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Are Households Who Helped Migration of Their Members More Likely to Receive Remittances?

Evidence from Kinshasa

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Background and objectives

Instead of being considered as an isolated and individual phenomenon, international migration decision-making process needs to be understood within larger social networks operating both in the countries of origin and the countries of destination. In this long and enduring process, the household is a key element centralizing the role of other networks involved in the puzzle. An abundant literature has shown that international migration in developing countries is deeply influenced by the material and financial aids the household can provide (De Mas and De Haas, 2005). Usually, the three levels of the migration decision-making process (individual, household and community) operate together in each migration act (Findley, 1997; Hugo, 1998; De Mas and De Haas, 2005). For instance, only a few migrants can find a job or a shelter unless they are assisted by other relatives and friends either at the origin country or that of destination.

Household involvement in the migration process may substantively vary from a verbal encouragement to providing the material and financial aids required to reach the migration goals, or to involving a wide range of available networks. Indeed, Stalker (1995) notes that migration strengthens family links because migration process requires an organization which involves many relatives within the kinship. Together, those relatives provide the prospective migrant with the money needed for the journey, and thereafter manage the rest of the migrant's family if necessary. Often, the household decides the time and place of destination, depending upon the availability of other networks abroad in order to ensure the integration of the migrant (Lututala, 2005). As such, the household expects material and financial remittances from the migrant, and migrant's involvement to perpetuate the migration process within the household (Stark and Bloom, 1985).

The objective of this paper is to shed light on the dynamics between households and migrants in the context of migration from D.R. Congo. Indeed, the interplay between migrants and households remains a subject of debate, and is the core of new migration theories which emphasize the centrality of households in the migration process. Theoretically, the paper builds on two main theories, including family survival strategies (Lucas and Stark, 1985; Gregory and *al.,* 1986) and the new economics of labour migration (Stark and Bloom, 1985; Stark and Taylor, 1989). To some extent, the paper also draws from migrants' motivations to send back remittances (Lucas and Stark, 1985).

Drawing on this background, this paper set out to analyze household participation in international migration process of their members, and to determine the correlates of the likelihood of receiving material and financial remittances of the origin households. Specifically, the paper addresses the following questions: Do households participate in international migration of their members? Are households who actively participate in the migration process of their members through material or financial aids more likely to receive remittances than other? What are the factors associated with the probability of receiving remittances, and with the amounts of remittances received? Do these factors differ by migrants' continent of residence?

Most studies that have addressed these questions are limited to countries of Latin America, Eastern Europe and North Africa (Dalen and al., 2005; Sana and Massey, 2005; Lerch and Wanner, 2006). Almost nothing has been done for Sub-Saharan Africa countries. The interest of this study is not only to fill this gap but also to submit to the test of empiricism the postulates of the theory of the new economics of labour migration.

Data

The data used in this paper come from MAFE1-DRC[1] conducted in Kinshasa between 2007 and 2008 This project is a part of a vast international research program on Migration, funded by European Union through Framework Project 7. A representative sample of 1,000 households was selected and interviewed in Kinshasa, the capital city of DR Congo. Two data collection units were distinguished: The households (with or without migrants) and the individuals (migrants or not). At the household level, questions were asked to identify all people who lived or had lived in household for at least three months at some point in time and who had gone abroad for at least three months, whether they were still living abroad or had returned to DR Congo. In addition, brothers and sisters of the household head and of his/her spouse who had lived out of DR Congo were also identified through this questionnaire. The following characteristics of households were collected: Aid provided to migrants, household size, number of migrants living abroad and migratory experience, occupational status, sex, age of the household head, etc.). Socio-demographic characteristics for all current members of the households as well as for migrants (age, sex, education, marital status, place of birth) were also collected. In addition, some migratory characteristics of migrants were recorded (year of departure, destination country, year of return if the person returned, aids obtained from household, remittances send back to household of origin, etc.). All these variables are used as independent variables.

Methods

Two main statistical methods are used: logistic and tobit models. The logistic regression is used to measure the influence of providing aids to migrants and others sociodemographic and migratory characteristics of households (independent variables) on the probability for a household to receive remittances from migrants (dependent variable) (Hagen-Zaker and Siegel, 2007). The aim of the tobit model is to measure whether aids provided to migrants and others sociodemographic and migratory characteristics of households (independent variables) increase the amounts of remittances (dependent variable) a household receives (Markova and Reilly, 2007).

[1] First wave of the survey "Migration between Africa and Europe" in Democratic Republic of Congo

The choice of binomial logistic regression is dictated by the binary nature of depend variable. This variable takes the form of the probability to do or not to do something, to be or not to be in any state. Logistic regression is one of the appropriate methods to deal with dependent variables of this nature. It studies the relationship between a categorical dependent variable (dichotomous) and one or more independent variables (quantitative or not). The dependent variable (Y) indicates the possession or not of the characteristic in the population. Here this characteristic is “reception of transfer”. The independent variables (Xi) constitute the factor (s) that lead to the variation of the explained variable. Here, independent variables represent the sociodemographic and migratory characteristics of households. If independent variable is qualitative, each k-1 modality is transformed into a dummy variable and the remaining modality is considered as category of reference and will serve to compare with other modalities included in the model (Hosmer and Lemeshow, 1989).

The Tobit model, proposed by Tobin (1958), is dedicated to describe the relationship between a non-negative dependent variable and one or more explanatory variable(s). It was initially implemented to study the consumption of some durable goods by households according to their income. This consumption had the particularity that the expenditure allocated for a given period could only take positive or null values (Gourieroux 1989). This is what Tobin (1958) called "limited dependent variables". The interest of this approach is the fact that it combines in a single regression model both cases that have null or positive values on the dependent variable (Cragg, 1971; McDonald and Moffitt, 1980).

The use of Tobit model calls two methodological orientations. On the one hand, it is possible to exclude from analyses all observations for which the value of the dependent variable is null, one realize the truncated Tobit model, on the other hand, it is possible to include them in the model, one realize a censored Tobit model (Cragg , 1971). A technique proposed by Cragg in 1971 compares the results obtained by these two methods. But in one case as in the other, and as was the case with logistic regression, parameter estimation is based on the maximum likelihood method.

When the independent variable (Xi) is categorical, each of its k-1 modality is included in the model. The modality that is not introduced serve as a category of reference, with a coefficient reduced to the average value (represented here by the constant of the model). Unlike to logistic regression, here the βi coefficients are directly interpreted as in an ordinary regression model. To each coefficient is attached both a sign (positive or negative) and a standard error. The value of a coefficient (βi) attached to a category indicates the average amount received by the category considered in relation to the category of reference and the sign (+ or -) indicates whether this amount is higher or lower than the category of reference.

Results

Implication of households to the migration process of their members

Given that living conditions have deteriorated in the country, households in Kinshasa have increasingly resorted to migration as one of their risk diversification strategies (Bazenguissa, 2005; Bagalwa, 2007). So, the quasi-totality of households (79%) participates in the migration of their members through helps and other assistances which they supply them at the time of their departure in order to benefit later to migrants' remittances (figures 1 and 2). These helps consist in diverse administrative procedures before the trip (almost 9 households on 10 among those who provided help to their migrants), in participating in travel expensive (5 households on 10 among those who provided help to their migrants), in help for obtaining papers and residence permits (3 households on 10 among those who provided help to their migrants), etc.

Fig. 1 : Households (%) having supplied helps to their migrants

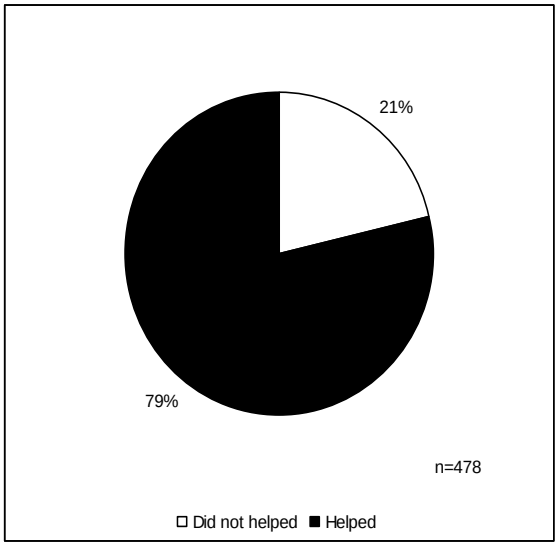
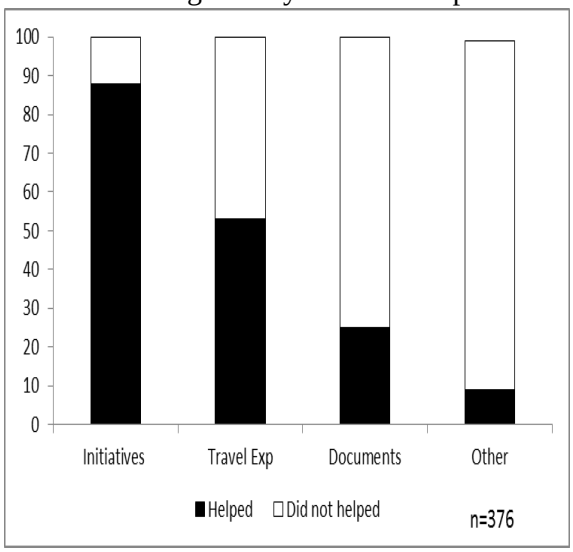


Fig. 2 : Households (%) having supplied helps to their migrants by nature of helps



Source : MAFE1-DRC, 2007

Reception of transfers by households

This section deals with transfers of all natures (money and goods) received by households from all of their migrants living abroad and the financial transfers received by households. The period of reference is the last twelve months preceding the survey for financial remittances and all the duration of migration for transfers of all natures and material transfers. Figure 3 shows that all most 70% of households surveyed received transfers from their migrants living abroad. According to the nature of transfer, there are more than 65% of all surveyed households who agreed receive financial remittances during the last twelve months preceding the survey and about 45% who received material transfers. The results show also that the helps provided by households to their migrants largely act on their probability to receive remittances from their migrants. So, among households that received financial remittances from their migrants, 84% had provided aids to their migrants (figure 4).

Fig. 3 : Households (%) having received transfers by nature of transfers

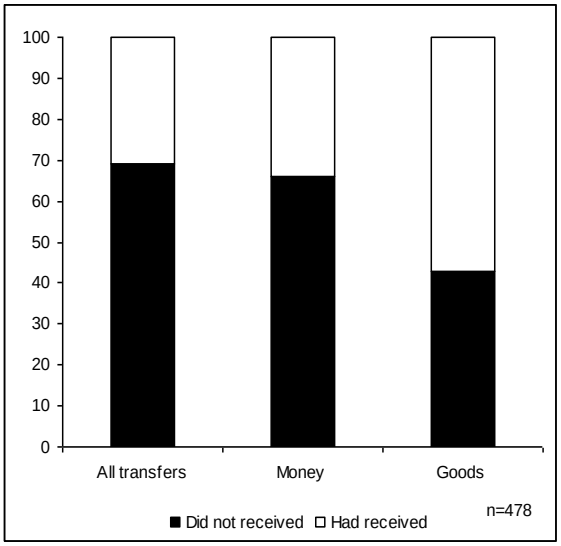
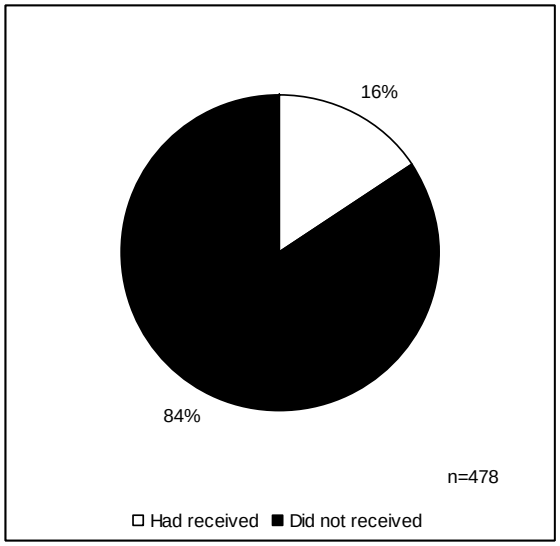


Fig. 4 : Households (%) having received money among those who provided helps



Source : MAFE1-DRC, 2009

Reception of financial remittances by households

For the next section of this paper, the analyses were limited only to financial remittances received by households. These transfers are constituted by all money sent back by all migrants of households to all members of their origin households during the last twelve months preceding the survey. As we already shown on figure 3, more than 65 % of all surveyed households received money from their migrants. If we consider only households who received transfer (all nature), one can see the proportion of households who received money among those who received remittances, the proportion rose to 95%. So, money reminds the "good" most sent by migrants to their households of origin. According to the table 1, the average amount received by each household during the last twelve months is $1112 and the modal amount is $432. More than 1 household on 2 received $500 or less. Only 2 households on 10 had received $1500 or more. However, the sending of these financials remittances are not regulars. Only 3 households on 10 received regularly theses transfers (Table 1).

Tableau 1: Distribution of households (%) by amount of remittances received (US$) et frequency of reception

Amount received	Number	Proportion (%)
< 500	166	52.5
500-1499.99	87	27.5
1500-2499.99	40	12.7
2500 and more	23	7.3
Total	316	100
Average amount: $US 1012; Medan amount: $US432.20		

Frequency	Number	Proportion (%)
Au moins tous les mois	45	14.4
Au moins tous les trimestres	52	16.4
De façon occasionnelle	135	42.7
En cas de problème	84	26.5
Total	316	100

Source : MAFE1-RDC, 2007

The next stage consists to perform stratified analysis to see if the probability to receive remittances and the average amounts of remittances received by households obey to the same pattern and to the same motivations according to the continent of residence of their migrants.

Factors associated with the reception of remittances and the amount of remittances received

This section proposes to identify the socio-demographic and migratory characteristics of households according whether they receive or not money from their migrants and according the amount of remittances received. The analysis will allow, among others, to isolate the characteristics of households that may influence their probability to receive remittances, on the one hand, and, those that may influence the amount of remittances received, on the other hand.

Regarding the probability to receive money, as one can see in the Table 2, aids provided by households to their migrants strongly determine the probability of households to receive back remittances from their migrants. Indeed, households that have provided aids to their migrants are more likely to receive money from their migrants than households who did not provide aids. This result shows that *the implicit contract* between migrant and their household of origin (Ammassari and Black, 2001) or the concept of *repayment of the debt* contracted by the migrants from their household (Lucas and Stark, 1985; Poirine, 1997; Hagen- Zanker and Siegel, 2007) walk relatively well. All studies that have included this variable in their analyses lead to the same conclusion.

We found also that more a household have migrants abroad, higher is his probability to receive transfers. Indeed, if households with 2 or 3 migrants had nearly 2 times more likely to receive transfers that households counting only one migrant, this probability is multiplied by more than three for households with at least four migrants. This result not only goes in the expected direction, but also confirms those found by other researchers like Lerch and Wanner (2006) for Albania, Sana and Massey (2005) for Mexico, Dominican Republic, Nicaragua and Costa Rica.

The results show also that households whose heads have already stayed abroad are more likely to receive money than households whose heads had never been abroad. This result is consistent with those found in other contexts, this is particularly the case of Roberts and Morris (2003) for Mexican migrants living in the United States of America and Lerch and Wanner (2006) for Albanian migrants. This result can be understood quite easily. Indeed, using the MAFE2- DRC data and MAFE-Senegal data, Vause and Toma (2010) show that returnees migrants have overseas networks larger than non-migrants. Thus, it is relatively easier for them to mobilize their network abroad in case of problems. Transfers received by returnees migrants may also involve the repatriation of some of the products of business and other rights they have acquired during their stay abroad (pensions, unemployment benefits, rents, etc.). Thus, in addition to its insurance and diversify risks role as postulated by the theory of the new economics of labor migration, migration can also serve as "savings" in which former migrants come to draw some resources to deal with some difficulties they face in their home countries.

One can also see that households with at least one migrant living outside of Africa are more likely to receive money than households with all migrants living in Africa. Besides the differences in terms of opportunities according to their continent of residence, this result can also be explained by the difference in terms of profile and income of migrants according to their continent of residence.

Even if the differences are not significant, results show that households headed by men are less likely to receive transfers than those headed by women. This result is not only away from our expectations, but also far from some previous studies. For example, Lachaud (2002) found for the case of Burkina Faso that households headed by women had a higher probability of receiving transfers than those headed by men. Gubert et al. (2010) found similar results for Malian urban area. Dalen et al. (2005) for Egypt, Morocco and Turkey and Sosa and Medina (2006) for Colombia have also found similar results.

The results also indicate that globally, more the household head is aged, more is the probability for his household to receive remittances. Thus, households headed by people approaching or have already reached the official retirement age (65 years) are more likely to receive remittances. This result goes in the expected direction and confirms the results of previous studies. For example, Germenji et al. (2001) observed in the rural area of Albania that households headed by people over 50 years get more transfers than others. The same result was found by Sosa and Medina (2006) for Colombia. This result is understandable since the households in this category are, in the African context in general and Congolese in particular, among the most vulnerable households, particularly because of the pension system failures.

Related to some extent to the age of the household head, it is also observed that the marital status of household head affects the probability of the household to receive money. Indeed, both in bivariate or multivariate model, households headed by people who do not live in union were more likely to receive money than those headed by people living in union. Sana and Massey (2005) for Mexico, Dominican Republic, Nicaragua and Costa Rica and Sosa and Medina (2006) for Colombia found similar results.

Concerning the occupational status of household head, the results indicate that households headed by no-occupied people are more likely to receive remittances than households headed by occupied people even if differences are not significant. The results indicate also that household size is not related to the probability of receiving money. These results are not only contrary to our expectations, but also away from those of previous studies. For example, Gubert et al. (2010) observed in the case of Mali that households receiving transfers have, in average, more members than those not benefiting from transfers.

Finally, concerning the type of household, it is observed that, more the household structure becomes complex, higher is his probability to receive transfers, even if these differences are not significant. Nonetheless, these results are in the expected direction and confirm those found in other contexts. This is particularly the case of Sana and Massey (2005) for Mexico, Dominican Republic, Nicaragua and Costa Rica.

From the preceding results, one can see that the main variables affecting the probability of households to receive remittances from their migrants are: the aid provided by households to migrants, the number of migrants living abroad, the continent of residence of migrants and migratory experience, age and marital status of household head.

Regarding the amount received, results indicate that there are only three variables that are significantly linked to the amount of remittances received by households. All of these variables are directly related to migration, including aids provided by household, number of migrants and continents of residence of migrants. For example, households who have provided aids to their migrants received on average about US $ 350 more than households who did not provide aids. This result goes in the expected direction and participates once again in strengthening of the idea that household aid remains one of the main factors explaining the remittances behavior. Similarly, households with 2-3 migrants received on average about US $ 400 more than households counting only one migrant and those with at least four migrants received on average US $ 855 more than households having only one migrant. Households with at least one migrant living outside of Africa have also received nearly US $ 340 more than those in which all migrants live in Africa. The migratory experience of household head is no longer significant. Indeed, although households headed by people who have been abroad have received US $ 454 more than households headed by non-migrants, the difference is not significant. Results found here are consistent with those found at the descriptive level.

After this analysis, one note that the main variables related to the amount of transfers received by households are: aids provided by households, number of migrants of households and continent of residence of migrants. Some of these results go in the expected direction and confirm our assumptions. Others, while going in the expected direction, go away from our assumptions. For example, aids provided by households, number of migrants and the place of residence of migrants confirm our assumptions. Let remember that these three variables were already linked to the probability for a household to receive money. In contrary, the migratory experience, sex, marital status, occupation status of household head and the size and type of household, while generally going in the expected direction, go away from our assumptions. Among these last variables, only migratory experience of household head, his age and his marital status were linked to the probability of a household to receive money from its migrants.

Table 2: Effects of aids and others socio-demographic and migratory characteristics of households on their probability to receive money and on the average amount of remittances received from their migrants

Characteristics of households	Logistic regression		Tobit model	
	Odds-ratio	CI 95%	Coefficients	CI 95%
Did household provide helps to migrants				
No (Ref.)	-	-	-	
Yes	**2.25*****	**1.25-4.03**	**333,95*****	**95,40-572,49**
Number of migrants of the household				
Only one (Ref.)	-	-	-	
2-3 migrants	**1.81****	**1.01-3.27**	**391,94****	**105,81-678,06**
4 migrants and more	**6.90*****	**4.01-11.87**	**854,98*****	**512,58-1197,37**
HH[2] has already lived outside Congo				
No (Ref.)	-	-	-	
Yes	**1.39*****	**1.62-3.13**	454,07 ^{ns}	-154,48-1062,63
Continent of residence of migrants				
All migrants in Africa (Ref.)	-	-	-	
At least one migrant outside of Africa	**2.48*****	**1.39-4.43**	**336,96*****	**170,00-503,92**
Sex of HH				
Male (Ref.)	-	-	-	
Female	0.8^{ns}	0.33-1.95	-77,88 ^{ns}	-442,13-286,36
Age group of HH				
Less than 35 (Ref.)	-	-	-	
35-49	1.61^{ns}	0.83-3.17	177,75 ^{ns}	-194,60-550,10
50-64	1.63^{ns}	0.85-3.14	146,18 ^{ns}	-281,10-573,46
65 and more	**3.32****	**1.10-10.00**	285,28 ^{ns}	-178,86-749,43
Marital status of HH				
Married (Ref.)	-	-	-	
No-married	**2.32****	**1.03-5.20**	-92,04 ^{ns}	-422,11-238,02
Occupational status of HH				
Occupied (Ref.)	-	-	-	
No-occupied	0.94^{ns}	0.56-1.58	17,53 ^{ns}	-387,93-423,00
Size of household				
Less than 5 persons (Ref.)	-	-	-	
5-9 persons	0.92^{ns}	0.48-1.76	-75,26 ^{ns}	-285,41-134,86
10 persons and more	1.18^{ns}	0.38-3.65	-112,97 ^{ns}	-443,95-218,02
Type of household				
Nuclear	-	-	-	
Widened	1.56^{ns}	0.81-3.03	-201,00 ^{ns}	-419,89-17,88
Vast	2.01^{ns}	0.82-4.88	155,43 ^{ns}	-322,83-633,70
Constante	-	-	-127,41 ^{ns}	-1117,74-862,91
σ	-	-	1422,15***	879,81-1964,49
Number of observations		478		478
Degree of freedom		26		26
F-ajusted (pseudo-maximum likelihood test)		1.58		4,17
p-value		0.19		0,00

*Legend: Ref.: Reference modality; ns: no significant ; *: sign. at 10 % ; **: sign. at 5 % ; ***: sign. at 1 %*
Source: MAFE1-DRC survey. 2007

[2] HH : Household head

Socio-demographic and migratory characteristics of Households and reception of remittances according to the continent of residence of migrants

This section aims to identify factors that influence the probability for households to receive transfers from their migrants according the continent of residence of their migrants. We built, through binomial logistic regression, two separate models. The first, for households in which all migrants live in Africa and the second, for households with at least one migrant residing outside of Africa. The variables included in these models are the same as those used in the overall model.

From results presented in Table 3, one observes that households with all migrants residing in Africa present a different situation with those with at least one migrant resides outside of Africa. For example, aids provided by households appear to be related to the probability of households to receive money regardless the continent of residence of migrants, however, this link is significant only among households with at least one migrant residing outside of Africa. These results confirm, once again, that household aids are a major factor of remittances. In reference to the theory of the new economics of labor migration, the fact that the links between aids provided by households and the probability to receive transfers are not significant among households in which all migrants live in Africa could be due to the low involvement of these households in the migration process of their members to Africa, because of the weak expected return of households "investment" when the proposed destination is Africa.

The results indicate also that more a household have migrants abroad, higher is his probability to receive transfers. This is especially true for households in which all migrants live in Africa. These results could be understood if we know that the majority of households in which all migrants live in Africa has only one migrant. Thus, the increase of an additional unit in the number of migrants is more likely to improve the opportunity to receive money among households in which all migrants live in Africa than among those with at least one migrant reside outside of Africa, where the majority of households have between 2 and 3 migrants.

We found also that the migratory experience of the household head does not have a significant impact on the probability for households to receive money from their migrants among households in which all migrants live in Africa while opposite result is observed among those with at least one migrant resides outside of Africa. But, among households with at least one migrant resides outside of Africa, those headed by people who have already lived abroad have nearly 2 times more likely to receive money than households in the category of reference. These results confirm those found elsewhere, and could indicate that the migratory experience of household heads brings added value to households only when they have at least one migrant living outside Africa.

One can also see that the age of household heads is significantly linked to the probability for a household to receive money only among households with at least one migrant residing outside of Africa and only among those headed by older people of at least 65 years. This could suggest that when migrants have the means (as is probably the case for those residing outside of Africa), they tend to focus their transfers to households that are more likely to live in some vulnerability. Moreover, the result regarding the marital status of household head goes in the same direction. We note that households headed by unmarried people are more likely to receive money from migrants, although this result is significant only among households with at least one migrant residing outside Africa. When considering the possible differences in living standards between households and their differential probability to receive transfers according the continent of residence of their migrants, we can say that it is the vulnerable households among the privileged one (those with at least one migrant residing outside of Africa) who are more likely to receive transfers from their migrants.

By comparing these results with those presented in Table 2, it can be seen that performing a stratified analysis by continent of residence of migrants changes the ratings of almost all of variables on the probability to receive money, but these changes are observed only among households with at least one migrant residing outside of Africa. Apart from the number of migrants, it is seen that the effect of almost all of these variables on the probability for households to receive money from their migrants, was, in reality, the fact of migrants residing out of Africa. How these results can be explained?

Three factors can explain these results. First, the low involvement of households in the migration process of their members traveling to Africa. Then, the fact that the socioeconomic situation in the major destination countries of Congolese in Africa (Angola and Congo-Brazzaville mainly), especially in terms of development opportunities for migrants, is not fundamentally different from that seen in origin country. Finally, as already noted by Kadima (1995 quoted by Bouillon, 1999), most Congolese migrants use other African countries as transitional stages in their migratory process. Thus, during their stay in Africa, they would be more concerned to gather the necessary means to continue their migration project rather than repatriate money or other properties to their origin households.

Table 3: Effects of socio-demographic and migratory characteristics of households on their probability to receive money and on the average amount of remittances received from their migrants according the continent of residence of migrants

Characteristics of households	All migrants in Africa		At least one migrant outside of Africa	
	Odds-ratio	CI 95%	Coefficients	CI 95%
Did household provide helps to migrants				
No (Ref.)	-	-	-	
Yes	2.1***	0.74-5.89	**2.8***	**1.34-5.67**
Number of migrants of the household				
Only one (Ref.)	-	-	-	
2-3 migrants	**1.9****	**1.03-3.61**	1.3	0.56-2.80
4 migrants and more	**8.1*****	**3.56-18.41**	**5.4*****	**2.20-13.28**
HH has already lived outside Congo				
No (Ref.)	-	-	-	
Yes	1.3	0.38-4.37	**1.7** **	**1.57-4.93**
Sex of HH				
Male (Ref.)	-	-	-	
Female	1.1ns	0.34-3.61	1.2 ns	0,35-3.82
Age group of HH				
Less than 35 (Ref.)	-	-	-	
35-49	1.5ns	0.56-3.80	2.3ns	0.73-7.13
50-64	2.1ns	0.76-5.54	1.4ns	0.30-6.67
65 and more	1.5**	0.14-14.75	**17.0*****	**1.36-212.29**
Marital status of HH				
Married (Ref.)	-	-	-	
No-married	1.3ns	0.37-4.40	**6.0*****	**2.26-16.07**
Occupational status of HH				
Occupied (Ref.)	-	-	-	
No-occupied	1.0ns	0.47-2.07	1.0ns	0.27-3,27
Size of household				
Less than 5 persons (Ref.)	-	-	-	
5-9 persons	1.1ns	0.50-2.52	0.7ns	0.26-1.97
10 persons and more	1.5ns	0.31-7.15	1.2ns	0.31-7.54
Type of household				
Nuclear	-	-	-	
Widened	1.7ns	0.48-5.95	0.7ns	0.24-5.86
Vast	2.6ns	0.73-9.49	1.2ns	0.44-5.65
Number of observations		227		251
Degree of freedom		26		26
F-ajusted (pseudo-maximum likelihood test)		1.48		1.38
p-value		0.48		0.26

*Legend: Ref.: Reference modality; ns: no significant ; *: sign. at 10 % ; **: sign. at 5 % ; ***: sign. at 1 %*

Source: MAFE1-DRC survey. 2007

Socio-characteristic of Households and amount of remittances received according to the continent of residence of migrants

This section deals with factors that influence the amount of remittances received by households from their migrants according to the continent of residence of migrants. We built, through censored Tobit regression, two separate models. The first, for households in which all migrants live in Africa and the second, for households with at least one migrant residing outside of Africa. The variables included in these models are the same as those used in the overall model.

The results presented in Table 4 indicate some similarities and differences in terms of amounts of remittances received between households according to the continent of residence of their migrants. As similarities, one can see that regardless of the continent of residence of migrants, aids provided by households and the number of migrants acts on the amounts of remittances received by households even if the effects of these variables are more pronounced among households with at least one migrant living outside of Africa. As differences, we note that the migratory experience and the age of household head affect the amounts of remittances received by households only among those with at least one migrant residing outside of Africa. Indeed, among these households, those headed by returnees migrants received almost US $ 480 more than those whose household heads have never migrated. Similarly, households headed by older people of at least 65 received on average about US $ 560 higher than households headed by people under 35 years. Finally, the type of household acts on the amounts of remittances received by households only among those with all migrants residing in Africa. We observe that more the type of household becomes complex, higher are the average amounts of remittances received by households. Widened (expanded) households received higher average amount of remittances than nuclear households and, vast (extended) households more than the widened households.

Table 4: Effects of socio-demographic and migratory characteristics of households on their probability to receive money and on the average amount of remittances received from their migrants according the continent of residence of migrants

Characteristics of households	All migrants in Africa		At least one migrant outside of Africa	
	Odds-ratio	CI 95%	Coefficients	CI 95%
Did household provide helps to migrants				
No (Ref.)	-	-	-	
Yes	**252*****	**68.62-436.22**	**456*****	**90.01-822.01**
Number of migrants of the household				
Only one (Ref.)	-	-	-	
2-3 migrants	**245****	**30.04-460.18**	**488****	**62.88-912.58**
4 migrants and more	316	-99.31-732.17	**1099*****	**618.02-1580.35**
HH has already lived outside Congo				
No (Ref.)	-	-	-	
Yes	495	-499.93-1489.98	**479****	**29.55-928.29**
Sex of HH				
Male (Ref.)	-	-	-	
Female	83^{ns}	-299.45-465.10	260^{ns}	-870.88-349.97
Age group of HH				
Less than 35 (Ref.)	-	-	-	
35-49	-13^{ns}	-236.88-1024.93	548^{ns}	-156.35-1252.99
50-64	394^{ns}	-236.88-1024.93	199^{ns}	-388.30-785.99
65 and more	-65^{ns}	-558.68-428.07	**561***	**-44.15-1166.82**
Marital status of HH				
Married (Ref.)	-	-	-	
No-married	93^{ns}	-507.70-319.94	**-79**^{ns}	**-685.75-528.32**
Occupational status of HH				
Occupied (Ref.)	-	-	-	
No-occupied	178^{ns}	-431.60-75.53	97^{ns}	-461.37-656.01
Size of household				
Less than 5 persons (Ref.)	-	-	-	
5-9 persons	22^{ns}	-128.14-171.58	-203^{ns}	-610.98-205.45
10 persons and more	-169^{ns}	-566.67-229.09	144^{ns}	-578.17-289.36
Type of household				
Nuclear	-	-	-	
Widened	146*	-19.99-312.94	-427^{ns}	-843.68-9.48
Vast	501***	135.51-866.69	146^{ns}	-789.94-498.43
Constante	-12***	-1011.63-763.72	74^{ns}	-1891.69-2040.42
σ	999***	477.64-1521.16	1672***	1098.13-2040.41
Number of observations		227		251
Degree of freedom		26		26
F-ajusted (pseudo-maximum likelihood test)		5.56		3.18
p-value		0.000		0.02

*Legend: Ref.: Reference modality; ns: no significant ; *: sign. at 10 % ; **: sign. at 5 % ; ***: sign. at 1 %*

Source: MAFE1-DRC survey. 2007

Discussion

This communication focused on the study of the dynamics between international migrants and their origin households at two specific stages of migration process: upon departure in migration and during the stay of migrants abroad. The objectives were to assess the participation of households in the migration of their members, to determine the link between aids provided by households to their migrants with the probability of households to receive transfers and to identify other characteristics of household associated with their probability to receive money from their migrants. All these objectives are based on the assumptions of the theories of the new economics of labor migration and family survival strategy. In addition, for each of those stages of migration process, a specific indicator has been identified: aids provided by households to their migrants for the first stage and remittances repatriated by migrants to their households for the second stage. Three main hypotheses have emerged from these objectives. The first postulates that Congolese migrants would be encouraged by their origin households through aids that they provide them upon their departure in migration. The second associate the probability for households to receive remittances from their migrants to the aids they had provided to them. Beyond that, it also took into account the altruistic considerations that would guide the transfers to the most vulnerable households. The third hypothesis associated the probability for households to receive remittances to other characteristics of households and to the continent of residence of their migrants.

Results indicate that the vast majority of migrant households have participated in the migration of their members by providing various types of aids. These aids consisted essentially in participation of households in all procedures related to migration and by participation to travel expenses. These results confirm, as many other researchers have already shown, that nowadays migration is a problem going beyond the strict framework of the only migrants. It constitutes a strategy encouraged by their origin households. The results also indicate that many households (7/10) have received remittances from their migrants. Moreover, among households who received remittances, the vast majority (85%) had previously provided aids to their migrants. These results confirm that the dynamics that the households of Kinshasa have with their migrants enter within the scope of the basic postulates of the above two theories. One can see through these results that households are the main suppliers of means of migration while migrants act as insurers of their original households. In other words, to the aids provided by households coincides remittances sent by migrants. Moreover, the explanatory power of the variable "aids" remained almost stable as well as in logistic or in Tobit model.

Beyond aids, the results also show consistently that virtually all variables directly related to migration have a positive impact on the probability for households to receive remittances and to the amounts of remittances received. These results confirm, once again, the importance of migration as strategy to which households resort to diversify their sources of income. However, among socio-demographic characteristics of households, only the age and marital status of the household head seem to be related to the probability of households to receive remittances.

It was also found that the probability for households to receive remittances differs fundamentally according to the continent of residence of their migrants. The effects of all variables significantly associated with the probability of households to receive remittances are mainly due to migration out of Africa. Thus, aids provided by households to their migrants residing in Africa have insignificant effect on the probability of households to receive money. This was also the case for all other variables, except for the number of migrants.

We found also that households who have provided aids received, on average, higher amounts of remittances than those who did not provide aids. Moreover, as it was the case with the probability to receive transfers, it was found that all other variables directly related to the migration act also on the average amounts of remittances received by households, except migratory experience household head. Households headed by older people of at least 65 have also received higher average amounts than others. But contrary to what we have observed on the probability of receiving money, the aids provided by households affected the amounts of transfers received both among households in which all migrants reside in Africa than among those in which at least one migrant reside outside of Africa.

From these results, by referring to the typology proposed by Lucas and Stark (1985), it may be conclude that reception of money by households of Kinshasa follows two types of motivation: family arrangements and pure altruistic. The fact that aids provided by households determine to a large extent the reception of money and the fact that most transfer recipients households are also those who have previously provided aids denotes sufficiently the application of the family arrangements between migrants and their households. Furthermore, in addition to households that provided aid, we also saw that transfers are directed to vulnerable households in terms of marital status (households headed by no-married people) and age of the household head (households headed by people of 65 years and more). This result indicates a sense of altruism of migrants vis-à-vis of their origin households. A moral obligation, which requires that one takes care of his own, especially the most vulnerable among them, if one can afford it.

All results presented here indicate that the main objectives of this paper have been met and the principal hypotheses are confirmed. Indeed, we saw that households are greatly involved in the migration of their members. Similarly, the aids provided by households is one of the main factors explaining migrant remittances flows to their origin household. However, other results found did not go in the expected direction. This is particularly the case for the sex of the household head, his occupation status, the household size and the type of household.

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