

RECONCILING INTERNATIONAL MIGRANTS' REMITTANCES FLOW DETERMINANTS: THE CASE OF NIGERIA

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Abstract

Despite the increasing importance of remittances in total international capital flows in Nigeria, the relationship between international migrants' remittances and its determinants remained under-researched. This study examines the determinants of international migrants' remittances flow to Nigeria using time series data for the period 1977-2010. The study employed the ADF and Philip-Perron modified unit root tests and based its analysis on Engle-Granger two stage long run relationships. The findings of this study strongly suggest that there exist a significant cointegration relationship between these international transfers and consumer price index, gross domestic product and openness in Nigeria. Other determinant is the US unemployment rate. More remittances inflows can be improved through official channels with the maintenance of macroeconomic and financial stability, which constitute important preconditions for the success of any policy related to remittances if inflation is kept under control. However the high proportion of remittances that goes through unofficial channels calls for urgent action to make official channel more appealing in terms of efficiency, safety, cost and anonymity.

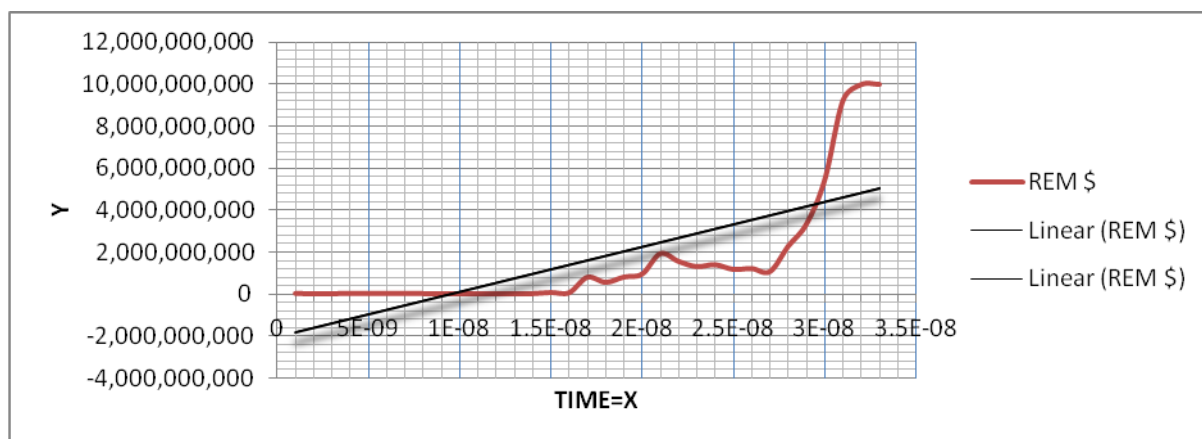
Keywords: International Migrants' Remittances, Determinants, Co integration, Nigeria

1. Introduction

Worldwide recorded remittance flows, including flows to high income countries, reached \$440 billion in 2010. Officially recorded remittances sent to developing countries reached \$325 billion, registering a quick recovery to the level in 2008 and 2009. Remittance flows proved to be resilient even during the global financial crisis and became more

important as a source of external financing in many developing countries (World Bank, 2011). After the latest revisions to data for 2009, India, China, Mexico and Philippines retain their position as the top recipients of migrant remittances in US\$ terms. Other large recipients among developing countries include Bangladesh, Poland, Pakistan, Egypt, Lebanon and Nigeria (Acosta et al, 2008).

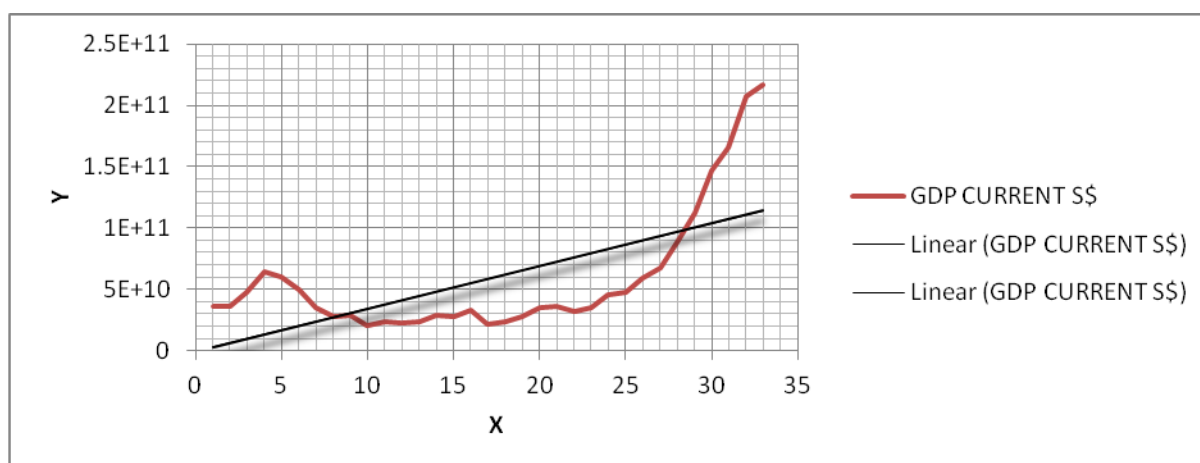
For example, Nigeria receives more than 50 per cent of the total remittances to Sub-Saharan Africa and ranks sixth on the table of top remittance recipients in all developing countries in 2008 with receipts in excess of ten billion dollars (World Bank, 2009). Structurally, the flow was as low as \$200million in 1977, in 1985 the flow increased to \$800million. The inflow of remittances into Nigeria prior to 2004 was under USD 2.0 billion, but this figure grew rapidly to USD 2.3 billion (2004), USD 6.5 billion (2005), USD 10.6 billion (2006) and USD 18.0 billion (2007).



Source: Authors computation, World Bank Development Indicators (WDI, 2010)

The annual growth rate has also been phenomenal, with 186.2, 63.3 and 69.7 per cent from 2005 to 2007, respectively (CBN, 2007a). This increase took place despite the high transfer fees that averaged 10 per cent of the total of remittance transfers. The cost of sending 200 euros from Ireland to Nigeria in March 2005 was 20 euros (10%), or estimated to be between 8 and 10 per cent of the transfer (NESC/IOM, 2006). The Central Bank of Nigeria estimated the figure for remittances in 2008 at USD 19.2 billion (MOI, 2010).

This ever increasing size of migrants' remittances and their unique characteristics was coincidental with the Nigeria economic growth.



Source: Authors computation, World Bank Development Indicators (WDI, 2010)

The gross domestic product per capita for example in 1960 was just about 93. The record was 117 in 1965. In 2000, the figure rose to 369, 797, 1108 and 1370 in 2000, 2005, 2006 and 2008 respectively (WDI, 2009).

This coincidental trends of GDP growth and migrant remittances is likely to continue as the estimated numbers of international migrants were 447,411 (1990), 751,126 (2000) and 972,126 (2005) and the net migration rate has been negative, at -0.2, -0.2 and -0.3 per 1,000 people in 1995, 2000 and 2005, respectively. In essence, these figures indicate that more people are moving out of the country as emigrants than those coming in as immigrants. This trend has been confirmed in recent years and might likely further increase in the future. In fact, in 2010 the net migration rate is -0.4 per 1,000 people. This percentage is quantifiable in 60,000 more emigrants than immigrants, which almost doubles the figures recorded in 2005 (UNPD, 2008).

Despite this unprecedented phenomenal, there has been little effort to analyze the determinants of migrants' remittances vis-a-vis the remittance-growth linkage in Nigeria. Nightingale (2003) observes that in spite of the recognized advantages of a well articulated remittance management regime to aid growth and development by providing much needed foreign exchange, and as a source of liquidity and palliative for its balance of payment deficit, Nigeria does not put remittance of migrant workers to their best use. The objective of this study is to investigate the determinants of private unrequited transfer in Nigeria by testing the hypothesis of altruism. Automatically these activities may affect foreign exchange and inflation rates in the domestic market which again stimulate Remittances (Elbadawi and Rocha, 1992; El-Sakka and McNabb, 1999).

Following the introduction, the rest of the paper is organized into four sections. Section two reviewed the literature. Section three consists of the analytical framework and methodology. Presentation of results and discussions are done in section four and the paper concludes in section five.

2. Literature Review

According to the World Bank (2006) remittances are more effective in both raising investment and enhancing growth in countries with higher levels of human capital, strong institutions, and good policy environments. Remittances are a stable form of external finance and often increase during times of economic hardship (Biller, 2007). In contrast, remittances can also deteriorate the balance of trade by stimulating an increase in imports (Biller, 2007). Remittances also have the tendency to create demand for leisure and reservation wages that as a consequence can reduce the participation of persons in the productive labour force, thus reducing the labour supply (Fajnzylber & Lopez, 2007 and Griffin et al, 2008). Lucas (2005) found that remittances impact positively on investment in India, Morocco and Pakistan. The results from a study conducted by Leon-Ledesma and Piracha (2004) for 11 transition economies of Eastern Europe for the period 1990-1999 affirm the view that remittances have a positive impact on productivity and employment, both directly and indirectly, through investment.

Their finding is consistent with Spatafora (2005). Using an Instrumental Variable regression, Spatafora (2005) finds that a 5 percentage point increase in remittances to GDP ratio is associated with a 1 standard deviation decrease in output volatility, 1 percentage point decrease in share of people living in poverty. Though small, these findings seem to suggest that remittances contribute positively to welfare enhancement and growth. Remittance flows can also be driven by portfolio/investment decisions (the macroeconomic motivations). Such macroeconomic motivations include the rate of return of the assets in the home country and rate of return of the assets in the host country (Solimano, 2003); and income levels of migrant workers, exchange rates in the home country, interest rate differentials between the home country and real output of the host country and home country (see Russel, 1986 and Nazli, 2006).

Many researchers have found evidence that the level of economic activity in the host country has a direct impact on remittances flows. Samples of countries that have been studied in this light include Samoa, the Pacific islands, and El Salvador (World Economic Outlook, 2005, p 82), (Chamon, Samoa, p 7), (Brown 1997, p 623), (IMF, El Salvador, 1998, p 31).

Solimano found that cross-country income per capita differentials between the remitting country and the migrants country of origin is the main determinant of remittance flows in Bolivia, Colombia, Ecuador, Peru and Venezuela (Solimano, 2003, p 28). Lowell's study found that in Latin America and the Caribbean, while per capita income is a major predictor of the volume of remittances sent by individuals, at the aggregate level, total per capita earnings are not significant (Lowell, 2005, p 69).

El-Sakka and McNabb's study of remittances to Egypt found that "the elasticity of total remittances [sent to Egypt] with respect to changes in the lagged value of the average level of real income in [Saudi Arabia] is 0.27;" this positive correlation occurred both when real domestic income entered the model in its current and lagged form (El-Sakka and McNabb, 1999, p 1498). Lianos found the same statistical correlation in his study of remittances sent to Greece from Germany, Belgium and Sweden (Lianos, 1997, p 85). As a factor affecting earnings and economic growth, Lianos also found that the rate of unemployment should be considered as an issue affecting the flow of remittances, although it was not statistically significant in each example of his research (Lianos, 1997, p 86). Both Solimano and Lowell, likewise, found that US Latino unemployment rates are positively correlated with remittances, thereby demonstrating the counter-cyclical pattern of remittances (Solimano, 2003, p 28; Lowell, 2005, p 71). Manuel Orozco, in contrast, found that unemployment does not have a statistically significant impact on remittances from the United States to the Dominican Republic (Orozco, 2004, p 4)

Remittances tend to respond very strongly to prices, reflecting the need migrants feel to increase family support when prices rise and lending further evidence that remittances, to a large extent, are spent on consumption. Lianos found this to be true with remittances sent to Greece by migrants living in Germany, Belgium, and Sweden (Lianos, 1997, p 85). Durand found that the likelihood of Mexican migrants returning with savings is greater during periods of high inflation (Durand et al, 1996). Lowell found that CPI fluctuation is the biggest factor impacting remittance flows at the macro level (Lowell, 2005, p 69). In fact, his study found that a 1 percent increase in the CPI is associated with a threefold increase in remittance volume. For the period studied in El-Sakka and McNabb's research, the Egyptian interest rate was pegged, thus creating a widening difference between domestic and foreign interest rates. This difference caused a large restriction in the flow of remittances through official channels. The interest rate differential is important variable explaining migrant remittance behaviour to Greece from Germany, Belgium and Sweden, although the elasticity is rather small in absolute terms (Lianos, 1997, p 82). This evidence contrast with the studies

that show that remittances tend to increase when the real exchange rate depreciates, namely when domestic prices lag the depreciation of the currency, and vice versa. El-Sakka and McNabb suggest that the data demonstrating an increase in remittances during times of inflation might be explained by two factors other than the need to support their families with increased flows. Perhaps migrants remitting to Egypt are more likely to send through official channels during times of high inflation so they can be assured of a safe delivery of funds to their families that may otherwise be at risk if sent through unofficial channels (El-Sakka and McNabb, 1999, p1499). They also suggest that migrants might remit more during periods of inflation to secure the “purchase of real assets, such as land and jewelry, the real value of which may be constant or actually rising in times of inflation” (El-Sakka and McNabb, 1999, p 1499).

Although Buch and Kuckulenz expected the impact of domestic inflation on remittances to be negative, they do not find a strong correlation between the two. They suggest that perhaps this occurs because “while an unstable macroeconomic environment creates incentives to migrate abroad, high inflation might also have a positive impact on remittances” because higher inflation creates greater uncertainty about future prices and leads to an acceleration of remittances to hedge against future inflation (Buch and Kuckulenz, 2004, p 9). Hoddinott (1992) examines the determinants of migrants' remittances in Kenya. Drawing on data from Central Province, he compares four econometric specifications of the remittance function, finding that failing to account for truncation, sample selection and identification leads to misleading estimates of the remittance-income relationship. It provides empirical support for the view that relations between parents and their sons are partly exchange motivated.

Examining the determinants of remittances using a panel of 101 countries during 1970-2003, IMF (2005) finds a significant negative impact of home country output on remittances. Nevertheless, the study's analysis of the correlations between aggregate remittances and other inflows on the one hand, and GDP on the other indicates that remittances are positively correlated with GDP, although they are not as sharply procyclical as the non-FDI capital inflows. Acosta et al (2008) examine the correlation between the cyclical components of remittances and real output in recipient countries for 26 Latin American countries and find evidence of counter cyclicity even after controlling for the endogeneity of output fluctuations. Extension of the analysis to other developing countries leads to the same result, but also reveals great heterogeneity by country group in the sensitivity of remittances to oscillations in the real output. The aggregated de-trended

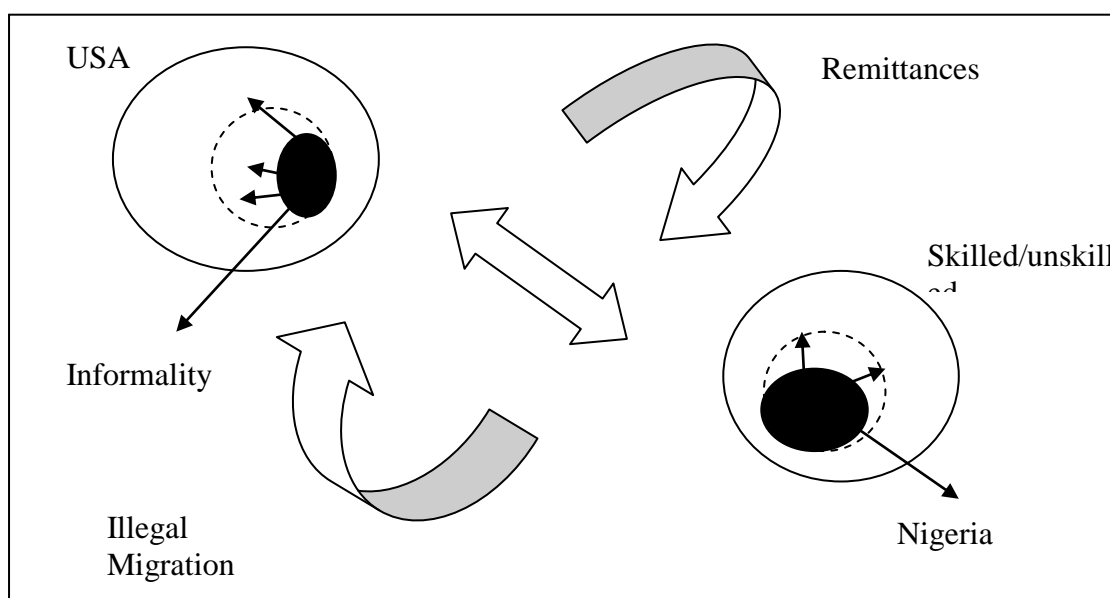
remittances sent to the 12 countries examined in Sayan (2006) are also negatively correlated with de-trended GDP. Nevertheless, both Acosta et al (2008) and Sayan (2006) find that the correlations at country-specific level weaken the verdict of counter-cyclicity obtained from the aggregate level analyses. Thus, several countries in the samples of each study exhibit pro-rather than counter-cyclical remittances in relation to output. This result prompts Sayan (2006) to conclude that “counter-cyclicity is hard to generalize to all countries.”

From the foregoing therefore, it can be deduced that why some economies are mostly affected by fluctuation such as prices variation, other holds the view that workers’ remittances does not responds to inflation, exchange rate fluctuation, interest rate and population growth rate, economic growth both in the host and country of origin.

3. Analytical Framework and Methodology

In a globalized world with free trade agreements in all continents, it becomes imperative to uncover the human behaviour and its reaction to new markets. Figure 3.1 diagrams the intuition behind our model. It represents possible channels that could lead to interactions between economic agents in different countries.

Fig 3.1: Skilled and Unskilled Migration and Remittances Interactions



United States of America (USA) (Foreign/Host) is capital intensive and belongs to the rich/developed economies, while Nigeria (Home/Source) is labour intensive and forms part of the poor/developing economies. In autarky, USA and Nigeria have reached equilibrium on the size of their respective formal and informal sectors. The genesis of migration in each

country can be different but we assume that wage, quality education, infrastructural facilities, interest rate, exchange rate differentials, institutional differential, skill acquisition and so on are the main factors that propelled migration.

With the opening of the economy of USA and that of Nigeria, we will find that USA has demand for labour which Nigeria is willing to provide either in the formal or informal sector in USA. If regulations obstruct this flow, but demand remains unchanged, a market for illegal migrants will enter the equation, increasing informality in USA (that not being our emphasis). Foreign unskilled workers (legal or illegal) in USA will receive a wage. These workers will send back part of their salary in the form of remittances to their people/families at their home- Nigeria. The extra money could be used in Nigeria to maintain or increase consumption, and also to finance investment for the families or for the remitter. If the conditions that created migration in Nigeria have not improved in the time being, this new income flows could also be used in the formal sector, explaining its surge also in Nigeria.

3.2 Model Specification

The main purpose of this study is to examine the determinants of migrants' remittances in Nigeria for the period 1977-2009. Thus there is need to specify a mathematical equation. Following Orozco (2005) in the study of Dominican Republic, we therefore present the following basis mathematical specifications of the migrants' remittances flow function:

$$LR_{NIG} = CPI_{NIG} + GDPPC_{NIG} + USUN + OPN_{NIG}$$

(+/-) (+) (-) (+)[Expected sign in the statistical relationship]

Where

LR	=	Worker's remittances
CPI	=	Consumer price index in Nigeria (a measure of inflation)
GDPPC	=	Gross domestic product per capita (a proxy for economic performance)
USUN	=	US Unemployment rate (a proxy for US labour market situation)
OPN	=	Openness (a proxy for globalisation)

3.3 Estimation Technique

Before estimating the models, the variables used in the model are subjected to stationary tests, using Augmented Dickey-Fuller (ADF) test following equation 1.

$$\Delta Y_t = \alpha + \beta_t + \delta Y_{t-1} + \Psi \sum_{i=1}^m \Delta Y_{t-i} + \varepsilon_t \dots\dots\dots (1)$$

Where α represent the drift, t represents deterministic trend and m is a lag large enough to ensure that ε_t is a white noise process.

If the variables are integrated of order one 1(I) or of different order of integration, we test for the possibility of a co-integrating relationship using Eagle and Granger (1987) two stage procedure.

3.4 Data

This analysis looks at these issues using data from 1977 to 2009 to analyze the possible patterns between remittances transfers and economic factors such as inflation, foreign exchange, Nigeria GDPPC, Nigeria level of openness and USGDP. Data gathered consists of figures for:

Table 3.1: Variables used, sources of the data and description

Variable	Source	Description
Annual worker remittances flow to Nigeria(REM)	World Bank staff estimates based on IMF balance of payments data.	Workers' remittances comprise unrequited transfers by migrant workers as defined in the fifth edition of the IMF's Balance of Payments Manual: Data are in current U.S. dollars.
Consumer Price Index(CPI)	International Monetary Fund, International Financial Statistics and data files.	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly.
US Unemployment(USUN)	International Labour Organization, Key Indicators of the Labour Market database(WDI, 2009)	Unemployment refers to the share of the labour force that is without work but available for and seeking employment. Definitions of labour force and unemployment differ by country.
Openness(OPN)	International Monetary Fund, Balance of	Trade in services is the sum of service exports and imports divided by the value of GDP, all in current

	Payments Statistics Yearbook and data files, and World Bank and OECD GDP estimates.	U.S. dollars.
Gross domestic product per capita(Nigeria) (GDPPC)	World Bank national accounts data, and OECD National Accounts data files.	GDP per capita is gross domestic product divided by midyear population. GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars.

4. Result and Analysis

Econometric studies have shown that most macroeconomic time series variable are non-stationary and using non-stationary variables in the model might lead to spurious regressions Granger (1969). The first or second differenced terms of most variables will usually be stationary Ramanathan (1992). All variables are tested at levels and first difference using ADF unit root test. The justification for the use of ADF unit root is based on large sample ($n > 30$).

4.2 Unit root test result

Table 4.1: Unit Root Test using ADF Statistic

Stationarity test for variables					
variables		ADF test stat	Critical values		Order of integration
			1%	5%	
LR	Level	-1.617483	-3.653730	-2.957110	I(1)
	1 st diff	-5.361051	-3.661661	-2.960411	
	Level	-0.277630	-3.653730	-2.957110	I(1)

OPN	1 st diff	-4.935030	-3.661661	-2.960411	
CPI	Level	-3.279510	-3.661661	-2.960411	I(1)
	1 st diff	-5.550541	-3.670170	-2.963972	
USUN	Level	-2.1852	-3.7379	-2.9919	I(1)
	1 st diff	-4.9902	-3.7379	-2.9919	
LGDPPC	Level	-3.394986	-3.653730	-2.957110	I(1)
	1 st diff	-5.537184	-3.670170	-2.963972	

Source; Own Estimates

The unit root test results are reported in table (3) above. The test revealed that all the variables under consideration are stationary at first difference. The variables are integrated of order one. This implies that the null hypothesis of non-stationarity for all the variables is rejected. Given the unit root properties of the variables, we proceeded to establish whether or not there is a long run co integration relationship among the variables in equation 2 by using Engle Granger two-stage method.

4.3 Result for Test of Co integration:

Co integration becomes a powerful way of detecting the presence of economic structure. A number of tests for co integration have been proposed in the literature. We consider here the Engle and Granger two-stage procedures.

Table 4.2: Co integration Test Result

Null Hypothesis: ECM has a unit root

Exogenous: Constant

Lag Length: 0 (Automatic based on SIC, MAXLAG=9)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.188608	0.0300
Test critical values:		
1% level	-3.653730	
5% level	-2.957110	
10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.

From the result in table 4.2 above, the Engle-Granger asymptotic 5 percent and 10 percent critical values are -2.957110 and -2.617434 respectively, while that of the Augmented

Dickey-Fuller test statistic is -3.188608. The result therefore implies that the residuals from the regression are stationary at level and at 5 and 10 percent levels. In other words, the model in our equation suggests a long-run relationship between them.

4.4 Error-Correction Model Specification

Hence the error correction model used in this study is specified as:

$$\Delta REM_t = \alpha_0 + \alpha_1 \sum_{i=1}^n \Delta CPI_{t-i} + \alpha_2 \sum_{i=1}^n \Delta USUN_{t-i} + \alpha_3 \sum_{i=1}^n \Delta OPN_{t-i} + \alpha_4 \sum_{i=1}^n \Delta GDPPC_{t-i} + \alpha_5 ECM(-1) + \varepsilon_t$$

..... (3)

Ecm (-1) = Error and correction term

The short effects are captured through the individual coefficients of the differenced terms. That is β_1 captures the short run impact while the coefficient of the ECM variable contains information about whether the past values of variables affect the current values of the variables under study. The size and statistical significance of the coefficient of the error correction term measures the tendency of each variable to return to the equilibrium. A significant coefficient implies that past fixed capital equilibrium errors play a role in determining the current outcomes. ∂_1 captures the long-run impact.

Table 4.3: Short-run parsimonious model result for remittance determinants

Dependent Variable: DLR

Method: Least Squares

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Sample(adjusted): 1978 2009

Included observations: 32 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.005671	0.011975	-0.473521	0.6400
DCPI	-0.001609	0.000662	-2.431825	0.0225
DEXR	-0.001150	0.001422	-0.808229	0.4266
DLRGDP	0.253179	0.257435	0.983469	0.3348
DOPN	0.013907	0.011739	1.184673	0.2473
DUSUN	0.003097	0.006132	0.505137	0.6179

ECM(-1)	-0.309048	0.170743	-1.810013	0.0823
R-squared	0.306329	Mean dependent var		-0.001864
Adjusted R-squared	0.139848	S.D. dependent var		0.065382
S.E. of regression	0.060638	Akaike info criterion		-2.577144
Sum squared resid	0.091925	Schwarz criterion		-2.256514
Log likelihood	48.23430	F-statistic		1.840022
Durbin-Watson stat	1.760913	Prob(F-statistic)		0.131770

From the value of R^2 , it can be concluded that the 5 stimuli in the equation explain nothing less than 30 percent of the systematic variations in migrants' remittances inflows during the 1977 to 2009 periods. The F value of 1.840022 is highly significant, easily passing the significant test at the 1% level. Thus, there is no doubt that there exists a significant linear relationship between migrants' remittances and the repressors used.

Interestingly, the results show the current price index has negative sign and is statistically significant. The result indicates that migrants mostly respond to economic conditions that directly affect daily activities, such as price changes in everyday activities. The result is consistent with the evidence that the majority of remittances transferred go to cover basic household needs and move against increasing in the general price level suggestive of procyclicality as against the findings of El Sakka and McNabb (1999) that concluded that remittances to Egypt increase with country's inflation. Although this result is contrasting the view of Aydas, Neyapti and Metin-Ozean (2002), Lowell (2005) in the case with remittances sent from the United States to Latin America and the Caribbean as did Lianos (1997) with remittances sent to Greece from immigrants living in Germany, Belgium and Sweden, but inconsonance with Orozco that concluded that prices changes do not affect remittance transfers to the Dominican Republic (Orozco, 2004).

Expectedly, globalisation proxy by openness has a positive sign but lost its significant. This goes to confirm that the unpredictable situations of developing countries in relation to the gains of openness model in Nigeria and hence indicates that appropriate and sound economic policies have not been introduced and implemented in Nigeria in relation to her competitiveness in the global world. Therefore, as rightly put by Obaseki (1999), the broad strategy to ensure that countries benefit from the gains of globalization and ward-off its threats is to apply market-friendly growth-oriented policies in a stable macroeconomic environment.

The model found the coefficient of worker remittances to be positively related to the Nigeria economic growth but lost its significance. This positive correlation with domestic income is in line with (El-Sakka and McNabb, 1999, Lianos, 1997) when they found the same positive statistical correlation in his study of remittances sent to Greece from Germany, Belgium and Sweden (Lianos, 1997). In the case of Nigeria, this result is particularly important because it indicates that the motive behind migrants' decision to send funds to their relations back home is assumed to be economic and self-interest which is contrary to the general believe of being altruistic. Oddly, the unemployment rate in the US is a priori positive and also lost its significance at all standards. Thus it can be concluded that US labour market situation especially unemployment level is not an important determinant of migrants' remittances in Nigeria.

In sum, the variables measuring macro economic instability have negative signs, confirming that an unstable macroeconomic policy environment will act to discourage migrants' remittances inflows into Nigeria.

Furthermore, the core issue for empirical analysis is the stability of parameters of remittances equation, which we reported in fig 3 and 4. It is now a standard practice to incorporate short-run dynamics in testing for stability of long-run parameters of the remittances equation. To this end we adopted the Bahmani-Oskooee and Shin (2002), as well as applying the cumulative sum of recursive residuals (CUSUM) to the residuals of the parsimonious model. For stability of short-run dynamics and long-run parameters of remittances function, it is core that the residuals and cusum of squares stay within the 5 percent critical bound (represented by two straight lines whose equations are detailed in Brown, Durbin, and Evans, 1975, Section). As shown in the fig 3. And 4, neither the recursive residuals nor CUSUM of squares plots move outside the 5 percent critical lines, however the unseemingly movement of 1995 and 2006, the result is suggestive of coefficient stability, therefore, we can safely conclude that the estimated parameters for the short-run dynamics and long-run of remittances function exists over the entire sample periods since residual result shows the future tendency of further stability.

Moreso, as with the CUSUM test, movement outside the critical line is suggestive of parameter or variance instability. Meanwhile, with our result, the cumulative sum of squares is generally within the 5 percent significant lines, suggesting that the residual variance is somewhat stable, corroborating the other stability test results. Other stability tests such as the Jarque-Bera normality and actual, fitted and residual graphs in fig 5 and 6 lend credence to

the stability of the parameters in the remittances model. The result of the test suggests that the model is fairly well specified and robust for policy analysis.

The dynamics governing the short-run behaviour of remittances in the model are reported in table 4.2. The short-run interactions and the adjustments to long-run equilibrium are fundamental because of the policy implications. The results of the reduced short-run dynamic remittances model are expectedly negative and also very significant in the remittances function. This suggestion substantiates the findings of long-run equilibrium relationship among the variables reported earlier, but more importantly, it suggest that one cannot overlook the co integrating relationship among variables in the model; otherwise, this could introduce misspecification in the underlying dynamic structure. The absolute value of the coefficient of the error-correction term implies that about 30.9 percent of the disequilibrium in the remittances model is offset by short-run adjustment within a year. In this case, full adjustments are achieved, and take twelve months to complete the cycles. Thus, to maintain long run equilibrium, it is important to reduce the existing disequilibrium over time.

5. Conclusion

What are the determinants of international migrants' remittances in Nigeria? This study found that, Remittances to Nigeria are mostly affected by fluctuations that directly affect a household, such as price variation, exchange rate devaluation, international labour market situation and globalisation. Other variables like economic performance of both country of origin and the host country do not hold similar effects. On the basis of the above analysis, the flow of remittances can be improved through the maintenance of macroeconomic and financial stability, which constitute important preconditions for the success of any policy related to workers' remittances. Migrant will be more willing to send and invest remittances if inflation is kept under control and exchange rate is reasonably stable. The macroeconomic impact of remittances, however, does not provide a major scope for intervention regarding the flows, although as these remitted amounts increase, they have an unclear effect on the economic performance of both the host and the country of origin. The objective of this study being to simply provide evidence on the core determinants of migrants' remittances in Nigeria, however, it could be argued that there might be a problem with our conclusion, been drawn solely based on the examination of formal remittances flow, while informal channels are estimated by the researchers to still attract about 50% of remittances (Ratha, 2006). However, all studies dealing with remittances only use official

remittances data because of lack of data on informal remittances. Consequently, the cyclical behaviour of formal remittances cannot be ascertained, and neither is it possible to know the impact of informal remittances on our findings. This lack of data obviously plagues the findings of all remittances studies.

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