

MIGRATION AND REMITTANCES
IN THE REPUBLIC OF MOLDOVA:
EMPIRICAL EVIDENCE AT MICRO
LEVEL

by

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Abstract

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The main question that is under investigation in the paper is how and to what extent the fundamental characteristics of households and migrated individuals influence the amount of remittances in the Republic of Moldova. For better understanding of remittance flows, they were studied from both sides. Namely, the study analyses the size and the likelihood to remit from the migrant's part, and the likelihood to send money or goods from the family member's part. Another interesting aspect that is analyzed in the paper is the impact of migrant's and household's characteristics on the method chosen to transfer money, and on the frequency of remitting. For testing the hypothesis under which migrant's and household's characteristics affect the remittances flows two approaches were used: Tobit and Cragg's two-part model. The obtained results appeared to be consistent with the literature studied, and led to the conclusion that migrant's gender, age, working experience and destination country, as well as household's income - all have an impact on the likelihood and the size of remittances.

TABLE OF CONTENTS

	<i>Page Numbers</i>
Chapter 1. Introduction	1
Chapter 2. Literature Review	5
Chapter 3. Methodology	13
Chapter 4. Data description	17
4.1. Descriptive Statistics	18
4.2. Variable specification	20
Chapter 5. Empirical Results	25
5.1. Households characteristics in which there are at least one migrant	26
5.2. The probability and the size of remittances from the migrant's part	28
5.3. The probability of using official methods to remit and the frequency of remitting from the migrant's part	32
5.4. The probability of sending remittances from the household's part	34
Chapter 6. Conclusions and Policy Implications	34
Bibliography	40
Appendix	

List of Tables

<i>Number</i>	<i>Page</i>
Table 1. <i>Gender classification of the migrants</i>	a
Table 2. <i>Variable description</i>	b
Table 3. <i>Probability of having at least one migrant in a household</i>	c
Table 4. <i>Probability and the size of remittances from migrant's part</i>	d
Table 5. <i>The probability of using official methods to remit and the frequency of remitting from the migrant's part</i>	e
Table 6. <i>The probability of sending remittances from the household's part</i>	f
Table 7. <i>Correlation among variables</i>	g
Table 8. <i>Correlation among variables</i>	h

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GLOSSARY

Remittances – represent transfers of money from migrants to their home countries

Chapter 1

INTRODUCTION

*"Migration remains very much the exception
rather than the rule of human behaviour"*

Katheleen Nweland

Labor force migration is an issue of social, political, and economic significance faced by the majority of low income and developing countries. Despite the fact that Moldova's geographical position is considered to be attractive for transiting migration, the number of people that immigrate into Moldova is not that high. According to the data provided by the Department of Statistics and Sociology of the Republic of Moldova, during the first three months of the year 2005, only 356 persons immigrated into this country. A greater attention is paid to the emigration of Moldovan citizens. The most recent official figures point out that about 690.000 Moldovans are working abroad, the majority of them illegally and only 80.000 being entitled to a legal stay.¹

Economic slumps, political instability, high unemployment rate, and collapsing incomes – these are some of the main phenomena that lead to a large-scale advanced emigration from the Republic of Moldova. The most serious aspect of this outflow remains the human trafficking, a burning issue with many complex implications for the Moldavian society.

¹ According to the source of the National Bureau for Statistic Moldova's population is 3,386 mln. people (the figure doesn't include the population from Transdnistria)

The most obvious reason why people may leave their country is economic: search for a better living standards, job opportunities and higher wages. The majority of emigrated Moldovans run away not for the sake of better lives for themselves, but with the hope to earn some money to help their families to survive. The most acute situation is in villages, where people get their salaries with a half of year delay. That is why the most part of migrated individuals are from villages with no higher education qualifications.

Usually, the factors that migrated labor force takes into account when deciding to leave are: “the geographical distance, work possibilities and language similarities Jandl (2003) (for Moldovan emigrants Russian and languages with Latin roots are preferred)”.

Therefore, facing such a difficult situation in their home country, migrating individuals send home remittances that are “made to the family as the main motivation to migrate rather than intertemporal optimization of individual utility” (Ku, 2005).

The estimated amount of remittances from the migrated labor force to the Republic of Moldova is very high and still increasing - above 420 million dollars for the year 2004 (CBS-AXA Consultancy). Remittances play an important role in the Moldovan economy. According to the sources of the World Bank representatives to Moldova, for the year 2003 remittances were estimated at 23.7% of GDP, and 796.6% of foreign direct investment (net), which placed Moldova on top of the remittances-dependent countries list, due to the quantity of transfers made. However, the real amount of remittances is considered to be much higher, if we take into account the money that is sent home via informal ways.

This thesis attempts to widen the migration and remittances studies in the Republic of Moldova, by applying an empirical approach and using a unique micro-level data set. Until now no study has been conducted in Moldova on whether socio-economic characteristics of migrated individuals have an impact on the remittance flows.

Another reason to study the determinants of remittances is that they play an important role not only at the individual level, but also at the aggregate level.

On the one hand, remittances may have a positive effect on poverty reduction, especially in rural areas, where, in the most part, people live on the remittances sent home by their relatives and/or friends. Monzon and Tudakovic (2004) state that remittances lead to an increase in current consumption (food, accommodation, education, health care, entertainment etc.), which further generates positive multiplier effects on the domestic economy. Furthermore, Nurse (2004) thinks of remittances as a “free lunch” in financial terms because they do not carry any costs for the receiving countries and because the positive network effects of remittances more than offset the negatives arising from the brain drain”.

On the other hand, remittances may have a negative impact as well. Buch et al. (2002) considers that “remittances generate demand greater than the economy’s capacity to meet this demand, and if this demand falls on tradable goods, the import bill rises; if it falls on non-tradable goods, relative prices increase”. In other words, the problem is that the money transferred by labor force from abroad is not invested in business development or production, and leads to a considerable increase in imports. In addition, due to foreign currency inflow we have an increase in the foreign money supply in Moldova, which consequently leads to a considerable appreciation of home currency. At the same time, the money transferred from abroad affects the real-estate market contributing to a

rise in the prices of housing and construction materials. This fact is explained by the individual's wish to own durable goods (apartments, houses, land, jewellery etc.), which are meant to play the role of insurance for the future. Despite all the problems the country is facing, the welfare implications of the remittances are regarded as an encouragement of continued migration process (Martin, 1990). Namely, higher remunerations are the main incentive for the labor force to go working abroad.

The main question this paper is seeking to answer is how and to what extent the fundamental characteristics of the households and of the migrated individuals influence the amount of remittances.

First we will analyze the household characteristics that impact the likelihood of having a migrant in the family and then turn to the study of remittances.

For better understanding the transfer flows we will study them from both sides:

- (1) the size and the likelihood to remit from the migrant to the household left behind;
- (2) the likelihood of receiving money or goods by a migrant from the household

We will also analyze the determinants of the mode of transfer (official/informal remittances) and the frequency of remitting.

The paper is structured as follows. The current literature on the migration and remittances field as well as the econometric approaches used in modeling the remittances flows is reviewed in Chapter 2. Chapter 3 includes the methodology, description of the survey data and the variable's descriptive statistics that is used in the model. Empirical results and the analysis are reported in Chapter 4. Finally, I compare the obtained results, provide some policy implications and conclude.

Chapter 2

LITERATURE REVIEW

Among the factors that are considered to increase the migration and remittances flows are the technical-scientific progress and the globalization effects. The migration and remittance's issue has become a very important in modern society. It is continuously impacting a larger segment of people. This fact is demonstrated by the attention bestowed on it by mass literature, where this topic is being approached from both theoretical and empirical point of view.

Ramirez et al. (2005) say that “remittances represent long-distance social links of solidarity, reciprocity, and obligation that connect women and men migrants with their relatives and friends across national borders controlled by States”.

In many theoretical papers migrant's remittances are analyzed from the point of view of *altruism* versus *self-interest*. The altruistic motive is guided by the care for emigrants' families and the desire to help them. In the case of self-interest, Lucas and Stark (1985) distinguish the following reasons which motivate the migrated individual to send money home: aspiration to inherit family's fortune; expectation of taking care of the migrant' investment in financial or non-financial assets; expectation to benefit from the willingness to send funds home. In the Bouhga-Hagbe (2004) study the self-interest motive is called “workers' attachment to their home country”, which emerge from the same reasons as self-interest. There are different opinions about which motive dominates. For example, Agarwal and Horowitz (2002) assert that altruism rather than self-interest motivates individuals to remit, while Brown (1997) states the opposite. This contradiction may be explained by the financial situation of the household: in a poor family the altruism

motive may dominate self-interest - the reason for that is the willingness to assist family and friends; while in a middle income household the self-interest motive may dominate, namely by the desire to attach oneself in the home country.

Amuedo-Dorantes and Pozo (2002) find that during economic downturns the quantity of remittances guided by altruistic motives increases. This is being caused by the migrant's concern about his family, which is facing income difficulties back at home. Another approach with the same idea was found at Katseli and Glystos (1986) who diversify remittances as *required* and *desired*. Required remittances are sent by members of the family and are viewed as an obligation for the migrated person, while desired remittances are represented as a part of migrant's desired income choice. Dostie and Vencatachellum (2002) analyze remittances from compulsory and voluntary side. Their *voluntary* remittances are the funds sent home having at the base different motives: altruistic, insurance, inheritance. *Compulsory* remittances are the money which children send to their parents at home, and these are regarded as an obligation for the child to help his family.

Another feature that will let us characterize remittances is the period distinction; between *temporary* and *permanent* migration. The duration of migration influence the amount of remittances. A temporary migration presumes that people who migrate plan to come back and during their stay in the host country they send regularly payments and sometimes the amount of sending increases over time. Glystos (1997) consider that this kind of remittances is used for investment and future consumption smoothing. A permanent migrant stay implies that the frequency of sending home remittances will decrease compared with the first case, and migrant will send money more like aids and will react as an insurer in case of shocks or unpredictable situations. Amuedo-Dorantes and Pozo (2002) consider that "if remittances and home country income move in tandem, remittances are thought to possibly represent insurance premiums paid

to family members because the migrant views the preservation of his or her place back home as more valuable to insure”.

A controversial hypothesis is present at Gibson and Simati (2001) who made a research about New Zealand migrants and observed that remittances do not seem to decrease with the length of time that a person spend away from home country and they even showed that remittances increased after a period of 30 years the migrant came to New Zealand. Furthermore, based on the study of Tongan family in Sydney, Brown (1997) did not find any positive or negative relationship between remittances and the migration period.

Un till now we looked at the migrant’s decision to remit. Now we will stress our attention at the level of remittances, as a lot of papers regard remittances from the size’s point of view.

For transition countries Schrooten (2005) claims that “the size of remittances depends on subjective and objective factors. Concerning the subjective factors the duration of the stay, the skills and earnings of the migrant as well as the economic situation of the family of origin might play a crucial role. Concerning the objective factors, macroeconomic conditions in the home country might be important”, such as: exchange rates, economic fluctuations, political risk, and inflation rate.

Other factors that also have an influence on remittances’ size are: channels of transferring funds and transaction costs. Due to the fact that not all workers have a legal stay they will prefer to send money to their home countries via some unofficial cannels, namely by addressing to their relatives or friends to transmit the money, or appealing to bus, microbus drivers and train attendants. Also there are some formal possibilities, like bank transfers, rapid transfers, and post office which not all individuals use. The reasons for that are: mistrust in financial institutions, illegal stay, or difficulties of following banking procedures that

people are unfamiliar with. Therefore “the official records represent only the tip of the iceberg” Ramirez (2005).

Martinez (2005) in his paper, which is based on the survey of the central banks in 40 different developing countries, list more ways of transferring funds: for informal channels – an option is putting money in an envelope and mailing it or using the service of “Hawala-type money transfer”²; for formal channels – using phones, internet, credit unions, money transfer companies and agencies, as drug stores, gas stations, retail stores.

Transaction costs have a direct effect on the size of remittances. The higher is the cost of transmitting one unit of foreign currency the lower will be the amount remitted and vice-versa.

Also Martinez (2005) focuses his attention on cost of transferring and delivery remittances. He claims that the cost of remittance transfer consist of:

$$\text{Cost} = \boxed{\begin{array}{c} \text{Fee sender} \\ \text{pays} \end{array}} + \boxed{\begin{array}{c} \text{Exchange} \\ \text{rate spread} \end{array}} + \boxed{\begin{array}{c} \text{Fee bene-} \\ \text{ficiary pays} \end{array}}$$

In other words, to make a transfer a sender needs to pay a fee for sending, then for converting the money from one currency into another and finally, there are situation when the beneficiary need to pay also a fee to receive the money.

Different approaches have been used model the remittances flows.

Taylor (2000), as well as Schrieder (2000) and Jellal (2002), use in their studies the two step model - Probit and Tobit. The Probit model, used in the first step, is

²A way of sending money with the help of a broker; According to Martinez (2005) this service take into consideration not only the transaction fee, but also the speed of service and availability of financial services for both sender and beneficiary

applied “with a dichotomous dependent variable representing whether or not households remit” Taylor (2000); while Tobit model, censored at zero, reflects whether families receive more remittances from the migrants.

Aredo (2005) analyzed the impact of the shock and control variables³ over inflation by using the linear probability model and Probit. Even though he knew that using the linear probability model has some drawbacks (like: violation of homoskedasticity, non-normal distribution of disturbance terms, or that conditional expectations can be outside the [0, 1] interval), Aredo still thought that LPM is appropriate for the initial estimate on the coefficients.

Different approach was used by Gubert (2002). He assumed that the decision to migrate and to remit was taken concurrently and used Tobit model to analyze this corner-solution outcome.

In empirical papers the attention is paid more to the socio-economic characteristics of migrants. Namely, what impact they can have on the incentive to remit and the amount of remittances.

Chipeta (2004) studied the factors that have an impact on the amount of money sending to Malawi. She found out that the household income of the remitter, his education level, the size of the remitting household, the residence place (urban or rural) have a positive effect on remittances, and a negative influence is observed by the age of the remitter and the ownership of the household's cattle.

Gibson and Makoi Simati (2001) found that gender of the New Zealand migrants on remittance behavior is statistically insignificant. The effect of education is also insignificant and actually has a negative effect on remittances.

³ Under shock variable Aredo (2005) presumes household income volatility, while under control variables – the vector of household characteristics.

Briere (1997) claims that in the Dominican Sierra Republic women remit more, but men remit more often. The reason for getting such a result is explained by the fact that in the Dominican Sierra Republic women inherit less from their parents, which presumes a wealth from the husband's side. Therefore, women have an incentive to remit more, and don't be dependent on their husbands.

Another interesting fact is related to the size of the household. Gibson and Makoi Simati (2001) showed that remittances increase with the size of the household, due to the increasing expenses. However, Connell and Brown (2004) state that with increasing number of household's members the propensity to remit decreases.

There is little literature on the remittances in the Republic of Moldova. However, there are informative papers which study the determinants of the decision to migrate, the difficulties faced during migration, the channels of remitting money to their home country.

The CBS-AXA Consultancy Report studies the problem of mass migration and remittances in Moldova. They consider that comparing with the year 2003 there is a slight decrease in the number of departures abroad. The main migratory directions are Russia – 58.2%, Italy – 18.9%, Portugal – 5%, Greece - 2.7%, Ukraine – 2.2%.⁴ The reason why people prefer go to work mostly in Russia are low migration costs and no need for visa, while the low percentage of migrated labor force in such countries like Greece is explained by the precautions of the embassies and consulates due to women trafficking problems.

The migration division by **gender** is the following: 65.9% are male and 34.1% - female. Men prevail in Russia (74.3%), Germany (78.2%), Portugal (67.9%), while females migrate mostly to Southern countries like Cyprus (84.4%), Greece (70.4%), Turkey (67.8%), Italy (63.5%) and Spain (58.6%).

⁴ These figures are taken from the CBS-AXA Consultancy Report, year 2004

Another aspect is migrant's **age**. During the period of 1998-2001 prevailed emigrants aged between 31-50 years old prevailed. The situation changed during period 2002 -2004: majority of recent emigrants are between 20-30 years old. The intuition behind it is that emigrants in the host country live and work in unfavorable and hard conditions. Therefore, migrating people should be more dynamic, enduring, and capable to learn faster. Also we should point out that for year 2003 a huge number of people, with an age over 50 years old, migrated abroad.

The migrant's **education** is mainly secondary education: 52.5% have high school diploma, 27.9% have vocational education, and only 19.6% have high education. Based on these figures we can conclude that the majority of migrated population is unqualified. But even that part of labor force which has high education is working in low unfavorable working.

The migrant's **working area** differ from country to country. The majority of migrants work in construction and repair works – 51.3%, 7.8% work in social care and housekeeping; 7.3% in commerce and services work; 7.2% are employees at factories, plants and firms; 6.9% - in agriculture.

Regarding the migration process from the **legalization** point of view we can conclude that approximately 72% of migrated labor force work illegally and only 28% have a legal stay in host country. The main motive people live in the country illegally is the fear of not getting the visa or already having a refusal.

As to the **duration** of the migrated individual, the CBS-AXA Consultancy Report distinguishes the following categories: people who migrate permanently and do not return home for more than a year – 32.3%, people who migrate permanently and stay there less than a year constitute 26.9% and the major part 40.8% migrate seasonally for few months.

In this report they found that about 80% of emigrants sent money to their family, 16% to other close people like relatives, and about 8% to their friends and acquaintances.

The reason for not sending money due to the influence of different factors is also pointed out there:

- the year of ones first departure (people that just emigrate don't send money immediately at their arrival);
- migrant's age (people who are about 30 years old represent 52.6% out of the total number of people who did not send any money).

However, the Moldovan workers send big amounts from their income obtained in host country, and this figure shows that above 71% of migrants sent home more than a half of money earned and it is considered that the main part of them are married and old.

Iskandaryan (2003), analyzing the impact of the Caucasian emigrants in Russia, points out some negative aspects that migrants face during their stay abroad, and some of them are: risk, danger and instability; juridical lawlessness; discrimination etc. He considers that there are three types of emigrant's discrimination: public or/and administrative, social and ideological. The first one, administrative discrimination, is revealed by instantaneous passport controls, expulsions, extortions, difficulties to find a job without having registration. Another type – social discrimination - is practiced by certain non-state chauvinistic groups, which are rather unfriendly, oriented to emigrants. Finally, the ideological discrimination is represented through the domestic population by the feeling of fear, skepticism and hostility. In spite of all these risks and unfavorable conditions people still continue to leave abroad in search of better lives.

Chapter 3

METHODOLOGY

The practice of discrete choice models in the migration and remittance flows analysis has been widely used.

To analyze the determinants of migrant remittances we will use and compare two approaches: Tobit model which was used by Gubert (2002) and the two-part model.

In the Tobit model, having a corner solution, we will only observe the level of remittances, R_i , which are $R_i > 0$; that is the migrant remits only if its remittances, R_i^* , are positive.

Assume that the true Tobit model for the optimal level of remittances is the following:

$$R_i^* = \beta' X_i + u_i \quad u_i \approx N(0, \sigma^2),$$

where R_i – the amount of remittances sent; $R_i = \max(0, R_i^*)$

X_i — vector of explanatory variables, which will be described later in this chapter

u_i – error term, $u_i \approx N(0, \sigma^2)$

i – identifies the household

Where R_i^* is a latent variable that is observed for the values that are higher than zero and it captures the i -th individual's propensity to remit. It follows a normal, homoskedastic distribution with a linear conditional mean.

Thus, the observed R_i is defined by the measurement equation:

$$R_i = \begin{cases} R_i^*, & \text{if } \beta' X_i + u_i > 0 & \text{(the observed values)} \\ 0, & \text{otherwise} & \text{(the unobserved values)} \end{cases}$$

Tobit model will be applied to describe the effect of the explanatory variables on the non-negative dependent variable, namely it will give the information on both the level and occurrence of remittances sent by a certain individual.

Although convenient for the corner solution applications, Tobit model has some serious drawbacks related to the underlying assumptions.

As Kennedy (1998) states, Tobit model “assumes that the equation determining whether an observation is at the limit is the same as the equation telling us the value of the dependent variable”.

The second issue relates to the assumption of normality. Nonnormality and differential impact at the extensive and intensive margins results in inconsistency of the estimates.

Wooldridge (2002) suggests a rough test for the appropriateness of the Tobit model, and namely he proposes to “compare the Probit estimates, say $\hat{\gamma}$, to the Tobit estimate of $\gamma = \beta / \sigma$, namely $\hat{\beta} / \hat{\sigma}$. These will never be identical, but they should not be statistically different. Statistically significant signs changes are indications of misspecification”.

To circumvent the problem of the differential impact at the extensive vs. intensive margins two-part Cragg's model (1971) is suggested. The use of two-

part model would allow us to disentangle the effects at the extensive and intensive margins.

This model consists of the following:

1. To estimate the parameter of the Probit model
2. And using the results obtained in (1) run the selectivity corrected OLS regression

In other words, to test the stated hypothesis using a two-part model, which will help us to make a distinction between factors influencing the decision whether to remit or not and the level of remittances, we will use the Probit model and OLS. In this case the independent variable will exercise two effects, namely it will affect the probability to fall in the remitting subsample and the amount of remittances.

The Probit model will be used to consider the determinants of access to remittances that is, the probability of sending money home. Therefore, the probability getting positive remittances, $\Pr(R_i > 0)$, is given by:

$$\Pr(R_i^* > 0) = \Pr(\varepsilon_i \leq -\alpha' X_i)$$

$$R_i = \begin{cases} 1, & \text{if } R_i^* = \alpha' X_i + \varepsilon_i > 0 \\ 0, & \text{if } R_i^* \leq 0 \end{cases}$$

In this case R_i is dichotomous dependent variable and it gets the value 1 if the migrant transfers a positive amount of money, and 0 if the individual remits zero (Greene, 2000)

In the second part we will run a simple OLS regression for the sub-sample of individuals for whom the dependent variable is greater than zero.

Thus, the expected partial effect will be the following:

$$\frac{\partial E(R_i | X_i)}{\partial X_i} = \frac{\partial \Pr(R_i | X_i)}{\partial X_i} E(R_i | R_i > 0, X_i) + \Pr(R_i > 0 | X_i) \frac{\partial E(R_i | R_i > 0, X_i)}{\partial X_i}$$

This implies that the overall effect of the change in an explanatory variable on the expected remittances can be represented as a summation of:

- (1) the average effect on the probability of observing positive remittances weighted by the average remittances among those who remit
- (2) As well as the change in the amount of transfers for those who have been remitting before

The problems that will appear in the model are heteroskedasticity and endogeneity. Therefore, to deal with heteroskedasticity we will apply the method known as heteroskedasticity-robust procedure, which is valid whether or not the errors have constant variance.

The problem of endogeneity unfortunately cannot be solved so easy, due to the fact that we cannot find an appropriate instrumental variable for such variables as: official methods used to send money and regular sending. However, we believe that choosing the amount of remittances as well as the method and regularity of sending is simultaneous. Thus, including those variables in the remittance equation will lead to endogeneity bias. Therefore, we opt for a reduced form approach to analyze the determinants of the official methods and regularity of sending decisions using Probit model with exogenous variables.

It is also expected the problem of multicollinearity; it occurs when two or more variables are related, and measure essentially the same thing. Thus, eliminating one of the variables that may not be logically essential to our model will reduce or eliminate the multicollinearity.

Another problem that should be pointed here is the omitted variables problem, which may lead to a low R-squared. However, low R-squared is common in the population-related studies.

Chapter 4

DATA DESCRIPTION

The data are drawn from the survey made by the Center for Public Opinion Study *CBS AXA* and *International Organization for Migration*. It was conducted during October – November 2004 and covered 3714 households.

The collection of information for this study was made in several stages. Firstly, an Opinion poll carried out where a screening method was applied to get primary information about the phenomenon which helped to select participants for qualitative study. The next stage implied a Qualitative Study where groups of 7-10 persons were interviewed; afterwards, was made a Quantitative Study which comprised 34 actual districts of the RM (including 2 cities: Chisinau and Bălți).

The database is very rich and includes 348 variables. It contains detailed information about the year of last migration, problems and costs faced during migration, living, working conditions, and legal status in the destination country, further intentions, frequency and amount of money or goods sent home. Also this survey includes sufficiently wide information about the socio-economic situation of money receiving families.

From this data 1299 households out of 3714 had at least one member working and earning for living abroad in 2003-2004. From those 1299 households only 1006 were studied.

Both datasets contained many missing observations, and there was a quite high rate of non-response questions. As a result, the data needed to be cleaned for the missing information and anomalies.

The principle according to which the family members were selected to be interviewed

Since our data is for year 2004 we have a cross-sectional data. According to Wooldridge (2002) the cross-sectional analysis is usually applied in microeconomic fields and is based on the individuals, households or firm's surveys. Under the cross-sectional data we often can assume that the data was obtained by a random sampling of the population. Nevertheless in case of migrant's remittances it is not quite so. Therefore, to answer the questionnaire there were selected only migrants that came back earlier than January 1st 2003; others were just registered. The person should be an adult (>18 years old). There was given a special form for migration for the families which had one or more members that left abroad. The special form was filled up the by the migrant that came back earlier than January 1st 2003, in case the migrant was abroad one of the family member filled up the form by himself. If the family had 2 or more members that were abroad, there was selected the person who recently came home, and the priority was given to the person who remitted. (See the Appendix)

Descriptive statistics

The variables that will be used in this research are: remittances (that are sent by the migrants and by the family members), migrant's age, gender, marital status and education level of the migrant, nationality, residence environment of the migrant's household, the number of children in the family, the number of unemployed people in the family, the maximum age of the family member, the number of high educated person in the household, the number of unemployed person in the family, the level of household's income, the number of family members, the share of women in the household, the host country in which the migrant works, the way of migration (permanently or temporarily), the duration of working experience abroad, the method used to send money and the frequency of remitting.

As it was stated before from the whole sample of the 3714 household only about 30% have at least one migrant in their families. These households are studied further in the analysis of remittances. The sub-sample will contain 929 observations. 65 % out of the total number of migrants from the sub-sample are male, out of which 62% are married and only 17% have a high education level. The average age of the migrant is 34 years, the maximum age is 59. About 80% of people are of Moldavian nationality.

The figures show that 31% of the total number of migrants chooses to migrate to rich countries, from which 48% are women and only 22% men. The average duration of the migration is 3 years, while the maximum period for a person living abroad is 21 years. More than a half of the migrants (60%) have an illegal stay in the host county. The same number, 60%, represents the individuals who decided to leave permanently from their origin country; and 51% are males, while females have a bigger number 75%.

From the total number of migrated individuals about 73% choose to remit money to their families and friends. And the data shows that female remit 77% from the total amount, while men a little bit less, and namely 70%. The maximum amount of money that was remitted within a year is 25000\$. 35% of the migrated workers choose to remit through official channels, and only 24% of them remit regularly, at least once in three month.

The data show that 64% of households live in rural area. The average number of the family members is 4 (maximum is 9), while to each household falls to 0.45 number of children. About 32% of the interviewed households state that they have a low level of income and it is not enough for living. In a family on average there are 2 members that are jobless. A sad fact is reflected by the number of household members that posed a higher education; it shows that on average in the family there is one member who has high level of education.

Variable specification

Further, it will be given the variables description and will be explained the reason of choosing these certain variables into the models.

Remit – represent the amount of remittances that individuals send home, through both official and unofficial channels, to their family, friends, relatives, and acquaintances. Remittances are defined as the sum of money that can be represented by cash or transfers which are sent to migrant's household. This variable shows amount of remittances sent or brought home by the migrant in the last 12 month. Remittances are measured in American dollars.

R - shows the state of sending or not remittances to migrant's household. It is a binary variable where 1- represents the individual's decision to remit and 0- otherwise. This variable was constructed from a logical combination of the following variables from the database: the state of sending money to family, close relatives, friends, and acquaintances. All these variables are binary, where 1 represents a positive answer and 0 otherwise. In this particular case $R = 1$ if the migrant sends any remittances, and $R=0$ if individual sends nothing.

R_hh – reflects the same state as above the difference is that the family members send money to the migrant. 1 denotes the state of sending money, 0- otherwise. This variable will be used in our model as a dependent variable to see what are the migrant's and household's characteristics that may influence the probability of sending money by the household.

G_hh – with this variable, which is a dependent variable also, we will try to analyze what are the main migrant's and household's characteristics that increase the probability of sending goods to the migrant.

Off_method – denote the method used to send remittances to origin country. 1 shows the remittance sending by official channels, and 0 – unofficial channels, by appealing to train conductors, bus drivers or through relatives and friends. This variable will be used as a dependent variable, to see what factors influence the probability of using official channels to transfer funds by the migrant.

Regul_send – is used to see how the frequency of sending money is affected by certain factors and migrant's characteristics. (1 implies regular sending, i.e. at least once in 3 month, 0 – otherwise).

Migrant's characteristics:

Age – although it is hard to predict the effect of age on remittances it is supposed to be relevant. This variable can help us to predict how the size of the transfers changes against the migrant's age. Rodriguez (1995) claims that age has a positive effect on probability to remit, i.e. elderly individuals will remit more.

Male – the gender variable is included to see who sends more remittances, female or male. It is expected to be positive; however Ramirez (2005) says that the effect of gender variable on the remittances is neutral and sometimes researchers find it insignificant.

Married – assess the amount of transfers made to country of origin. The size of remittances is expected to be higher if the individual is married, and lower if it is vice-versa. It is a dummy variable, where 1 – reflect married people, and 0 – individuals that are single, divorced or widowed.

Heduc – used to determine the likelihood of sending money home, the theory claims that the more educated is the person, the more he will remit. A contrary statement is found at Faini (2003), he considers that higher educated persons

send less money and the reason for that is permanent migration. 1- represents high educated migrants and 0 – migrants that have incomplete or secondary education.

Permanent – to evaluate the level of remittances we use the variable permanent, as it was pointed out before individuals that have an intention of permanent migration remit less money. It takes value 1 if migrant migrates permanently and 0 if temporally.

Rich country – denote the destination country in which the migrant permanently or seasonally live. This variable is a dummy, where 1 reflects the rich country (like: EU countries, US, Canada) and 0 – for the poor (like: Russia, Africa, Iran, Kazakhstan etc.).

Construction – depicts the working area of the migrant. This variable was transformed in a dummy, where if the migrant works in the construction or repairs domain it gets 1, and 0- if the worker has a job in agricultural sector, commerce or service area, if he is an employee at a factory or works as a housekeeping. It was chosen to name this variable in the respective way due to the fact that the majority of the migrants work in the construction industry, while in the other working sectors the number of workers are less than 50.

Exper – represent the number of years of experience working abroad; it is supposed that sum of transfer be bigger, the higher is the year of experience. According to Jelili and Jellal (2002) the longer the migrant is abroad the higher is the chance to find a good job and to get used to it, therefore the size of the remittances should be higher.

Legal – show the right of residence, if 1 – individual is legally migrated and 0 - if not. It is assumed that people that work legal should send more money, than those that have an illegal stay. The reason is the possibility to get a working contact and relatively a stable job.

The research will also include some characteristics of the family member's that are expected to have an impact on the probability to remit and the amount of remittances.

Fam_mem – represent the total number of member of family, intuitively the bigger is the family the more money should be sent home. Nevertheless, Brown (1997) states that the larger is the family, the less is the likelihood that individual will remit.

Urban – this variable reflects the residence environment of the household, it takes the value 1 if the family is situated in urban area and 0 if in rural. Rodriguez (1995) states that urban households get higher amount of remittances; this fact is explained by the higher living costs in urban area.

Nr_Child – shows the number of children in a family, the more children are in a household, the more the migrant should remit.

Low_inc - reflect the level of income of the household. It is a dummy where 1 represents families with low income, 0 – otherwise. This variable is expected to have a positive effect on remittances.

Nr_Unempl – represents the number of person in a household unemployed. This implies that the level of income in such families is low; therefore the migrant should remit home higher amounts of money.

Maxage - represents the oldest member in a household; this variable it is expected to have a negative impact on the size of remittances, the older will be the household member the lower amount of money will be remitted.

Nationality – a binary variable, 1 state for households that have Moldavian nationality, 0- otherwise, and presume households that have Ukrainian, Russian or Bulgarian citizenship.

HHeduc - depicts the number of person in a household that possess a medium or higher education level; more educated people should get higher remittances.

Sh_women - represent the share of women in a family; it is considered that the higher is the share of women in a household the lower should be the amount of transfers.

For our model we assume that remittance variables (R, Remit) are equal to 1 or to a certain amount in case when the migrant sends money home, otherwise when the migrant do not remit or didn't answer the question in these both cases the value will be zero. That is, even if the question hasn't been answered we assume that migrant sends zero remittances. The cause of such a low answering rate⁵ can be explained by the fact that individuals are shamed to be seen as unlucky; that the persons around him didn't believe that he/she is incapable to make money.

⁵ As it was pointed in data description, from 3714 household interviewed only 1006 migrants were studied; and from them only 929 are used. The scheme of selection is in Appendix.

Chapter 5

EMPIRICAL RESULTS

For better understand the estimation results this chapter will be divided in four parts. In the first part we will stress out attention on what are the household's determinants to have at least one migrant in the family. In the second part we will analyze the likelihood of remitting and the amount of money sent by the migrant. Also here we will use the two approaches that were described in the methodology. The third part will be devoted to the estimation of the impact of household's and migrant's characteristics on the method chosen to send money and on the frequency of remitting. In the last part we will look at the reverse process, when family members will send money and goods to the migrant.

In order to proceed to the presentation of results we would like to discuss the goodness of fit of models used. As we all know the R^2 indicator shows how accurately the model is predicted. In our case the R^2 's from the models are not that high, which respectively imply that the models are not quite accurately predicted by the explanatory variables. However, Kennedy (1998) states that in the Probit model we cannot analyze the quality predicted of the model by looking only at our R^2 , because there isn't a general accepted goodness of fit measure for that. He suggested looking at the number of one's and zero's correctly predicted. The goodness of fit is correctly predicted when both dependent variable and fitted dependent variable are equaled to one or both equaled to zero. (See in appendix the table). Therefore after making a goodness of fit test we found out that all models have a relatively significant explanatory power in comparison with

the model regressed only with the intercept term. The difference among them is about of 2-3%.

One explanation of such a low R-squared can be also explained by the fact that in our model was used a cross-sectional data, for year 2004, the other explanation is the problem with the omitted variables.

Also, in contrast to OLS, Probit model is sensitive to misspecifications, and we may get inconsistent estimates if the heteroskedasticity is present. Therefore, to avoid the heteroskedasticity problem we used the heteroskedastic-robust procedure, which helped us to overcome the heteroskedasticity in the model.

Furthermore, to show the effect of the explanatory variables on the dependent variable, while interpreting the results obtained we will say that: a one unit increase in the explanatory variable lead to a certain percentage point increase in the dependent variable, or for the dummy variables we will talk about the effect of a change from zero to one.

- *Households characteristics in which there are at least one migrant*

At this stage to estimate what household's characteristics may lead to increase in probability of having migrants in the family we use normal probability model for binary choice dependent variable, i.e. Probit model.

Since the Probit coefficients show the effect of independent variables on the latent variable, which is not observable and often has no well defined unit of measurement, we will focus our attention on its marginal effects.

As Table 3 shows, the higher is the number of **children** in a household; the lower is the probability (by 7.8% points) of having at least one migrant working abroad. The motive for that is the parent's responsibility and care about their children, followed by the fear to leave them alone or to leave their education to some other person.

Looking at the number of **high educated** persons in the household we can say that the bigger is the number of educated family members the higher is the probability (by 4.6% points) of having at least one migrant in a household.

For the families who have the **oldest member**, there is a decrease in probability in having migrants, and namely it decreases by 0.42% points. The explanation behind that is simple: the older is the person the more difficult is for her to leave the country; due to health problems, physical conditions, matter of habit etc.

Furthermore, an increase of one **unemployed** person in a family increases by 5.7% points the probability of having migrants in the household. The explanation behind this finding is the following: people confront difficulties in finding a good, well paid job in their origin country, therefore the incentive to migrate increases.

A positive effect on the likelihood to migrate is reflected by the **number of family members**. The bigger is the family the higher is the chance (6.7% points) that someone from the family will leave the country.

At the same time the **share of women** in a household, came to be insignificant, and to exercise an opposite effect on the likelihood to migrate.

Another variable which exercises a negative impact on the probability to migrate is the **level of income**. The chance to have a migrated family member decrease by 9.7% points in the households with a low level of income. This happened due to the fact that poor families cannot confront with high migration costs.

The **residence environment** also affects negatively the likelihood of having at least one person in the family abroad. This implies that rural households have higher chances (by 13% points) to have family members as migrants. This is due to the fact that the situation in urban households is relatively better than in the rural areas, where people confront difficulties in finding a job.

- *The probability and the size of remittances from the migrant's part*

In this part we will apply two approaches that were discussed in previous chapter. Firstly, we will run a Tobit regression, and after that we will use the Cragg's two-part model to estimate our results.

The **Tobit model** is used to see what characteristics have an impact on the size of remittances taking already into consideration the migrants that remit.

Looking at the results from regression (see Table 4) we can conclude that **male** send less remittances (744\$) than female. The cause is that women are more conscious than men, and in case they have children women will be more concern about them than men. Another explanation would be that the major part of female migrants work in rich countries, where the level of salaries is higher, therefore the amount of the funds sent will be bigger. The same effect was found out at Connell (2004) where he explains the fact that "women migrants are more generous than men" due to some altruistic motives and responsiveness to their relatives.

As it was expected the migrant's **experience** of living in a host country increases the size of remittances by 164\$, which means that having a longer stay in a foreign country increases the chance of finding a good and well paid job.

But as the working period in the host country increases the amount of remittances will decrease, namely with each year of longer stay abroad the household will get by 9\$ less.

The variable **Rich country** shows how much the size of remittances increases if the migrant is working in a European country, and namely by 717\$. The cause is that in these countries the levels of salaries are higher than in the others.

An increase in the **share of women** in a household decreases the amount of the remittances by 1124\$. This is due to the fact that having more women in a family staying home and men working abroad, based to the results pointed out above, men send less money to their households, consequently having more

women in a household resting in the home country decrease the amount of remittances sent.

A negative influence on remittances is observed at the variable - **maximum age** of the household member; it implies that the sum of the funds sent decrease by 28\$ if in the family there are old people. An explanation to this would be that old members of the family do not need so much money anymore to live peacefully. There are used to their pensions and any other small additional amounts of income are regarded as grateful

All other coefficients (permanent migration, number of children, age of the migrant, marital status, working sector, residence environment and number of people unemployed in a family) are statistically insignificant. The reason for that is simple migrants wont take into consideration all these factors when will decide whether to send and how much to send money home.

The second approach presumes the use of the Probit and OLS.

After running the ***Probit model***, to test for the probability of sending remittances to the households, we obtained that experience, number of person unemployed in a household and the working sector are statistically significant.

We got that more **experienced migrants** increase the probability of sending money to their households by 5.9% points. Obtaining a bigger experience the chance to find a well-paid job increase, and consequently the probability to send remittances increase. However, an interesting fact was found out by taking a squared experience. The chance of remitting decrease by 0.2% points, due to a longer stay in the host country.

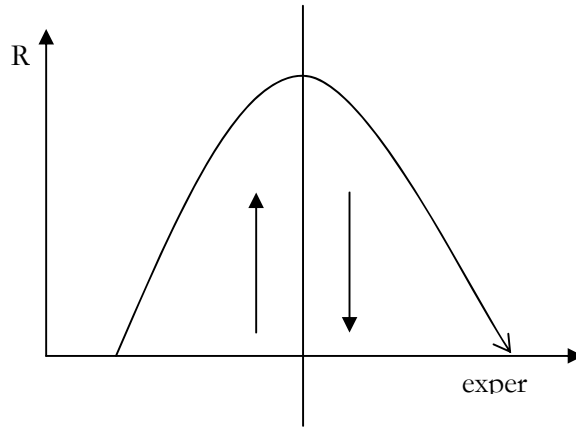


Fig.1 Remittance change due to migrant’s experience

By looking at the graph we can see that until a certain level (from our results we obtained that the point of inflection is 25 years) the probability to remit increases as the years of migrant’s experience increase. This implies that in long-run migrants may not remit because they already will have a permanent stay and will need money for living in that certain country.

At the same time the probability that a migrant remits increase by 4.4% in the households where there are a bigger number of **unemployed** family members; because having unemployed people in the family will substantially decrease the level of income. Therefore, migrants will remit to help their families to survive. Aredo (2005) in his paper also analyzed how the employment affect the probability to remit and he find out a negative relationship between the probability to remit and employment; which implies that as in the household there are unemployed people the probability that the migrant will remit increases.

Also a positive effect is observed at the variable **construction**; from here we can conclude that migrants who work in construction sector are more likely to remit, and more exactly by 8.35%.

All other coefficients (like: age, gender, education, legal status, residence environment, nationality etc.) are statistically insignificant, which implies that on the likelihood to remit they have no impact.

The *OLS* regression used to show the size of remittances that the migrated individuals send to his/her relatives lead us to the following conclusions.

From the results we may see that migrants that work in **rich countries** send more money to their families and namely with 1251\$ more. The observation is quite logical, in rich countries salaries are higher, and therefore the size of remittances is higher.

The **age** of the migrant has a positive impact on the amount of remittances, the older is the person the more she will remit, namely by 24.5\$ more. And if we look at the age squared, we can see as in the migrant's experience case that the amount of remittances will decrease, by 1.9\$. The reason is intuitively the same as in the Probit model, the older will be the migrant the harder it will for him to work abroad; because usually working abroad requires a good health and high abilities.

Another fact is with the working sector, person that work at **construction** send higher amounts of remittances (with 835\$ more). This entire means that the work in the construction is not that easy and employers fairly appreciate the effort of the migrant.

An interesting fact was observed at the variable **low level of household income**, it has a negative impact on remittances, and namely it decreases the amount of remittances with 640\$. This can be explain by the fact that poor families aren't used with huge amounts of money and for they small amounts of remittances means already a lot, also the migrant who comes from a low income family may agree to work on a lower wage, and respectively to send less money. He same result was find at Chipeta (2004) and namely there was estimated that the size of remittances is negatively influenced by the level of household's income.

The same result as in Tobit model was observed at the variable **maxage**, namely having old members in a household decrease the amount of remittances by 18\$, the reasons are still the same.

The reason for the statistical insignificance of the rest of coefficients is the same as above.

Taking into consideration the Wooldridge (2002) statement about the misspecification of the Tobit model we can conclude that having partially significant differences between the Tobit and Probit coefficients (low_income and sh_women) the Tobit model is probably misspecified.

- *The probability of using official methods to remit and the frequency of remitting from the migrant's part*

To continue the analysis of remittances we should stress out attention to the method preferred by the migrant to send money as well as the regularity of sending. Thus, as it was stated in the methodology, we will use a reduced form approach to avoid the endogeneity among variables.

In the first place we will analyze how the migrant's characteristics and other factors influence the method chosen to remit.

The obtained results, which can be seen in Table5, show that migrants who work in **rich country** are more likely to use official methods (the probability increase by 15.26%points). If we look in the previous part when estimated the amount of remittances sent by the migrant we can see that people who work in rich countries remit more. Hence, from here we can conclude that remitting more money migrants prefer to use official channels to make transfers.

Another quite expected results is observed at the residence environment, namely people from **urban** area are more likely to use official methods, the likelihood increase by 8.4% points. The idea behind that is simple; in rural area

there aren't many post offices and/or banks to which people could go to withdraw money. Also, as it was stated in the literature review, one of the reasons of remitting less through official channels is that people from rural area don't know all the banking procedure that should be followed.

Furthermore, a positive and significant impact on the likelihood to use official channels while remitting was noticed at the following two variables: **nationality** and the number of people unemployed. Thus, Moldavian citizen are more likely to prefer official method. Also the chance that the migrant will send money through official channels will increase by 2.8% points the case when there will be a higher **number of unemployed people** in the household.

The insignificance of the coefficients is explained by the same fact as before. However we would like to point out here the fact that we expected **legal** coefficient to be statistically significant; because logically we assumed that as the migrant is illegally working abroad, for him it will be more difficult to use official method to remit.

Next, we will look at the regularity of sending. Here the results are quite expected; the frequency of sending money increase by 4% points with each year increase in working **experience** abroad. And decrease by 0.3% points when we take the squared of experience. The reasons are the same as above in the migrant's remittance case.

In **rich countries**, as it could be expected, migrants can remit more often, and namely the probability of remitting regularly increases by 7% points. The reason is simple, earning more money the migrant can afford to remit more often.

Also the **older** will be the migrant the greater will be the likelihood (4% points) to remit more often, and will decrease by 0.04%points when the worker will be very old, in other words by taking the age squared variable.

A negative influence on the probability of sending regularly money was observed at the **household's income** variable; where the coefficients decrease

the probability to remit by 8.11% points. Since it was observed previously that the amount of remittances decrease in the household's with a low income level, we should expect that the frequency will also decrease.

Another negative impact is detected at the **maximum age** of the household member. This means that the chance of getting regular remittances decrease by 0.32% points in the families where there is a very old person. As we all have notices, our grandparents are very saving and thrifty. Therefore, the regularity of sending may decrease.

- *The probability of sending remittances from the household's part*

Up till now we analyzed the probability and the size of remittances which were sent by the migrant's to their homes. Now we will look at the opposite state; whether there is a relationship between the remittances sent by the family members and the household's characteristics. Namely, we will analyze what are the household characteristics that may increase the chance to send remittances abroad to the migrant. For this case we will use only Probit model, and the reason for not using Tobit or OLS models is the unavailability of the data.

Firstly we will look at the probability of transferring money to the migrant. The results can be seen in Table 6.

Analyzing the obtained results we can see that the **number of unemployed** persons in the family is statistically significant. It implies that the higher is the number of unemployed household members the lower will be the probability of sending money to the migrant (0.66% points), because the family itself will need resources to survive.

Also the chance to send remittances by the families is higher for the women migrants (by 4.9% points). This is explaining by the fact that **men** need less help from their families, being heads of the household, they try to work on their own and find some ways to survive in the host countries.

The variable **family member** shows that an increase by one member of the household lead to an increase by 0.63 percentage points in the probability that someone from the family will send money to the migrant. The intuition is simple: the bigger is the family the higher is the chance that someone from this family will remit.

However, we should take into consideration the **maxage** of the household members. Thus, old household members will find it difficult to send money to their migrated children or relatives. The reason for that is the low income gained from their pensions. Therefore, the likelihood that an old member will send funds to the migrant decrease by 0.06% points.

The **nationality** also influences the probability of the households to remit, and namely it was found that Moldavian citizens increase the likelihood of sending funds to the migrants by 1.33 % points. This can be explained by the Moldavian's mentality to help their relatives during hard times.

The rest of coefficients are statistically insignificant. That is, the family to send money to the migrant won't look at the factors like: education, marital status, number of children, level of income, share of women etc. This can be due to the fact that the families do not send so often money to the migrants and if they do it should be in some cases of emergency.

A little bit different situation is observed when the households send remittances in the form of goods.

In the remittance-goods case, we got that the **rural households** increase the probability of remitting goods by 8.8% points, which is due to the fact that more migrants are from rural households (how was stated above) and produce domestic goods by themselves.

The same is with the **experience squared**, with each year of increasing experience the chance that a family will send goods decreases by 0.19 % points. While the **experience** variable increases the chance to send goods to the migrant

by 4 % points. That is the longer the migrant is abroad the higher will be the chance that he/she will receive home goods.

However, the variable **permanent** shows us that when individual migrated permanently the likelihood that family will send goods increase by 7.87 % points. And this is because in host countries there aren't certain goods as in the country of origin.

As it was stated above, for this case we will use only Probit model, and the reason for not using Tobit model is due to the unavailability of the data.

Making an overall estimation of results obtained in our paper and by comparing them with the finding from other studies we may conclude that our findings are quite consistent with the literature.

CONCLUSIONS AND POLICY IMPLICATIONS

Nowadays the migration and remittances flows in developing countries are of a great interest. There have been done a lot of studies analyzing the migration and remittances process under a positive and negative viewpoint, on macro and micro level, from a theoretical and empirical angle.

This particular study was attempted to analyze the remittance flows on micro level, in the framework of migrant's and household's characteristics. To test the hypothesis under which migrant's and household's characteristics affect the remittances flows, we used two approaches Tobit and Cragg's two-part model. And we found out that the Tobit model is partially misspecified. The data we relied on during our study was taken from the International Organization for Migration, CBS-AXA Consultancy Report.

Beforehand we proceeded to our main analysis; we decided to clearer the picture on those who send and receive remittances and to look at the households in which there was a likelihood of having at least one migrant in the family. As a result, it was found that those households which are more likely to have migrants in their homes have the subsequent characteristics: big families, with few infants and aged household members, unemployed and with an averaged level of income.

Furthermore, this study was intended to investigate the remittance behavior from both sides, i.e. from the side of remittances receiving household and remittance sending.

Thus, in the framework of migrant's remittance sending we could conclude that more experienced migrants that work in rich countries remit more to their

households. However, it was observed that low income families receive less remittance, even though the likelihood to get some money from the migrant increase when in families there are jobless people.

To study remittances from the other side, we looked at the probability of getting household's sending (i.e. money and goods) by the migrant. So, we could conclude that family are more likely to remit to women than men, also the probability to get some sending increase at migrants that have a permanent stay in the host country.

An interesting aspect of migrant's remittances which was also analyzed in this paper concerns the method of transfers and frequency of remitting. Here we can conclude that through official channels remittances are sent by migrants from rich countries to mostly urban households. While the frequency of remittances are more likely to depend on the migrant's duration of working abroad, as well as the destination country and the level of household's income.

While studying migration in the framework of remittances some important facts should be taken into consideration. Remittances in developing countries are regarded as flows that exercise a positive impact on domestic economy. They are not like loans that require an interest payment; also they are considered even more stable than foreign direct investments. Therefore, governments should recognize the importance of remittances and encourage them: by abolishing or reducing the tax burden, by creating some institutions which will facilitate the procedure of money sending even for illegal immigrants. In such a way it will be possible to control the migrant and remittances flows.

Nevertheless, there is another part of the coin, and namely migrant's remittances may be viewed as possible means of money laundering. Not knowing the true size of remittances flows it is hard to follow the transfers which are made. Thus, having per day a huge number of transactions made it is practically

impossible to follow the money laundering. And, regrettably, depicting the “finance terrorism” it is very costly and sometimes impossible.

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LIST OF TABLES

Table 1. Gender classification of the migrants

Gender	Frequency (people)	Percents (%)
Female	321	35.00
Male	608	65.00
Total	929	100

Table 2. Variable description

		Variable denomination	Female	Male	Total
Dependent variables	r	Probability to remit	77	70,55	72,87
	remit	Migrant's remittances	1067	754	862
	r_hh	Household's remittances	6,54	1,80	3,44
	g_hh	Household's goods	27,41	27,63	27,55
	of_meth	Method used to send money	34,57	35,04	34,87
	reg_send	Frequency of remitting	24,92	24,01	24,32
Migrant's characteristics	male	Migrant's gender	0	1	65,44
	age	Migrant's age	35,91	33,95	34,63
	age2	Migrant's age squared	1377	1249	1293
	married	Migrant's marital status	60,74	62,00	61,57
	heduc	Migrant's education	27,41	17,10	20,66
	permanent	Way of migration/permanent	75,38	51,15	59,52
	legal	Residence status	64,17	57,23	59,63
	exper	Working experience	3,14	3,09	3,11
	exper2	Working experience squared	19,65	20,78	20,39
	rich_cntr	Host country	47,66	22,03	30,89
	constr	Working area	4,67	14,47	11,08
	Household's characteristics	urban	Residence environment	43,61	31,90
Moldovan		Nationality	79,12	81,41	80,62
fam_mem		Number of family members	4	4	4
low_inc		Level of household income	30,21	33,71	32,50
nr_child		Number of children in the household	0,45	0,46	0,45
nr_unempl		Number of family members unemployed	2	2	2
nr_hheduc		Number of high educated person in a household	1,45	1,43	1,43
maxage		Age of the oldest family member	53,81	48,15	50,11
sh_women		Share of women in the household	0,58	0,46	0,50
Number of Observations			321	608	929

Table 3. Probability of having at least one migrant in a household

Coefficients	Migrants	Mean
fam_mem	0.067 (0.008)***	3,45 (1,502)
urban	-0.128 (0.019)***	47,04%
low_inc	-0.097 (0.018)***	41,14%
nr_child	-0.078 (0.017)***	33,73%
maxage	-0.004 (0.001)***	52,00 (14,79)
nr_heduc	0.046 (0.008)***	1,22 (1,20)
nr_unemp	0.057 (0.008)***	1,77 (1,35)
sh_women	-0.058 (0.042)	53,36%
Moldovan	0.034 (0.022)	76,97%
Nr. Observations	3201	
R-squared	0,1121	

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. Probability and the size of remittances from migrant's part

Coefficients	Tobit	Probit	OLS
Male	-744.842 (236.565)***	-0.03 (-0.034)	29.24 (-213.046)
Age	90.072 (-80.987)	-0.014 (-0.012)	159.094 (37.368)***
age2	-0.763 (-1.11)	0 (0.000)	-1.929 (0.553)***
married	-139.333 (-223.421)	-0.043 (-0.032)	90.257 (-224.392)
heduc	-32.501 (-282.251)	0.014 (-0.041)	-89.503 (-326.548)
Permanent	281.946 (-232.308)	0.028 (-0.033)	43.979 (-243.938)
Legal	-128.424 (-213.891)	0.014 (-0.03)	51.613 (-240.382)
exper	163.905 (78.288)**	0.059 (0.011)***	73.954 (-67.235)
exper2	-9.238 (-5.615)	-0.002 (0.001)***	-6.286 (-4.057)
rich_cntr	716.975 (258.207)***	0.038 (-0.037)	1,251.357 (358.481)***
Constr	440.738 (-339.442)	0.084 (0.045)*	835.391 (467.607)*
urban	-371.292 (-230.498)	0.035 (-0.032)	-125.278 (-244.244)
Moldovan	-321.086 (-268.524)	0.02 (-0.041)	-216.324 (-204.068)
fam_mem	-149.404 (-95.216)	-0.002 (-0.013)	-98.979 (-73.52)
low_inc	-776.911 (233.768)***	0.016 (-0.033)	-640.038 (164.452)***
nr_child	224.816 (-166.14)	0.011 (-0.025)	311.914 (-191.685)
nr_unempl	127.789 (-81.352)	0.044 (0.012)***	-109.885 (-100.61)
nr_heduc	-30.636 (-89.086)	0.009 (-0.013)	-61.561 (-71.863)
maxage	-27.576 (8.729)***	-0.001 (-0.001)	-18.335 (6.791)***
sh_women	-1,124.603 (558.334)**	0.079 (-0.08)	-550.323 (-520.131)
Observations	929	929	536
R-squared	0.0081	0.1037	0.13

Robust standard errors in parentheses
* significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. The probability of using official methods to remit and the frequency of remitting from the migrant's part

Coefficients	of_meth	reg_send
Male	0.044 (0.037)	0.035 (0.031)
Age	-0.005 (0.013)	0.041 (0.012)***
age2	0.000 (0.000)	-0.000 (0.000)***
married	0.012 (0.053)	-0.011 (0.044)
heduc	0.005 (0.035)	0.025 (0.030)
Permanent	0.024 (0.044)	0.022 (0.038)
Legal	-0.010 (0.036)	0.050 (0.032)
exper	-0.002 (0.034)	0.044 (0.029)
exper2	0.011 (0.012)	0.041 (0.011)***
rich_cntr	-0.000 (0.001)	-0.003 (0.001)***
Constr	0.153 (0.041)***	0.071 (0.036)**
urban	0.084 (0.036)**	-0.005 (0.030)
Moldovan	0.112 (0.039)***	-0.005 (0.037)
fam_mem	-0.003 (0.015)	0.004 (0.013)
low_inc	-0.014 (0.036)	-0.081 (0.029)***
nr_child	-0.017 (0.026)	-0.009 (0.023)
nr_unempl	0.028 (0.012)**	0.003 (0.011)
nr_heduc	0.017 (0.014)	0.013 (0.012)
maxage	-0.002 (0.001)	-0.003 (0.001)***
sh_women	-0.006 (0.086)	-0.025 (0.075)
Observations	929	
R-squared	0,0433	0,0942

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%;*** significant at 1%

Table 6. The probability of sending remittances from the household's part

Coefficients	R	R_hh	G_hh
Male	-0.03 (-0.034)	-0.049 (0.015)***	0.011 (-0.034)
Age	-0.014 (-0.012)	0.004 (-0.003)	-0.015 (-0.012)
age2	0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
married	-0.043 (-0.032)	0 (-0.009)	-0.035 (-0.033)
heduc	0.014 (-0.041)	0.004 (-0.012)	-0.024 (-0.039)
Permanent	0.028 (-0.033)	0.002 (-0.009)	0.079 (0.033)**
Legal	0.014 (-0.03)	-0.001 (-0.008)	0.04 (-0.031)
exper	0.059 (0.011)***	-0.003 (-0.003)	0.04 (0.012)***
exper2	-0.002 (0.001)***	0 (0.000)*	-0.002 (0.001)**
rich_cntr	0.038 (-0.037)	-0.010 (-0.009)	0.029 (-0.037)
Constr	0.084 (0.045)*	0.001 (-0.014)	-0.002 (-0.049)
urban	0.035 (-0.032)	-0.006 (-0.008)	-0.088 (0.032)***
Nationality	0.02 (-0.041)	0.013 (0.007)*	-0.007 (-0.04)
fam_mem	-0.002 (-0.013)	0.006 (0.003)**	-0.022 (-0.013)
low_inc	0.016 (-0.033)	0.001 (-0.009)	-0.007 (-0.033)
nr_child	0.011 (-0.025)	-0.007 (-0.008)	0.023 (-0.024)
nr_unempl	0.044 (0.012)***	-0.007 (0.003)**	0.012 (-0.011)
nr_hheduc	0.009 (-0.013)	0.003 (-0.003)	0.02 (-0.013)
maxage	-0.001 (-0.001)	-0.001 (0.000)*	-0.001 (-0.001)
sh_women	0.079 (-0.08)	0.012 (-0.018)	0.037 (-0.08)
Observations		929	
R-squared	0.1037	0.1349	0.043

Robust standard errors in parentheses

* significant at 10%; ** significant at 5%;*** significant at 1%

Table 7. Correlation among variables

	r	remit	male	age	married	heduc	perm`t	legal	exper	exper2	rich_c~r	of_met h	reg_sen d	urban
r	1.0000													
remit	0.1386	1.0000												
male	-0.0717	-0.0724	1.0000											
age	0.1602	0.0996	-0.0960	1.0000										
married	-0.0092	0.0248	0.0123	0.2305	1.0000									
heduc	0.0483	0.0450	-0.1211	0.1187	-0.0012	1.0000								
permanent	0.0987	0.0892	-0.2348	0.0903	-0.0293	0.1447	1.0000							
legal	0.0359	0.0185	-0.0672	0.0753	0.0311	0.0677	0.0502	1.0000						
exper	0.2209	0.0421	-0.0060	0.2210	0.1017	0.0279	0.0922	0.1015	1.0000					
exper2	0.1533	0.0061	0.0122	0.1958	0.0891	-0.0034	0.0252	0.0492	0.9095	1.0000				
rich_cntr	0.0464	0.1613	-0.2637	0.0459	-0.0178	0.2801	0.3567	0.0468	-0.0701	-0.0840	1.0000			
of_meth	0.2128	0.1451	0.0045	0.0537	0.0116	0.0727	0.0466	-0.0010	0.0444	0.0356	0.1560	1.0000		
reg_send	0.2500	0.2180	-0.0101	0.1559	0.0869	0.0885	0.1097	0.0830	0.0816	0.0149	0.1150	0.0852	1.0000	
urban	0.0787	0.0327	-0.1160	0.1453	-0.0445	0.1273	0.1105	-0.0100	0.0866	0.0693	0.1787	0.1060	0.0510	1.0000
nationality	-0.0112	-0.0104	0.0275	-0.0567	-0.0122	-0.0390	-0.0436	-0.0814	-0.0688	-0.0385	0.1038	0.0902	-0.0013	-0.1492
fam_mem	0.0179	-0.0486	-0.0214	-0.1091	0.0417	-0.0723	-0.0523	-0.0128	-0.0570	-0.0425	0.0150	0.0028	-0.0151	-0.1812
low_inc	-0.0159	-0.1485	0.0355	-0.0311	0.0097	-0.0648	-0.0691	-0.1316	-0.0577	-0.0321	-0.1358	-0.0546	-0.1364	-0.1847
nr_child	0.0846	0.0670	0.0049	0.0724	0.0065	-0.0421	-0.0469	-0.0174	0.0036	0.0023	-0.0030	0.0130	0.0252	-0.0806
nr_unempl	0.1400	-0.0263	-0.0307	0.0082	-0.0316	-0.0788	0.0117	-0.0613	-0.0049	0.0014	-0.0571	0.0455	-0.0147	-0.0883
nr_heduc	0.0607	0.0139	-0.0087	0.1320	0.0557	0.3830	0.1399	0.0854	0.0260	0.0124	0.1948	0.0792	0.0900	0.1331
maxage	0.0256	-0.1063	-0.1980	0.1336	-0.0696	0.0853	0.1640	0.0801	0.0625	0.0613	0.0966	-0.0418	-0.0787	-0.0107
sh_women	0.0705	-0.0345	-0.2889	0.1033	0.0275	0.0848	0.0555	0.0290	0.0306	0.0093	0.0531	-0.0063	-0.0122	0.0489
r_hh	0.0356	0.0189	-0.1234	-0.0604	0.0036	0.0202	0.0114	-0.0010	0.0115	0.0293	0.0015	0.0104	0.0030	-0.0185
g_hh	0.1379	0.1036	0.0023	-0.0659	-0.0477	0.0065	0.1012	0.0606	0.0906	0.0461	0.0308	-0.0267	0.1500	-0.0705
age2	0.1581	0.0899	-0.0870	0.9905	0.2033	0.1116	0.0813	0.0699	0.2030	0.1870	0.0402	0.0534	0.1388	0.1522
constr	0.0921	0.0628	0.1484	0.0642	-0.0805	-0.0532	-0.1000	-0.0798	0.1335	0.0869	-0.1767	0.0006	0.0075	-0.0788

Table 8. Correlation among variables

	nation~y	fam_mem	low_inc	nr_child	nr_une~l	nr_hhe~c	maxage	sh_women	r_hh	g_hh	age2	constr
r												
remit												
male												
age												
married												
heduc												
permanent												
legal												
exper												
exper2												
rich_cnr												
of_meth												
reg_send												
urban												
nationality	1.0000											
fam_mem	0.0378	1.0000										
low_inc	-0.0028	-0.0013	1.0000									
nr_child	0.0258	0.3728	-0.0188	1.0000								
nr_unempl	0.0378	0.4543	0.1134	0.4273	1.0000							
nr_heduc	-0.1274	0.1506	-0.0840	0.0587	0.0038	1.0000						
maxage	-0.1366	0.1909	0.1621	-0.0683	0.1536	0.0765	1.0000					
sh_women	-0.0072	-0.1094	0.0403	0.0283	0.0293	0.0138	0.1755	1.0000				
r_hh	0.0478	0.0318	-0.0177	-0.0391	-0.0566	0.0179	-0.0220	0.0324	1.0000			
g_hh	-0.0085	-0.0151	-0.0114	0.0317	0.0261	0.0399	-0.0076	0.0128	0.0949	1.0000		
age2	-0.0645	-0.1109	-0.0304	0.0630	-0.0017	0.1356	0.1384	0.0953	-0.0635	-0.0658	1.0000	
constr	0.0256	-0.0187	0.0038	0.0370	0.0305	-0.0375	-0.1404	-0.0224	-0.0103	0.0124	0.0599	1.0000

APPENDIX

Scheme according to which household members were interviewed

