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Microeconomic Determinants of Privates of Private Inward Remittances to Households in Ghana: a case study

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Abstract

This paper examined the microeconomic determinants of inward remittances of migrants to their respective households at home. It looked at the likelihood that a migrant will remit home with regards to the household size, the monthly income of the household, the sex of the migrant, whether the migrant has an immediate family at home, obligation, among other things. Questionnaires were administered to recipients of such remittances. A total of 61 responses were used to determine the likelihood. Logit estimation was then run and the results showed that insurance and exchange were theories explaining the motive to remit. It also found the household size and the number of years of stay of the migrant in the host country to be significant in explaining the likelihood to remit. The conclusion drawn from this paper is that it is important to look at determinants to remit by looking at the actual situation of the country understudy with regards to its social, cultural and traditional settings as well as their economic situations since these factors determine the propensity to travel abroad and hence determining the motive to remit. Nonetheless these findings would serve as a basis and a guide for studying and improving in the alleviation of poverty as well as the development impact of remittances on the countries concerned. It will also serve as literature and a guide for future study.

Key words: Inward remittances, altruism, insurance, exchange, contractual agreement

1.1 INTRODUCTION

The world has witnessed mass exodus of people from one country to the other basically in search of greener pastures. Most of these migrations, which are economic, are from the developing to the developed ones. These migrants, when start working and earn income often send money to their home countries for various reasons and purposes, as remittances.

It is estimated that over 191 million migrant workers are found worldwide. The official account of remittances of these migrants through official channels is estimated to be some $300 billion (World Bank, 2006). According to the World Bank report, these flows now exceed the Official Development Aid (ODA) as well as the Foreign Direct Investment (FDI).

Ghana, a developing country cannot be excluded from the benefits derived from remittances from its migrant workers. It is on record that Ghana tops on the list of the number of the US Lottery applicants. This indicates the desire for Ghanaians wanting to work abroad so as to earn higher incomes and to provide for the families in their home countries. Over the past two decades Ghana has witnessed mass exodus of its labour, both graduate professionals and non-graduate professionals. Most of these migrations took place after the draught and famine as well as the mass deportation of Ghanaians residing in Nigeria in the early 80s. Nonetheless, the number of people wanting to travel overseas in search of greener pastures continues to increase in Ghana.

A large number of University graduates leave the shores of Ghana upon completing their education in search of jobs in the developed world. Some of these factors attributing to migration include the high rate of unemployment and low levels of incomes.

Remittances in Ghana, however, are not fixed in supply, neither is the rates of increases or decreases constant. A research conducted by the Bank of Ghana indicated that remittances increased from $201.9 million in 1990 to

$1,017.2 million in 2003. The study also found that private transfers are much bigger and stable than official Development Aid (ODA) and Foreign Direct Investment (FDI) over the 1990-2003 periods. According to the bank of Ghana a new reporting format introduced in 2004 has led to the significant improvement in the balance of payment estimation of remittances flows into the Ghanaian economy. Several factors come into play in determining the volume of remittances sent by the individual migrant in particular and the inflow of remittances in general. Remittances significantly affect welfare and this was the focus of study by Koc and Onan (2001) by examining the impact of remittances on the standard of living of left-behind families in Turkey and found that remittances have a positive effect on household welfare.

The microeconomic environment accounts, to a large extent, in determining the inward remittances to Ghana. Most researchers (swamy 1981; Glytos, 1988; Faini,1994; El-sakka& Mcnabb, 1999; Gubert, 2002; Agarwal & Horiwitz, 2002; Bougha- Hagbe, 2006), have looked at the macro aspect in determining their impact on remittances. This paper however looks at the micro economic impact on remittances in relation to the various theories explaining remittances such as altruism, insurance, and the bequest motive and loan repayment. This paper basically looks at the extent to which the income of the household, the house hold size, the average age of the parents of the migrant, whether the amount was sent upon request or not, the sex of the migrant and whether the migrant has family with parents or investment project, affect the amount of inward remittances.

It must also be emphasized that though the economic conditions in the migrant's destination determine to a large extent, the supply of such remittances the microeconomic conditions of the recipients largely determine the volume of remittances sent by the migrant. The findings of the research would also determine whether remittances is often determined by the pull factor (insurance, contract, loan repayment service), the push factor (altruism, self motive).

2.1 THEORETICAL LITERATURE

Determinants of remittances were pioneered by Johnson and Whitelaw (1974), Stark (1981) and later by Lucas and Stark (1985). Since then various theories and models have been developed to explain the motives for remitting. These include altruism, self-interest, insurance and exchange.

It is widely accepted that altruism as a factor of remitting towards family member at home is an important one. According to Johnson and Whitelaw (1974) and Lucas and Stark (1985), the remitter derives utility from the well-being of recipients at home and that the amount of remittance and the income of the recipient are negatively related. The theory behind the altruistic behavior of the remitter implies that the individual yields some level of satisfaction, once he/she has been able to remit the family at home. It must be emphasized that a major reason why people migrate to other countries is due to poverty. They basically migrate in order to earn a living and also to take care of the family left behind. The migrant thus care about the well being of his people at home and therefore, factors such as poverty, low incomes, shocks, draught, which, affect the wellbeing of the family are of concern to the migrant. In this situation there is likely to be a positive relationship between these adverse conditions and the amount to remit.

In contrast to altruism is self interest, which, is also a motivation to remit. There are two major reasons underlying this self interest motive- the economic self- interest and the social self-interest.

Under the economic it is known that at any point in time the migrant saves in the host country but prefers to invest in the home country than the host. Therefore, the migrant sends money home for such investment. Thus part of his savings is used to acquire land, other properties and financial assets in the home country. Though these may earn higher rate of returns the risk involved could also be great. The family then acts as a trusted agent during the period of emigration hence the family enjoying all forms of remittances. The economic conditions of the home country therefore, largely determine the level of economic self-interest motive.

The social self-interest underlying the motive to remit is the aspirations of the migrant concerning inheritance and self recognition within the family and the community at large. In these cases the migrant remit due to his self-seeking interest. He does so in order to look good before the head of the family, thus investing in his reputation. In situations for example, where the migrant is not the rightful person for such inheritance the house hold head may adopt some blackmailing device and assurances to entice the migrant in order to receive more remittances from the migrant. According to this theory remittances increase with the household's assets and income, the probability of inheriting (depending on the age of the parents and the number of siblings, etc), the migrant's wealth and income, and decreases with risk aversion (Jessica and Melissa; 2007).

Another theory explaining the motivation to remit is tempered altruism. This theory is explained from the theories of altruism and self-interest, where the migrant and the family at home mutually benefit from migration, through some kind of implicit contractual arrangement. The New Economics of Labour Migration (NELM) hypothesis states that due to market failures in the home country, a household member migrates to a non-correlated labour market, entering a type of co-insurance agreement with the family left behind. Remittances are then sent home when the family experiences shocks. According to this theory the household also supports the migrant by paying the cost of his education and the cost of his migration with the view that when the migrant settles in the host country and starts earning some income he/she reciprocates by remitting the family. At the same time the family also supports the migrant by making payments on behalf of the migrant such as paying funeral levies as well as soliciting for all forms of support that will be beneficial to the migrant upon his arrival including representing the community at the governmental level.

This theory of contractual agreement between the migrant and the family lies in the notion of risk diversification. It is assumed the risks between the home and host country and not the same and therefore a convenient strategy for them is to have some of the family members in the host country. The first migrant is therefore supported by the family with the view that when the migrant settles in the host country, gets a job and earns some income he then secures the necessary documents for other members to also follow. In this model, migration becomes a co-insurance strategy with remittances playing the role of an insurance claim. This contract however could be breached since it is not binding by any law and once it is between members of families it could only be a plea to the migrant to help other members to also travel in search of higher earning jobs as migrants. However, we can expect enforcement to be simpler, in principle, due to the fact that these are implicit family contracts, helped by considerations of family trust and altruism (a feature often absent in legally sanctioned contracts), (Addison, 2004).

The exchange motive is also used to explain the motive to remit. Here remittances are made to the household at home for services provided such as taking care of the migrants children, house property etc. Here if the migrant income increases the remittances increases.

Though these explain the motives to remit, it must be emphasized that the volume of remittances are largely determined by the economic conditions of the home country.

2.2 EMPIRICAL LITERATURE

The state of the economy in the migrant home country as well as the micro characteristics of the migrant's household at home is important in determining inward remittances. Negative shocks in the home country may increase the need for remittances to be sent, which may induce migrants to send money or cause migration in the first place (IMF, 2005).

Halliday (2004) conducted a research on migration, risk and liquidity constraints in El Savador and found a negative relationship between negative shocks in the home country and remittances, this finding is not different from Lucas and Stark's (1985) study for Botswana migrants. Ratha (2003) corroborates the point that migrants may increase remittances in times of economic hardship, especially in low-income countries where families live at close to subsistence levels. It must be emphasized that negative shocks tends to affect the incomes of the household and hence increases the likelihood of remitting.

Cox (1987) uses a model where private transfers represent payments for services rendered. He found out that if the recipient's income rises, the opportunity cost of providing the service will rise, and the recipients is likely to require a higher price for the service provided. The empirical findings of Cox (1987), Cox and Rank (1992) and Cox et al. (1998) suggest a positive relationship between the size of transfers and the recipient's pre-transfer income rejecting the altruism behavior of remitters. Secondi (1997), using data for China, also finds that altruism alone cannot explain the observed transfers and that exchange may indeed be involved. In china where much of the financial flows appear to be transfers from adult children to their elderly parents, child-care is found to be one of the main services that parents render to their adult children in exchange for money (Secondi, 1997). Russell et al (1990) concludes that after satisfying subsistence needs, migrants remittances are used for investment purposes such as education, livestock, farming and small scale enterprise. Diatta and Mbow (1999) conducted a study on Senegal and found that remittances were a substantial source of revenue for families with migrant members and were also used to promote development in migrants' home communities. A survey conducted by the Sussex Centre for Migration Research in Ghana in the Ashanti Region in 2003 concluded that remittances into that region was basically for three main purposes; to satisfy individual needs such as smoothing consumption needs, organizing funerals and meeting other social needs. The second purpose is to support social projects in migrants' originating communities. The third, being less common but perhaps the most important is the promotion of economic development.

Yang (2005) also conducted a research in the Philippines to find out whether remittances were insurance. He found a negative relationship between the household income of the home country and remittances. According to Stark (1991) remittances act like an insurance against income shocks that might hit the recipients in the home country. This is in support of (Agarwal and Horowitz 2002, Gubert 2002) that at the macroeconomic level remittances will increase if output is more volatile in the recipient country. As a proxy we could generalize that a fall in the Real GDP could lead to an increase in the volume of inward remittances as this tends to affect income negatively. Wealth of the family of the migrant's home also has a negative relationship with inward remittances as reported by Osaki (2003), in his study on migrant remittances in Thailand.

Interest rates of the home country of the migrant also determine the volume of remittances. In the case where the motive for remitting is economic self interest especially with regards to saving and investing in the home country. Quinn (2005), suggest a model of remittance behavior whereby remittances are treated as both a consumption transfer to households and as an alternative saving mechanism for migrants. The model predicts that the migrant's remittance/saving behavior is affected by the relative rate of return on their savings and on the savings of the remittance-receiving household. Using data on Mexican workers in the United States the researcher found out that migrants remit more and save less when the remittance-receiving household's rate of return on savings increase. His findings imply that an improved access to savings and investment mechanisms for recipient households in the home country may increase remittance inflows from migrants.

Aggarwal and Horowitz (2002), examined the effect of multiple migrants on the level of remittances. They argue that pure insurance (self interest) motives tend to have a positive relationship with the amount of remittances which gives support for the presence of ultruism.

According to Erik Lueth and Marta Ruiz-Arranz (2007) remittances are procyclical that it increases when economic activity in the home country accelerates and decreases when economic conditions deteriorate and that remittances fall when exchange rate weakens and increases with oil prices. Glytsos and Katselli (1986) and Elbadawi and Rocha (1992) find a negative effect of inflation on inward remittances while El-Sakka and Mcnabb (1999) find a positive effect on inward remittances. These variables, though are macroeconomic they have a rippling effect on the household's income and therefore affect the amount of inward remittances.

3.1 METHODOLOGY

It must be emphasized that the classical linear regression methods would not be the appropriate approach to estimating the remittance function since this dependent variable (remittance) is censored in nature. The application of the classical method (OLS) will not give an accurate estimation for qualitative difference between censored (zero) observations and uncensored (continuous) observations.

According Green (2003), when data are censored, an approach that incorporates a discrete element (to generate the positive observations) is required. The logit model would therefore be used for this estimation. This method has been applied in various researches including Elif, Unan (2009), Agarwal and Horowitz (2002), Osaki (2003), Pozo (2005), Hoddinot (1994).

Since the dependent variable is categorical it shall be proximate with a dummy as follows;

$R_i = 1 \quad \text{if } R_i \geq \bar{R}$

$R_i = 0 \quad \text{if } R_i < \bar{R}$

Where R is the amount of remittance and $\overline{R}$, is the average remittance

R therefore, captures the ith individual's propensity (maximum likelihood) to remit. It is defined as follows;

$$R = \beta x_i + e_i$$

Where $e_i \sim N(0, \delta^2)$

Where x_i are the independent variables (microeconomic variables) and the stochastic disturbance being, e_i which is normally distributed with mean 0 and variance δ^2.

The model is censored because R is either 0 or 1. Based on this information, the likelihood function can be expressed as;

$$L = \prod_{R_i/R_{i=0}} 1 - \emptyset(\frac{\beta x_i}{\delta}). \prod_{R_i/R_{i=1}} \frac{Q}{\delta}[(R_i - \beta x_i)/\delta]$$

The empirical model for this regression analysis is therefore;

$$Remit = \beta_0 + \beta_1 Y + \beta_2 Hse + \beta_3 Oblig + \beta_4 Fam + \beta_5 Aid + \beta_6 Sex + \beta_7 Nhold + \beta_8 Migyr + e$$

Where, $Remit_i$: total amount of remittances sent to the migrant's household at home, *Yi*: monthly income of the migrant's household; Hse_i: dummy variable for owning a house in the home country; $Oblig_i$: dummy variable for being obliged to send money for unexpected needs in the home country (including income chocks, health problems etc.); Fam_i: dummy variable for having wife and/or children in the home country; Aid_i: dummy variable for being financially helped by the family in the home country for migration costs; Sex_i: dummy variable for the sex of the migrant; Nhold; the size of the household of the migrant's family at home and Migyr; the number of years the migrant has been living in the host country.

3.2 BACKGROUND OF THE AREA UNDER STUDY

Sunyani Municipality is one of the twenty-two administrative districts in the Brong Ahafo Region of Ghana. It lies between Latitudes 7^0 20'N and 7^0 05'N and Longitudes 2^0 30'W and $2^0$10'W and shares boundaries with Sunyani West District to the North, Dormaa District to the West, Asutifi District to the South and Tano North District to the East. There are effective economic and social interactions with the neighbouring districts which promote resource flow among these districts.The municipalities has a total land area of 829.3 Square Kilometres (320.1square miles). Sunyani also serves as the Regional Capital for Brong Ahafo. One third of the total land area is not inhabited or cultivated which provides arable lands for future.

According to the 2000 census the population of Sunyani municipality was 101,145. Currently, with a growth rate of 3.8 percent, the estimated population is 147,301. The growth rate of Sunyani compared with the national growth rate of 2.7 percent indicates a high growth rate. It is not surprising that Sunyani municipality have been noted to constitute one of the highest rates of brain drain the country has witnessed. The population density of the municipality is 122 persons per square kilometre (MPCU Computation, 2010). In comparing this to the population density of the nation 76/sq.km, the municipality is densely populated resulting in high demand for land. The survey showed that about 26 percent of households in the municipality have 1-3 persons making up a household, 45.3 percent have 4-6 persons, and 22.7 percent 7-9. Also the least composition has 4 percent and 2 percent for 10-12 and 13-15 respectively.
The municipality has an average household size of 4. Comparing the municipality's average household size of 4 to the national average household size of 5.1, the average household size of the municipality is low. This means that there is low dependency as far as the number of persons per household is concerned. This may also suggest that, the extended family system is not dominant in the municipality as 71.3 percent of the households in the municipality are composed of 1-6 persons.

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The city has a number of financial institutions including a branch of the Bank of Ghana, Ghana Commercial Bank, Barclays Bank, Society Security Bank, Agricultural Development Bank and the National Investment Bank. There are also six rural banks, a number of credit unions and insurance institutions complementing the financial service provision of the city. All the Banks mentioned above have units that administer remittances to recipients through the western union money transfer.

3.3 SAMPLING AND SAMPLING PROCEDURE

A total number of 75 questionnaires were sent to the various money transfer/western union outlets and banks. Cashiers at these outlets and banks who issue the monies to the recipients then administer the questionnaires at random to the recipients to answer and submit either on that day of collection or a later date depending on whether the respondent has all the information being requested at hand or would need more information from home. Out of this number of questionnaires 60 of them were received and used for the study.

4.1 RESULTS AND DISCUSSIONS

The "p>z" as well as the odds ratio of the estimated logit regression were mainly used for the discussion of results. The odds ratio indicates the amount of change in the dependent variable when there is a unit change in the predictor variable with all other variables held constant. The "p>t" were used to determine the significance or otherwise, of the various explanatory variables.

TABLE 1: LOGIT ESTIMATION

Logistic regression Number of obs = 61

LR chi2(8) = 27.81

Prob > chi2 = 0.0005

Log likelihood = -28.36685 Pseudo R2 = 0.3290

remit	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
hse	.8008539	.7615267	1.05	0.293	-.6917109	2.293419
sex	.3829843	.7300463	0.52	0.600	-1.047881.813849	
nhold	.6621697	.3114332	2.13	0.033	.051772 1.272568	
fam	2.19123	.8048811	2.72	0.006	.6136922	3.768768
aid	1.726277	.8270098	2.09	0.037	-3.347187	-.1053679
y	.0024296	.0029798	0.82	0.415	-.0034107	.0082699
oblig	1.015016	.6993074	1.45	0.147	-.3556008	2.385634
migyr	.5946889	.2253533	2.64	0.008	.1530045	1.036373
_cons	-8.95702	3.142844	-2.85	0.004	-15.11688	-2.79716

TABLE 2: LOGISTIC REGRESSION

Logistic regression Number of obs = 61

LR chi2(8) = 27.81

Prob > chi2 = 0.0005

Log likelihood = -28.36685 Pseudo R2 = 0.3290

remit	Odds Ratio	Std. Err	z	P>z	[95% Conf.	Interval]
hse	2.227442	1.696257	1.05	0.293	.5007187	9.908755
sex	1.466655	1.070726	0.52	0.600	.3506803	6.134011
nhold	1.938995	.6038673	2.13	0.033	1.053136	3.570007
fam	8.946212	7.200637	2.72	0.006	1.847239	43.32666
aid	.1779456	.1471628	2.09	0.037	.0351832	.8999934
y	1.002433	.0029871	0.82	0.415	.9965951	1.008304
oblig	2.759409	1.929675	1.45	0.147	.7007523	10.86595
migyr	1.812467	.4084455	2.64	0.008	1.16533 2.818975	

The monthly income of the household in the migrant's home was insignificant to the amount of remittances. Our findings therefore, do not support that of Halliday (2004), Lucas and Stark (1985), Ratha (2003), Cox and Rank (1992)

Obligation was found to be significant, which gives credence to the contract motive for remittance which explains that families send their ward abroad to work and remit home to support the family against shock and also help others to also travel. The result therefore, do not support the altruistic motive for remittance

Family, a variable that was used to explain the exchange motive to remit was significant which also lends support to Secondi (1997) that migrants send monies home to parents as payments for services rendered them by catering for the migrant's immediate families at home.

The household size of the family of the migrant at home was significant to the amount of remittances. Though income was not significant it must be emphasized that the positive coefficient for the house hold size implied a fall in the real income of the household and hence an increase in the house hold leading to the increase in the amount of remittances.

The number of years of the migrants stay in the host country tends to have a positive effect on the amount of remittances. This could be explained by the fact that migrants spent some few years before adjusting to the working and social environment of the host country. At least, in the first year the migrant would have to secure his/her basic needs and then save some monies before remitting home. As the migrant stays longer he would have had enough time to adjust, meet his basic needs and looked for better paid jobs and therefore the probability of remitting increases.

Surprisingly aid, sex and house ownership for migrant were not significant in explaining remittances.

4.2 CONCLUSION

It must be emphasized that though researchers agree on the theories explaining the motive to remit such as altruism, self-interest, co-insurance, contract exchange various researchers have found conflicting results with regards to these motives.

This paper examined empirically, some key determinants of migrant remittances in Ghana with a case study on one of the regions. The findings suggest that no one theory is likely to be sufficient in explaining the motive to remit.

The empirical estimates however provide support for the co-insurance theory (Pozo, 2006; Stark, 1991 ;) and exchange (Secondi, 1997).

The conclusion drawn from this is that it is important to look at determinants to remit by looking at the actual situation of the country understudy with regards to its social, cultural and traditional settings as well as their economic situations since these factors determine the propensity to travel abroad and hence determining the motive to remit.

Nonetheless these findings would serve as a basis for studying and improving in the alleviation of poverty as well as the development impact of remittances on the countries concerned. It will also serve as literature and a guide for future study.

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