education for children who otherwise would have left school for lack of means. Although individual amounts of remittances might be negligible, but their cumulative sum adds up to substantial amounts which should contribute significantly towards foreign currency build-up (Singh and Sausi, 2010) and ultimately impact on economic growth. Nigeria therefore, needs to pay more attention on policies that have the capacity to harness the benefits of remittances for economic development.

Firstly since there is a long run relationship between remittances and economic growth, the macroeconomic variables should be influenced positively to encourage remittance inflow into Nigeria. Also remittances inflow should be directed towards investment channels by increasing investment opportunities in the country. Finally to harness fully the benefits of remittances, formal channels of remitting which are efficient, reliable and goes down to the rural communities should be encouraged so it provides a source of foreign exchange which can be used for development financing.

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