Impact of Migrant Remittance on Socio-Economic development of Ghana

Ing Samuel Mintah[1]   Anita Naadei Nikoi[2]

1. Czech University of Life Sciences Prague, Faculty of Tropical AgriSciences Kamýcká 129,165 21, Prague 6, Czech Republic. *E-mail: smintah.72@gmail.com

2. Mendel University, International Territorial Studies (FRRMS) Zemědělská 1, 61300, Brno, Czech Republic. E-mail: xnikoi@node.mendelu.cz

Abstract:

International migration as a force of globalization is on the rise and has gained international discussion on many developmental platforms to analyze the real effects of migration on especially the sending country. Remittance received has also been described as a tool that can harness the development of many developing countries through reduction of poverty.

This study therefore analyzed the impact of remittance on the socio-economic development of Ghana. The study made use of a time series data over the period 1992-2012 and employed a multiple regression analysis for both economic growth and poverty reduction in Ghana. Results from the analysis suggests that, remittance had a positive impact on economic growth with a positive coefficient of correlation and statistically significant. However, the impact on poverty reduction in Ghana was statistically insignificant but had a negative coefficient of correlation which proves an indirect effect on poverty reduction.

Keywords: Remittance, Poverty, Economy, Growth, Development, Migration, Ghana.

1. Introduction

Internal and International migration in most developing countries is often attributed to individuals seeking for better job opportunities and better life to improve upon their standards of leaving. Nonetheless, once these migrants find employment in urban cities or abroad, they tend to remit or send a sizeable portion of their increased earnings to families back home which is called migrant remittance (Adams, 2006).

Migrant remittance generally defined as the portion of migrants' earnings sent from the migration destination to the place of origin, Owiafe (2008), is known to be a source of revenue and income generation to many developing countries which plays an important role in poverty eradication, income distribution, inequality and economic growth especially to rural regions of many developing countries. Remittances have for several generations been an important means of support for family members remaining at home. As migration continues to increase, the corresponding growth of remittances has come to constitute a critical flow of foreign currency into many developing countries and Africa in particular. Policy makers in developing countries have started to streamline financial systems, removing controls and creating incentives, with the aim of attracting remittances especially through official channels (Addison, 2004).

Latest studies in development economics and finance have begun to assign an important role to remittances as key ingredients in the growth prospects of developing countries and having a potential positive impact as a development tool for these countries (Addison, 2005). Recent global estimates show that, in developing countries, migrants' remittance flows now surpass Official Development Assistance (ODA) receipts (Ratha, 2003).

In Ghana, remittances amounted to $18.7 billion in 2012 according to the Bank of Ghana (BoG). However, in the midst of growing volumes of remittance flow into most developing countries such as Ghana, most of them still face much development problems such as poverty (Nikoi, 2014). The question to ask is therefore what the impact of these large remittance flows has on the economic development of developing countries such as Ghana. Ghana was chosen for this study not only because of high level of poverty rates but also the increased number of money transfer institutions (both formal and informal) in the country and also the recent rapid growth in the volume of remittance in the country. It has been argued that migrant remittances are becoming a potential source of foreign exchange whose magnitude exceeds the amount of *ODA* to Ghana.

It is in this regard that, this study seeks to analyze and evaluate the impact of remittance to the economic and social development of Ghana.

1.1 Objectives of the study

- To investigate the impact of remittance on economic development of Ghana
- To examine the extent to which remittance affects poverty reduction in Ghana

Based on the set objectives above, the following hypotheses are proposed to answer the main aim and objectives of the study;

1.2 Proposed Hypothesis of the study

- There exists a significant relationship between remittance and Economic growth of Ghana.
- There exists a significant relationship between remittance and Human Development of Ghana.
- There exists a significant relationship between remittance and poverty reduction in Ghana.

2. Global trends in Remittances

The total amount of remittances received has been growing in recent years. The IMF's *Balance of Payments Statistics Yearbook* estimated that, from the year 2001 to 2007, the global receipts [5] recorded for remittances more than doubled to US$336 billion (IMF, 2008). Similar to this, the Bank of Ghana also reported an estimated amount of US$2.4 billion in remittances from the period 2003 to 2011(BoG, 2012). Currently, official recorded remittance flows to developing countries are expected to increase by 6.3 percent to reach $414 billion in 2013. Worldwide, these flows could reach nearly $550 billion in 2013. According to the new estimates, the top recipients of officially recorded remittances for 2013 are India ($71 billion), China ($60 billion), the Philippines ($26 billion), Mexico ($22 billion), Nigeria ($21 billion), and Egypt ($20 billion). Other large recipients include Pakistan, Bangladesh, Vietnam, and Ukraine (Figure 1).

2.1 Channels for remittance flow

Given the broad work done on the impact of remittance on economic development of developing countries, one cannot review remittance without knowing the channels as well as determinants that encourage migrants to remit. Channels through which migrants remit can be grouped into two broad categories; Formal and Informal.

Formal channels are those that can be described as registered and involve the issuing of contracts of transaction and include various banks, non-banking financial institutions such as microfinance institutions that offer money transfer services and known money transfer operators such as Western Union and Money Gram. Informal channels on the other hand can be referred to as those channels that do not involve the use of formal contracts. These channels do not go unto the records of governments and other international financial institutions and could

---

[5] measured as global receipts of "workers' remittances" and "compensation of employees"

be attributed to the reason why correct estimates on the actual volume of remittance are hard to come by. These informal channels may include courier services and cash in hand transfer.

In Ghana, the case in the use of informal channels of remittance is low as this channel is most evident in countries where the banking sector is relatively underdeveloped and therefore, trade and exchange rate restrictions encourage parallel markets and foreign exchange rates. In Ghana, the Bank of Ghana sets the official exchange rate and hence do not encourage informal banking sectors. However, though informal channels are of low use by many Ghanaian migrants, there is no adequate research to substantiate this claim. Tiemoko (2004) noted that, most migrants who remit less frequently are most likely to use informal channels but the elite migrants most often rely on formal channels for trust in formal channels of money transfer.

2.2 Use of migrant remittance

People normally migrate in search of better opportunities and knowing to the fact that, they send money back to their home country through different channels as stated above, it is worth stating what these remittances are purposely used for. It is however difficult to state the principal use of migrant remittances as different authors have pinned varied reasons to the use of migrant remittance.

As stated by Lipton (1980) and Russel (1992), the principal use of remittance is for immediate consumption. However this was disputed by Taylor (1992) stating housing and land acquisition as the main use of migrant remittance. Chiami et al (2003) also found consumption and savings or investment as the main use of migrant remittance. However, Edwards and Ureta (2003) concluded that huge portions of migrant remittance received by households are spent on education as compared to other sources.

In Ghana and as typical of most African countries, remittances are important source of livelihood for many poor households. According to the African Development Bank (2008), 80% of remittance beneficiaries in Morocco, Senegal, Mali and Cameroon are poor households in rural areas. Remittance use for these households is mainly to meet basic needs such as food, shelter, education and health care. Though not often seen, some part of the remittance is used for investment in the area of real estate, industry, exports or imports; the major concern is to meet daily and life's basic needs than to save towards capital accumulation (Quartey, 2006). Table 1 describes the usage of migrant remittances in Ghana in a survey done by Quartey (2006).

An unaccepted usage of migrant remittance that is currently the trend in Ghana is for funerals. However as noted in the table above, only 2 of the respondents answered to funerals as the main usage since it is an avenue that is very difficult to quantify. In a study (Mazzucato et al. 2005) following the economic behavior of Ghanaian migrants living in the Netherlands over a one-year period in 2003–2004, the authors found that close to 10 percent of all remittances were sent for funeral purposes. Considering that the Central Bank of Ghana estimated official remittances into Ghana to total US$1billion1 in 2004 (Addison 2005), this finding implies that funeral remittances could be at least $100 million.

3. **Methodology and Data sources**

The study mainly employed secondary data sources (time series data) for its analysis over a 20 year period (1992-2012). Data sources include official publications of the World Bank, statistics and publications from the Bank of Ghana database and Ghana statistical services (GSS), journals and other important internet sources.

3.1 Estimating the impact of remittance on economic growth

The empirical model for the study was a multiple regression model analysis which follows works done by Giuliano and Ruiz-Arranz (2005) and Ahortor and Adenutsi (2009) and employed by Iheke (2012). This model

was to chosen in order to test the effect of remittance on economic growth of Ghana based on the various economic indicators used in the study.

EG= f (RM, HDI, GDP, INF)

Where;

EG is economic growth, RM is remittances, HDI is Human Development Index, GDP is the gross domestic product, and INF is inflation rate.

Therefore, the econometric model is expanded below;

$$\text{EG} = \beta_0 + \beta_1 RM_{it} + \beta_2 HDI_{it} + \beta_3 GDP_{it} + \beta_4 \text{INF} + \varepsilon_{ti} \qquad (1)$$

Where all variables are explained above except ε which is the error term.

However, since there are assumptions that relates to regression models based on time series data as employed in this work as to ensure that, the results obtained from the regression model suits the variables employed and not baised making it untrue. One way to check for such assumptions is the use of log transformation to check for linearity in the variables. In this context, we therefore transform our regression model to the log base of 10 or simple, natural log. Our base econometric model would be as follows;

$$In EG_t = \beta_0 + \beta_1 InRM_{it} + \beta_2 InHDI_{it} + \beta_3 InGDP_{it} + \beta_4 In\text{INF} + \varepsilon_{ti} \qquad (2)$$

Where all variables are as previously defined except ε, which represents the usual error term, t, is time and *In* denotes natural logarithm. All variables are in natural logarithm. Also, Log transformation can reduce the problem of heteroscedasticity because it compresses the scale in which the variables are measured, thereby reducing a tenfold difference between two values to a twofold difference (Gujarati, 1995). It is important to note that the model is a multiplicative one where all parameters (coefficients) represent constant elasticities.

3.2 Estimating the impact of remittance on Poverty reduction

Inorder to test for the impact of remitance on the povert reduction in Ghana, a poverty model would be employed. This is used as reduction in poverty actually shows how the standard of the living of the population has been improved, that is, improved sanitation, access to quality food, improved health and education, increased in income level and access to other social amenities (electricity, water, etc). Also, it must be noted that, remittance is not the only indicator of poverty and as such there is no single model that postulates the appropriate and accepted determinants of poverty.

However this study follows the works of Dollar and Kraay (2002) and Berg and Krueger (2003) and stated by Owiafe (2008) on cross-country empirical works on poverty. Therefore the study uses the following model;

Pov=f (GDP, RM, HDI) where,

GDP is Gross Domestic Product, RM is Remittances, and HDI is Human Development Index. Our base econometric model is given as;

$$\text{Pov} = \beta_0 + \beta_1 GDP_{it} + \beta_2 RM_{it} + \beta_3 HDI_{it} + \beta_4 \text{INF} + \varepsilon_{ti} \qquad (3)$$

We therefore treat (3) as done for (1) above for the same reason of linearity and heteroscedasticity of the variables. Our econometric model would therefore be given as;

$$In\text{Pov}_t = \beta_0 + \beta_1 InGDP_{it} + \beta_2 InRM_{it} + \beta_3 InHDI_{it} + \beta_4 In\text{INF} + \varepsilon_{ti} \qquad (4)$$

Where all variables are as previously defined except ε, which represents the usual error term, t, is time and *In* denotes natural logarithm.

Theoritically it has been argued that, remittances has the potential to allieviate poverty and enhance economic and social growth in developing countries. With this notion in mind, we do expect a positive corelation between

poverty and remittance. This trend is also expected to be seen between remittances and GDP, Economic growth and HDI. However, since inflation affects prices of goods and commoditites in a country, we expect a negative correlation between remittances and inflation rate in Ghana.

4. **Results**

Table 2 gives a descriptive statistics of the variables employed in this study. From the table 2 (appendix), can be seen that the Z score for the variables, the value falls within -1.96 and +1.96 and this suggests that, the sample distribution is normally distributed and hence the assumption of linearity would therefore not affect our regression model.

4.1 Model analysis of impact of remittance on economic growth of Ghana

Table 3 below gives a regression analysis on the factors that contribute to economic development in Ghana measured by economic growth. The table shows the linear functional form for the regression analysis as it best fits the regression model employed and the best explains the variables in the study. The multiple coefficient of determination (R^2) for the regression model is 0.727 which shows that, 72.2 percent of the variations in the determinants of economic output of Ghana were explained by the variables included in the model. Also the F statistics given is (10.67) and this is significant at 1 percent significant level. This shows that, the regression is significant and as such the data best fits the model used.

Table 3. Summary of regression model

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.853[a]	.727	.659	.09227	.727	10.668	4	16	.000

a. Predictors: (Constant), INflog10, HDIlog10, gdplog10, remittancelog10

b. Dependent Variable: economiclog10

Table 4. Regression analysis of factors affecting economic output of Ghana

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-3.347	1.080		-3.100	.007
remittancelog10	.220	.156	.495	1.407	.018
1 gdplog10	.185	.153	.378	1.204	.024
HDIlog10	.849	1.092	-.127	-.778	.048
INflog10	-.008	.130	-.012	-.062	.951

Source: Authors own

From the table 4 above, remittance was significant at 0.05 significant to economic growth. Also, looking at the coefficient of the model, an increase in the level of flow of remittance into the economy of Ghana has an impact on the economic growth and hence economic development. This also clarify the notion that, remittances has the potential to boost the economic growth and development of developing and rightly cited in many literature and international organization platforms (Iheke, 2012). We do reject the null hypothesis and accept the alternate and conclude that, there is a significant effect of remittances on economic growth of Ghana.

The table also shows that, remittance has an effect on Human Development as well as GDP growth which subsequently affects the economic growth of the country. The table shows that, an increase in the level of remittances would increase the Human development of Ghana that would affect the economic growth of Ghana by a factor 0.85. Since remittance has an effect on economic growth, it can be concluded that, remittance also has a subsequent effect on HDI levels in Ghana. We therefore reject the null hypothesis at significant level 0.05 since p cal (0.048) < p 0.05 and accept the alternate hypothesis. We conclude that, there is a significant effect of remittances on HDI in Ghana.

4.2 *Impact of remittances on Poverty reduction in Ghana*

Table 5 below gives a summary of the multiple regression analysis of the impact of remittance on poverty reduction at significance level $p < 0.05$.

The table shows the linear functional form for the regression analysis as it best fits the regression model employed and the best explains the variables in the study. The multiple coefficient of determination (R^2) for the regression model is 0.761 which shows that, 76.1 percent of the variations in the determinants of economic output of Ghana were explained by the variables included in the model. Also the F statistics given is (9.56) and this is significant at 1 percent significant level. This shows that, the regression is significant and as such the data best fits the model used.

Table 5. Regression analysis summary of impact of remittance on poverty reduction

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.872[a]	.761	.681	.01172	.761	9.558	5	15	.000

a. Predictors: (Constant), economiclog10, HDIlog10, INflog10, gdplog10, remittancelog10

b. Dependent Variable: HPI-1 (%)

Table 6. Regression analysis of impact of remittance on poverty reduction

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.221	.173		1.272	.223
remittancelog10	-.006	.021	-.103	-.285	.780
gdplog10	.006	.020	.088	.278	.785
HDIlog10	-.580	.141	-.662	-4.104	.001
INflog10	.009	.016	.102	.545	.594
economiclog10	-.068	.032	-.519	-2.147	.049

a. Dependent Variable: HPI-1 (%)

Source: Authors own

The regression analysis above shows the impact of the variables used in the study with particular reference to remittances. From the table, remittance was not significant at $p < 0.05$ since p value for remittances 0.780 > 0.05. This implies that, remittance was statistically insignificant and therefore concludes that, there is no significant relationship between remittances and poverty reduction in Ghana. However, looking at the coefficient for

remittances (-), it shows that, an increase in remittance has an alternate decrease in level of poverty in Ghana by a factor of (-0.580).

Also, HDI and economic growth were seen to be significant at 0.05 significant and hence an increase in economic growth and HDI levels would decrease the level of poverty in Ghana as seen in the coefficients -0.068 and -0.580 respectively. More so, the model showed that, Gross Domestic Product and Inflation rate has no significant relationship with poverty reduction. However, Human Development had a significant relationship with poverty reduction. This therefore adds to the notion that, there is no specific determinant of poverty as stated in many literatures on poverty analysis. As such, inflation was expected to have a positive coefficient with poverty reduction as increasing rate of inflation would cause increased food prices in the economy which would affect poverty situations in the country.

5. **Conclusion**

The study sought to analyze the impact of remittances on socio-economic development of Ghana and as such has provided empirical evidence that proves that, remittances can be a tool that significantly affects the economic growth of developing countries such as Ghana. The study made use of multiple regression analysis to estimate how remittances affect economic growth and poverty reduction in Ghana. Also, the effect of remittances on variables such as Human Development, GDP and Inflation rate were analyzed in the study.

Remittances from the multiple regression analysis was significant to economic growth and gave a positive correlation which means that, as the amount of remittance inflow increases, economic growth of Ghana would also increase. Remittances were also significant to GDP of Ghana with a positive correlation but however, in the case of Human Development though there was a positive correlation to remittance, there was an insignificant level. This implies that, though an increase in remittances would increase Human Development, its impact is of no significance and therefore, there are other factors to Human Development levels in Ghana. Hence, the notion that remittances can affect Human Development and increase household consumption levels cannot be deemed true. On the part of inflation, the study expected a negative correlation. Remittances had a negative correlation on inflation. However this was expected to be seen as inflation affects prices of food commodities and therefore can affect the finances of individuals in Ghana.

Poverty reduction is of Global concern and as stated in the United Nation's Millennium Development Goals (MDG) of halving poverty by half in 2015, many governments have brought out policies that could help them achieve this target. One good avenue of achieving such aim is the use of remittances as stated by Owiafe (2008) where poverty is concerned, remittances seem to have direct impact on poverty reduction, through the direct increase in the incomes of the poor, thus smoothening household consumption and easing capital constraints. From the study, remittance was seen to have a positive impact on poverty reduction as a negative coefficient was obtained from the regression analysis. The negative correlation obtained shows that, as the amount of inflow of remittance increase, the level of poverty in Ghana would decrease. However, the coefficient of the model was statistically insignificant which implies that, remittances to some extent would have an indirect impact on poverty reduction.

The impact of remittances on economic growth and poverty reduction in Ghana was found to be positive and negative respectively and therefore we can conclude that, migration in Ghana can be said to be of a brain gain but not a brain drain. Therefore if the amount of remittance flow should continue in its current rate, Ghana could benefit economically and socially towards it development if developmental policies are geared towards

improving the channels as well as the collection of data on remittance flows into the country. As the study has shown that remittance received benefits the development of Ghana, I would therefore suggest further research on the cost and benefits of migration to the development of Ghana.

References

Adaawen, Stephen A., Owusu, B. (2013). North-South Migration and Remittances in Ghana. *African Review of Economics and Finance*, [Online]. 5(1), 29-42. Available at: http://www.africanreview.com/Vol.%205%20%281%29/Adaawen%20and%20Owusu.pdf [Accessed 04 March 2015].

Adams, Richard H. (2006). Remittances and Poverty in Ghana: *World Bank Policy Research* (Working Paper No. 3838). Retrieved from World Bank research website: http://www.worldbank.org/en/research

Addison, E.K.Y. (2004). *The Macroeconomic impact of remittances in Ghana*, Research Department, Bank of Ghana, Accra.

Addison. E.K.Y. (2005). *The macroeconomic impact of remittances*. In Takyiwaa Manuh, ed., *At Home in the World, International Migration and Development, in Contemporary Ghana and West Africa,* pp. 118–38. Accra, Ghana: Sub-Saharan Publishers, Legon.

Ahinful, G. A., Boateng, F. O., Oppong –Boakye, P. K. (2013). Remittances from Abroad: The Ghanaian Household Perspective. *International Journal of Business and Social Science,* [Online]. 4(1), 164-170. Available at:http://ijbssnet.com/journals/Vol_4_No_1_January_2013/18.pdf [Accessed 05 September 2014].

Bank of Ghana (2013). *Data on migration remittances by Financial Institutions in Ghana*. Accra, Ghana.

BBC News. (2001). *Brain drain costs Africa billions*. [ONLINE] Available at: http://news.bbc.co.uk/2/hi/africa/1605242.stm. [Accessed 07 March 15].

Chiami, Ralph, Connel Fullenkamp, and Samir Jahjah, 2003,"Are Immigrant Remittance Flows a Source of Capital for Development?" IMF Working Paper 03/189 (Washington: International Monetary Fund).

Iheke, O.R., (2012). The effect of remittances on the Nigerian economy. *International Journal of Development and Sustainability*, 1(2), 615-619.

IMF (International Monetary Fund) (2008), *World Economic Outlook*, April 2008. Washington D.C.: International Monetary Fund.

Lipton, M. (1980), "Migration from the Rural Areas of Poor Countries: The Impact on Rural Productivity and Income Distribution", *World Development*, 8(1): 1-24.

Orozo, M., Ferro, A. (2007). *Migrant Remittances*. [ONLINE] Available at:http://www.thedialogue.org/PublicationFiles/remittances.pdf. [Accessed 03 September 14].

Owiafe, G, (2008). *The Impact of external Remittances on Poverty reduction in Ghana*. MA. Ghana: Kwame Nkrumah University of Science & Technology, Kumasi.

Quartey P and Blankson T (2005), Do Migrant Remittances Reduce the Impact of Macrovolatility on Poor Households in Ghana? www.gdnet.org/pdf2/gdn_library/global_research_projects/macro_low_income/Quartey.pdf

Ratha, Dilip. (2003). Workers' Remittances: An Important and Stable Source of External Development Finance, in Global Development Finance 2003 - Striving for Stability in Development Finance. Washington D.C., The World Bank: 157-175. www.worldbank.org/prospects/gdf2003/gdf_ch07_web.pdf

Russell, S (1992) "Migrant Remittances and Development" International Migration: Quarterly Review 30:3/4: 267-287.

Taylor, J.E., 1992. Remittances and inequality reconsidered: direct, indirect, and intertemporal effects. J. Policy Modeling 14 (2), 187-208.

Tiemoko, R. (2004) Understanding the Opportunities for and Challenges to Migrants' Investment in Côte d'Ivoire and Ghana. Africa Regional Sexuality Resource Centre, Lagos.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:
http://www.iiste.org

CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

Prospective authors of journals can find the submission instruction on the following page: http://www.iiste.org/journals/ All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

MORE RESOURCES

Book publication information: http://www.iiste.org/book/

Academic conference: http://www.iiste.org/conference/upcoming-conferences-call-for-paper/

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digtial Library , NewJour, Google Scholar