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**Remittances in Ukraine Using
Household Data**

Iuliia Kuntsevych

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Abstract

This paper analyzes remittances sent by Ukrainian emigrants to their country of origin. It explores the main factors influencing the probability of obtaining remittances from abroad as well as the amount of remittances. We investigate how the planned future usage of remittances affects the likelihood of receiving them. The results of a survey of households in Ukraine were used to investigate the main defining factors for obtaining financial inflows from abroad, in addition to exploring the expenditures financed by remittances. Although the results of our analysis show that few factors have a significant influence on the probability of obtaining remittances and on their size, this topic warrants further investigation. The findings are important for policymakers as the Ukrainian government might design and implement policies that increase the development potential of remittances, while eliminating their negative side effects.

Keywords: remittances, remittance behavior, Ukraine, international migration

JEL code: F22, F24, O19

*CERGE-EI, a joint workplace of Charles University and the Economics Institute of the Czech Academy of Sciences, Politickych veznu 7, 110 00 Prague, Czech Republic; Email: iuliia.kuntsevych@cerge-ei.cz

1. Introduction

Globalization and integration processes in the modern economy are constantly increasing the level of international migration. Income inequalities between countries encourage people to leave their country of origin in search of higher living standards. Money earned abroad is often sent by foreign workers back to their home country in the form of remittances or other transfers. This enhances the country's opportunities for the development of the national economy and financial markets, and affects the formation of effective demand in the host countries. Recently labor migration has become an important source of remittances and other transfers to the home country of a migrant.

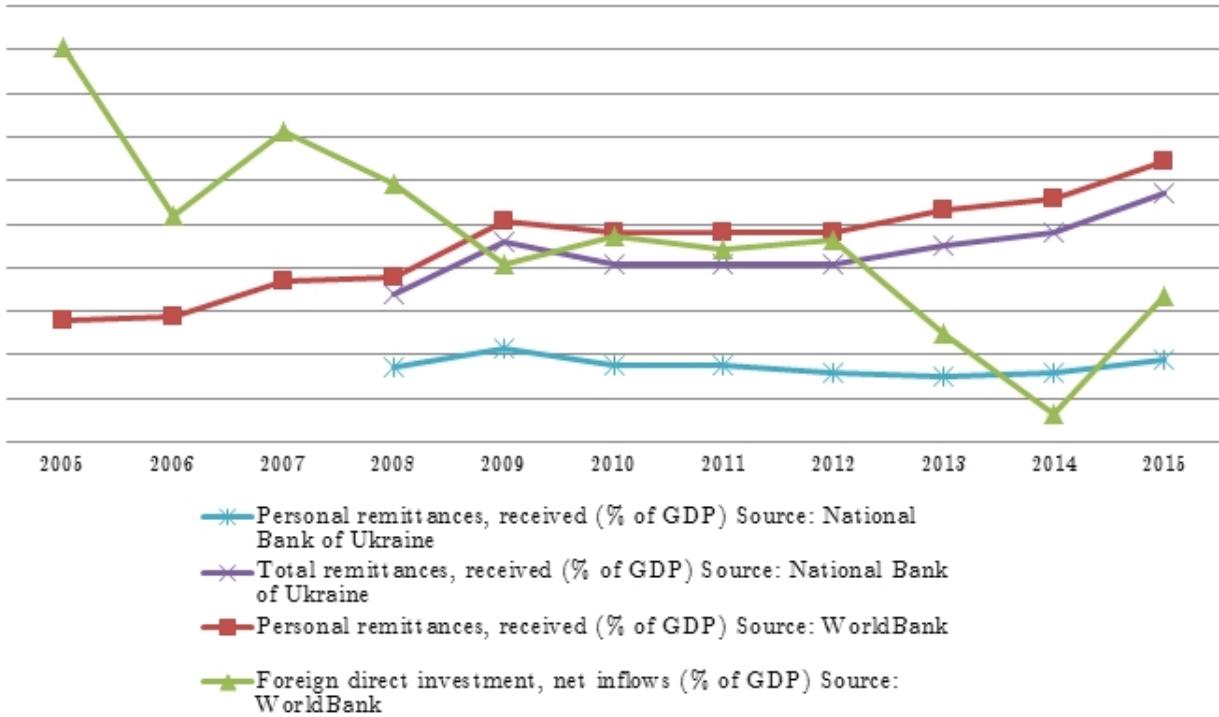
Private remittances play a significant role in the financial system of developing countries, since they can stabilize the balance of payments and minimize exchange rate risk, thus reducing dependence on international organizations. However, the question as to what influences a migrant's decision to send remittances is still open. Using the example of Ukraine, our research analyzes the main defining factors that can influence a migrant's decision to send remittances, and the sum of remittances. In addition, because financial transfers improve migrants' wealth, significantly reduce the poverty rate in the country, and encourage citizens to save and establish savings accounts, the results of our research could assist the Ukrainian government in shaping the country's future foreign policies more effectively.

Due to the considerable gap in wages between Ukraine and other developing (and developed) countries, Ukraine is considered one of the largest country-donors of labor in Europe (Malinovskaya, 2013). Low wages in different sectors of the economy, high levels of unemployment, widespread poverty, and stratification of the population into rich and poor are the main factors causing large outflows of the labor force. According to experts and statistical information, the total number of Ukrainian migrant workers living and working abroad for a significant period, including those who stay abroad only for seasonal work, is more than 5 million (Ratha, Eigen-Zucchi, and Plaza, 2016; Malinovskaya, 2013). Earnings sent to Ukraine are a significant source of income for domestic households. Since 2013, personal remittances have become a larger factor in Ukraine's GDP than FDI (see Figure 1). However, contrary to the literature on remittances, which states that financial transfers should be countercyclical with respect to social and economic shocks, Figure 1 below shows that during the recent political and economic crisis in Ukraine, remittances remained relatively stable (National Bank of Ukraine, 2015).

Depending on the source, the total volume of international remittances received in Ukraine in 2015 varies from USD 5 to 6 billion (National Bank of Ukraine, 2015; World Bank, 2015). This variation can be explained by methodological differences in estimations and difficulties in determining actual sizes of transfers through formal and, particularly, informal channels.

According to both Ukrainian studies (Vatamanyuk, 2011; Libanova, Malinovskaya, and

Figure 1: Share of remittances and FDI in the GDP of Ukraine



Pozniak, 2002) and foreign studies (Ratha, 2005; Chami, Fullenkamp, and Jahjah, 2003), around 90% of remittances from workers are spent on daily durable goods, real estate, education and medical treatment, in addition on investments into bonds and/or shares. Only approximately 10% of money transfers are saved. Researchers find that working migrants usually spend earned capital on fast-moving consumer goods (FMCG) and real estate or in the shadow economy (Vatamanyuk, 2011). Moreover, investments funded by remittances are usually focused on real estate, bank deposits and private business. They are rarely, if ever, used for purchasing shares and bonds (Ratha, 2005; Vatamanyuk, 2011). More specifically, Ratha (2005) identifies a worldwide trend in remittance spending, showing that the majority of remittances are spent on consumables (food and clothing), with the remainder being spent on education (23%), housing (20%) or vehicles (5.7%) or on establishing businesses (6.5%). Spending patterns of remittances from Ukrainian working migrants coincide with global trends; only 29.1% of remittances are spent on investments in housing, 12.4% on human capital (e.g., tuition fees and tutoring), while only 3.3% of total remittance sums are spent to set up a business (National Bank of Ukraine, 2015). In addition, returning migrants are more likely to work abroad for the purpose of accumulating capital in order to start their own business in Ukraine. According to the Ukrainian Statistical Bureau, a higher share of labor migrants are self-employed workers; approximately 1.5 times higher than those who do not have experience working abroad. In this respect, migrants contribute to the development of entrepreneurship, and thus create jobs not only for themselves but also for other citizens (Libanova, Malinovskaya, and Pozniak, 2010).

2. Literature review

During the last decade, the size of migrants' remittances has increased significantly worldwide. As a result, greater attention has been placed on the role of remittances in the economy, as remittances are becoming an important source of funding for investments and foreign exchange (World Bank, 2005; Ratha and Mohapatra, 2007; Ratha, 2007). In addition, the dependence of investments in the home country on remittances is a widely discussed topic (Lubambu, 2014). The household financial situation of dependents has also received a great deal of attention in recent years (Djajic, 1986, 1998; Nikas and King, 2005; Kireyev, 2006; Vargas-Silva and Huang, 2006). Unfortunately, the majority of the existing literature on savings and investments and dependence on received remittances explores either the regional level (such as Central/Eastern Europe) or country-pair-specific channels (Adams, 2007). Our research helps to fill this gap by focusing on Ukraine, a country in Eastern Europe, and exploring remittances received depend on the possibility of their further investment.

The spending pattern of received remittances has been studied during the last decades. Chami et al. (2003) identify three stylized facts of remittances: First, "a significant proportion, and often the majority, of remitted funds are spent on consumption." (Chami et al., 2003, p. 8). Second, "a significant, though generally smaller, part of remittances does go into uses that we can classify as saving or investment." (Chami et al., 2003, p. 9). Third, "the household saving and investment that are done using remittances are not necessarily productive in terms of the overall economy." (Chami et al., 2003, p. 9). Later, McKenzie and Sasin (2007) state that researchers need, most importantly, to determine whether remittances are mainly spent on consumption or investment/savings and to investigate this topic more precisely.

The majority of papers discussing remittances support the first two stylized facts from Chami et al. (2003). For example, using a household survey in the Philippines, Tabuga (2007) provides mixed evidence for the impact of remittances. The author finds a significant proportion of financial inflows are usually spent on everyday consumption, e.g. consumer goods or leisure. Furthermore, remittance inflows increase expenditures on education and housing. Other research by Castaldo and Reilly (2007), supporting the second stylized fact of Chami et al. (2003), shows that Albanian households usually spend a significant part of remittances on durable goods and utilities and less on food consumption (when compared with households without financial inflows from abroad). To be more precise, a larger share of household expenditure is spent on investment-type goods. These results are also confirmed by Zarate-Hoyos (2004) on data from Mexican households, finding that remittance-receiving households spend a significant part of their expenditure on investments.

The IMF World Economic Outlook (IMF, 2005) also confirms the second stylized fact of Chami et al. (2003), stating that remittances have a positive effect on the level of

an individual's investments in human and physical capital. On the other hand, research on Tajikistan by Clement (2011) shows that neither internal nor external remittances have a positive effect on any type of investment expenditure. Moreover, in the case of Albania, no significant impact of remittances on human capital investment was found by Cattaneo (2012). However, many studies with a different research context find evidence that remittances and migration have a significant positive effect on education expenditures. For example, Kifle (2007) explores data for Eritrea and finds that households receiving remittances tend to spend more on education compared with households that did not receive remittances.

Political instability, high risks and a low level of law and order, in addition to other general risks in a remittance-receiving country, create a harmful environment for investment (IMF, 2005). However remittances have a larger influence on a country's economy during a crisis, indicating that a crisis might increase the amount of remittances sent to the home country (Sirkeci, Cohen, and Ratha, 2012). Moreover, investment opportunities in the receiving and sending countries might also have a significant effect on remittances. The higher probability of investment return in the receiving country might increase migrants' willingness to invest in their home country and influence the size of remittances sent. The empirical analysis presented in this paper is in line with the previous studies (Malinovskaya, 2013; National Bank of Ukraine, 2015) and is applied to Ukraine, a country receiving substantial international remittances, and experiencing significant financial and political problems.

3. Empirical methodology

Remittances sent by working migrants to Ukraine are an important component of the total household income of Ukrainian households, affecting the well-being of families. Financial transfers improve the financial, material and living conditions of migrant workers' families; they increase the level of education in their families and improve the quality of health services received, among other things. However, the question remains as to what significantly influences a migrant's decision to send remittances. In this research we analyze factors that may influence a migrant's decision to send remittances, and factors on which the sum of remittances depends.

To interpret the probability of sending remittances from abroad and their total sum, models similar to Merkle and Zimmermann (1992) and Vanwey (2004) were used. Applying

linear probability robust estimation¹, the following four models were assessed:

$$\begin{aligned}
Remit_status_i = & \alpha_1 Destination_region_i + \alpha_2 Type_resid_i + \alpha_3 Econ_zone_i \\
& + \alpha_4 Level_HH_income_i + \alpha_5 Intention_migrate_i + \alpha_6 Years_abroad_i \\
& + \alpha_7 Intention_invest_i + \alpha_8 Region_i + \alpha_9 HH_size_i + \alpha_{10} Total_HH_income_i \\
& + \alpha_{11} Total_HH_expend_i + \alpha_{12} HH_save_money_i + \epsilon_i
\end{aligned} \tag{1}$$

$$E(\epsilon_i | x_1, , x_k) = 0$$

$$\begin{aligned}
Inkind_remit_i = & \beta_1 Destination_region_i + \beta_2 Type_resid_i + \beta_3 Econ_zone_i \\
& + \beta_4 Level_HH_income_i + \beta_5 Intention_migrate_i + \beta_6 Years_abroad_i \\
& + \beta_7 Intention_invest_i + \beta_8 Region_i + \beta_9 HH_size_i + \beta_{10} Total_HH_income_i \\
& + \beta_{11} Total_HH_expend_i + \beta_{12} HH_save_money_i + \omega_i
\end{aligned} \tag{2}$$

$$E(\omega_i | x_1, , x_k) = 0$$

$$\begin{aligned}
Total_remit_from_abroad_i = & \gamma_1 Destination_region_i + \gamma_2 Type_resid_i + \gamma_3 Econ_zone_i \\
& + \gamma_4 Level_HH_income_i + \gamma_5 Intention_migrate_i + \gamma_6 Years_abroad_i \\
& + \gamma_7 Intention_invest_i + \gamma_8 Region_i + \gamma_9 HH_size_i \\
& + \gamma_{10} Total_HH_income_i + \gamma_{11} Total_HH_expend_i + \mu_i
\end{aligned} \tag{3}$$

$$E(\mu_i | x_1, , x_k) = 0$$

$$\begin{aligned}
Total_remit_from_abroad_i = & \delta_1 Destination_region_i + \delta_2 Type_resid_i + \delta_3 Econ_zone_i \\
& + \delta_4 Level_HH_income_i + \delta_5 Intention_migrate_i + \delta_6 Years_abroad_i \\
& + \delta_7 Intention_invest_i + \delta_8 Region_i + \delta_9 HH_size_i \\
& + \delta_{10} Total_HH_income_i + \delta_{11} Total_HH_expend_i \\
& + \delta_{12} HH_save_money_i + \tau_i
\end{aligned} \tag{4}$$

$$E(\tau_i | x_1, , x_k) = 0$$

where i is household's index, $Remit_status$ is a dummy variable showing whether a household received remittances from abroad during the past 12 months; it equals one if

¹ The first two models were also estimated using probit, but results were not significantly different from OLS estimations, so eventually all four models were estimated using linear probability robust estimation.

it had obtained remittances and zero otherwise. *Inkind_remit* is a dummy variable which equals one if the household received any in-kind remittances.² *Total_remit_from_abroad* is a variable showing the total sum of remittances that a household received from abroad during the previous 12 months (in UAH). *Destination_region* is a categorical variable showing which region a worker (a member of an interviewed household) migrated to (CIS country=1, EU country=2, other=3, no migrant worker=0). *Type_resid* is a dummy variable which equals one if the household is situated in an urban region and zero if rural. *Econ_zone* is a categorical variable showing in which economic zone of Ukraine the household is situated (North=1, East=2, South=3, Center=4, West=5). *Region* is a categorical variable varying from 1 to 25 and showing the “oblast” - location of a household (alphabetically ordered in accordance with the Cyrillic name of the oblast).³ *Level_HH_income* is a categorical variable showing how a respondent defines the household’s income level (low=1, middle=2, high=3). *Intention_migrate* is a dummy variable which equals one if someone in the household intents to migrate and zero otherwise. *Years_abroad* is a categorical variable that shows how many years abroad a working migrant (member of the household) spent (no one migrated=0; up to 1 year=1; 1-5 years=2; 5-10 years=3; more than 10 years=4).⁴ *Intention_invest* is a dummy variable which equals one if the household intends to invest and zero otherwise. *HH_size* shows how many people live in the interviewed household.⁵ *Total_HH_income* shows what the household’s total income is for the past 12 months (in UAH).⁶ *Total_HH_expend* shows the household’s total expenditure for the past 12 months (in UAH). *HH_save_money* is a dummy variable equal to one if the household saved any money using all of the sources available to it (including remittances).

According to models (1) - (4) there are several hypotheses to be tested. The first hypothesis concerns the regions of the migrant’s location $H_0 : \alpha_1 = 0$ and/or $\beta_1 = 0$ and/or $\gamma_1 = 0$ and/or $\delta_1 = 0$. The research question explored by this hypothesis is whether the migrant’s location matters and which migrants from which regions sent more remittances, if any. The next two hypotheses concern a household’s income level; that is, whether the receiving-household’s total income and expenditures have an influence on remittances sent from abroad: $H_0 : \alpha_{10} = 0$ and/or $\beta_{10} = 0$ and/or $\gamma_{10} = 0$ and/or $\delta_{10} = 0$ and $H_0 : \alpha_{11} = 0$ and/or $\beta_{11} = 0$ and/or $\gamma_{11} = 0$ and/or $\delta_{11} = 0$. In addition, a household’s willingness to

² In-kind remittances are defined as all material transfers of a non-financial nature, for example food supplies, clothing and shoes, audio/video equipment, house cleaning supplies, presents, etc.

³ For example, Vanwey (2004) controls for the location of the migrant in different regions of the country or abroad, using one categorical variable. In the following estimation I controlled for both location of the emigration and region of residence in Ukraine.

⁴ Similarly to Merkle and Zimmermann (1992) and Vanwey (2004) I control for the number of years an emigrant spent abroad. In Merkle and Zimmermann (1992), the authors use number of years spent in Germany, Vanwey (2004) use number of months since migrating, but in this research I use a categorical variable.

⁵ Size of the household is an important variable, e.g. Merkle and Zimmermann (1992) use the number of people currently living in the household as a control for the size of the household.

⁶ In Merkle and Zimmermann (1992), the authors control for the differences in income using a household’s net monthly income.

invest money might have a significant influence on remittances: $H_0 : \alpha_7 = 0$ and/or $\beta_7 = 0$ and/or $\gamma_7 = 0$ and/or $\delta_7 = 0$. Moreover, it would be a mistake not to look at other factors that might influence a migrant's decision to send money, such as the number of people in the household, the "oblast" of a migrant's origin and the household's intentions to invest and to migrate.

4. Data

Data source

This paper uses data produced under the Canada-funded project "Research and Policy Dialogue Initiative on Migration and Remittances in Ukraine" implemented by the International Organization for Migration (IOM) Mission in Ukraine, and financed by the Government of Canada during 2014-2016. Access to the data was granted by the International Organization for Migration in Ukraine (IOM, 2016). Under this project, two surveys were introduced: the Nationally Representative Household Survey (further HH Survey) and the Socio-Economic Survey of Long-Term Migrant Workers. However, due to the main research question stated before, our analysis uses only the HH Survey.

The HH survey targeted households where at least one family member engaged in short-term or long-term international labor migration. The control group included households without migrant workers. Data was collected in two waves: Wave 1: June - August 2014 and Wave 2: February - May 2015. The size of the provided data sample was 838 households, which included 209 households with short-term and 330 with long-term migrant workers (excluding households with all family members working abroad) and 299 households without migrant workers (as a control group). After all data files were merged, the final number of observations was 631 households, which we use in our study.⁷ The distribution of households with and without migrants was almost equal - 56.26 % of the data sample included households with migrants and 43.74 % without migrants. Thus there was no oversampling issue as the number of households with migrants did not significantly exceed the number of households without working migrants. Summary statistics of the data are provided in Appendix.

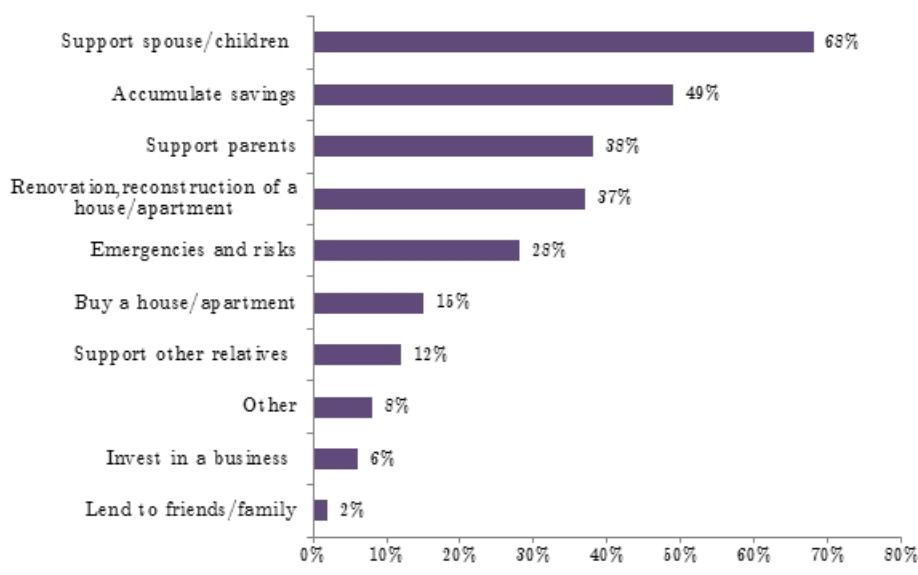
Due to the Russian annexation of the Crimea and occupation and war in the East of Ukraine, the Autonomous Republic of Crimea and cities of Sevastopol, Lugansk and Donetsk oblasts were excluded from the survey by the IOM. Chernobyl-affected areas of the first and second radioactive contamination levels were also excluded.

⁷ The size of the data sample decreased, since for some households not all variables needed for the estimation, were available. Dropped variables were not significantly different, on average, from those remaining, so did not have any significant effect on the estimations.

Data description

As mentioned above, the size of the dataset is 631 households, among which 355 households did not have a working migrant, and 276 had at least one migrant working outside Ukraine. According to the IOM report (2016) and our data analysis, older migrants are more likely to send money back to their country of origin - 42% of migrants aged 18-29 versus 75% of those aged 45-65. Regarding the purpose of remittances, one can see from Figure 2 that migrants usually send money to their close relatives (spouse/children/parents). On average, 39% of remittances are spent on household needs (consumption/daily needs). The second major purpose of remittances is the accumulation of savings (49%), which is in line with the previous research on remittances (Kuntsevych, 2016). The survey results show that households use remittances first for the family's daily needs, and subsequently for investment in real estate and/or home renovation. Interestingly, only 6% of migrants considered investing in business as a good purpose for remittances.

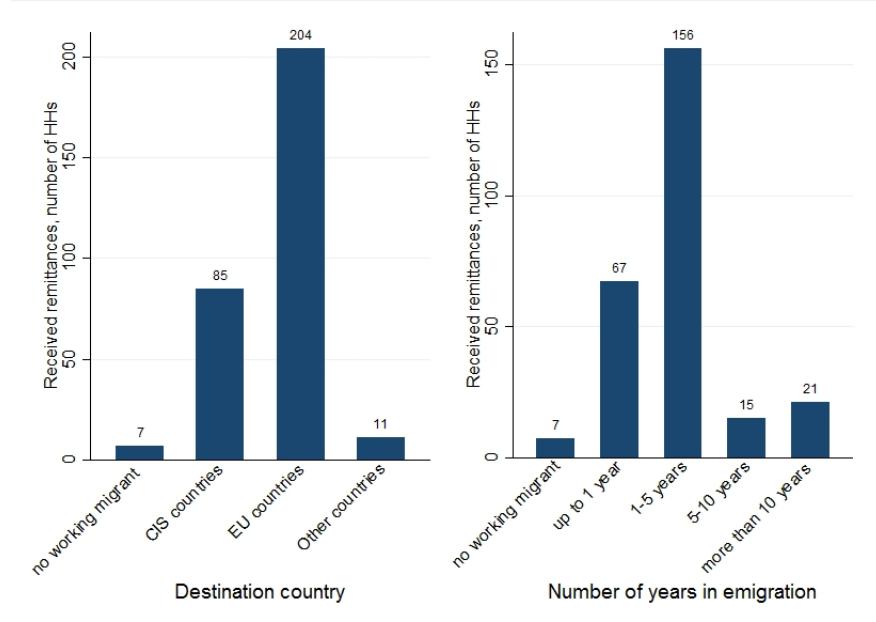
Figure 2: Purposes of sending remittances to Ukraine



Source: IOM (2016)

Figures 3-5 below describe the data with respect to remittances status; whether a household external financial support. Figure 3 compares the remittances status with respect to a migrant's destination country and the number of years the migrant spent outside of Ukraine. It should be noted that only households which received remittances were included in the subsequent descriptive analysis. In Figure 3 the left graph shows that only 7 households without a family member working abroad received remittances. The most popular destination among interviewed households is the European Union; countries with high average wages. CIS countries have almost 3 times fewer working migrants when compared to EU countries (85 households versus 204). Regarding the length of stay abroad, working migrants prefer to leave their household for 1-5 years (156 households) or for a

Figure 3: HH received remittances, with respect to destination country and years in emigration



Source: IOM (2016)

short period (up to 1 year). In general, the pattern shows that migrant workers emigrate to EU countries for up to 5 years.

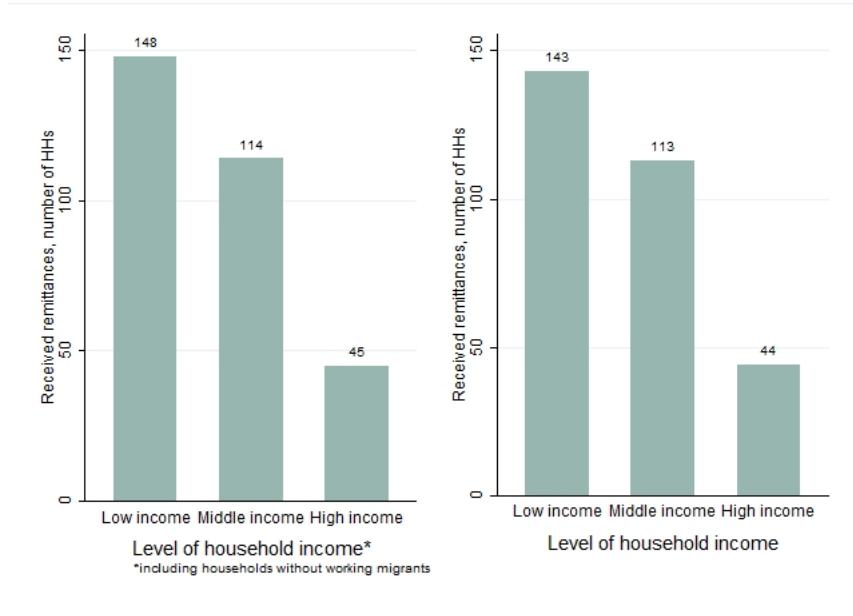
Figure 4 shows dependence between the remittances status and household income level. The right graph includes only those households that have a member working abroad and received remittances, whereas the left graph includes also those who do not have working migrants but nevertheless receive financial support. The graph shows that households with low income usually obtain some remittances from abroad, whereas the high income group has the lowest probability of obtaining remittances.

Figure 5 presents the dependencies between the remittances status and the size of a household. The right graph includes only those households that have a member working abroad and received remittances, whereas the left graph includes also those who do not have household members as working migrants but still received financial support. On average, working migrants support households that have 2-4 members. It should be noted that migrants tend to support smaller households rather than larger households, including more than 5 members.

5. Results

Table 1 in the Appendix reports the results of the estimation specification for different types of remittance variables. All three models (1), (2), (3) and (4) are estimated sequentially, using a linear probability model. The Appendix also includes correlation tables for dependent and independent variables.

Figure 4: HH received remittances, with respect to level of household income



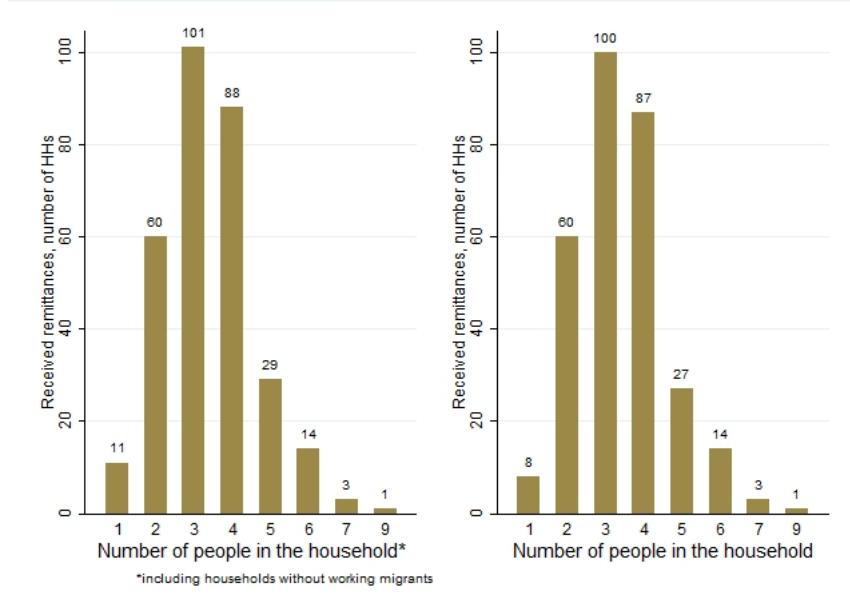
Source: IOM (2016)

The first column shows results for the *Probability of receiving remittances* (this question includes only monetary remittances) and includes 577 unique households. Generally, the results show that *Destination country*, *Intention to invest* and *Probability to save* in the household are statistically significant. Migrant workers in CIS and EU countries have higher and almost equal probability of sending some remittances to Ukraine (84.9 percentage points for CIS countries and 85.2 percentage points for EU). Other destinations than those listed above also increase the probability of sending remittances to Ukraine. Interestingly, *Investment intentions* have a significant but negative influence on remittances. If a household decides to invest money in Ukraine, the probability of obtaining remittances decreases by 19.3 percentage points. On the other hand, the *Probability to save* has a positive and significant effect with an 11.3 percentage point increase. It should be noted that, according to the results of the correlation matrix, *Intention to invest* and *Probability to save* do not have a high or significant correlation. Another tested hypothesis was *Size of the household*, which is significant and positive (2.1 percentage point increase), meaning that with every additional member of the household the probability of obtaining remittances increases.⁸

The second column presents results for the *Probability of receiving in-kind remittances*, estimating the model for 529 unique households. In general, the results show that only a few factors have a significant effect on the probability of obtaining in-kind remittances. The hypothesis regarding *Destination country* was found to be insignificant, as was the household's total monthly income and expenditure. Interestingly, the dummy variable for

⁸ It should be noted that according to statistics analysis working migrants tend to support smaller households rather than larger households, including more than 5 members.

Figure 5: HH received remittances, with respect to the size of the household



Source: IOM (2016)

the *Level of household income* (respondents defined their level of income using a gradation low/middle/high income) was found to be significant in the case of the *Middle income variable* where the probability of receiving in-kind remittances increases by 7.35 percentage points. It should be noted that, according to the results of the correlation matrix, the level of household income, monthly household expenditure and income do not have a high or significant correlation. Similarly to the *Probability of obtaining monetary remittances*, *Investment intentions* and *Probability of saving* in the household are found to be significant but with a different influence. *Investment intentions* have a significant and positive influence on remittances (however, in the case of monetary remittances the influence was negative). If a household decides to invest money in Ukraine, the probability of obtaining in-kind remittances increases by 17.2 percentage points. Similarly, the *Probability of saving* has a positive and significant effect with a 23.4 percentage point increase. The *Size of the household* variable was found to be insignificant, but for this model the *Number of years* an emigrant spent abroad working, i.e. 1-5 years, was found to be positive and significant at the 1% significance level. That is, if a migrant spent up to 5 years working abroad, the probability of sending in-kind remittances increases by 27 percentage points.

Logically, after estimating the *Probability of obtaining remittances* one is interested in the estimation of the model for the *Total sum of received remittances* for those who actually received financial support. For this estimation only households with a positive amount of remittances were used, since a negative sum of remittances is not possible and we are interested only in those households that in fact received remittances. Results of the estimations are presented in columns 3 and 4 of Table 1. Models with one different dummy variable - *Probability of saving* - were estimated for 254 unique households with very similar

results to the previous research (Chami et al., 2003; Cattaneo, 2012). It shows that not many factors have a significant effect on the total sum of received remittances, similar to the results of the previous model on the probability of obtaining in-kind remittances. Three hypotheses of interest, the *Investment intentions*, *Total monthly income* and *Total monthly expenditure* were confirmed and found to be significant. Specifically, *Investment intentions* has a positive effect on the total sum of received remittances; the sum of money received increases by more than 25 thousand hryvnas if a household has investment intentions (the difference in two models is around 2 thousands hryvnas). *Total monthly income* and *Total monthly expenditure* were found to be positive and significant yet not very high, particularly when compared with the *Investment intentions*. *Total monthly income* has a lower than 1 hryvna positive effect on the sum of received remittances. This is in contrast with the *Estimated monthly expenditure*, which has slightly more than 9 hryvnas influence on the dependent variable. In addition, the *Size of the household* has a significant and negative effect on the sum of remittances, with around an 8 thousand hryvnas decrease in the estimated variable. Similarly to the probability of obtaining in-kind remittances, *Middle level of income* was found to be significant but, contrary to previous results, highly negative. If the household has an estimated middle level of income, the sum of remittances received from abroad decreases by more than 13.5 thousand hryvnas.

To sum up the results, the country of a migrant's destination is significant only for the probability of obtaining remittances, whereas the intentions to invest have a significant influence on all dependent variables. The results are only partially in line with the previous research on the topic of received remittances and may indicate that Ukraine does not conform to the standard remittance model.

6. Concluding remarks

Today money transfers from working migrants are considered one of the most stable flows of foreign capital in Ukraine, exceeding FDI and international assistance. Foreign direct investment is significantly exposed to external and internal factors, as opposed to private money transfers which are more stable and less responsive to the political and economic situation in the country. Remittances decrease financial instability and the deficit of the balance of payments in the country, while they strengthen the Ukrainian currency and positively affect Ukraine's international credit ratings. However, the country's policy aimed at promoting the investment of remittances in the economy (as opposed to spending on consumption) is virtually nonexistent. Therefore, effective tools to enable the development of the financial potential of remittances in the national economy should be created.

Our research results show that several stated hypotheses were not confirmed and only several factors, such as country of destination or intentions for further investment or savings have a significant influence the probability of obtaining remittances. While these results

might not be conclusive, they show that the topic of remittances is complex and warrants further research, possibly using a larger database. Indeed there is still much work to be done on further investigating remittance flows, not only to Ukraine, but to other CEE and/or post-USSR countries,.

Remittances sent by migrant workers are an important component of a household's income, which significantly affects the well-being of the population. In general, remittances decrease the level of poverty in the country, partially solve unemployment problems, improve the financial, material and living conditions of migrant workers' families, increase the level of education in the household and improve the quality of health services, leisure and entertainment. However, as there are no adequate programs to attract these funds into the economy, they are mainly directed towards consumption and rather than development and investment. While developing policies that both use the development potential of remittances and decrease the impact of their negative side effects, attention should be given to encouraging remittance inflows and stimulating incentives for their investment. Moreover, engagement in policy debates on the topic of labor mobility between Ukraine and the EU should have an important place in Ukraine's foreign policy.

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Appendix

Tables of results

Table 1: Linear probability estimations for benchmark models

	(1) Received remittances (Yes/No)	(2) Received in-kind remittances (Yes/No)	(3) Total sum of received remittances	(4) Total sum of received remittances
Destination country region Base: did not migrate				
Destination country region	0.849***	-0.0216	15840.8	16076.5
1. CIS countries	(12.41)	(-0.27)	(1.23)	(1.25)
Destination country region	0.852***	0.0858	-285.3	-749.2
2. EU countries	(13.57)	(1.17)	(-0.02)	(-0.06)
Destination country region	0.710***	0.209	1274.1	56.59
3. Other countries	(6.08)	(1.36)	(0.08)	(0.00)
Type of residence (Urban=1; rural=0)	0.00257 (0.10)	-0.00940 (-0.31)	1037.8 (0.29)	1649.8 (0.45)
Economic zone in Ukraine Base: North region				
Economic zone in Ukraine	-0.0295	-0.0189	-10249.2	-9897.2
East region	(-0.67)	(-0.36)	(-0.86)	(-0.83)
Economic zone in Ukraine	-0.0326	-0.0411	-368.5	-761.6
South region	(-0.62)	(-0.67)	(-0.03)	(-0.06)
Economic zone in Ukraine	0.0715	0.0374	-7877.3	-8515.2
Center region	(1.54)	(0.69)	(-0.67)	(-0.73)
Economic zone in Ukraine	0.00333	0.0122	3015.9	1745.0
West region	(0.08)	(0.25)	(0.26)	(0.15)
Level of household income Base: Low income				
Level of household income	0.0491	0.0735*	-13569.0**	-13751.4**
Middle income	(1.63)	(2.10)	(-3.25)	(-3.30)
Level of household income	0.0742	-0.0410	6585.9	6179.0
High income	(1.31)	(-0.63)	(0.88)	(0.82)

Intention to migrate (Yes=1; No=0)	0.0342 (0.81)	-0.185*** (-3.79)	-2506.3 (-0.49)	-1700.7 (-0.33)
Number of years abroad Base: no emigrant				
Number of years abroad Up to 1 year	-0.202** (-3.10)	0.0844 (1.08)	2645.1 (0.41)	2291.0 (0.36)
Number of years abroad 1-5 years	-0.129* (-2.09)	0.270*** (3.73)	2358.4 (0.40)	1264.3 (0.21)
Number of years abroad 5-10 years	-0.117 (-1.35)	0.230* (2.20)	3639.4 (0.42)	3063.3 (0.35)
Intention to invest	-0.193** (-2.86)	0.172* (1.98)	27146.3** (3.04)	25760.0** (2.86)
Oblast of living in Ukraine	-0.00101 (-0.57)	0.000518 (0.25)	520.0 (1.56)	538.3 (1.61)
Size of the household	0.0212* (1.98)	-0.000998 (-0.08)	-8055.3*** (-4.86)	-7889.0*** (-4.75)
Total HH monthly income	0.00000407 (1.37)	-0.00000199 (-0.59)	0.985*** (3.41)	0.982*** (3.40)
Estimated monthly expenditure	0.0000117 (1.91)	0.0000128 (1.81)	9.249*** (11.31)	9.086*** (10.94)
HH saved money (Yes=1, No=0)	0.113*** (3.91)	0.234*** (6.68)		4550.7 (1.11)

·cons	-0.107*	-0.0792	-2529.2	-3794.9
<i>N</i>	577	529	254	254

t statistics in parentheses

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 2: Summary statistics of variables

	Number of observation	Mean	Standard deviation	Minimum	Maximum
Remittance status (Yes/No)	631	.487	.500	0	1
Type of residence (urban=1; rural=0)	631	.650	.477	0	1
Economic zone (North=1, East=2, South=3, Center=4, West=5)	631	3.664	1.477	1	5
Level of household income (low=1, middle=2, high=3)	625	1.521	.672	1	3
Intention to migrate (Yes/No)	631	.0998	.300	0	1
Intention to invest (Yes/No)	631	.030	.171	0	1
Size of the household	631	2.954	1.417	1	10
Household's average monthly income	631	4931.24	5071.558	800	85000
Household's average monthly expenditure	631	4383.38	3113.118	0	30000
Savings by the household (Yes/No)	631	.417	.493	0	1

Table 3: Correlation matrix for dependent variables and main explanatory variables

	Received remittances (Yes/No)	Received in-kind remittances (Yes/No)	Total value of received remittances	Destination country region	Total HH monthly income	Estimated monthly expenditure	Intention to invest	HH saved money (Yes/No)
Received remittances (Yes/No)	1							
Received in-kind remittances (Yes/No)		0.473***	1					
Total value of received remittances		0.488***	0.283***	1				
Destination country region		0.900***	0.505***	0.442***	1			
Total HH monthly income		0.282***	0.162***	0.508***	0.280***	1		
Estimated monthly expenditure		0.336***	0.248***	0.608***	0.335***	0.548***	1	
Intention to invest		0.0220	0.0800	0.0984*	0.0264	0.121**	0.114**	1
HH saved money (Yes/No)		0.455***	0.542***	0.334***	0.515***	0.223***	0.321***	0.0548

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 4: Correlation matrix for Received remittances variable and various explanatory variables

	Received remittances (Yes/No)	Type of residence	Economic zone in Ukraine	Level of household income	Intention to migrate	Number of years abroad	Oblast of living in Ukraine	Size of the household
Received remittances (Yes/No)	1							
Type of residence	-0.117**	1						
Economic zone in Ukraine	0.402***	-0.265***	1					
Level of household income	0.196***	0.203***	-0.0324	1				
Intention to migrate	0.111**	0.0645	0.0346	0.0956*	1			
Number of years abroad	0.740***	-0.121**	0.398***	0.0874*	0.0615	1		
Oblast of living in Ukraine	-0.0715	0.100*	-0.105*	-0.0191	-0.0706	-0.0324	1	
Size of the household	0.334***	-0.147***	0.222***	-0.219***	0.0613	0.299***	-0.0665	1

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 5: Correlation matrix for Received remittances variable and various explanatory variables

	Received in-kind remittances (Yes/No)	Type of residence	Economic zone in Ukraine	Level of household income	Intention to migrate	Number of years abroad	Oblast of living in Ukraine	Size of the household
Received in-kind remittances (Yes/No)	1							
Type of residence	-0.0926*	1						
Economic zone in Ukraine	0.338***	-0.258***	1					
Level of household income	0.169***	0.212***	-0.0258	1				
Intention to migrate	-0.112**	0.0822	0.0266	0.0942*	1			
Number of years abroad	0.457***	-0.124**	0.426***	0.125**	0.0811	1		
Oblast of living in Ukraine	-0.101*	0.106*	-0.0796	-0.00872	-0.0619	-0.0461	1	
Size of the household	0.179***	-0.154***	0.242***	-0.227***	0.0563	0.322***	-0.0741	1

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Table 6: Correlation matrix for Received remittances variable and various explanatory variables

	Total value of received remittances	Type of residence	Economic zone in Ukraine	Level of household income	Intention to migrate	Number of years abroad	Oblast of living in Ukraine	Size of the household
Total value of received remittances	1							
Type of residence	0.0336	1						
Economic zone in Ukraine	0.218***	-0.265***	1					
Level of household income	0.397***	0.203***	-0.0324	1				
Intention to migrate	0.149***	0.0645	0.0346	0.0956*	1			
Number of years abroad	0.378***	-0.121**	0.398***	0.0874*	0.0615	1		
Oblast of living in Ukraine	-0.0219	0.100*	-0.105*	-0.0191	-0.0706	-0.0324	1	
Size of the household	0.112**	-0.147***	0.222***	-0.219***	0.0613	0.299***	-0.0665	1

* $p \leq 0.05$, ** $p \leq 0.01$, *** $p \leq 0.001$

Abstrakt

Tato studie analyzuje peněžní částky, které ukrajinští emigranti posílají zpět do své země původu. V článku jsou zkoumány faktory, které ovlivňují jak pravděpodobnost obdržení peněžní částky ze zahraničí tak velikost této částky. Dále se v článku zkoumá, jak plánované užití potenciálně zaslaných peněz ovlivňuje pravděpodobnost jejich obdržení. K analýze jak faktorů, které vedou k obdržení finančních prostředků ze zahraničí, tak výdajů které jsou zaslanými penězi financovány, jsou použity výsledky z ukrajinského průzkumu domácností. Přestože výsledky této studie naznačují, že pouze několik málo faktorů má významný vliv na výše zmíněné proměnné, si toto téma žádá další výzkum. Výsledky mohou být použity ukrajinskou vládou, která na jejich základě může navrhnout a schválit takové zákony, které by zvýšily potenciál těchto finančních prostředků, a zároveň by snížily jejich negativní vedlejší vlivy.

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