THE IMPACT OF REMITTANCES ON HOUSEHOLDS' WELL-BEING: EVIDENCE FROM ALBANIA

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Abstract

This study analyzes the determinants of remittances and the impact the behavior of Albanian migrants toward remittances from a microeconomic perspective. Remittances expressed as percentage value of Albania`s GDP have decreased through the last years but they have never been lower than 8.3%. This fact makes Albania one of the most potential receivers of remittances in Europe. The paper uses a large nationally-representative household survey from Albania to analyze how the receipt of international remittances affects the well-being level of the households. The welfare level is measured by the extent of the subjective self-assessment of the same households. The propensity score matching approach is applied for this research.
The results indicate that the Albanian households involved in different economic activities are more likely to be economically independent. Additionally, families with higher number of females are focused on the presence of remittances as they are considered strong protective instruments of their well-being. We also conclude that households with the presence of remittances perceive having a better life in comparison with households that do not receive remittances. The same group reflects the conviction that has been able to experience more improvement in their well-being level when compared to the households that did not receive remittances.

Keywords: Migration, remittances, propensity score matching, well-being, Albania

INTRODUCTION

International migration is a prominent feature of globalization and one of the defining issues of this century. The world has witnessed mass exodus of people from one country to the other, driven by a search towards better lives and most of these migrations present movements from developing countries to developed ones. Economic conditions are the main factors influencing migration and remittances are the most widespread and important migrant economic activity.

International remittance is defined as the money and goods that are transferred by migrant workers working outside of their origin countries to their households (families and friends in the home country). During the last decades, especially with the start of the 21st century, the economic analysis of remittances has experienced a dramatic renewal, becoming one of the key issues in economic development. Its relevance has increased during this time and it will continue to grow in the future. That is one of the main reasons the issue of remittances has increasingly captured the attention of policymakers from both developed and developing countries. In 2004 official international remittances were estimated at $93 billion per year (Ratha, 2004). Analysis made during 2010 indicates that were more than 215 million international migrants in the world. In other words, 3 percent of the world population was living outside their country of birth. Recorded remittances received by developing countries were estimated to be $325 billion, far exceeding the volume of official aid flows and constitute more than 10 percent of gross domestic product (GDP) in many developing countries. Moreover, in 2013, international migrants sent $413 billion home to families and friends which are three times more than the total of global foreign aid (about $135 billion).

The absolute values of remittances indicate their economic importance to many countries, but their volume relative to income flows and other indicator variables establish this result in a clearer manner.

There are two approaches dominating the actual literature of international remittances: one approach focusing on microeconomic variables that condition remittances, and the other focusing on macroeconomic factors which determine specific effects of national and international remittances.

The microeconomics of remittances has been the focus of many scholars since the mid of the 20th century, but a deep change surfaced in the early 1980s when the role of information and social interactions where included in explaining transfer behavior. The topic of migration, remittances and their development has always been accompanied with controversial analysis and results between researches and policy makers. Johnson and Whitelaw (1974), Stark (1981) and later again Bloom, Lucas and Stark (1985) are known as the pioneers that analyzed the determinants of remittances. Lucas and Stark (1985) were the first to formulate a formal model

for analyzing the remittances of migrant workers. Remittances present a very complex area of study with many clues and according to Lucas and Stark, migrant workers would remit for a variety of reasons, ranging from pure altruism to pure self-interest. The decision to send money was conditioned by income, the motivation to share the income with the family of origin. Under the study of remittance' motivations, migrant workers could be classified as altruistic if their remittances increase with declines in family income at home, while remittances with self-interest motives would be considered dominant if they were positively related with family income at home. Driven by the first motivation, the transfer of wealth due to altruism, the migrant intends to deal with those he left behind. The second motivation, self-interest, is considered the aspiration of the migrant, for example, to inherit or the desire to invest in their country of origin and then to ensure that such investments are treated in a satisfactory manner by the family of their home country.

Taylor (1999) also continued developing the theory and sustained the noticeable role of remittances for the enterprise risk diversification of the family, as the labor income of the migrant is not correlated with the revenue derived from the income of the family residing in the country of origin. This analysis attempted to discover the migrant's goals in his/her migration project (as an important aspect of the New Economics of Labor Migration –NELM). Another facet of emigration consisted in the behavior of the migrant once he arrives at the destination country and his continued relationship with the family of the origin country. It should also be admitted that the effect of remittances (and migration) at the local level of migrant's home country is conditioned not only from the amount, distribution and weight of such remittances on the income of the family of origin. Sometimes, it is the indirect impact of remittances on the local community that is more effective than the previously listed factors. This kind of impact depends on the behavior of the family of the migrant -the context in which they live (Taylor 1999).

Innovations of the New Economics of Labor Migration (NELM) remove the best-known economics model of migration decisions that were introduced from Todaro, 1969; Harris and Todaro, 1970 (they are the supporters of the Neoclassical Economics approach).

The aim of this study is to identify the impact of remittances on the well-being of the Albanian's households. Based on a large nationally-representative household survey from Albania and using the PSM (Propensity Score Matching) Method, the objective of this work is to highlight whether the two groups of households, those who receive remittances (the treatment group) and those that do not receive remittances (the control group) represent different values of well-being in their lives.

LITERATURE REVIEW

The aim of this paper is to examine the possible effect of remittances on household welfare in the home country. Many scholars have rendered this topic one of the main focuses of their studies. The results they obtained seem to differ depending on the country/region that was taken into observation and the temporal axis the study was performed in.

Nonetheless, the general conclusion was a predominant effect of remittances in the reduction of poverty. Adams (2001) finds that in Egypt the number of rural households in poverty decreases with some percentage points when household's income includes international remittances. In 2004 Adams also concludes that the squared poverty gap in Guatemala declines by 19.8 percent when international remittances are included as part of total household income. Lopez-Cordova (2005) studies the relationship between the remittances and poverty in Mexico and finds a strong significance between remittances and the reduction of poverty at the municipal level. According to Duval & Wolff (2012) remittances have a positive effect on the financial expectations of households' future income in Albania. While we examine the literature focusing on the impact of remittances on household expenditure we stress the work of Castaldo and Reilly (2007) who discovered that Albanian households receiving international remittances tend to spend more on durable goods and utilities than other households and less on food consumption. Other studies applied into contexts and regions different from Albania, evidenced that migration and remittances have a positive effect on expenditure categories. It is crucial to mention the findings of authors, such as: Zarate-Hoyos (2004), Taylor and Mora (2006, Mexico case study), Kifle (2007, Eritrea case), Cardona Sosa and Medina (2006, Colombia case), Amuedo-Dorantes and Pozo (2009, Mexico), Airola (2007), Adams (2005, Guatemala),Mora Rivera and González (2009, Mexico).

Empirical research has also contributed to a pessimistic view of the impact of remittances in these migrant-sending areas. There are cases when remittances, instead of being used positively for investments, they have been consumed and mistreated. In Albania, Cattaneo (2010) evidenced the absence of any remittance impact on education expenditure. Moreover, Acosta (2006) finds that there is a negative effect of remittances on the investment in education in El Salvador. Discouraging results were found from several other works: Lipton (1980), Papademetrious (1985), Chami et al. (2003), Azam and Gubert (2006), de Haas (2007), Jadotte (2009).

The method used to investigate the effect of remittances on household welfare varies from one group of authors to the other. Adams and Cuecuecha (Remittances, Household Expenditure and Investment in Guatemala, 2010) chose Dubin McFadden method because according to Bourguignon et al (2004), this method performs better than other selection

methodologies, like the Lee method (1983). The variables explaining the welfare level of the households were the categories of expenditure. Adams and Cuecuecha, similarly with the working research of Mansuri, (2006) McKenzie and Rapoport, (2010), made use of instrumental variables.

Other authors tried to examine the impact of migration and remittances on the economic well-being level making use of the Gini coefficient which explained how this welfare was distributed between the households under observation (Adams (1989), Barham and Boucher (1998), Rivera, (2005)).

In our paper, we applied the method of Propensity Score Matching (used by Andersson and previously unfolded from the work of Esquivel and Huerta-Pineda, (2006); Cox-Edwards and Rodríguez-Oreggia, (2009)). Through the application of the Propensity Score Matching model, the examined households are divided into two groups: conditioned by the presence of the remittances and not conditioned by the presence of the remittances. The analysis is based on differences in "welfare level terms" between these two groups of households once they are selected with similar characteristics.

Additionally (different from Adam's work), in this paper the measurement of the economic well-being was not obtained from objective points of view. The explanatory variables of the households' well-being are used to measure the happiness and health from the prospects of the interviewed individual. Of course this is a pure subjective measure of the welfare life which is accompanied with advantages and in the same way with possible critics and difficulty in order to really consider these variables as true measurements of the households' prosperity.

PROPENSITY SCORE MATCHING MODEL

Propensity Score Matching (PSM) is a popular approach used to estimate causal treatment effects.

The work of Rosenbaum and Rubin (1983) proposed propensity score matching as a method to reduce the bias in the estimation of treatment effects with observational datasets. It is used as a guide to implement this approach and to better confront the numerous questions related to it once we decided to adopt PSM.

The propensity score, as defined by Rosenbaum and Rubin (1983), is the conditional probability of receiving a treatment given pretreatment characteristics. In our case, it is the probability of receiving remittances, p(X), given observed characteristics, X. What we explained is:

$$p(X) \equiv Pr(D = 1|X) = E(D|X)$$

D is a dummy variable which takes values {0, 1}. This variable divides the sample under examination into two different groups: the treatment group (D=1) refers to the households who receive remittances and the control group (D=0) refers to those who do not receive remittances. In other words, it is considered as the indicator of exposure to treatment.

The main purpose of this study is to estimate the impact of D on the outcome variable Y, which is an explanatory condition of the households' well-being.

It is clearly comprehensible that we can observe the value of the outcome variable (Y) under the post-treatment condition, but we cannot achieve a value of it in the case there was no treatment effect. So, we can observe the value of $E(Y_1/D_i=1)$ and $E(Y_0/D_i=0)$. What is not achievable is the value of $E(Y_0/D_i=1)$ and $E(Y_1/D_i=0)$.

Through the propensity score matching (PSM) our intention is to obtain a comparison with non-treated units (households without remittances) that are comparable to treated units (households with remittances) on the basis of observable pretreatment characteristics. The characteristics, describing household and individual aspects, are included into the multidimensional vector X.

The most important conditions necessary for the implementation of the propensity score are the respect of the conditional independence assumption (CIA) and the Conditional mean independence (the last one is less restrictive than the CIA). Thus, the satisfaction of CIA is equivalent with admitting that the outcome variable (Y) is independent of treatment conditional on the set of observable characteristics (X).

According to the succeeding condition, given X, the outcomes of households without treatment are approximately the same to the (unobserved) outcome of households with treatment if they had not been treated.
$E(Y_{i0}/D_i=1,X_i)$ and $E(Y_{i0}/D_i=0,X_i)$.

Rosenbaum and Rubin (1983) show that if the exposure to treatment is random within the context defined by X, the Average Treatment effect on the Treated (ATT) is expressed as:

$$ATT = E[Y_{1i} - Y_{0i}| D_i=1]$$
$$= E[E[Y_{1i} - Y_{0i}| D_i=1, p(X_i)]]$$
$$= E[E[Y_{1i}|D_i=1, p(X_i)] - E[Y_{0i}|D_i=0, p(X_i)]|D_i=1]$$

Given the households of the sample denoted by Y_i, Y_{1i} and Y_{0i} are the potential outcomes in the counterfactual situations of "remittance presence" and "no remittance presence" and the distribution of $(p(X_i)|D_i=1)$ is the outer expectation.

Common Support is another requirement for the application of the propensity score. According to this condition, given the values of X, there is no perfect predictability of D:

0<P(D=1|X)<1. Households with the same characteristics (X) have a positive probability of receiving-remittances and non-receiving remittances. The model for the estimation of the propensity score was the standard probit model.

What has been explained up to now in regards to the estimation of the propensity score is not enough for the calculation of the ATT. In order to obtain the results, the literature has offered various methods. Rubin (1974) and Lechner (1998) were the main contributors of the matching techniques by making use of their experimental works. Matching estimators like; Nearest-Neighbor Matching, Radius Matching, Kernel Matching, and Stratification Matching have been implemented to overcome the problem faced when we need to match observations based on the estimated propensity score. The four methods reach different points on the trade-off between quality and quantity of the matches, and none of them is a priori superior to the others. In fact, with the growing sample size all PSM estimators should yield the same results since they become closer to comparing only exact matches (Smith, 2000). In small samples the choice of the matching is crucial. In this case, it becomes more evident the trade-off between bias and variances and the selection of the PSM estimator very often depends on the practical work in hand. Nonetheless, their joint consideration helps to better achieve the robustness of the estimates.

Nearest-Neighbor (NN) match treated and control units taking each treated unit and searching for the control unit with the closest propensity score. There are proposed various variants of NN matching such that NN matching "with replacement" and "without replacement".

Based on the type of NN matching it may happen that a control unit can be a best match for more than one treated unit. Once each treated unit is matched with a control unit, the difference between the outcome of the treated units and the outcome of the matched control units is computed. The ATT of interest is then obtained by averaging these differences. A great disadvantage of this technique is due to the fact that for some treated units the nearest neighbor may have a very different propensity score. Anyway, this method applies for the estimation of the treatment effect independently of this difference.

Kernel matching (KM) is a matching estimator that uses weighted averages of all individuals in the control group to construct the counterfactual outcome. One advantage of this approach is the lower variance obtained because more information is used. From the other side, making use of the KM there is the possibility that the observations in the model are bad matches. This last introduction presents an important drawback associated to the KM method. Hence, the proper imposition of the common support condition is of major importance for KM. The estimators applied in this paper are both Kernel matching (KM) and Nearest Neighbor (NN).

WHY STUDY ALBANIA?

As many cross-country analysis and evidence from household surveys suggest that migration and remittances have some potential to reduce poverty in the origin communities, their increasing volume and potential impact on the development of remittance receiving countries has become an important topic of concern for policy makers at national and international level.

This study analyzes the determinants of remittances and the impact the behavior of Albanian migrants toward remittances from a microeconomic perspective. Albania is one of the top destination countries for remittances inflow.

The dissolution of Albania's communist regime in 1991 marked the end of an isolated period during which, for more than 45 years, international migration was radically prohibited. As Carletto (2004) highlighted on his notes (King and Vullnetari also, 2003), more than one-fifth of the lbanian population has been estimated to have undertaken an immigration experience within the short period of a decade, from 1991 until 2001. Migration flows from Albania, whether temporary or permanent, have been massive especially when portrayed in relation to the size of the economy and the population of the country. During the decade that followed the fall of communism in Albania, the collectivist economic system began to crumble slowly and the government in power tried hard to guide the country towards the framework for a more open society and especially for a more developed market economy. The vision of Albania in 1990 was that of a country with low income levels facing several internal and external problems of great importance. Over the past two decades, Albania has continued to defy the problems and it is a notable fact that the country has made progress in creating conditions to facilitate the economic growth and to reduce the poverty level.

Data compiled by Migration and Remittances Factbook 2011, indicates that during the year 2010, Albania was characterized with nearly 1,438.3 thousands Stock of emigrants and its value as a percentage of population was 45.4%. Furthermore, the Factbook suggests that the top destination countries for Albanian migrants are Greece, Italy, the former Yugoslav Republic of Macedonia, the United States of America, Germany, Canada, Turkey, the United Kingdom, France, Australia, respectively (Migration and Remittances Factbook, 2011). High values of migration outflows that have been unfolded during these decades, since the collapse of the totalitarian system, have been accompanied also with records in remittance inflows. The year 1993 registered the highest level of remittances expressed as a percentage of GDP (27% of GDP). Although remittances have fluctuated over time, they have been a major source of income for the major part of Albanian households and for the national economy as well. In 2005, total international remittances inflow to Albania reached a little over US$1 billion. According to

International Monetary Fund (IMF 2006) such transfers constituted nearly 14 percent of Albanian GDP.

The last data available from the World Bank is for the year 2013. During 2013 the level of remittances inflows as a percentage of GDP was just 8.46%. And again, although it is one of the lowest values during the last two decades, it still presents a considerable level that classifies Albania into the group of top Remittance-Receiving Countries.

Figure 1. Albanian's remittances (as a % of GDP)
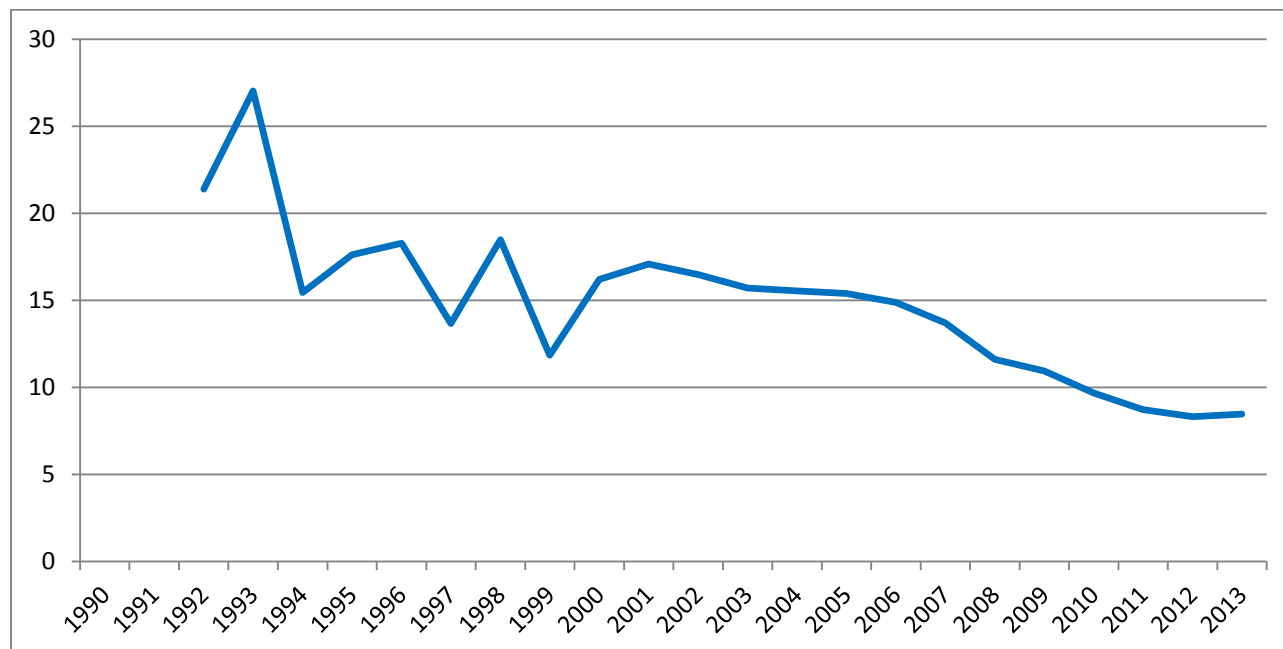
Source: World Bank of Albania

Through the Poverty Reduction Strategy as the leading goal of the growth and development process applied to the country, the government of Albania has understood the importance of the signals reflecting the real world. That is why this country has reinforced its pledges to strengthen its own capacities to gather and analyze the information on a proper and standard database that can be used to inform policy-making institutions. For this reason, one of the principal and most important sources of information that helps to determine living conditions and measure the poverty situation of a country are the multi-purpose household surveys.

METHOD AND DATA

The data used in this study is derived from the last LSMS (Living Standard Measurement Survey) that has been carried out in Albania. It has been implemented in the framework of the National Strategy for Development and Integration with the purpose to create a policy evaluation

system. As explained from the World's Bank staff, the first Albania LSMS was conducted in 2002, followed by 2003, 2004, 2005, 2008 and 2012 surveys. The survey we are focused on is based on a sample of 6,671 households. The techniques used in the survey of 2012 are similar to those of the previous year, however it might be noted the expansion of the sample size from the past surveys to the last one.

The sample of 6,671 households is randomly selected. In a first round, 834 Primary Selection Units (PSUs) have been selected from the country. In the next selection, 8 households were chosen (again in a random way) for every Primary Selection Unit to be the protagonist of the interview prepared from the staff. At the end, the survey was completed with a total of 6,671 questionnaires filled out by the households. Although it presents the core center of our study, the 2012 Living Standard Measurement Survey of Albania was not designed as a migration or remittances survey. In fact, the survey seems to be exhaustive since the collected information covers topics related to demographic characteristics, expenditure, subjective poverty, education, health employment, labor, communication and so on, without neglecting migration and remittances. This is the reason that the final dataset used during the research was obtained not only from components related with the topics of remittance and migration but also with reference to the available information from the other modules.

ANALYSIS AND FINDINGS

Descriptive statistics

The information extracted from the module of international migration was related to the actual presence of the phenomenon of migration in the surveyed family. The acknowledgment that at least one of the household members is living abroad was intended to confirm the presence of migration in that specific household, otherwise no. Referring to table 1, the binary variable that was created indicates that 1,727 households have members involved in the migration (25.89 % of the total sample) and 4,944 have not.

Table 1. Emigration Status

Emigration	Frequency	Percentage
Not Present	4.944	74.11
Present	1.727	25.89
Total Observations	6.671	100.00

With respect to remittances, there are two basic questions asked in the survey that have been used to implement a dummy variable which accounts for the presence or absence of

remittances: (1) Has your family received remittances in cash during the last year from your family members living abroad?; (2) Has your family received remittances in kind during the last year?

As noted in table below (Table 2), only 700 families have received remittances (in kind, in cash or both of them):

Table 2. Remittance received (in cash or/ and kind)

Remittance	Frequency	Percentage
Not present	5.971	89.51
Present	700	10.49
Total Observations	6.671	100.00

There is basic information of interest for the sample into analysis that should be treated in order to implement a comprehensive framework of the model we are going to build. From the random selection of the 6,671 households, the geographical distribution of the sample is divided between four regions: central region, mountain region, coastal region and Tirana (the capital). Referring to table 3, 44,4% of the households are located in the Central region of Albania, 1936 families (29% of the sample) live in the Coastal zone, 1128 interviewers live in the Mountains (16.9% of the sample) and the remaining part, only 9.7% lives in Tirana, the capital of Albania (648 families).

Table 3. Regional distribution of the sample

Regions	Frequency	Percentage
Central	2959	44.4
Coastal	1936	29.0
Mountains	1128	16.9
Tirana	648	9.7
Total Observations	6671	100.00

Apart from the regional distribution of the sample, more than half of the households (54.1%) are located in urban areas (the rural residents present 45.9% of the total number of families). Table 4 reflects the distribution of the households living in urban/rural area.

Table 4. Rural/ Urban areawise distribution of the sample

Living in Urban/Rural area	Frequency	Percentage
Urban	3608	54.10
Rural	3063	45.90
Total Observations	6671	100.00

With regard to the information made available from the section of Migration, the table below (table 5) explains that from 1727 families that have experienced the migration phenomenon, the total number of members living abroad is 1998. 44.4% of the reduced sample is presented from 887 households living in Greece, followed by 37.7% living in Italy at the moment of the interview and the remaining percentage (17.9% or 357 individuals) was living in different other countries. The high percentage of Albanian households living in Greece and Italy is an acceptable and a logic situation since these countries are not so distant from Albania and because of historical and economical background of the country.

Table 5. Destination Country

Country Destination	Frequency	Percentage
Greece	887	44.39
Italy	754	37.74
Kosovo	4	0.20
Macedonia	5	0.25
Other	348	17.42
Total Observations	1.998	100.00

In order to take a further look into this filtrated sample, it is important to take into consideration some aspects of our emigrants (table 6):

Table 6. Emigrants' characteristics

Emigrants' characteristics	Observations	Means	Standard Deviation
Age	1998	34.14	9.028
Gender	1998	1.34	0.474
Highest grade completed –Level	1998	2.11	1.692
Language Knowledge -English	1998	2.52	0.757
Language Knowledge –Italian	1998	2.08	0.929
Language Knowledge –Greek	1998	2.11	0.960
Language Knowledge -Macedonian	1998	2.98	0.174
Language Knowledge –French	1998	2.95	0.299
Language Knowledge –German	1998	2.95	0.310
Language Knowledge –Other	1998	2.98	0.194
Currently Working	1998	1.34	0.474
Remit to Household during the last year	1998	1.560	0.496
Remit in Kind	1998	1.88	0.323

From the entire sample of individuals living abroad, male remains the predominant group involved into this experience. In fact, from the dataset, it can be easily determined that 1316 (65.9%) are males and 682 (34.1%) are females. The mean age of the households seems to be a young age (34.14 years old) and the competencies on new languages are less than adequate (1 representing "fluent at speaking the language", 2 representing "somehow competent" and 3 "no knowledge of it"). Another characteristic that our table demonstrates is that the majority of the individuals involved in migration (actually 66% or 1318 individuals) were actually working in the country where they were located (1 signifying "Currently working", otherwise 2).

In the same way, 1 applies if individuals have sent remittances in cash/kind during the last year and 2 if not. There were 875 (43.8%) individuals who confirmed the transfer of remittances in cash during last year and in the meantime 236 (11.8%) individuals had sent remittances in kind.

Since we want to examine the impact of remittances on subjective well-being, it is of important interest to study in a detailed way the typical questions included into the module of subjective well-being. We have reserved the presentation of these variables for the next section as we explain the implementation of the Propensity Score Model making use of the available Albanian's micro-dataset.

Model implementation

Our main focus in this study is to learn more about the possible influence of remittances on the households' well-being. As it was previously discussed and analyzed, the model used in our research is based on the propensity score matching. Furthermore, before implementing the model it is important to examine the variable which explains the well-being level of our households. The dataset made available from the ISTAT staff gave us the possibility to analyze a sample of 6671 households. In the context of our study, one of the modules "Subjective Poverty" takes particular interest since it explains the general situation of our households from a subjective perspective. There are two questions at the center of attention. They are both used to reflect the well-being level of the households. Primarily, the households are asked if they "are fully satisfied with current life". The answer was divided in some categories, respectively: Fully satisfied=code 1, Rather satisfied=code 2, Less than satisfied=code 3, Not at all satisfied=code 4, Don't know=code 5 and Refuse to answer=code 6. In fact this variable was later modified and converted into a binary variable "Living_standard_good" with "yes" (code=1) if households responded to the previous question with "Fully satisfied" or "Rather satisfied"or "no" (code=0) if households responded with "Less than satisfied" or "Not at all satisfied". Households that refused to answer the question or did not know the answer were excluded from our original

sample being justified by the fact that their presence would be a potential risk for the construction of our model.

The second question that was used for this research was "How was your life during the last three years?" In this case there were answers divided into seven categories; "Improved a lot"=code 1, "Somewhat improved"=code 2, "Remained the same"=code 3, "Somewhat deteriorated"=code 4, "Deteriorated a lot"=code 5, "Don't know"=code 6, "Refuse to answer"=code 7. This question was used to derive two binary variables from it. The first one is "Living_Standard_Improved" which takes the value of one if households declared that their life improved a lot or somewhat improved and zero otherwise. The next variable is "Living_Standard_Worse", taking value of one (households confirmed that their life somewhat deteriorated or deteriorated a lot) or 0 (life improved a lot or somewhat improved or remained the same). Similarly, from both these variables we cancelled all those observations that did not give an answer or did not respond to the question because they do not know the answer. Therefore, we created three dummy variables: "Living_standard_good", "Living_Standard_Improved", "Living_Standard_Worse" and as there are some households excluded from the whole sample, the final sample under examination we made use of consisted on 6280 families.

There were other modules available which gave us information regarding expenditure and consumption that could be used to measure the welfare level of the sample. The variables we generated are a measure of the welfare level with the difference that they are described from the point of view of the interviewer. Nevertheless, it does not mean that this way of measure is totally matched with the realistic situation and dynamism of the family. Very often the answer we give to an interview question, as we are not rational human being all the time, is influenced from particular conditions in our life which can potentially create distortion in the response. We should admit that subjective welfare analyzed from this point of view consists on a weakness force and becomes a problem when one of our main aims is to give a realistic measure of the households' well-being level.

The following table (Table 7) mirrors a descriptive statistics for subjective well-being outcome variables. The information in the second column features the entire sample and the next two columns explain the variables by remittance status (subsample with households without remittances and subsample with households receiving remittances).

Table 7. Descriptive statistics for subjective well-being outcome variables

Variable	Total Sample Mean	Households without remittances Mean	Households with remittances Mean
Living_St_Worse	0.273	0.279	0.222
	(0.445)	(0.448)	(0.416)
Living_St_Improved	0.235	0.228	0.295
	(0.424)	(0.419)	(0.456)
Living_St_Good	0.305	0.296	0.382
	(0.460)	(0.456)	(0.486)
Number of Observations	6280	5616	664

Note: In parenthesis is given the value of standard deviation for each variable.

It is noticeable from the table above that households with remittances are presented with results that slightly differ from households that do not receive remittances. If we analyze the variable "Living_St_Good" and "Living_St_improved" households with remittances are more likely to confirm that their standard of living is good or has improved during the last three years. The mean values of these two variables are higher for households with remittances in comparison with those that do not receive remittances. The opposite happens when we take into consideration the last variable "Living_St_worse". However, it is logical that we perceive less value means for the category of households with remittances. This group of families is less susceptible to say that their standard of living has deteriorated during the time.

From the three variables that we formulated, two of them derive from a question which contains information related to the intertemporal variation of the well-being conditions. However, the data explaining these variables and all the other variables used in the regression model are typical cross-sectional data. The following part describes the way we implemented our Propensity Score Matching Model and the results that were achieved.

Implementation of the Propensity Score Matching

As we are going to understand the possible effect of remittances on the variables that explain the well-being level, it is important to first develop a further analysis of the variables that are used in the propensity score matching. There is a list of independent variables which we considered as the most feasible characteristics of the individuals in our sample. These variables were also conditioned to respect the balancing test of the propensity score. The independent variables that were infiltrated into the propensity score matching model are presented in the table below (Table 8), which were used for the *probit regression* applied during the estimation of the propensity score.

Table 8. Summarization of the independent variables used into the probit regression model

Variable	Total Sample Mean	Households with Remittances Mean	Households without Remittances Mean
Urban	0.460	0.501	0.455
	(0.498)	(0.500)	(0.498)
Head_household_Read	0.859	0.771	0.870
	(0.347)	(0.420)	(0.336)
Head_household_Write	0.862	0.777	0.872
	(0.344)	(0.416)	(0.333)
Under_6	0.213	0.085	0.228
	(0.409)	(0.280)	(0.419)
Over_65	0.311	0.477	0.292
	(0.463)	(0.499)	(0.454)
Work_Public_Sector	0.153	0.063	0.164
	(0.360)	(0.243)	(0.370)
Over_18_under_65	0.913	0.757	0.931
	0.(281)	(0.428)	(0.252)
Household_owns_agricultur_Land	0.548	0.477	0.557
	(0.497)	(0.499)	(0.496)
Work_Private_Sector	0.356	0.144	0.381
	(0.765)	(0.518)	(0.785)
Work_Private_Individual	0.055	0.030	0.058
	(0.228)	(0.171)	(0.233)
Primary_School	0.557	0.661	0.545
	(0.496)	(0.473)	(0.497)
High_School	0.327	0.278	0.333
	(0.469)	(0.448)	(0.471)
University_Degree	0.111	0.058	0.118
	(0.315)	(0.235)	(0.322)
Post_Master_Degree	0.002	0.001	0.002
	(0.051)	(0.038)	(0.053)
Central_Regions	0.437	0.393	0.443
	(0.496)	(0.488)	(0.496)
Coastal_Region	0.292	0.453	0.273
	(0.455)	(0.498)	(0.445)
Mountain_Region	0.171	0.081	0.183
	(0.378)	(0.273)	(0.387)
Tirana	0.096	0.072	0.099
	(0.295)	(0.259)	(0.299)
Ratio Female/Male	1.170	1.207	1.165
	(0.824)	(0.708)	(0.837)
Total Observations	6280	664	5616

Note: In parenthesis is given the value of standard deviation for each variable.

The variables included into the regression are created to explain the characteristics of our sample. Sometimes, these variables are explanatory at the household level and in some other cases at the individual level (referring to the characteristics of the head of the household). The list of the variables used for this regression consists on "urban" which is a dummy variable that explains if the household is living in a rural area (code=0) or in an urban area (code=1) and from the original variable "region" which was a categorical variable, were created four new dummy variables: "Coastal Region", "Tirana", "Mountain" and "Central Region". "head_household_read" and "head_household_write" are two dummy variables which take value of one in the case the head household has at least an average capability to read a newspaper/ to write a letter and zero otherwise. Apart from these two variables, there are also four additional dummy variables related to the educational level of the head household. These variables are described as: "Primary School" which took a value of 1 if the head household had achieved a maximum of 8-years of education and zero otherwise, "High School" with value equal to 1 if the head household had achieved an educational level equal to the gymnasium (and 0 otherwise), "University Degree" with value signed equal to 1 if the head household had achieved a degree equivalent to the bachelor/master title and "Post Master Degree" with value equal to 1 if the head household had achieved an additional degree after the university formation. The other variables; "under_6" presents a dummy variable with value of one if there is present in the family at least a household member with age under 6 years old, "over_18_under_65" is another variable with value of one if there is present in the family at least a household member with age over 18 and under 65 years old and "over_65" is also a dummy variable with value of one if any of the members is at least 65 years old and zero otherwise. There are also variables explaining the occupation positions of the household members. The variables: "work_public_Sector", "work_private_sector", "work_private_individual", take value of one if at least one of the household members is involved into the occupation category and zero otherwise. The last variables are: "own_agricultur_land" takes value one if the household owns a piece an agricultural land and "ratio_female/male" was a variable created from the ratio of the number of females and males at a household level.

The probit regression is essential to the analysis of the variables that can explain the probability of the receiving remittances or not. As the independent variables were previously described, here it is applied the probit model which explains the remittance variable as a function of all the other explanatory variables. The following table (Table 9) presents the results achieved from the probit regression. The results were the same in all the three cases (for St_living_good, St_living_improved, St_living_worse) we applied for the propensity score matching model.

Table 9. Probit Regression Outcome

Remittance_presence	(PROBIT REGRESSION) Coef.	(MARGINAL EFFECTS OF PROBIT REGRESSION) Coef.
Urban	-0.003 (0.064)	-0.005 (0.010)
Head_household_read	-0.121 (0.115)	-0.020 (0.208)
Head_household_write	0.083 (0.118)	0.133 (0.182)
under_6	-0.486*** (0.069)	-0.066*** (0.007)
over_65	0.100* (0.056)	0.167* (0.009)
work_public_sector	-0.378*** (0.084)	-0.052*** (0.009)
over_18_under_65	-0.510*** (0.077)	-0.104*** (0.019)
household_owns_agricultur_land	-0.168*** (0.063)	-0.027*** (0.010)
work_private_sector	-0.490*** (0.076)	-0.066*** (0.008)
work_private_individual	-0.328*** (0.115)	-0.045*** (0.013)
University_Degree	-0.143 (0.096)	-0.022 (0.013)
High_School	-0.048 (0.054)	-0.007 (0.008)
Post_Master_Degree	0.116 (0.510)	0.020 (0.947)
Central_Region	-0.127 (0.092)	-0.020 (0.015)
Coastal_Region	0.264*** (0.091)	0.045*** (0.016)
Mountain_Region	-0.427*** (0.110)	-0.059*** (0.127)
Ratio_female/male	0.102*** (0.028)	0.016*** (0.004)

-Second column: Probit model used to analyze the probability of receiving remittances as a function of the characteristics at the individual and household level. Third column: Marginal effects of the probit regression.

-In parenthesis is given the value of standard deviation for each variable.

-Note: ***, ** and * indicate significance of parameters at 0.01, 0.05 and 0.1 respectively.

Not all the variables are significant determinants of receiving remittances. The presence of households with members less than 6 years old, show a negative impact on the dependent variable. The coefficient of the variable "under_6" is -0.486 and even if we set our alpha level to 0.01 it is statistically significant given the other explanatory variables that are in the model. The presence of the household with members less than 6 years old in contrast with households without members less than 6 years old decreases the probability of admitting the presence of remittances in this family with a magnitude of 6.6%. The other variables with relevance for the presence or not of the remittances are: "over_18_under_65" and "over_65", which have a different impact on the presence of the remittances. If the first variable has a negative impact on the presence of remittance with and incidence of 10.4% at 1% significance level, the second one has a positive impact, but it is considered as a significant variable only if we apply for alpha equal to 0.10. The marginal effect of the variable "over_65" shows that the (conditional) probability of the remittance' presence increases by 16.7% when the household is composed with members older than 65 years old, holding all other regressors constant at some values. It seems that families with older age components are sustained from their members involved into migration. In fact, this is a quite logical explanation which can be argued through the connection that migrants have with their home country during the time they live abroad. The mean age of the migrants in our dataset is 34 years old which can be interpreted as a young age but at the same time it means that the old age members staying home represent a responsibility for their relatives living abroad. In the meantime, since Albania is a country in transition, we should admit that until recent years it was discovered as a society with family members' strongly related with each other.

For variables: "work_public_Sector", "work_private_sector", "work_private_individual", and "own_agricultur_land, there is a clear evidence of their statistical significance level with a negative effect on the probability of receiving remittances. The negative impact of these variables can be explained by the fact that families involved into these categories of work are more independent economically and do not have higher necessity of being sustained with assistances such as remittances help.

"Coastal Region" and "ratio_female/male" are two other potential determinants of remittances' presence with positive impact. A reasonable explanation of the former variable result is supported from the inviting distance between this region of the country and the other countries which are the main destinations for the Albanian migrants. Regarding the other variable, "ratio_female/male", the result is a confirmation of the help received in remittance forms especially for families comprised with a higher number of female members with respect to male members. As migration is undertaken from a percentage of males which is greater than

the percentage of females, it is reasonable that remittances serve as protective pads for the families living in Albania. Sometimes the main reason why households' members are involved into the migration event is explained as an additional possibility for the family to get wealthier through remittances. The last significant variable "Mountain" is a regressor with a negative impact on the presence of remittances. Its influence is higher than the two previous variables (the value of its marginal effect is 5.9%).

Explanatory variables related to the academic formation of the head household such as "head_household_read", "head_household_write", "Primary School", "High School", and "Post Master Degree", differently from other research studies made for other countries, apparently turn to be irrelevant for the determination of receiving remittances or not. Andersson found in her studies applied to the Ethiopia case that education levels were positively correlated with the presence of remittances. Additionally to this, the magnitude of the education level on receiving remittances was explained through an inverted U-shape relationship. In the case of Albania, there is a clear different conclusion from the results obtained from Andersson. Anyway, this examination is a confirmation of the study Cattaneo applied in Albania during 2010. Cattaneo explained the absence of remittances' influence on education due to the possible result of low returns for education.

The remaining variables applied into the regression; "urban" and "Central Region", present an inconsistent level of relevance in the explanation of remittances.

Once we clarify the results obtained from the *probit regression* we can conclude the last process which consists of matching the households that belong to the treatment group with households of the control group (that have similar characteristics with the former one) based on the probability of receiving remittances which was achieved previously. What we obtain in the final step of the propensity score matching model is just the average difference in the dependent variables (for St_living_good, St_living_improved, St_living_worse) between the treatment and control group. The following tables (Table 10 and Table 11) present the final result of the propensity score matching. We first illustrate the Kernel Matching method which was described at the beginning and next to it the ATT Nearest Neighbor Matching method.

Table 10. ATT Kernel Matching method

	Number of treatments	Number of controls	ATT	Standard Errors	t
Living Standard Good	664	5603	0.108	0.019	5.683
Living Standard Improved	664	5603	0.091	0.021	4.375
Living Standard Worse	664	5603	-0.060	0.021	-2.837

The results presented in Table 10 are an examination of the results for the subjective well-being measures using the Kernel estimator and the conclusions turn to be important and significant for all the three cases. It is very crucial for this study to note that all variables are statistically significant with the highest level (1 percent). Starting with the first analyzed variable "Living_St_Good", the estimation through STATA software reveals that households which experience the presence of remittances have a higher probability to confirm that their standard of living is good. Our empirical results demonstrate that receiving remittances from abroad increases the probability of "Living_St_Good" and "Living_St_Improved" with 10.8 and 9.1 percentage points, respectively. On the contrary, by taking into consideration the third variable "Living_St_Worse", when households are in front of the question "has your life deteriorated during the last three years", the treatment group (households with remittances) is 6% less disposable to accept that their conditions have deteriorated.

Applying the other estimator, Nearest Neighbor Matching Model, we obtain a confirmation of the previous results achieved through the Kernel Matching method. The analysis is analogous with the output of table 10.

Table 11. ATT Nearest Neighbor Matching method

	Number of treatments	Number of controls	ATT	Standard Errors	t
Living Standard Good	664	2123	0.116	0.025	4.582
Living Standard Improved	664	2123	0.090	0.021	4.250
Living Standard Worse	664	2123	-0.052	0.023	-2.259

Note: Radius Matching Method and Stratification Method were also applied during the empirical work and their results concluded to be the same.

CONCLUSIONS

Migration is a phenomenon strongly related to the Albanian population and the reality of the country during its last 25 years mirrors a dynamic development of this phenomenon. Referring to the world development indicators of the World Bank remittances have been regarded during all these years as a protective instrument for the Albanian` economy. Even if remittances expressed as percentage value of Albania`s GDP have decreased through the last years, its stream has never been lower than 8.3%. This fact makes Albania one of the most potential receivers of remittances in Europe.

The paper has used a large nationally-representative household survey from Albania to analyze how the receipt of international remittances affects the well-being level of the households. The welfare level is measured by the extent of the subjective self-assessment of

the same households. After having preponderated possible methodologies which could be most helpful for our study "the propensity score matching approach" was applied for this research. There are some key findings that emerge from this study.

Education formation of the head households, differently from other case studies, is not a statistical significant characteristic which can condition the presence of remittances. A crucial result is that the Albanian households involved in different economic activities are more likely to be economically independent and do not have higher necessity of being sustained with assistances such as remittances help .Additionally, families with higher number of females are focused on the presence of remittances as they are considered strong protective weapons of their well-being. Household's members of different ages have a different impact on the presence of the remittances. As households with young members, between 18 and 65 years old, present an active participation force in the economic life, they have a negative impact on receiving remittances. On the contrary, families with old age members, over 65 years old, seem to be very dependent on receiving potential remittances.

Comparing households with and without remittances, which show other similar observed characteristics, we can conclude that households with the presence of remittances perceive having a better life in comparison with households that do not receive remittances. The same group reflects the conviction that has been able to experience more improvement in their well-being level when compared to the households that did not receive remittances. In conclusion, this research admits the positive impact of remittances on the welfare of the Albanian` households.

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