DO MIGRANT REMITTANCES RESHAPE EXPENDITURES IN HOUSEHOLDS? THE CASE OF MOLDOVA

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Abstract

The objective of this paper is to present microeconomic evidence on the effects of migrant remittances on the expenditure patterns of Moldovan households. It makes use of a detailed household survey from 2006 conducted by CBS AXA Consultancy and analyzes the effect remittances play on the different expenditure categories of the budgets of the households. Contrary to other studies, this study finds that households receiving remittances spend, on average and ceteris paribus, a larger share of their budget on consumption food and utilities, and a smaller share on consumer goods than do households receiving no remittances.

Keywords: Remittances, Migration, Household Expenditures, Moldova.

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Chapter 1 Introduction

For decades the migration debate has centered around the impact of migration on the destination countries. Recently the focus has shifted towards the countries of origin and the impact migration has on their subsequent development. Amongst others, the receipt of remittances as a side-effect of migration has been given special attention. The total flow of remittances sent through formal channels to developing countries was estimated at over $221.3 billion in 2006 (World Bank, 2007). In addition money sent through informal channels (friends, letters, bus or train drivers) is valued at billions as well, and the total flows have been recognized as the second largest source of external funding following Foreign Direct Investment.

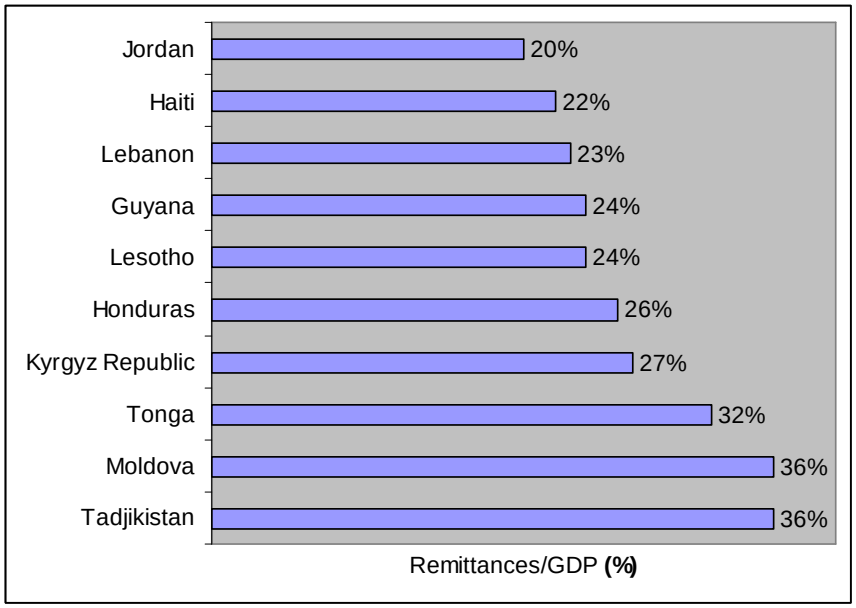
The impact of remittances on economic development is ambiguous. There seems to be a generally accepted view that remittances, just like any other financial inflow trigger development. They enhance money demand and smooth macroeconomic fluctuations. Whether invested or consumed, they generate positive multiplier effects, and stimulate different sectors of the economy (Acosta, 2006). While it is considered to be a stable flow of funding that alleviates poverty and may stimulate the rate of investment, some have underlined the distorted labor market and moral hazard problems of the government as a consequence (Fullenkamp et al., 2005). Since the government may view remittances as insurance, it may abstain from undertaking macroeconomic and structural reforms.

From the household point of view remittances provide an immediate relief from poverty. They may smooth out consumption and reduce inequality. Depending on the use of remittances (either consumed, saved, or invested) they can also enhance entrepreneurship and productive activities. Yet the potential disincentives to work or study in the home country by the migrants left behind are one of the main concerns related to remittances. A consensus on

microeconomic effects of remittances has not been reached for different studies provide rather controversial empirical proofs.

For developing countries like Moldova, remittances are especially important. Moldova, the poorest country in Europe, has a quarter of its economically active population outside of the country. Consequently, remittances sent by migrants back home hit record levels. In 2006, this migrant population remitted the equivalent of one third of GDP, placing it second in the world in the top 10 remittance receiving countries (see Figure 1).

Figure 1. Top 10 Remittance Receiving Countries, 2006



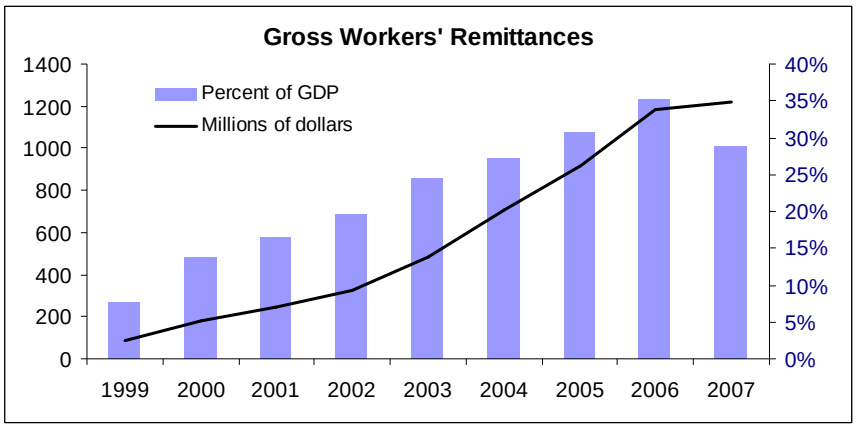
Source: Migration and Remittances Factbook 2008. World Bank.

Since 1991, after receiving independence from the Soviet Union, Moldova has exported into the world a large share of its work force. Migration was mainly driven by poverty which worsened after the 1998 financial crisis in Russia, which deeply affected the economy of Moldova. A wave of migration therefore emerged and has continuously increased ever since. Although the official number of migrants is reported at approximately 600 thousands, the media and other sources have reported numbers between the large range

of 800 and 1,500 thousands of migrants. Given a population of 4.5 million these numbers leave Moldova one quarter empty. And if one visits rural areas within the country, this image is only reinforced. Retired individuals and children seem to be the main composition of rural households today. Although migration is observed in rural and provincial towns more than in Chisinau and Baltsi – the two largest cities, the last few years the migration trend started to dramatically increase in the capital as well.

Due to an increasing rate of migration and worsening of the economy in the late 90's, the flow of remittances has constantly grown as well. As Figure 2 depicts, the inflow of migrant money sent through official channels has increased six-fold in the last eight years. Some sources mention that the unofficial flows are nearly double the reported flows. The large amount of remittances affects practically every aspect of the Moldovan economy. The appreciation of the Moldovan currency, the leu, in the last few years is being attributed to this fact.

Figure 2. Remittance inflows to Moldova.



Source: Migration and Remittances Factbook 2008. World Bank.

Given the large Moldovan Diaspora, the migrants do not necessarily remit money to their immediate family, but send money to their distant relatives, friends and neighbors as well. Moldovans usually keep strong attachments to their home country; therefore we notice a large amount of out-of-household transfers. Many families depend entirely on remittances as

their main source of income. Remittances can cause a culture of dependency in this respect. It has been often observed that household members stop working and wait for the remittances from abroad. Such a form of moral hazard may as well result in the increase of the reservation wage. The young adult members of the migrant households prefer to remain unemployed and wait for the possibility that they themselves will migrate.

Both the government and international organizations realize the impact remittances have on the economy of Moldova and the need to increase the use of official transfers in order to easier supervise the flow of remittances. The greater dependence of the economy on these flows also inspired governments to implement projects to reorient remittances towards productive uses. The International Organization for Migration for example, launched a project in 2006 "*Beyond Poverty Alleviation: Developing a legal, regulatory, and institutional framework for leveraging migrant remittances for entrepreneurial growth in Moldova.*" Nevertheless, clear and consistent evidence still lacks on the use of remittances at the household level and which activities are successful in redirecting them towards productive sectors.

To my knowledge no empirical study has focused on the expenditure patterns of Moldovan households and the effect of remittances in reshaping those patterns. This thesis tries to contribute to the literature with microeconomic evidence on the Moldovan households expenditure trends and use of remittances. It hopes to add on to the existing debate concerning how remittances are spent and used by investigating a recent large, nationally-representative household budget survey in Moldova. The study first predicts the probability of a household receiving remittances and then estimates its effects on the expenditures of certain budget categories within the Engel curve model. The study finds evidence partially consistent with existing migration reports that remittances are spent mainly on consumption items, specifically food and utilities. The share of the budget allocated to non food items is

smaller in the presence of remittances. Unfortunately no significant indicative results are obtained in terms of investment type items, such as health, education and housing expenditures.

The remainder of the paper is structured in the following parts: Chapter 2 summarizes the theoretical debates on microeconomic effects of remittances. Chapter 3 includes description on the survey data used and the variables' descriptive statistics. Chapter 4 covers methodology and empirical analysis and Chapter 5 concludes.

Chapter 2 Theoretical Considerations and Related Literature

The existing literature on remittances and expenditures is vast and controversial. Many researchers have theorized on their role in the economy in order to motivate subsequent empirical evidence. Migrants are usually viewed in the literature as more risk-taking and willing to alter their economic situation by spending more on education and investments (Mesnard, 2004). Stark and Bloom (1985) argued that the appropriate unit of analysis regarding remittances is the family of the migrant. Since then many studies and papers have been written to investigate the role the family plays in remittance choices and the role remittances play in the family.

Usually the approaches that exist in the literature on remittances and expenditures are either survey-based or econometric-based. The surveys are often poorly designed when it comes to questions about remittances. And considering the fungibility of remittances, merely asking households how remittances were spent is not enough since they may have freed other resources for expenditures and investment (Adams, 2005, and Taylor and Mora, 2006).

The econometric approach has been given preference in the last few years and case studies on various countries were published to demonstrate the effect of remittances on the migrant household. The usual approach is to estimate equations on the budget shares of different categories of expenditures and include a variable to account for migration or remittances. This approach has its own disadvantages as well. Although it overcomes the fungible characteristic of remittances, it is difficult to obtain detailed and exact data on different categories of expenditures. Also some researchers point out the various effects that migration can have on expenditures yet is not captured by remittances. Migrants can open the access to information for their families in such a way that they could exert a big influence on the consumption patterns. For example, information on better nutrition or productive

technology that migrants find out abroad may alter the expenditure behavior of the household. Nevertheless, this approach has gained popularity and seems to be a consensus model among researchers in the area of remittances.

Generally, the predominant share of remittances goes to consumption of basic food items and services. A Mexican household survey (Amuedo-Dorantes, Bansak, and Pozo 2004) revealed that health care represented the leading use of remittances followed by food, housing, and debt repayment.

In line with the budget equation model Zarate-Hoyos (2004) offers empirical evidence from Mexico that remittance-receiving households are similar in their consumption patterns to households that do not receive them. Therefore he concludes that the recent government programs to channel remittances to productive investments should be thus targeted to the wider population.

Adams (2005) uses a large household data set to analyze remittances in Guatemala and finds that remittance receiving households differ from those who do not receive them in their consumption patterns. Moreover, the receipt of remittances induces households to spend more on investment type goods such as health, education and housing and less on consumption goods. Similar findings are reported by Alderman (1996) for Pakistan and Adams (1998, 1991) for Pakistan and Egypt respectively. Castaldo and Reilly (2007) in their study of Albanian households show that on average and ceteris paribus, households who receive remittances spend a smaller share on food and a larger share on consumer durables.

The Case of Moldova

As for the issue of remittances and expenditures in the Republic of Moldova, little empirical research is available. Most papers give a general overview of the situation in Moldova regarding migration and remittances and lack statistical evaluation. According to

Cuc et al. (2005) migration seems to be in Moldova a strategy for poor people to increase their consumption level. They report that the typical Moldovan migrant is male, in his mid-thirties and married. Migrants also tend to come from large families in rural areas and have below-average education. The two main destination choices of migrants are Russia (where males migrate for construction work) and EU countries, mainly Italy, Spain, and Portugal (where females are predominant in household work and health care). The International Organization for Migration (IOM) released a few reports on migration and remittances in Moldova that were based on two major surveys undertaken in 2004 and 2006. According to them, approximately a fourth of the interviewed population received remittances and half of them reported the amount. Table 1 shows the contribution remittances provide to the budgets of the households. It can be inferred from the figures that a culture of dependency on remittances as a source of income is a characteristic of migrant households in Moldova.

Table 1. Remittances' contribution to the household budget

Contribution	**%**
Less than 25%	16.3
25%-50%	31.1
50%-75%	28.3
More than 75%	24.3

Source: CBS AXA Consultancy survey

According to the IOM data of the 2004 survey, 43.1% of the respondents mentioned that the largest amount of remittances are used to buy food items and clothes, 18.2% used the money to pay for utilities. Next in line are household goods and expenses - 17.2%, and education and health care – 12.8% and 12.5% respectively. Sander (2003) provides evidence that most part of remittances are utilized for consumption (70-90%) followed by medical and educational expenses and a very small portion being invested.

Table 2 was reported by Ghencea and Gudumac (2004) to present five conventional levels of socio-economic achievements due to remittances. The figures are based on the 2004

household survey and show an optimistic number of remittance receivers to have achieved decent well-being due to remittances. About 5.6% of the interviewed families are still at the stage of repaying debts as the main use of remittances, while 22.1% and 17.1% have achieved minimum subsistence and consumption level. A total of 28.2% have reported to attained social comfort and 25.1% have made investment use of remittances.

Table 2. Distribution of migrants' families achieved socio-economic status

Level	**Families' achievements**	**Percentage**
V **Long-term investments**	Launching a business; building a house; apartment/land purchase	25.1
IV **Well-being, social comfort, entrepreneurship**	Wedding for children; car purchase; launching family business	28.2
III **Consumption**	University fees; medical expenses; house expenses	17.0
II **Subsistence Minimum**	Debt repayment; better nourishment; purchase of clothes and other	22.1
I **Indebtedness**	Unpaid debts	5.6

Moldova has been the focus of empirical studies that mostly investigated remittances from the migrant's point of view. Craciun (2006) looks into the determinants of remittances and concludes that the migrant's age, working experience and the migration country greatly affect the probability of sending remittances and their size as well, while Hagen-Zanker and Siegel (2007) find the loan repayment motive as the main drive behind the decision to remit. Gorlich et al. (2007) find that migration and remittances do not have disincentive effects in the labor market, but they do increase the probability of being inactive in the household whose members choose to engage in education, childcare or household duties. They also conclude that higher rates of university enrolment in the last few years in Moldova seem to be a consequence of the increasing remittance flows. But this is not necessarily an adequate

indicator of human capital investment, given the low quality and attendance rates of university education which became more of a fashion than a desired investment for the Moldovan population. Most studies however conclude that further research is needed to investigate the effect of remittances on household behavior.

This paper hopes to contribute to the existing literature by providing econometric evidence at the microeconomic level of the household. It sets forth to reveal the consumption tendencies of Moldovan households in the presence of external remittances. It makes use of a detailed household survey from 2006 conducted by CBS AXA Consultancy and analyzes the effect remittances play on the different expenditure categories of the budgets of the households. It should be emphasized that this Moldovan survey was designed specifically as a migration and remittances survey. While it brings the advantage of detailed information on the household status on migration, the questions about income and expenditure were not very detailed. The list of expenditures is non-exhaustive in the survey, for such items as consumer durables were not included, which could account for a partial explanation to my findings. Also the big number of missing values for many of the items alerts that these latter questions were not accentuated by the interviewers. Nevertheless, the study employs the data available to the best extent in order to draw a picture of how expenditure trends are reshaped when households receive the extra income in the form of remittances.

Chapter 3 Data

Data and Sample Description

The data used for this study comes from a household survey undertaken by the CBSAXA Consultancy with the assistance of economists from the Kiel Institute for the World Economy, Germany, and financed by the Swedish International Development Cooperation Agency (SIDA). It was conducted from June to August 2006 and its purpose was to find more information about patterns of remittances and migration in Moldova. It is the second survey undertaken by CBSAXA concerning these issues, the first one undertaken in 2004 at the request of the International Organization for Migration (IOM). The data has information on 3,940 randomly selected households throughout the country from which 1,495 reported to have at least one current or ex-household member working abroad in either 2005 or the first half of 2006. The data comprises valuable and vast information and comprises over 940 variables.

Beside detailed information on the migrants' characteristics, occupational status and conditions abroad, the survey also includes a wide range of information on households' demographic characteristics. The survey also contains information on expenditure patterns of the households and their use of remittances. The survey findings may be taken as sketching an indicative picture of the situation of the households who receive remittances in Moldova, how much they receive, from where and how they are used by the households.

Since the main interest of the present study is the impact of remittances on household expenditure behavior, the level of observations is at the household level. The data contained many missing observations since a large number of respondents refused to reveal certain facts or simply weren't sure what to answer. Consequently the data had to be cleaned for missing observations and irregularities. After missing observations on different variables are excluded, the number of observations in the research amounts to 2,583. The goal is to observe

whether household receiving remittances spend their income differently from those households that do not receive remittances.

Description of Variables

The dependent variables of interest for my analysis are the budget shares for seven categories of expenditure items. Spending categories are classified into: *food*, *non food items* (clothes, shoes, and entertainment), *utilities* (electricity, gas, and phone bills), *housing* (rent, maintenance and home improvements), *health, education, and savings and loan repayment*. The expenditures represent the monthly average reported by the households. Although initially I included self-produced food as part of the food category, the item was dropped eventually for many households answered "I don't know" to the value of the self-produced food. Given that in rural areas majority of the households produce most of the food they consume I decided to drop this item and focus only on the purchased food. Although this may be a limitation towards the real share of the food consumed in the household, it should not affect the purpose of the research which focuses on the money spent on household expenditures.

The list of expenditure categories is non-exhaustive, which is another limitation to the paper. Since questions were based on a monthly, rather than yearly period, purchase of items such as consumer durables, land, machinery or housing investments were not included in the survey.

The expenditure categories that I use for the analysis are described in Table 3.

Table 3. Expenditure Categories Used in the Study

Category	Category Description
Food	Purchased food Food eaten outside home
Housing	Housing expenses, rent, home improvements, and construction
Non-food	Clothing and personal care Entertainment and hobbies
Utilities	Electricity, gas and water Telephone (landline, mobile)
Health	Health expenses
Education	Educational expenses
Investments	The sum between the amount saved in the month prior to the survey and the amount paid back as a loan repayment

A number of other variables were created for the characteristics of the household such as: age, highest level of education obtained, the number of children in the household, possession of land and employment status of the household members. A variable for the age, sex and marital status of the household head is introduced. The age variable is expected to be positively related to the prevalence of migration and remittances, as older household heads are more likely to have children in the prime migration age (Adams 2005).

Regional type dummy variables are included to account for the urban and rural differences. In developing countries like Moldova, average household expenditures are generally larger in urban than rural areas. Also, in rural areas households produce much of the consumed food. For this reason, the *area* variable is included in the model. A control variable for regional differences in prices was introduced as well such as for Chisinau – the capital, and Baltsi – the second largest city. The choice was made for its inclusion since living standards are dramatically different first of all between Chisinau and the rest of the country. Baltsi comes close to Chisinau in its characteristics of livings standards, prices and salaries.

The dummy variable of interest and focus for this study is the remittance variable. Remittances are defined as money received by Moldovan households in the past year before

the survey from someone abroad, either an ex-member of the household, relatives, friends or neighbors. Castaldo and Reilly (2007), Zarate-Hoyos (2004) and Adams (2005) use binary measures to account for the remittance variable. The idea behind is that the monetary values for remittances may be subject to measurement error and is therefore not encouraged. I will follow the approach of the above mentioned studies and use a binary measure as well for whether or not households received remittances. While the above mentioned studies focus on both internal and external remittances, the present paper has only external remittances as interest. Given the small size of Moldova, and the lack of employment opportunities throughout the country, internal migration is hardly a point of interest. In addition, the difference in income between Moldova and the countries targeted of migration is so enormous that all efforts to migrate are focused on either EU countries or Russia. For this reason when I refer to remittances it is only international remittances that I consider.

Table 4 describes the variables used in the analysis and Table 5 presents summary statistics for the variables according to remittance status. I present only the data on variables of main interest to the analysis and differentiate it according to non-remittance receiving households (non-RRHs) and remittance-receiving households (RRHs). This table shows that 1,937 households (75% of all households) received no remittances and 662 households (25%) received remittances from abroad. The data in this table discloses a few interesting contrasts between the two groups of households. On average, when compared to non-remittance households, households receiving remittances have more education, more children, have less unemployed members and are more likely to live in rural areas. To a certain degree these findings comply with the existent human capital theory which claims that educated people are more likely to migrate since they enjoy greater employment opportunities abroad. (Adams 2005) The RRHs are also more satisfied with their living standards than the non-RRHs. Also it is observable and logical that the households that receive remittances have more family

members living abroad, although only 30% receive remittances from them, the rest being attributed to relatives, friends and neighbors.

Table 4. Description of Variables

Variable	Variable Description
Budget Share of Food	The ratio of total expenditure on food to the total expenditures of the household
Budget Share of Non-Food	The ratio of the total expenditure on non-food to the total expenditures of the household
Budget Share of Utilities	The ratio of the total expenditure on utilities to the total expenditures of the household
Budget Share of Housing	The ratio of the total expenditure on housing to the total expenditures of the household
Budget Share of Health	The ratio of the total expenditure on health to the total expenditures of the household
Budget Share of Education	The ratio of the total expenditure on health to the total expenditures of the household
Budget Share of Investments	The ratio of the total savings and debt repayments to the total expenditures of the household
Log of Household Expenditures	The logarithm of the total monthly expenditure of the household
Household size	The total number of individuals in the household
Settlement type (Area)	=1 if the household resides in an urban settlement, =0 if rural
Age of the Household Head	The age of the head of the household in years
Sex of the Household Head	=1 if the head of the household is female; =0 if male
Marital Status of the Household Head	=1 if the head of the household is married; =0 otherwise
Children ≤ the age 16	Number of children in the household under the age of 16
Unemployed members	Number of individuals in the household that are unemployed
Secondary	The number of individuals in the household with secondary education
Vocational	The number of individuals in the household with vocational education
University	The number of individuals in the household with university education
Family member abroad	=1 if the household has a family member living abroad; =0 otherwise
Migration networking	=1 if the household has relatives, friends or neighbors abroad; =0 otherwise
European Citizenship	=1 if at least a member of the household has Romanian or Bulgarian citizenship; =0 otherwise
Migration history	=1 if the household has at least a member who lived abroad in the past; =0 otherwise
Land	=1 if the household possesses land; =0 otherwise
Good livings standards	=1 if the household perceives its livings standards

	very good or good; =0 otherwise
Medium living standards	=1 if the household perceives its living standards satisfactory; =0 otherwise
Chisinau or Baltsi	=1 if the household resides in Chisinau or Baltsi; =0 otherwise
Remittances	=1 if the household receives remittances from abroad; =0 otherwise

Table 5. Summary data on Non-Remittance and Remittance-Receiving Households, Moldova, 2006

Variable	**Receive No Remittances**	**Receive Remittances**
	Mean	Mean
Area (1= urban, 0=rural)	.285 (.451)	.203 (.403)
Household size	2.995 (1.545)	3.676 (1.415)
Age of household head (years)	55.530 (15.235)	49.012 (13.556)
Household head female	.293 (.455)	.222 (.415)
Household head married	.673 (.469)	.783 (.411)
Number of children under age 16	.522 (.769)	.815 (.926)
Number of household members with primary education	.536 (.858)	.495 (.840)
Number of household members with secondary education	1.037 (1.217)	1.380 (1.324)
Number of household members with vocational education	.694 (.941)	.891 (.948)
Number of household members with university education	.336 (.707)	.456 (.845)
Number of unemployed in the household	.072 (.284)	.043 (.219)
Good living standards	.138 (.345)	.280 (.449)
Medium living standards	.516 (.499)	.524 (.499)
Land	.538 (.498)	.673 (.469)
Family Member Abroad	.130 (.336)	.297 (.457)
Migration Networking	.575 (.494)	.777 (.415)
Migration History	.117 (.322)	.273 (.446)
European Citizenship	.061 (.241)	.135 (.342)
Observations	**1,937**	**662**

Table 6 presents average budget shares of the seven expenditure categories for the whole sample and differentiated between the two groups of households. Both groups spend the largest share of their budgets (55-56%) on consumption items: food, clothing and

entertainment. This is an expected observation. Yet of interest is to note the differences in average budget shares between the two groups. The RRHs spend a smaller share of their budget on food compared to non-RRHs (0.39 against 0.42), larger on non-food items (0.17 against 0.13) and utilities (0.18 against 0.15), smaller on housing (0.04 against 0.06) and health (0.11 against 0.14) and slightly larger on education (0.048 against 0.040) and investments (0.042 against 0.040).

Section B of the same table reveals interesting facts. Although RRHs spend less on food, housing and health, and more on non-food, utilities and education, the total expenditures of the two groups on average are practically the same and average to 345 lei per capita per month (which amounts to approximately $28). To first sight this seems as an unexpected observation since intuitively one would imagine that the RRHs would have higher total expenditures than the non-RRHs. Yet given the poor living standards in Moldova, households on average spend the minimum required for daily basic needs. Since escape from poverty is a motivation for migration, those who migrate will send remittances so that their families can afford the basic consumption needs. Therefore this can be explained by the fact that poorer households receive remittances more than richer ones and they are also the ones to have lower expenditures than the richer ones. However, since we focus on differences in expenditure levels at different shares, it is not clear if these differences are due to household migration status or they depend on household characteristics and other variables. This issue requires econometric analysis and will be the focus of our investigation in the next chapter.

Table 6. Average Budget Shares on Expenditure for Non-Remittance and Remittance-Receiving Households

Expenditure Category	**Whole Sample**	**Receive No Remittances**	**Receive Remittances**
	Mean	Mean	Mean
Section A. Expenditure Shares			
Food	.417	.425	.396
Non-food	.143	.133	.169
Utilities	.157	.149	.179
Housing	.058	.062	.046
Health	.139	.147	.116
Education	.042	.040	.048
Savings and loan repayment	.040	.040	.042
Sum	1.00	1.00	1.00
Section B. Average Expenditure Levels (per-capita, lei)			
Food	139.64	144.15	126.46
Non-food	51.24	47.70	61.61
Utilities	48.23	45.27	56.91
Housing	26.28	27.91	21.52
Health	48.91	51.27	41.99
Education	15.11	13.95	18.50
Savings and loan repayment	15.87	15.42	17.20
Total expenditures	345.50	345.9	344.16

Chapter 4 Methodology and Econometric Analysis

Methodology

As migrant households increase their income because of remittances, consumption patterns may be affected as well. To understand the effect of remittances on these households one must pursue an investigation of their consumption patterns over time. Ideally, time-series data is needed to observe price changes and estimate price elasticities (Zarate-Hoyos 2004), yet when only cross-sectional data is available many researchers have estimated their results based on the Engel curve. The Engel curve represents a relationship between the household budget shares allocated to certain types of goods to total household expenditure. Engel proposed that with an increase in income, the share of expenditure on food in total household expenditure tends to decrease, whereas that on clothing, fuel, and lighting remains constant and that on luxury goods increases (Deaton and Muellbauer 1980).

The general form of the Engel curve is:

$$q_i = q_i(Y, Z, P), \quad i = 1,2,...n,$$

where q_i is household expenditure on good *i*, *Y* is household total income, *Z* corresponds to household characteristics that differ across households, and *P* is a vector of prices.

A popular form that has been used by researchers in econometric analysis similar to the present study is the Working-Leser model which relates budget shares linearly to the logarithm of total household expenditure. The general model usually takes the following form:

$$(1)\ w_{ij} = \alpha_j + \beta_j \ln(x_i) + \varepsilon_{ij},$$

where w_{ij} is the budget share of good *j* in household *i*, x_i is total household expenditure and ε_{ij} is the error term. Following the Engel curve, ideally a vector of prices should be included in equation (1) in order to account for the variation in prices. Although the data is cross-sectional and gathered in the same time period, we cannot ignore the variation in prices

across regions. Since prices for the different types of categories were not available regional dummy variables could account for the price variation. However, given the small size of Moldova there is little variation in prices across the country. The main difference that could be observed is between the two main bigger cities – Chisinau and Baltsi and the rest of the country, and I account for this by including a dummy for the two cities.

In our study this basic model will be extended to include other variables that affect the budget shares of different expenditure items, such as certain household characteristics and the variable of interest, remittances. The dummy variable for remittances is also interacted with the logarithm of total expenditures in order for both the intercept and the slope of the Engel functions to be affected. Similar model specification is adopted by Taylor and Mora (2006), Zarate-Hoyos (2004) and Adams (2005). So the equation becomes:

$$(2)\ w_{ij} = \alpha_j + \beta_{1j} \ln(x_i) + \beta_{2j} Z_i + \beta_{3j} R_i + \beta_{4j} \ln(x_i) R_i + \varepsilon_{ij},$$

where a vector Z_i of household characteristics is added, along with the dummy variable for remittances, R_i.

The initial estimation technique to be applied is the OLS. Both Adams (2005) and Zarate-Hoyos (2004), as well as Castaldo and Reilly (2006) use OLS in order to capture the effect of remittances on the consumption expenditure in Guatemala, Mexico, and Albania respectively. Yet none of them addresses the issue of endogeneity of remittances, or the censorship problem, which are considered the main problems in this type of research by the existing literature. Therefore we will first do an OLS regression and will proceed by tackling the issues of endogeneity and censorship subsequently to see if we arrive at different results.

Expected Estimation Obstacles

Remittances and migration are a highly sensitive issue when it comes to econometric analysis. The issue of endogeneity appears in the estimation of equation (2), since both remittances and expenditures may be influenced by variables not included in the above equation. The one that comes first in mind is migration, which usually is a prerequisite for receiving or non-receiving remittances. In order to avoid biased estimates of remittances one should control for the endogeneity of remittances through a choice of instruments.

Another problem of this estimation approach was identified by Mora and Taylor (2006), according to which migration is a *selective process* and households that participate in migration and receive remittances may differ fundamentally from those that do not.

It is also expected to come across the omitted variable problem, which may lead to a low R-squared. Yet a low R-squared is not uncommon in population related studies, and moreover proves to be very low in all of the above mentioned studies.

Last, given the poverty level of Moldovan households, it is expected and confirmed in the survey that many expenditure items have observations censored at zero. Since a large proportion of the households reported zero expenditures on education or housing, OLS may not be the appropriate model to apply in their analysis. An application of the OLS estimation to censored data creates parameters that are biased downwards (Deaton, 1997). The Tobit model is usually suggested as an alternative. However, since my preliminary Tobit regressions did not differ from the OLS results, I decided to apply a 3-stage model used by Mora and Taylor (2006) and Grigorian and Melkonyan (2008).

The Model

Logic says that the receipt of remittances is conditional upon the presence of a migrant in the household. Therefore, some researchers included the migration dummy in the

remittances equation. Since migration at its turn is endogenous, Grigorian and Melkonyan (2008) for example first determine the probability of the household having a migrant, and then include the residuals in the remittance equation. The case of Moldova is a bit different in this respect. Out of the sample of 2,583 families, 449 have a migrant abroad and 197 (around 44%) receive remittances from them. Yet the variable of interest in this study is the number of households that get remittances in general, not only from their household members. 662 households out of 2,583 receive remittances and since only 197 are sent by their members, the rest of 465 households (70%) receive remittances from either relatives, friends, or neighbors. Therefore I will modify the approach in the present study and estimate as a first step the probability of the household to receive remittances.

So in the first stage, a probit is estimated for the receipt or remittances, *R*, which will equal 1 if the household receives remittances and zero otherwise.

(3) $R_i = \alpha + \beta_1 Z_i + \beta_2 I + \omega$,

where Z_i is the household characteristics and *I* is a vector of excluded instruments to help identify *R*. Sender characteristics are very likely to influence the receiving of remittances by the household, therefore the lack of these variables may complicate the interpretation of the results.

In the second stage, a probit is estimated for the household's participation in each budget expenditure group. The dependent variable in each probit equation is equal to 1 if $w_{ij} > 0$ and zero if reported expenditure on the category equals zero. This equation will take the form of equation (2) with the exception that w_{ij} is a dummy variable and instead of R_i, the remittances predicted fitted values will be used - $\overline{R}_i$, estimated from equation (3). The probits will be used to calculate a set of inverse-Mills ratios which will be used to control for selection bias.

In the third stage, the inverse-Mills ratios are included as independent variables in each expenditure equation. In this stage, the OLS is applied to the following equation:

$$(4)\ w_{ij} = \alpha_j + \beta_{1j}\ln(x_i) + \beta_{2j}Z_i + \beta_{3j}\overline{R}_i + \beta_{4j}\ln(x_i)\overline{R}_i + \beta_{5j}IMR_{ij} + \varepsilon_{ij},$$

where w_{ij} is the budget share of good *j* in household *i*, x_i is total household expenditure, Z_i represents the set of household characteristics, and $\overline{R}_i$ is the fitted values of R_i, IMR_{ij} is the set of inverse-Mills ratios and ε_{ij} is the error term.

This model should address to a large extent the issues mentioned above.

Choice of Instruments and Control Variables

To correct the issue of endogeneity researchers attempt to construct instruments that are correlated to the endogenous regressor, but uncorrelated to the dependant variable. In order to capture the probability of remittances some studies used the presence of migration networks abroad as instruments. Friends, family members and neighbors abroad may account for the receiving of remittances by a person who lived abroad, yet returned home. Taylor and Mora (2006) used the number of family members that lived abroad 12 years prior to the survey, while Grigorian and Melkonyan (2008) use migration rates in the regions. Acosta (2006) also uses the number of international migrants who returned two or more years ago back to the household as an instrument. I constructed a dummy variable that accounts for the fact if at least a member of the household lived abroad in the past for more than six months yet is part of the household at present. Although the past period unfortunately is not specified in the survey (it is asked whether the member lived abroad in the past 15 years) I will assume that at least few months have passed since the return so that the expenditure patterns are not influenced. This variable should be less controversial as an instrument for remittances than the one that represents

whether a current family member lives abroad in present. The latter variable may still influence the expenditure strategies the household employs.

The second variable to account for migration networking abroad is a dummy for the presence of relatives, friends or neighbors abroad. Since remittances are not dependent on the decision to remit by the household migrant (since we saw they account for only 30% of total remittances), it is important to account for the remittances that are received from people beyond the household members. The dummy takes the value of 1 if the household has either relatives, friends or neighbors abroad (yet it does not include the presence of a household migrant) and zero otherwise.

In addition to the migration networking variables I use a variable that affects the probability of remittances but does not affect the expenditure patterns of the households. It is a dummy variable to account for the possession by any member of the household of a Romanian or Bulgarian citizenship. It is important to note that the main obstacle to migration for Moldovans is the complicated and almost impossible process of obtaining an EU visa. Given that Romanian and Bulgarian citizenship holders do not require visas to visit the EU, Moldovans have started to look for ways, both legal and illegal to obtain such citizenships. Since the late 90's an enormous movement of obtaining Romanian citizenship started. Since historically Moldova was part of Romania, most of the Moldovan citizens can appeal for a Romanian citizenship on the grounds that their parents or grandparents were born on the Romanian territory. (Between 1918 and the beginning of World War II Moldova was part of the Romanian state.) Although it is a complicated process that takes a few years thousands of Moldovans applied and obtained the citizenship in order to be able to migrate easily. A rather peculiar instrument at first sight, given the context of the study, the use of this dummy is entirely justified. It was also employed once by Gorlich et al. (2006) in their study of determinants of migration in Moldova.

In addition to the houshold characteristics that were mentioned above, I include a dummy variable to proxy for household wealth. Since per capita expenditure is not the appropriate measure for wealth because it is likely to be influenced by remittances, a method for approximating household wealth is taken by researchers. Mora and Taylor (2006) build a wealth index to account for this, while Acosta (2006) employs an index of different household assets. Lacking such indexes I use a measure that represents household satisfaction with its present living standards. The *Good Living Standards* variable takes the value of 1 if the household views their living situation as very good or good and 0 otherwise. A second variable *Medium Living Standards* equals 1 if the household perceives their condition as satisfactory and 0 otherwise. The default is the variable that takes the value of 1 if the households perceive their standards as bad or very bad. A similar set of variables is constructed by Grigorian and Melkonyan (2008) in their study of Armenia.

Empirical Results

Table 7 shows the OLS estimates of the budget share equations for the seven categories. Many variables have the expected signs of coefficients and prove to be significant. For example the share of food items increases in urban areas due to lack of possibility of producing food in the household and also increases with the number of children. Non-food expenditures shares increases with the number of the members of the family indicating an increase in necessities such as clothing and shoes. Also if the household is managed by a female the share of non-food items increases indicating (with the risk of being politically incorrect) the tendencies of women to spend on clothing, while the decreasing share of food may indicate the cooking abilities of female household heads and an efficient use of food products. As expected the age of the household influences positively the share of health expenditures, negatively education expenditures and positively savings. It is accepted that older members save more either because

of risk-aversion and to have a cushion in case exceptional circumstances arise or they tend to save for their children. The educational status of the family members seems to influence expenditures as well. It is worth mentioning that the more educated members the household has, the larger are the budget shares for investment-type consumption, such as education and housing expenses. Since the coefficient of interest is the remittances, one can notice that five of the seven categories are significant and that remittances positively affect only the share of food items and negatively housing, non-food, education and investments. While this can be an interesting result to comment upon and may point towards consumption tendencies of the Moldovan households, I would like to hold on to my conclusions until I estimate these equations controlling for endogeneity and censorship.

Table 7. OLS Estimates of Budget Share Equations

Variable	Food	Non-food	Housing	Utilities	Health	Education	Invest's
Constant	.854*** (.055)	-.104*** (.039)	-.001 (.028)	.575*** (.031)	-.148*** (.041)	-.103*** (.024)	-.071** (.031)
Log of Total Household Expenditures	-.066*** (.007)	.049*** (.005)	.010** (.003)	-.063*** (.004)	.031*** (.005)	.023*** (.003)	.015*** (.004)
Remittances	.525*** (.104)	-.287*** (.075)	-.102** (.053)	.053 (.058)	.050 (.078)	-.084* (.045)	-.154*** (.058)
Remittances* *Log(exp)	-.075*** (.015)	.040*** (.011)	.014* (.007)	-.003 (.008)	-.009 (.011)	.010 (.006)	.022*** (.008)
Urban area	.102*** (.011)	-.047*** (.008)	.018*** (.005)	-.010* (.006)	-.037*** (.008)	-.013*** (.004)	-.011* (.006)
Household Size	-.005 (.005)	.012*** (.003)	-.006** (.002)	.006** (.002)	-.009** (.003)	.003 (.002)	-.001 (.002)
Household Head Age	.0003 (.0003)	-.002*** (.0002)	-.0000 (.0001)	-.008*** (.0001)	.002*** (.0002)	-.0006*** (.0001)	.0004*** (.0001)
Household Head Female	-.016* (.009)	.018*** (.006)	.006 (.004)	-.002 (.002)	-.005 (.006)	.002 (.004)	-.003 (.005)
Number of children age<16	.015** (.006)	-.005 (.004)	-.004 (.003)	-.008** (.003)	-.003 (.004)	.006** (.002)	.0032 (.003)
Number of members with secondary education	.004 (.004)	-.002 (.003)	.003 (.002)	.005** (.002)	-.005* (.003)	.001 (.001)	.005** (.002)
Number of members with vocational education	-.002 (.005)	.0002 (.003)	.001 (.002)	.011*** (.002)	-.008** (.003)	.004** (.002)	-.006** (.003)
Number of members with university education	-018*** (.006)	-.005 (.004)	.009*** (.003)	.018*** (.003)	-.012*** (.004)	.016*** (.002)	-.007** (.003)
Number of unemployed in the household	.005 (.014)	-.024** (.010)	.005 (.007)	-.008 (.007)	.045*** (.0107)	-.010* (.006)	-.012* (.007)
Good living standards	-.030*** (.008)	.031*** (.006)	.005 (.004)	.012*** (.004)	-.024*** (.006)	-.002 (.003)	.007* (.004)
Mediuim living standards	.415*** (.008)	.024*** (.006)	.004 (.004)	.010** (.004)	-.018*** (.006)	-.004 (.003)	.007 (.004)
Chisinau or Baltsi	.036*** (.013)	-.031*** (.009)	.071*** (.006)	-.009 (.007)	-.044*** (.01)	-.006 (.005)	-.016** (.007)
Land ownership	-.014* (.008)	-.003 (.006)	-.017*** (.004)	.008* (.004)	.013** (.006)	.013*** (.003)	-.0005 (.004)
Observations	2567	2567	2567	2567	2567	2567	2567
R-squared	0.1486	0.1994	0.1549	0.1410	0.1560	0.1498	0.0259

*, **, *** indicate significance at the 10, 5 and 1 percent level respectively.

The results of the probit estimation of equation (3) to obtain the remittance instruments are presented in Table 8. As expected, the presence of migration networks and history encourages remittances. Holding of the European citizenship as well increases the probability of migration and thus of remittances. If the household head is a female, the probability of receiving remittances increases, which is consistent with the theory and evidence that most migrants are males so their spouses remain home to take care of the household. Interesting to note is that the probability of receiving remittances is greater with housing quality. Households with the greatest wealth are more likely to receive remittances. This is consistent with the thought that poor households cannot afford to send migrants abroad. Given the difficulty of obtaining a visa for going abroad, the black market for providing ways to send people abroad is thriving, yet not affordable for the average Moldovan. Therefore the positive and significant relationship between wealth and probability of remittances. Although the settlement type variables prove insignificant the regional control is very significant and negative for Chisinau and Baltsi. This is consistent with the theory that most of the migrants are from rural areas while the capital households tend to migrate less due to better employment opportunities.

Table 8. Results of the Probit Regression for Remittance Instruments

Variable	**Remittances**	
	Coefficient	Standard Error
Contant	-1.285***	(.353)
Household Size	.028	(.037)
Age of Household head	-.011	(.013)
Age of Household head squared	.0001	(.000)
Household head female	.212**	(.092)
Household head married	.048	(.093)
Urban area	.033	(.083)
Number of children	-.001	(.047)
Number of members with secondary education	.087***	(.033)
Number of members with vocational education	.121***	(.039)
Number of members with university education	.095**	(.046)
European citizenship	.421***	(.095)
Land	.193***	(.065)
Number of unemployed in the family	-.209**	(.115)
Migration Networking	.426***	(.062)
Migration History	.448***	(.073)
Good Living Standards	.621***	(.086)
Medium Living Standards	.246***	(.069)
Chisinau or Baltsi	-.406***	(.110)
R-squared	0.1288	

*, **, *** indicate significance at the 10, 5 and 1 percent level respectively.

The results of the probit regressions used to calculate the inverse-Mills ratios to correct for censorship are reported in Table 9. Although it is not the focus of the paper to see the extent of censorship, the results confirm that the logarithm of total expenditures and some household characteristics do influence the probability of observing zero expenditures on certain budget categories, such as age of the household or the number of university degree members in the household. The probability of remittances does not seem to significantly affect the probability of zero expenditures on any of the categories.

Table 9. Results of second stage Probit regressions to obtain Inverse-Mills Ratios

Variable	Expenditure Category Equation						
	Food	**Non-food**	**Housing**	**Utilities**	**Health**	**Education**	**Invest's**
Constant	-1.351	-.451***	-.707***	-2.745**	-.414***	-7.041***	-3.965**
	(1.773)	(.662)	(.653)	(1.262)	(.642)	(.944)	(.743)
Log of Expenditure	.510*	.854***	.526***	.783***	.836***	1.036***	.444***
	(.271)	(.096)	(.091)	(.192)	(.092)	(.134)	(.103)
Household Size	.002	.031	-.128***	-.187**	-.070**	.047	-.014
	(.128)	(.037)	(.039)	(.086)	(.037)	(.040)	(.040)
Urban Area	.237	-.678***	.085	.174	-.362***	-.417***	-.183**
	(.377)	(.081)	(.077)	(.268)	(.081)	(.094)	(.089)
Household head Age	.014	-.014***	.002	.008	.020***	-.019***	.005**
	(.009)	(.002)	(.002)	(.006)	(.002)	(.002)	(.002)
Household head Female	-.161	.124*	.098	-.223	-.013	.085	-.012
	(.254)	(.069)	(.069)	(.184)	(.070)	(.081)	(.076)
Number of Children <16	.439	.036	-.039	.151	-.036	.248***	-.004
	(.296)	(.048)	(.050)	(.135)	(.047)	(.049)	(.052)
Number of members with secondary education	.107	-.023	.059*	.094	-.058*	.085**	-.109***
	(.147)	(.033)	(.034)	(.083)	(.033)	(.036)	(.036)
Number of members with vocational education	-.088	.028	.113***	.321**	-.013	.157***	-.104**
	(.161)	(.040)	(.041)	(.134)	(.040)	(.042)	(.043)
Number of members with university education	-.176	-.017	.178***	.515**	-.054	.192***	-.157***
	(.191)	(.050)	(.048)	(.246)	(.049)	(.050)	(.051)
Land ownership	-.525*	-.129*	-.447***	.161	-.110*	.043	-.061
	(.282)	(.066)	(.064)	(.195)	(.066)	(.073)	(.071)
Number of unemployed in the household	.004	-.186*	-.018	.396	.200*	-.106	-.214*
	(.011)	(.103)	(.103)	(.459)	(.116)	(.111)	(.129)
Good Living Standards	.107	.509***	.117	.206	-.219**	.269**	.035
	(.472)	(.107)	(.103)	(.319)	(.104)	(.111)	(.112)
Medium Living Standards	.090	.225***	.085	.143	-.112*	.080	.071
	(.258)	(.066)	(.067)	(.189)	(.068)	(.076)	(.075)
Chisinau or Baltsi	-.326	-.216**	.736***	-1.26***	-.284***	.067	.066
	(.443)	(.108)	(.104)	(.296)	(.106)	(.122)	(.115)
Remittances Probability (p1)	-10.357	-2.815	-2.583	3.069	.968	-.447	-3.99
	(6.831)	(2.217)	(2.248)	(4.528)	(2.135)	(2.873)	(2.53)
Log of Expenditure*p1	1.701	.315	.343	-.608	-.139	-.036	.633*
	(1.107)	(.323)	(.318)	(.670)	(.308)	(.410)	(.357)

*, **, *** indicate significance at the 10, 5 and 1 percent level respectively.

The results of the final stage of the model are reported in Table 10. From the results one can interpret that remittances influence consumption patterns in two ways. First of all they change the intercept of the expenditure equation in the case of food, non-food and utilities categories. Second of all, they change the marginal propensity to consume as the coefficients corresponding to the logarithm of total expenditure and remittances interaction terms show. The coefficients corresponding to *Remittances* and *Remittances* log(Exp)* demonstrate that households receiving remittances spend a larger share of their budget on food and utilities and a smaller on non-food at a given lower level of expenditure on average and ceteris paribus. The opposite signs of the interaction terms suggest that there is a cut-off expenditure level where the sign changes and the household subsequently changes its expenditure behavior.

The signs of the significant coefficients are the same as in the first OLS estimation, yet the significance of the estimates changes. The influence of remittances on budget share expenditures on both food and non-food remains consistent and significant through both of the methods used. However in the last stage I also get the utilities coefficient positive and significant. Given the poverty level of the Moldovan households, an increase in the share of food items due to remittances is both logical and expected. The cut-off point for the food expenditure changes when the expenditure level of the household achieves 1096 lei (approximately $92) and at levels higher than this, the effect of remittances becomes negative so the share of food expenditures becomes smaller when compared to households that do not receive them. At the average income level of 938 lei ($78) the effect of remittances remains positive and the estimate shows an increase of 1.7% in the budget share of food expenditures. Given the sample average budget share of 41.7 % for food items, the impact effect suggests that the budget shares of food are approximately 4% higher, ceteris paribus, for households in receipt of remittances compared to those who do not receive them. The effect is significantly

bigger at the lower income levels. If the households are limited in their food consumption and choice due to poverty, an increase in the share of food items may just represent a necessary raise towards a desired level of food consumption. Another important observation is also needed in this category to account for the lack of data on self-produced food. Since a large majority of the surveyed households live in rural areas and therefore produce much of the consumed food, the receipt of remittances may indicate a switch from self-production to purchased food. Given the availability of finances the households may decide to abstain from the extra labor and efforts dedicated to food production and enjoy the purchased food items. A similar impact of migration on food share expenditures is reported by Taylor and Mora (2006) for Mexico, while both Adams (2005) and Castaldo and Reilly (2007) report an opposite negative impact of remittances on food share expenditure.

The coefficient corresponding to the non-food items has a negative significant sign. The result is counter-intuitive at the first thought, yet seems to hold logic behind as well. Since the largest share of non-food category is represented by clothing and shoes, the results suggest that Moldovans who receive remittances spend less on clothing and entertainment than those who do not at income up to 1300 lei ($108). Above this income level the share of these items is larger in RRH's than in non-RRH's. At the average income level the corresponding budget share decrease is approximately 16%. This can be explained by the fact that once a household has a migrant abroad, monetary remittances are not the only type they can potentially get. As the survey pointed out, many households receive in-kind items from abroad. It is a well-known fact between Moldovans that clothing, shoes and electronics are much cheaper and of better quality in European countries than Moldova. So if the remitters beside money also send in-kind items, the receiving households will change the pattern to decrease their allocated budget share to the corresponding category.

The third expenditure group affected by the receipt of remittances is the utilities category. Comprising expenditures on electricity and phone, an increase in the use of utilities suggests yet another consumption tendency. The effect is positive up to an income level similar to the one in the non food category, and at the average income level represents an increase of 13.3%. While an increase in food consumption up to the desired level is easily understood, one may view the increase in utilities less convincing. However the phone bills in the utilities category in our data account mostly for the mobile phone expenses. The trend of having a mobile phone is both new and very spread in Moldova. It is more than just an item of personal necessity, but rather an accessory that one can associate a social status with. Once remittances are available the purchase of the mobile phone is indisputable, and a concern to replace it with a newer better version is always present. Probably the larger phone bills can be also viewed as a result of the use of international telephone conversations with the migrants.

Unfortunately the results do not say much about the categories of the investment type. The research hoped to achieve a clearer clarification about the investment versus consumption tendencies of Moldovan households and to capture the effect of remittances on their patterns. Both education and housing expenditure shares coefficients have negative signs although prove to be insignificant. A decrease in education expenditure shares could be indicative of some things. Either the receivers hope to migrate one day themselves and do not value the education in the country at the time, or they are dependent on remittances to such an extent that involving in either educational or labor activities in Moldova is of no attraction. The latter effect is highly observable by the author even in the immediate surroundings of his neighbors. Remittances unfortunately seem to distort the behavior of the receivers and induces them to abstain from productive engagements.

Beside the effect of remittances on expenditures, household characteristics such as size, area, educational status and living standards seem to affect the budget shares of different

expenditures as well. Most of the results confirm the initial OLS findings that were commented upon earlier in the study.

I should also mention the inverse-Mills ratios that are significant in four categories of expenditures: non-food, housing, education and investments. The percentage of zero observations that these expenditures take is very high in the survey (at 38%, 65%, 72% and 85% respectively). Therefore the approach undertaken in this study should have corrected for the censorship problem of the estimated equations.

Table 10. Results of the OLS estimation in the third stage

Variable	Expenditure Category Equation						
	Food	**Non-food**	**Housing**	**Utilities**	**Health**	**Education**	**Invest's**
Constant	1.628*** (.145)	-.018 (.175)	.515*** (.148)	.613*** (.109)	.114 (.234)	.224*** (.061)	.402** (.193)
Log of Expenditure	-.077*** (.012)	.037* (.020)	-.031** (.012)	-.052*** (.007)	.010 (.022)	-.005 (.006)	-.010 (.012)
Household Size	-.005 (.005)	.012*** (.003)	.002 (.003)	.006** (.002)	-.006 (.004)	.002 (.002)	-.001 (.002)
Urban Area	.102*** (.011)	-.046*** (.015)	.010* (.006)	-.012** (.006)	-.024** (.012)	.001 (.005)	-.001 (.007)
Household head Age	.0001 (.0003)	-.002*** (.0003)	-.0002 (.0001)	-.008*** (.0001)	.002*** (.0005)	-.000 (.0001)	.0002 (.0002)
Household head Female	-.016* (.009)	.018* (.007)	.0001 (.005)	.0005 (.005)	-.005 (.007)	-.0001 (.004)	-.004 (.005)
Number of Children <16	.011* (.006)	-.005 (.004)	-.0008 (.003)	-.008** (.003)	-.001 (.004)	-.004 (.003)	.001 (.003)
Number of members with secondary education	.005 (.004)	-.002 (.003)	-.001 (.002)	.004* (.002)	-.003 (.003)	-.001 (.002)	.0001 (.003)
Number of members with vocational education	.002 (.005)	-.0003 (.003)	-.007* (.003)	.010*** (.003)	-.007* (.004)	-.0006 (.002)	-.001 (.004)
Number of members with university education	-.012* (.006)	-.006 (.004)	-.004 (.005)	.018*** (.003)	-.009* (.005)	.008*** (.003)	.0007 (.005)
Land ownership	-.009 (.009)	-.002 (.006)	.017 (.011)	.009* (.005)	.017** (.007)	.013*** (.003)	.001 (.005)
Number of unemployed in the household	-.003 (.012)	-.023** (.010)	.006 (.007)	-.009 (.008)	.037*** (.011)	-.005 (.006)	.001 (.009)
Good Living Standards	-.046*** (.014)	.057*** (.013)	.001 (.007)	.019** (.008)	-.039*** (.011)	-.002 (.006)	.0012 (.008)
Medium Living Standards	-.021** (.009)	.025*** (.008)	-.001 (.005)	.009* (.005)	-.014** (.007)	-.005 (.004)	.001 (.005)
Chisinau or Baltsi	.041*** (.014)	-.032*** (.011)	.017 (.017)	-.007 (.009)	-.033* (.013)	-.011* (.006)	-.016** (.008)
Remittances Probability (p1)	.825*** (.294)	-.502** (.207)	-.021 (.156)	.418*** (.165)	.293 (.213)	-.028 (.144)	.125 (.183)
Log of Expenditure*p1	-.118*** (.042)	.070** (.029)	.004 (.022)	-.058** (.023)	-.044 (.030)	.003 (.020)	-.017 (.027)
Inverse Mills Ratios	-2.424*** (.349)	-.008 (.125)	-.436*** (.127)	-.380 (.253)	-.256 (.178)	-.236*** (.047)	-.441*** (.172)
R-squared	0.1603	0.2061	0.1631	0.1318	0.1613	0.1568	0.0269

Chapter 5

Conclusions and Policy Implications

This paper has used data from the 2006 CBS AXA Consultancy Migration and Remittances household survey to analyze how remittances affect the spending behavior of households on various goods. The study finds evidence consistent with the research that exists on Moldova, that remittances represent a strategy for poor households to achieve the minimum subsistence level. They appear to offset the government's economic failures by providing immediate relief for private necessary consumption. Households that receive remittances increase their expenditures on foodstuffs and utilities and undertake a smaller share for items such as clothing, shoes and entertainment. Although the author had hoped to gather findings on investment type goods, the relationship between remittances and spending on these items did not prove to be significant. According to the present findings, households that receive remittances seem to have only achieved on average the second level of minimum subsistence on Ghencea and Gudumac's (2004) distribution chart.

The study recognizes its limits due to not accounting for all unobservable variables that may affect remittances and migration and the difficulty of separating the two effects. Cross-sectional data that does not indicate the patterns of consumption before and after receipt of remittances is something that the results are limited by as well. Further large-scale surveys should be undertaken by sampling the same pool of households over time to evaluate and observe the change in their patterns. Nevertheless the study tried to depict a picture of the average remittance receiving Moldovan household and showed contrary to Adams (2005) and Castaldo and Reilly (2007) that at the average income level Moldovan households tend to use the extra income for immediate consumption.

Given the large scale of remittances that flow into Moldova, the authorities try to develop ways to maximize the benefits of remittances and educate the people to employ them

intro productive uses. Yet they should also realize that such a step can only be considered once households achieve a minimum desired level of basic consumption.

In his research on remittances and expenditure patterns of Mexican households, Zarate-Hoyos (2004) concludes that migrant households are rational economic agents that do not necessarily engage in conspicuous consumption. According to this study, Moldovans, apparently choose to consume.

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