Remittances and Economic Growth: Empirical Evidence from Nigeria and Sri Lanka

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Abstract

Remittance payments/inflows from migrants' workers are increasingly becoming significant sources of capital flows in the world in general and in developing countries in particular. The bone of contention is whether or not remittances create avenue or leads to economic growth. This paper set out to investigate the causal link between remittances and economic growth in one country each from Africa and Asia continents i.e. 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. Since the influence of the remittance on growth depends on the sustainability of the inflows and appropriate channeling structure, the study concludes by recommending the need to leverage remittances for small and medium enterprise development and microfinance as well as creating enabling macroeconomic environment.

Keywords: Remittances, Economic Growth, Granger-Causality, Vector Autoregressive Regression and Macroeconomic environment

1. Introduction

In recent time, the migrants' remittances to their country of origin are found to be increasing fast and it represents a major vehicle for reducing the scale and severity of poverty and economic backwardness in the developing world. The growth phenomenal of remittances in recent times has caught the attention of governments, particularly in developing countries that are in dire need of foreign exchange for the development of their economies; such that it has become the focal point on the ongoing debate concerning the costs and benefits of international migration for employment. Remittances are important sources of external financing. Workers' remittances have outperformed some traditional inflows such as foreign direct investment and portfolio investment in several countries including Nigeria and Sri Lanka.

Increases in remittance flows have greatly assisted these countries to minimize the problem arising from shortages of foreign exchange reserve which is badly needed to pay the import bills. It is undeniable that during their earlier stage of development, developing countries like Nigeria and Sri Lanka need the scarce foreign exchange to pay for its import requirements. The immense increase in remittance payments over this period may be attributed to two significant factors. First, immigration between developing and developed countries has increased dramatically in the past 20 years (World Bank 2007). Second, transaction costs have declined as technological improvements have allowed for faster, lower cost mechanisms for the international transfer of payments between individuals (Guiliano & Ruiz-Arranz 2006).

Remittances again in recent years have began to receive attention from a number of parties, including academics, policy makers, bankers, non-governmental organizations and activists working on behalf of migrant communities. Research however, have not agree on its role as a tool for economic growth and development, as some have expressed concern that continued currency appreciation due to high inflow could lead to a Dutch disease phenomenon on one hand. On the other hand, there are examples of countries that made deliberate efforts to attract remittances as a source of external financing to foster economic growth. It is against this background that this paper was undertaken, to examine the link between remittances and economic growth with special reference to Nigeria and Sri Lanka.

2. Conceptual Explanations

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).

Fundamentally speaking, the theory of labour migration takes into consideration the various labour market opportunities available to labour in developing countries. The theoretical underpinnings are those individuals who choose employments that maximize their expected gains from migration. The labour forces both actual and potential, compared expected incomes for a given horizon in the labour receiving country with the domestic incomes, and migrate if the former exceeds the latter (Todaro, 1996). Remittance has been defined severally as monetary and non-monetary items that the migrants earn while working abroad and later send back to their family or their accounts in their country. The International Labour Organization (ILO, 2001) defined remittances as the portion of international migrants' earnings sent back from the country of employment to the country of origin. Harrison (2003) and the Department for International Development (DFID, 2003) in their analytical studies defined remittances as the sum of workers' earnings and compensation of employees and migrants' transfer.

To avoid the ambiguity surrounding the specific meaning of remittances, countries adopt the definition in the balance of payments statistics manual of the International Monetary Fund (IMF), where 'remittances' is defined as the sum of three components; workers' remittances, compensation to employees and migrant transfers. Workers' remittances are recorded under the current transfers in the current account of the balance of payments. It includes goods and financial instruments transferred by migrants, who resides and work abroad in a given country for more than one year. It could be in cash or in kind from migrant to resident households in the country of origin.

It is of great important to know that remittances can be classified into financial remittances, social remittances and remittances in kind. Financial remittances are the inflow of cash and financial products. Cash includes money sent formally through banks and network of international Money Transfer Organizations (MTOs), and also conveyed through informal channels. Financial remittances could also be in the form of Diaspora bond receipts that are designed by the home countries to attract funds from the Diaspora. The Diaspora provides social remittances to their local communities in the areas of health, education as well as infrastructure through the donation funds. A social remittance occurs when migrants speak directly to a family member about different types of politics and encourage them to pursue reforms. In case such as these, ideas are communicated internationally to a specific recipient or group. People know why and when they change their mind about something and begin to act in a different way. Remittances in-kind are goods that are sent from abroad to home countries of migrants. This can take the form of clothing items, electronics equipment, books, automobiles etc.

On the part of economic growth, it is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth can be measured in nominal terms, which include inflation, or in real terms, which are adjusted for inflation. For comparing one country's economic growth to another, GDP or GNP per capita should be used as

these take into account population differences between countries. Therefore for the purpose of this paper, economic growth can be conceptualized as the increase in the market value of the goods and services produced by an economy over time.

3. An Overview of Remittances And Economic Growth

As mentioned above, whether remittances promote economic growth is an important issue of debate amongst economists. Those that believe remittances do not contribute to economic growth point to their expenditure on conspicuous consumption (Rahman et al. 2006) and that any savings are being spent on consumption rather than for the accumulation of productive assets (Stahl and Arnold 1986), and the theoretically low marginal propensity to consume out of transitory income. Those that argue for the positive developmental effects of remittances focus on the multiplier effects of consumption (Stahl and Arnold 1986), development of the financial institutions that handle remittance payments (Aggarwal et al. 2006), use of remittances as foreign exchange (Ratha 2005), and the role of remittances as an alternative to debt that helps alleviate individuals' credit constraints in countries where micro-financing is not widely available (Guilamo and Ruiz-Arranz 2006). These arguments may be separated into the classical opposing camps of development economists; those who believe in a top-down approach to poverty alleviation placing primary focus on the development of institutions, and those who argue for a bottom-up approach in which the individual is first lifted out of the poverty trap from which point society follows.

Many studies have attempted to address the impact of remittances on economic growth and poverty alleviation. Pradhan et al. (2008) find that remittances have a small, positive impact on growth in a 36 country cross-sectional study using a linear regression model in which remittances form one of five variables. Aggarwal et al. (2006) conducted a study of 99 countries over the period 1975-2003 and find that remittances have a positive effect on bank deposits and credit to GDP. The authors then interpolate the positive effect on development by invoking existing studies showing the positive impact of these two variables on economic growth**.** Taylor (1992) and Faini (2001) also find a positive association between remittances and economic growth. Taylor (1999) find that every dollar Mexican migrants send back home or bring back home with them increases Mexico's GNP from anywhere between US$2.69 and US$3.17. In contrast, Spatafora (2005) finds that there is no direct link between per capita output growth and remittances. Meanwhile, in one of the larger cross country surveys, Chami et al. (2003) conclude that remittances have a negative effect on economic growth across a sample of 113 countries. Several other published studies in relation to remittances have focused specifically on the alleviation of poverty rather than overall economic growth (for example, see Adams & Page 2003).

4. Review of Related Empirical Literature

Motelle (2011) studied the role of remittances in financial development in Lesotho vis-à-vis other alternative measures of financial development. The method of Error Correction Model was used for this purpose and the stationerity test was done using the conventional methods, such as Augmented Dickey-Fuller (ADF) and Phillips-Perron (1988) (PP), and Kwiatkowski, Phillips, Schmidt and Shin (1992) KPSS for robustness sake and eliminating the size and power problems associated with the traditional methods. He found out that remittances tend to have a long run effect on financial development; however, they do not cause financial development. The Granger causality test revealed that financial development causes more remittances. Kumar (2010) explored the short-run and long-run effects of remittances, exports and financial development on per worker income using the annual data for the period 1980-2009 in Pakistan. The ARDL Bounds approach under the Solow specification was used to establish the existence of long-run relationship between capital and labour stock, exports of goods and services, remittances and credit to private sector with respect to per worker income. The results indicated that remittances are pertinent contributor to economic growth of Pakistan's economy in the long run. Although he did not find remittances as effective contributor in the short-run, he attributed it to the World Bank argument that "this may be due to remittances flowing through informal channels resulting in remittance income being accumulated at home which is later invested in economic activities" (World Bank, 2009).

Yadav Sharma Gaudel (2006) did analytical and descriptive study on the role of remittance income in economic development of Nepal as compared to other inflows like foreign direct investment and grants. A trend analysis of Workers' remittance, Grants and Pensions was done with regards to their share of the Gross domestic Product (GDP) over a period of 1991 to 2005. Included in their analysis was also statistical relationship of these variables. The study concluded that "remittances and grants are claimed as important sources of increasing foreign exchange earnings in Nepal. Moreover, remittances may be a dependable source of national income for economic development if there is job guarantee for the workers with the wage level equivalent to the residence of the foreign country". This study was not in any way based on a robust statistical and econometric analysis in several ways; the conclusion was largely driven by some of the reviewed literature. The model of GDP as a function of Remittance, Grants and Pension was not tied to any theory, and the findings were drawn from this relationship. The variables used in this model was not in any where subjected to any unit root and other econometric tests even at the usage of Time Series data

Oke, Uadiale and Okpala (2011) investigated the impact of workers' remittances on financial development in Nigeria from 1977 to 2009 using Ordinary Least Square Estimation (OLSE) technique as well as the Generalized Method of Moments (GMM) estimator. With the indicators of the ratio of money supply to GDP (M2/GDP) and the ratio of private credit to GDP (CPS/GDP), they found that remittances positively and significantly influence financial development in Nigeria.

5. Data and Methodology

According to Umaru (2013), data is not the same as information. Information on its own has no meaning unless it is identified as useful in solving the problem under study. Data therefore refers to the collectible facts, statistic or pieces of information relevant to the question being investigated. For this study, the data is made up of annual time series data on Remittances (Rem) per capital received and Gross Domestic Product (GDP) per capita of Nigeria and Sri Lanka. The data ranges from 1985 to 2014. The data is collected from various issues of the World Bank and United Nations Conference for Trade and Development (UNCTAD) website.

The study employs Granger-Causality under the Vector Autoregressive Regression (VAR) framework to explore the nature of causal-link between remittances and economic growth using GDP as a proxy for economic growth in Nigeria and Sri Lanka.

5.1 Unit Root Test

For the purpose of avoiding the situation of generating spurious results as unit root is normally associated with majority of time series data, the study started by conducting the unit root test on the annual data for the variables (Remittances per capita and GDP per capita) for the two countries under study. In testing for stationerity of the variables, the study used the Phillip and Perron (1988), the Engle and Granger (1987) Augmented Dickey Fuller (ADF) tests.
For both ADF and the Phillip and Perron (PP) tests, the null and alternative hypotheses are;

H0: the residual series have unit root (GDP per capita and Remittance per capita are not co-integrated).
H1: the residual series have no unit root (GDP per capita and Remittance per capita are co-integrated).

The rejection of null hypothesis signifies that the series are stationary and thus co-integrated while the opposite of this will also be true.

5.2 Co-Integration and Granger –Causality Tests

The study adopted the co-integration and Granger-Causality tests through Vector Autoregressive Regression (VAR) mechanism. The co-integration test is conducted using the Johansen (1992) and the Johansen and Juselius (1992) framework. The main purpose of this is to observe the causal dynamics between per capita remittances and per capita GDP in the two countries and at the same time determine the long run dynamics between the variables. Also, because of the nature of sensitivity of both the co-integration and Granger-Causality tests to lag length, the study employed VAR lag length selection criteria in chosen the appropriate lengths of lag. As

shown in Table 1 below, the optimal lag length selection is 1 for Nigeria and 2 lag length for Sri Lanka. The study employed a model used by Siddque et al (2012) for the Granger-Causality dynamics for both variables. For Nigeria, the model is on first-difference of the series and it is as follow;

Remt = α01 + α11 +Remt-1+ β11GDPt-1 + ε1t
……..…….……(1)
GDPt = α02 + α12Remt-1 + β12GDPt-1 + ε2t
…….(2)

We tested whether In GDPt-I does not appear in the remittances equation to test economic growth does not cause remittances and Remt-1 does not appear in the economic growth equation to test remittances does not cause economic growth. In the situation of Sri Lanka where the optimal lag length is 2, the model will be as follows;

Remt = α01 + α11 +Remt-1 + α21Remt-2 + β11GDPt-1 + β21GDPt-2 +
ε1t……..…… (3)
GDPt = α02 + α12 + Remt-1 + α22Remt-2 + β21GDPt-1 + β22GDPt-2 +
ε2t…….. (2)

The null hypothesis for the ***"non-causality***" that "economic growth does not cause remittances" is stated as;
H0: β11=β21=0

The rejection of null hypothesis indicates that economic growth causes remittances.
In the same way, the null hypothesis for the test for "***non-causality***" that "remittances does not cause economic" growth is stated as;
Ho: α12=α22=0

Table 1: Length of Lag selection Criteria

Nigeria

Lag	L	LR	FPE	AIC	SC	HQ
0	-398.684	NA	2.55e+09	27.33504	27.43020	27.33021
1	-320.165	108.0812*	45055442*	23.29751*	23.5821*	23.48298*
2	-319.786	2.36468	54665607	23.48476	24.9216	23.92478
3	-315.758	4.56574	59267841	23.67412	24.2261	24.21163
4	-312.721	6.06732	61267482	23.62467	24.3772	24.34684
5	-305.818	4.21708	63845824	23.55207	24.6124	24.80162

Sri Lanka						
Lag	**L**	**LR**	**FPE**	**AIC**	**SC**	**HQ**
0	-336.1124	NA	1.06e+08	25.26421	24.25621	23.26781
1	-298.2674	98.85621	672647.8	19.12422	20.46184	22.18724
2	-255.9561	9.500424*	614680.7*	18.99689*	19.44261*	19.14232*
3	-253.7071	1.899472	758616.8	19.36423	20.20205	19.64578
4	-251.6242	1.627141	826713.5	19.82197	20.43064	19.69783
5	-250.2113	1.432126	976163.5	19. 90122	20. 87129	19.23498

* indicates lag order selected by the criterion
LR: sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan-Quinn information criterion
Notes: based on this, lag 1 is chosen for Nigeria and lag 2 is selected for Sri Lanka for the co-integration tests and the Granger Causality Tests.

6. Discussion Of Empirical Results And Analysis

6.1 Results of Unit Root Test

The results of the test for stationarity are presented in the Table 2 below. Both of the variables became stationary at the first difference using both the ADF and PP tests with constant only and constant with trend except remittance per capita in Sri Lanka which became stationary only after the second difference. This means the variables are integrated order 1 and order 2 i.e. I(1) and I(2). This implies that the variables do not have long run relationship but may have short run relationship or co-movement in them and may also have some long run relationship. This then called for the performance of co-integration test to confirm this.

Table 2: Unit Root test Results

	LEVEL				**1STDF**				**2ndDF**			
	ADF		**PP**		**ADF**		**PP**		**ADF**		**PP**	
	C	**C+T**	**C**	**C+T**	**C**	**C+T**	**C**	**C+T**	**C**	**C+T**	**C**	**C+T**
GDP												
NIG	0.54	---	0.223	---	----	----	----	----				
		1.48		1.46	4.956	7.116	5.002	7.397				

		9		1	*	*	*	*				
SRI	-----	----	----	----	----	----	----	----				
	1.050	1.870	1.522	2.189	4.300*	4.300*	4.229*	4.215*				
REM												
NIG	5.003	4.357	0.209	----	----	-----	----	-----				
				1.255	4.367*	4.556*	4.368*	4.38*				
SRI	-----	-----	0.535	-----	-2.165	-1.982	-2.197	-2061	----	----	----	----
	0.960	4.183		1.325					5.501*	5.526*	5.672*	5.526*

Note: Significance at 1% is denoted by * and while # denotes 5% significance. C represents Constant while C+T represents Constant with trend. Nigeria have I(1) integration for both variables and Sri Lanka has I(1) integration for GDP and I(2) integration with Remittances.

6.2 Results of Co-Integration Test

Using the Johansen co-integration techniques which involves the use of maximum Eigen values and the trace statistics, the results are presented in a summarized form in the Table 3 below. From the results, it can be realized that there is at least one co-integration relationship between the variables in the situation of Nigeria where the maximum Eigen value and that of the trace statistics of 19.137 and 19.176 respectively are greater than the 5% critical values of 14.265 and 15.496. In the case of Sri Lanka, there is no co-integration relationship among the variables since the critical value at 5% is greater than both the maximum Eigen values and the trace statistics values.

Table 3: Results of Co-integration Test

H0	xaM negiE	**95% Critical Value**	**Trace Stat.**	**95% Critical Value**
Nigeria				
r=0	19.137*	14.265	19.176*	15.495
r≤1	0.0387	3.841	0.0387	3.841
Sri Lanka				

r=0	9.346	14.265	10.463	15.495
r≤1	1.117	3.841	1.117	3.841

Note: * denotes a significance at 5% level of trace means 1 co-integration equation and denotes rejection of the hypothesis of no integration at 5% level using Mackinnon-Haug- Michelis (1999) p-values

6.3 Results of Granger-causality test

Presented in Table 4 below are the results of the Granger-causality test. In the case of Nigeria, there is a unidirectional causality link flowing from remittances to economic growth. This means economic growth does not lead to the flow of remittances in Nigeria but remittances flow into Nigeria causes economic growth. On the part of Sri Lanka, there is bi-directional link between economic growth and remittances by the indication of the results in Table 4 below, the p-values of the F-test decision rule create avenue for rejection of null hypothesis (that is, H0:Growth ≠› Remittances and Remittances ≠› growth). The result indicates that remittances flow into Sri Lanka causes economic growth in the country and at the same time, the economic growth leads to the flow of remittances in Sri Lanka, unlike Nigeria where economic growth do not lead to flow of remittances.

Table 4: Results of Granger- Causality Test between Economic Growth and Remittances

Null Hypothesis	**P-Value of F-test**	**Conclusion at the 5% level**
NIGERIA		
1 H0: Growth ≠›Rem	0.566	Do not Reject H0
B_{11}= 0		That is, economic growth does not cause Rem
2 H0: Rem≠›Growth	0.002	Reject H0
α 12=0		That is, Rem does causes economic growth
SRI LANKA		
1 H0: Growth≠›Rem	0.00	Reject H0
B_{11}= 0		That is, economic growth does causes Rem
2 H0: Rem≠›Growth	0.001	Reject H0
α 12=0		That is, Rem does causes economic growth

7. Conclusion and Recommendations

Attempt has been made in this paper to investigate the causal relationship between remittances and economic growth in Nigeria and Sri Lanka using data for the period 1985 to 2014. In the course of investigating, the paper utilized various time series econometric techniques such as Unit Root Test, Co-integration and Granger-Causality. The analysis reveals and established that remittances lead to economic growth while economic growth does not lead to remittances flow in Nigeria (that is to say, there is one-way causal relationship between the two variables running from remittances to economic growth in Nigeria). The study however found bi-directional significant link between remittances and economic growth in Sri Lanka. Meaning the study reveals a two-way directional causality, indicating that remittances flow leads to economic growth and the economic growth also facilitates flow in remittances. While the analysis in both series are stationary only in first difference in the case of Nigeria and stationary in the first and second difference in the case of Sri Lanka, hence the findings of this paper are more valid in the short run.

It is recommended that polices regarding emigration should be put in place to make it more encouraging to emigrate and remit to home countries in the case of Senegal and Nigeria since remittances promote economic growth.
It cannot be denied that remittances are very important to the economy of Sri Lanka. Unfortunately this important source of income and the expatriates who earn this income did not receive due attention from the policy makers in most of developing countries including Nigeria and Sri Lanka. Although in overall, the extent to which countries benefit from remittances is closely related to the strength of domestic institutions and macroeconomic environment.

Nevertheless, there are a number of important areas where improvements can be made and contributions from remittances to promote economic growth could be enhanced. Some of these areas are discussed below;

Transmission mechanisms and channelizing the remittances

High fees charged by financial institutions, coupled with insufficient ATM's are still pushing some workers into remitting money home through the informal means. While some Ministry of Finance made headway in curtailing informal transfer means when they introduced strict time limits on official transfers and promoted electronic banking, competition within the banking sector needs to be encouraged to mitigate fees and harness a greater number of formal remittances.

Formal financial infrastructure for remittances in Nigeria and Sri Lanka is needed to allow poorer rural households access to finance without the use of money launderers, shopkeepers for credit, and other informal remittance services, which inflate the final in-country portion of the

transfer. The need is for the development of reliable, rapid and low cost remittance transaction support. This support should endeavour to be easily accessible not only from centralised commercial areas but also households in rural areas. This would maximise remittances through formal channels, at the same time fostering growth in the more disadvantaged rural areas.

Gender Issues

There are also significant gender issues that must be addressed if migration and remittance payments are to be effectively utilized. Women are of particular concern in the workforce. Currently, women migrants are an immensely unutilized asset. This is largely due to government restrictions on the number of unskilled and semi-skilled women who can migrate. However, problems are also faced by those women who manage to migrate (whether legally or not), with many reported cases of exploitation. The United Nations notes that female migrants frequently face demands for higher payments from recruitment agents and are also often subject to assault by employers (UNIFEM 2003). Therefore, in order to capitalize on this untraditional market effectively the government must promote and empower women in the workforce. Restrictions on female migration should be lifted, and there should be strict enforcement of minimum labour standards that ensure protection of workers overseas. Governments should, in conjunction with active women's agencies, educate and train women, thereby increasing their capacity to cope with potential exploitation while gaining additional skills that can be used in the workplace.

Regulation and Enforcement

Another point that warrants further attention is the amount of illegal migration that still occurs. Although Nigeria and Sri Lanka also have laws against human trafficking however the concern is the capacity for developing countries to enforce the laws effectively. Due to a number of loopholes and disjointed efforts among different anti-trafficking groups there is still insufficient regulation of recruitment agencies and human traffickers. While promotion of formal remittances would likely help, the governments must show persistent vigilance against human trafficking through coherent and strictly enforced law. There should also be increased cooperation between origin countries and countries of destination so that there is a more coordinated and uniform effort in regulation of migration and enforcement of ethical practices and laws.

Investment and Savings Schemes

It is also important that institutions introduce new savings instruments as well as further opportunities whereby migrants can channel their remittance funds into productive sectors of the economy. Education in financial planning and business development/management would be effective in harnessing the development impact of remittances in Nigeria and Sri Lanka.

It should however be noted that merit of remittance flows might Lie more on increasing the level of income for the poor rather than the growth of the economy as a whole.

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