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# Migration from the remittances point of view – focusing on the processes in Hungary during the last decade

PhD Theses

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## 1. INTRODUCTION

The growing importance of remittances has been pointed out by several studies of international organisations like the World Bank for instance. In these papers it is frequently highlighted that remittances mean a much more stable capital source to the receiving country and its households than foreign direct investments (referring amongst others to the experiences of the global economic crisis in 2008), and their volume exceeds that of official development assistances. Hence, they constitute an important source of foreign currency especially for developing countries, but we can see considerable amounts in the case of Hungary as well.

From Hungary' point of view, it should also be mentioned that specific factors which are not necessarily valid for other countries may play a role too, so international processes and theories cannot be applied directly when explaining the domestic situation. One of these factors is for instance the easier population movements stemming from the free movement of workers within the European Union. In addition, data show that the emigration of Hungarian workers to the West started later compared to other Eastern European Member States. Therefore, besides the analysis of main global trends, the Hungarian socioeconomic specificities should also be considered in details. Among the several influencing factors of migration it can be seen in general that motivation coming from economic and income play a significant role. Thus, it is worth to examine migration from the perspective of remittances, as it can be an important driving force of emigration, its effects on the national economies can be considerable, and they play a growing role in the current migration processes. In addition, the scientific research activities have been mainly focusing on developing countries so far, and to a lesser extent on relationships between developed countries. Migration between Western countries, and specifically between EU Member States was so far received less emphasis. However, as I present it in my dissertation, capital flowing in the opposite direction of migration, and especially remittances are important pieces of the whole picture. Hence, the analysis of Hungarian migratory processes during the recent years, the exploration of influencing factors of remittances and the identification of correlations with emigration may bring relevant research results to other countries in the region too, so the topic may be of international interest as well.

On one hand I used secondary sources for my research to identify major global trends, geographical relations, theories. This mainly macro level research was completed on the other hand with the examination of Hungarian household (micro level) data in the framework of primary research. My intention with the profound analysis of recent household surveys was to present results for which empirical evidence did not exist before in

such details. The regularly available balance of payments data can only be used for the topic of remittances with limits, as it is also introduced in the dissertation. Thus, with my research further resources, results become available, which also reveal the motivations and socioeconomic background of Hungarian residing abroad.

## 2. THEORETICAL BACKGROUND OF MIGRATION AND REMITTANCES

There have been several attempts to explain the underlying reasons for migration, mostly by focusing on one specific aspect or item. At the same time this also means that there is no single theory which explains everything neither for migration nor for remittances. Before examining the economic effects of population movements, it is worth to take a look first at the factors initiating and perpetuating migration. Many theories were elaborated for explaining the underlying reasons for migration, since several influencing factors can be identified like wars, natural disasters, political reasons, regional income and economic differences, or individual ambitions and lifepaths. The analysis of such theoretical frameworks can be relevant from the geopolitics point of view, as they also enable the identification of ways for state interventions and measures with which migration can be influenced or regulated.

Remittances, the sharing of them with family members in the country of origin, may appear as the reason for initiation or perpetuation of migration, and several theories include them both on macro (national economies) and micro (individual or household) levels. Therefore, we can see a rather diverging research concerning these money flows. One large group of these focuses on how these money flows affect the national economies, labour market, income inequalities and balances of payments of the sending or receiving countries. The other research approach rather focuses on the sending persons and receiving households, trying to identify those factors which influence whether a person sends remittances, and if yes in what value. So basically, both approaches seek for evidence on the correlation between economic migration, population movements for higher income, and remittances i.e. the support of left-behind household members.

In line with the aforementioned, in this dissertation I will examine population movements and remittances in two levels i.e. macro and micro, hence the application of a dual theoretical background seems to fit the best.

On one hand it is worth to examine that how macro variables correlated with remittances. By using economic explanatory variables (like GDP, unemployment) we can obtain information on the neoclassical theories, demographic variables (composition of the population, dependency ratios) may confirm the theory of segmented labour market, while foreign direct investments (FDI) may be interpreted within the framework of the

world system theory. In my dissertation I will detail these aspects with secondary research, panel regression analysis.

On the other hand, on the micro level, the new economics of labour migration (NELM) may be the most relevant theory for remittances. This model is hard to separate from the income and labour market factors identified by neoclassical theories, since market failures, which according to the NELM heavily influence the decisions of households, are strongly attached to these. Nevertheless, an important feature of the NELM is that it put a great emphasis on linking migration with remittances. This theoretical framework not only makes it possible to observe processes, but also yields the possibility to test the underlying motivations, thus provides a much more detailed picture compared to macro models. With the analysis of Hungarian micro level household surveys, I will present my results from the primary research within the framework of NELM.

## 3. RESEARCH GOALS

On the basis of the literature introduced above, it seems unequivocal that remittances constitute an important area of the wider migration topic. Almost all theories explaining the initiation or perpetuation of migration considers private transfers from those residing abroad to those stay at home. In case we talk about voluntary migration i.e. not about forced movements, most persons choose to leave their personal circumstances if additional benefits may be achieved in this manner. Thus, working considerations or the possibility of receiving additional income are decisive factors in these processes. Nevertheless, such economic reasons are by no means exclusive, as I will present amongst others results from my research to this as well.

In case of migratory processes, it is also important to investigate what influences whether the person residing abroad supports people in the country of origin, and the amount of that transfer. Hence, besides describing global and European-level macro-processes, the goal of my micro level primary research is to examine whether an emigrant will send remittances, and if yes then what amount.

In my dissertation I applied for remittances the following definition: financial or other form of support from private individuals residing in a country not for recreation, tourism, friend or family visiting, business trip, medical treatment or religious pilgrimage, sent to citizens in an other country. Hence, I will consider:

- remittances sent by persons considered as resident in their country of origin, in any form to the country of origin from income in a country, where the sender resides less than one year;

- remittances sent by persons considered as non-resident in their country of origin, in any form to the country of origin from income in a country, where the sender resides more than one year.

My goals, research questions and hypotheses accompanying the questions in this dissertation are the following:

1. **Research question: What characterises migration and remittances globally, and especially in Europe and in Hungary?**

   I will analyse this in the framework of secondary research with descriptive data from international databases and panel regressions, since these fit for the purpose to introduce main trends and practical implementation of theories.

   - **Hypothesis (H1a)**: Positive correlation can be found between remittances sent and a country's economic performance i.e., more remittances are sent from economically more developed countries with higher economic output.
   - **Hypothesis (H1b)**: Negative correlation can be found between remittances received and a country's economic performance i.e., more remittances are sent to economically less developed countries with lower economic output.

2. **Research question: How the households in Hungary receiving remittances can be characterised from a social, economic, demographic perspective on the basis of micro level surveys?**

   In the framework of primary research I investigate this question with results from three Hungarian household sample surveys (Household budget and living conditions survey (HKÉF), Microcensus 2016, Family Assistance) using descriptive data, logistic and linear regression.

   - **Hypothesis (H2)**: Hungarian households receiving remittances are in a worse economic situation compared to average households.

3. **Research question: What determines whether a person residing abroad sends remittances?**

   In the framework of primary research I will examine this with probit regressions using data from the Microcensus 2016 survey.

   - **Hypothesis (H3)**: Short-term emigrants with vocational education are more likely to support their Hungarian family members.

4. **Research question: What influences the amount of transfer sent by the person residing abroad?**

In the framework of primary research I examine this with linear regression using the dataset of Family Assistance survey.

- **Hypothesis (H4)**: The higher the income of the person residing abroad, the higher the amount of the sent transfer.
- **Hypothesis (H5)**: In the theoretical framework of the New Economics of Labour Migration (NELM) in case of remittances to Hungary altruist motivation is the most important.

## 4. RESEARCH METHODOLOGY

In this chapter I further detail the data and research methods with which I examine the previously introduced research questions and hypotheses. First, I analyse macro level processes from a broader global perspective, then by narrowing down the perspective I focus on the European situation which is more relevant for Hungary. Finally, I investigate the domestic processes in the most detailed manner i.e., using household data as well besides the macro level.

**Table 1.: Research framework of the dissertation**

| | Hypothesis | Methodology | Relevant theory | Regional coverage | Data |
|---|---|---|---|---|---|
| **M A C R O** | **H1a**: Positive relation between sent remittances and economic performance | Descriptive data, regional comparison, panel regression | Neoclassical economics (macro), World systems | Global, European | World Bank, Eurostat (balance of payments) |
| | **H1b**: Negative relation between received remittances and economic performance | Descriptive data, regional comparison, panel regression | Neoclassical economics (macro), World systems | Global, European | World Bank, Eurostat (balance of payments) |

| | H2: Hungarian households receiving remittances have an economic situation worse than the average | Descriptive data, regional comparison, probit and logistic regression | NELM, Neoclassical economics (micro) | Hungary | Microcenzus, HKÉF, Family Assistance |
|---|---|---|---|---|---|
| **M I C R O** | H3: Short-term emigrants with vocational education are more likely to support their Hungarian family members | Descriptive data, regional comparison, probit and logistic regression | NELM | Hungary | Microcenzus |
| | H4: Positive relation between the income of the sender and the amount of the transfer | Descriptive data, regional comparison, linear regression, Heckman selection | NELM, Neoclassical economics (micro) | Hungary | Family Assistance |
| | H5: Altruist motivation in case of remittances to Hungary | Descriptive data, regional comparison, linear regression, Heckman selection | NELM | Hungary | Family Assistance |

Source: Author's own compilation

The main global processes are analysed using data of the World Bank, while the European situation is examined in more details with Eurostat data. Remittances data are based on balance of payments data in this latter dataset too, but compared to the World Bank dataset, more detailed breakdown is available. The table using World Bank data comprises information on 264 countries, however the actual models contained less records due to missing data.

In order to be able to identify more precisely macro level factors affecting remittances, and I can test macro level migration theories, I built (fixed effects) panel

regression models for a 20-year period (2000-2019). In the neoclassical theoretical framework migration is initiated by economic reasons, especially income and employment differences between countries. This was somewhat more generally phrased in my H1a and H1b research hypotheses, tracing back the amount of sent and received transfers to the economic performance of countries. This means that I did not narrow down the scope of explanatory variables to income and employment data, but applied a wider interpretation and included sociodemographic variables too, which are rather connected to the dual labour market theory.

For the descriptive analysis of migratory processes of Hungarians, I used the regularly published annual migration data of the Hungarian Central Statistical Office (HCSO). In addition to these, I investigated remittances to Hungary and migration processes with three household surveys (Household budget and living conditions survey (HKÉF) – reference year: 2017, Microcensus 2016 – reference year: 2016, Family Assistance – reference year: 2016) too.

As for methodology concerns, I used regression models for the analysis of research questions. The probit and logit regressions built on the dataset of the Microcensus 2016 survey focused basically on two points:

- With what factors correlate that a Hungarian household receives remittances i.e., the dependent variable of the regression may have two values whether the observed household receives remittances or not;
- With what factors correlate remittance propensity i.e., what influences whether a person residing abroad supports the Hungarian family members. In this case the dependent variable of the regression can also have two values depending whether the person sends remittances or not.

The HKÉF data served for the presentation of descriptive statistics, distributions, as the low number of households receiving remittances did not make it possible to build logit or probit models for the analysis of the characteristics of these households. With all these methods I was able to examine the hypothesis H2 i.e., whether Hungarian households receiving remittances are in a worse economic situation compared to those which do not receive such transfers.

In the next step of the research, I was interested in the factors associated with the amount of the transfer. This question was mainly analysed with linear regressions on the Family Assistance survey, since information on the amount of the sent remittances was available there.

To handle selection bias, I used Heckman correction method in the case of regression models built on the data of receiving households and sender persons. For the sake of this, from the significant coefficients of probit regressions built on Microcensus 2016

survey, inverse Mills ratios were calculated, and these were built into the linear regression models of the Family Assistance survey. With the linear regressions I was able to identify those variables on the sender and receiver side, which have significant effect on the amount of the remittance. In the case of transfer amounts as dependent variables of the regressions, and the income per capita of households among explanatory variables I used the logarithm of the values to have a normal distribution, since in the case of income data it is typical to have extremely lot small-value items.

## 5. SUMMARY OF RESULTS

In my thesis I examined in details the relation between migration and remittances, the theoretical background and main processes of the topic using the available primary and secondary data sources. I carried out the analysis basically on two levels i.e., on the macro level providing an insight on global trends, and on the micro level focusing on the Hungarian situation.
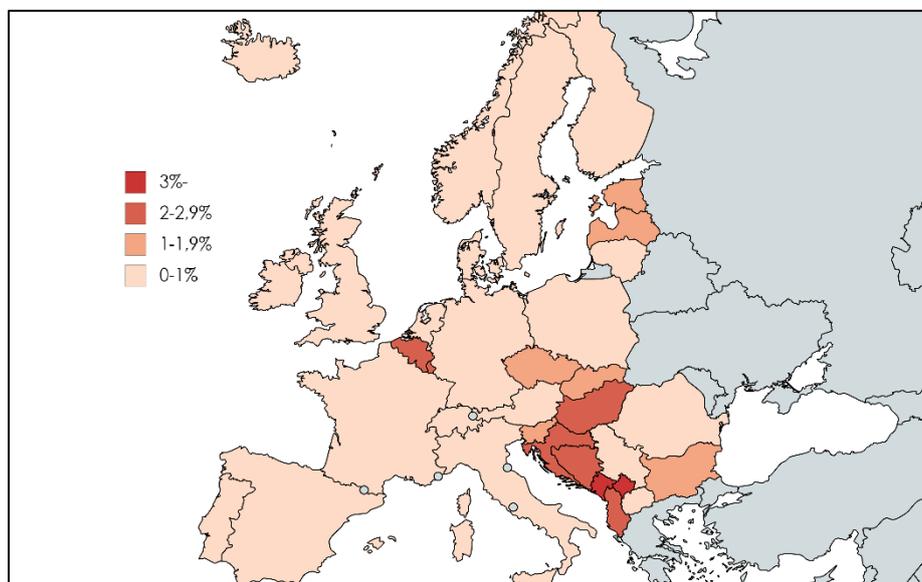
- **Based on the research results my H1a hypothesis is acceptable, indeed the economically most developed countries are the most significant sender areas of remittances.**

    The macro level analysis showed that the importance of remittances is indeed continuously growing globally, in parallel with the increasing volume of migration. The value of such transfers is significant, comparable with foreign direct investments or official development aids. On the basis of descriptive data, on one hand the main country relations can be identified i.e., between USA and Mexico, the Philippines; the Gulf states and India, Bangladesh, Pakistan; or China and Japan, South-Korea, Australia. It can also be seen that for smaller countries the importance of these money flows is much higher, and there are several European countries where the remittances to GDP ratio is extremely high.

    On the basis of European data individual country-level migration strategies, typical migrational habits are revealed, which is heavily influenced by the regional situation. In the case of Romania and Bulgaria for instance, the remittances sent from long-term emigrants are dominant, which may also refer to the fact that from these countries it is less worth to work abroad for short term, due to the high travel costs compared to income from typically low prestige work positions. In contrast, for instance in Hungary the income of workers abroad for short-term is the more significant item in the balance of payments, especially

due to commuters to Austria. In a third country group, e.g. Poland or Croatia, the ratio of these items is rather balanced.

**1. Chart: Income of temporary workers abroad as a ratio of GDP in European countries, 2018**



Source: Author's own calculation on the basis of Eurostat (2020) data

The panel regression analysis on the other hand provides further details to the picture stemming from macro theories and descriptive data i.e., only economic and labour market factors influence migration and remittances. Hence, for instance the role of old-age dependency ratio is interesting, which may rather justify the approach of dual labour market theory. Besides the aging population, there is more demand for the workforce of young migrants in the case of blue-collar positions, which is further supported by the fact that the ratio of low-prestige jobs is higher among blue-collar positions. The higher number of immigrants after all also facilitates higher amount of personal transfers. However, the positive correlation identified in the case of GDP, female unemployment and consumption rather strengthens neoclassical economics i.e., mainly the economically more developed countries are the most important remittance senders. It is also in accordance with this that the lower ratio of agriculture and industry in the GDP means higher remittances sent, as in the role of the tertiary (services) sector is more significant in developed countries. However, due to their nature, macro data may cover the fact that, strengthening the dual labour market theory, immigrants

primarily are employed precisely in the agriculture and industry. Finally, the positive relationship with FDI also confirms the importance of developed countries as senders of remittances, since these capital-rich countries are able to invest in other countries to a larger extent. This is also in line with the phenomenon of capitalist investments formulated by the world systems theory.

- **In my research my H1b hypothesis i.e., poorer countries receive more remittances, could not be verified equivocally.**

    From the perspective of receiving countries, I was not able to build a model which would have supported that hypothesis, based mainly on neoclassical economics, that poorer countries receive more remittances. On one hand this shows that the phenomenon of migration is much more complex than this, several cultural or network effects may exist, which cannot be precisely handled with macro indicators. On the other hand, it has a significant bias effect that countries from the top largest economies like China or India, or regional centres like Mexico are among the most significant receivers. Although these three countries can be characterised by large internal inequalities, but if we consider GDP per capita as a basic indicator, then according to World Bank data China and Mexico are at the bottom of the top third, while India is at the bottom of the middle third. Hence, even though they are not the richest countries, but neither can be considered definitely poor countries.

- **My research showed that my H2 hypothesis i.e. Hungarian households receiving remittances are in a worse economic situation compared to average households, can partly be accepted. Concerning income distribution, no considerable difference can be seen compared to the Hungarian average, but on the basis of further indirect information, like credit default issues or problems with unexpected expenses, we can conclude that the majority of receiving households have financial problems, and family transfers from abroad are used to solve these.**

    Turning from the more general global level investigation to domestic processes first I reviewed the situation of Hungarian households receiving remittances. On the basis of the used three household surveys (Microcensus 2016, HKÉF, Family Assistance) the main characteristics of this group can be identified. The HKÉF and the Family Assistance confirmed independently from each other that approximately 1.6-1.8 per cent of all households might be affected i.e., around 67,000. The heads of the households are usually older, from which we may conclude, in line with other researches from the region, that generally adult

children support their elderly parents with remittances. This is also verified by the regression model built on Microcensus data.

Concerning income situation, on the basis of the Family Assistance survey no significant deviation can be seen from the income level of the total population, and we cannot draw a straightforward conclusion on the basis of HKÉF either: although the ratio of households in lower income deciles is considerable, but the share of households in good income situation is also high. One possible explanation for this, already introduced at migration theoretical frameworks, that households with higher income can cover the initial costs of emigration easier (and as I introduced in the theoretical parts, this also provides reasons for the conclusion of several studies that remittances increase inequalities). However, other questions in the HKÉF provide further details. It can be seen that among households receiving remittances the ratio of those who would be able to cover an unexpected expense or able to save money, is lower compared to the Hungarian average. It is also important that among households receiving remittances the ratio of those with mortgage, or those who have problems with paying back loans, is higher. This refer much clearer to the fact that for a considerable share of receiving households the additional income from abroad is essential, and they can only maintain a living standard close to the domestic average by working in an other country.

On one hand, these are confirmed by the indirect status indicators like the negative correlation between remittances and dwelling square meters or the educational level of the household head, of the regression models built on Microcensus data. On the other hand, from the regression models using the Family Assistance data we can also draw the similar conclusion i.e., the amount of remittances is significantly higher if the incoming transfer is used for paying back loans, savings or property purchase (this latter can also be interpreted as savings).

- **My research confirms H3 hypothesis i.e., short-term emigrants with vocational education are more likely to support their Hungarian family members.**

After investigating the receiving households, I analysed the characteristics of sender persons. On the basis of official statistics, we can see that the intensity of the emigration which started to show an uptake from 2011, turned to decrease and the volume of circulatory migration is also getting more significant. The Microcensus 2016 shows that among emigrants men are overrepresented and the share of the 30-39 age group is also higher. In addition, as other surveys also revealed, there are significant sociodemographic differences in the emigrant population across the main countries of destinations. While mainly young, highly qualified persons move to a longer term to the United Kingdom, in the case of

Austria and Germany it is more common that older men with vocational school qualification work for a couple of months.

The main trends identified in the case of emigrants can be found in the case of remittances senders as well (on the basis of the Microcensus and Family Assistance surveys). The fact that high percentage of the senders indicated themselves as children confirms the assumption already raised at the receiver side, that mainly adult children support their elderly parents. Besides, it is also in accordance with international research that the majority of sender persons transfers only 10-20 per cent of their income as remittances.
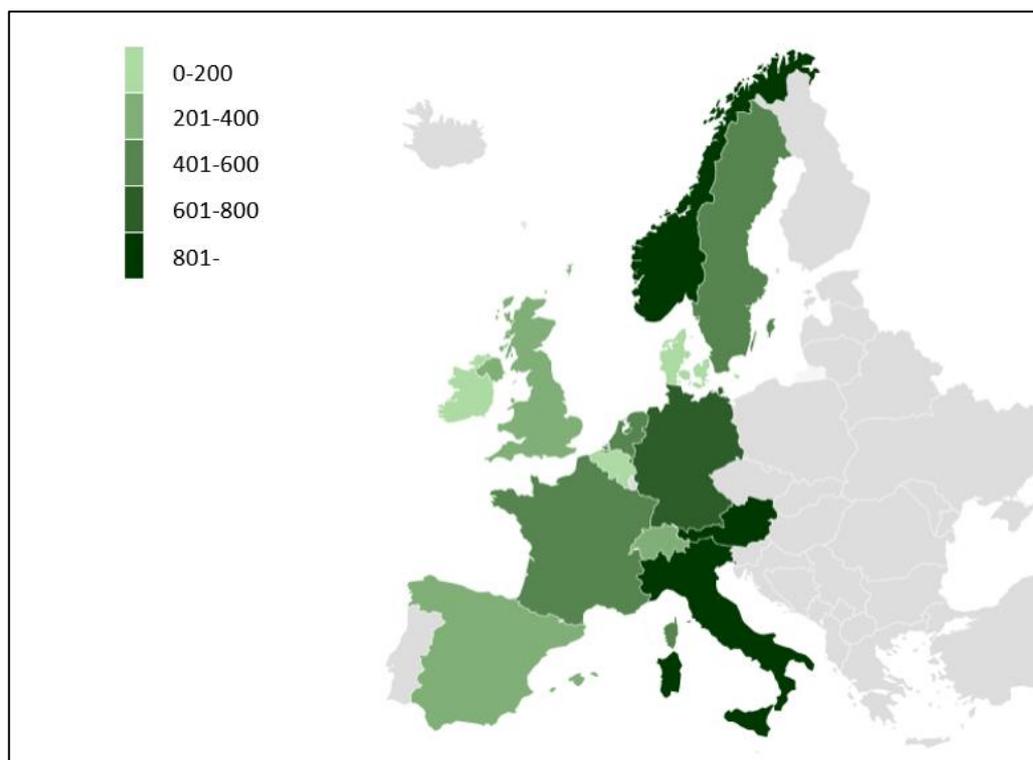
All these descriptive characteristics appear in the results of regressions too. Microcensus models on remittance propensity i.e., what influences whether a person send money or not, showed that in case of older men with vocational qualification the sending of transfers is more likely. This rather refers to the blue-collar workers in Austria and Germany. It can also be seen that the probability of sending remittances is higher in case of those who work in the agriculture or industry, which is also in line with descriptive data. Positive correlation was identified between visiting home and sending remittances: those who come to Hungary on a monthly basis or more often are more likely to send private transfers. As a general trend, as the time between the occasions of visiting home increases, remittances propensity decreases, which may be traced back to the weakening relationship between sender persons and receiving households.

- **The results confirmed hypothesis H4, there is indeed a positive correlation between the income of the sender person and the amount of remittances. This, together with the negative correlation with the income of receiving households, also verifies hypothesis H5 i.e., mainly altruist motivations can be identified within the framework of NELM.**

In the last part of the dissertation I tried to find an answer to the question using the Family Assistance survey data, that if a person residing abroad supports his/her Hungarian family members, then what factors correlate with the value of that. With linear regressions similar factors were identified than that of those in case of probit regressions on remittance propensity. Women tend to send less, while those with primary or vocational school education, and those working in industry and agriculture are more likely to send higher amounts. The variable on the frequency of visiting home also became significant, since in line with our initial expectations those emigrants who come home on a monthly basis or even more often, usually transfer higher amounts. This is presumably in connection with the strength of personal relationships. Concerning regional breakdown,

although descriptive data (Chart 2.) showed considerable differences between the main target countries of Hungarian emigrants i.e., the sent amount per capita is much less in the case of senders from the United Kingdom than that of from Austria and Germany, in the regression analysis none of these proved to be significant.

**2. Chart: Annual amount of remittances per capita sent by Hungarians residing abroad in certain European countries, HUF thousand, 2016**



Source: Author's own calculation on the basis of the Family Assistance survey data

However, perhaps the most important conclusions are that positive correlation was found between the sent amount and the income of the sender person, while negative relation with the income of the receiving household. All this means, that the more somebody can afford to send transfers, and the more the receiving Hungarian household is in need for these additional money flows, the higher is the value of these private transfers. In the theoretical framework of the NELM this is closest to the altruist motivation i.e., mainly help, the support of relatives is behind the remittances from Hungarians residing in other countries. Nevertheless, it is also important to highlight that this pattern cannot be oversimplified: if intention to come home as a separate variable was included in the models in the case of long-term

emigrants it proved to be significant. This means that those who plan to return to Hungary tend to send higher amounts, which may precisely refer to self-interest.

Finally, it is worth to consider that from the practical life's perspective what relevance my research can have. By profoundly analysing global trends I tried to confirm that, as it is stressed at several points of the dissertation, migration and remittances are results of complex socioeconomic processes. Hence, it would be a mistake to analyse the topic merely from the perspective of income differences stressed by neoclassical economics, and to elaborate any future policy steps purely on the basis of that. This line of thinking neither can explain for instance why the emigration of Hungarians started only after 2011 to a larger extent, nor why the level of remittances is lower among highly qualified young Hungarians in the United Kingdom.

The results of the household surveys show that emigration and remittances are mainly the results of financial constraints for many. There are several indirect signs for this on the receiving households' side, but this is also in line with my results on altruist motivations. This does not mean a contradiction to the previously described points since obviously it cannot be said in general that anybody who lives in Hungary below the national or the European average chooses the strategy of emigration. However, among those who emigrate and then send transfers, financial circumstances actually matter. From the practical perspective this can mean that for the majority of the identified almost 70,000 households a policy step is conceivable which ease those income issues that are behind working abroad. Nevertheless, the goal of this dissertation was only to explore and better understand the underlying processes, and not to elaborate further taxation or labour market, employment measures.

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