

Erasmus University Rotterdam
Erasmus School of Economics
Master Thesis International Economics



Remittances and the unwillingness to work in Albania

Student: Dorela Beqaj

Student number: 372369

Supervisor: Dr. Sacha Kapoor

Date: 10 July 2017

Abstract

As in many developing and emerging economies, remittances account for a considerable share of GDP in Albania. This study investigates on the impact that remittances have in the work incentives for remittance-receiver households, by using micro data for Albania in years 2009 and 2014. There results of Pooled OLS and Instrumental Variables indicate that remittances positively affect the unwillingness to work for remittance-receiver households. These findings are helpful for creating a clearer idea regarding the impact that remittances have in individual's (un)willingness to work in Albania.

Contents

1. Introduction.....	5
2. Literature Review.....	7
3. Background information.....	9
3.1. Remittances and Labour force Participation.....	9
3.2. Post-communist migration.....	11
3.3. Cultural context.....	13
4. Data.....	13
5. Methodology.....	18
6. Estimations.....	21
7. Instrumental Variable Approach.....	27
7.1. The Instruments.....	27
7.2. First Stage Results.....	29
7.3. Reduced Form Estimates.....	30
7.4. Second Stage Results.....	32
8. Problems with the exchange rate instrument.....	34
9. Conclusions.....	38
10. Bibliography.....	40
11. Appendix.....	43

List of Figures and Tables

Figure 1. Remittance inflows in Albania, years 2002-2014.....	9
Figure 2. Remittances/GDP ratio.....	10
Figure 3. Labour Force Participation (percentage).....	11
Table 1. Sampling in terms of Districts.....	14
Table 2. Summary Statistics.....	15
Table 3. Pooled OLS of Remittances in Unwillingness to work.....	23
Table 4. Pooled OLS of Number of Household Members in unpaid job.....	25
Table 5. Pooled OLS of Remittances in Unwillingness to work, Restricted Sample.....	26
Table 6. First Stage Results.....	29
Table 7. Reduced Form Results.....	31
Table 8. Second Stage Results (No PSU dummies).....	33
Table 9. Second Stage Results (with PSU dummies).....	35
Table 10. Correlation between Remittances and Exchange rate.....	37
Table 1. Appendix, Hausman Test for endogeneity.....	43

1.Introduction

The purpose of this study is to investigate in the impact of remittances in the (un)willingness to work in Albania. There are several reasons behind the choice of this issue as a research question. First of all, remittances are one of the main components of the GDP for many developing and emerging economies. World Bank statistics show that in 2014 the global estimated remittance flows were \$580 billion, and the number of international migrants in 2013 was 247 million (World Bank, 2017). Considering that migration and remittances are an important factor in many of developing and emerging countries' economies, many researchers find it useful to study the impact that remittance inflows have in these countries, in both microeconomic and macroeconomic terms. As it will further be presented in the literature review section, there is a broad discussion among the researchers regarding the impacts that remittances have in different aspects of economic indicators and development, in the remittance-receiving countries. Regarding the effects that remittances have in the labour supply decisions in the receiving countries, these studies suggest that in most of the cases remittances are associated with a decrease of the labour supply, and increase of the reservation wages. Based on these results, one can expect that remittances will affect positively the unwillingness to work, by decreasing working incentives of the remittance-receiving households.

The first reason why I use Albania as the country on which the research question will be developed, is due to the data availability for Albania. I use micro data from the Household Budget Survey (HBS) for years 2009 and 2014, which are obtained in collaboration with the Institute of Statistics of Albania, and are not available online. Another reason why I consider this research question to be applicable for the case of Albania is that Albania is one of the countries that has faced high migration rates since after the fall of communist system, and nowadays remittances play a significant role in the country's economy. This is primary reflected by the share of remittances in the GDP over years. The average share of remittances on GDP form years 2005 to 2014 is 8,91% (Bank of Albania, 2017). The considerable share that remittances have on Albania's GDP, raise some natural concerns regarding the impact that remittances have on different aspects of economic development.

In this study, I aim to investigate the impact that remittance inflows have on the unwillingness to work for the remittance-receiving individuals. The starting point of the choice of this research question are the high unemployment rates that Albania has been facing over years.

These unemployment rates during the time period 2007- 2016, have varied from 13,2% to 17,9% (INSTAT, 2017). These high rates of unemployment are an indicator of a problematic labour market and unhealthy economy. Therefore, taking these numbers into account, and also the fact that many households have remittances as an additional source of income, it is interesting to observe whether remittances affect in the increase or decrease of the (un)willingness to work for the individuals belonging to these households. The unique feature of the research question developed in this study, is the fact that unlike most of the previous studies, here is investigated the impact of remittances in work incentives (unwillingness to work), instead of the participation in labour market.

In order to assess the effects of remittances in the unwillingness to work, I use pooled OLS with and without controlling for month and Primary Sampling Units fixed effects, and further proceed with an Instrumental Variable approach, as an attempt to find a causal effect and avoid endogeneity problems and potential omitted variable bias. The results of the pooled OLS indicate that an increase of the amount of remittances with one standard deviation, is associated with an increase with 0.009 units of the unwillingness to work. This coefficient is robust and statistically significant after the inclusion of month and PSU dummies. Also, this coefficient is robust while estimating the restricted sample, and the magnitude is slightly decreased in 0.008. In the case of IV estimation, the magnitude of the coefficient (while using strong instruments) is higher and reaches the value of 0.026. However, this coefficient is not robust after the inclusion of PSU dummies in the regression. The insignificance of the coefficient in the later case, may be related with possible problems that are related to the exchange rate instrument. However, despite the limitations of this study, the results indicate that remittances positively affect the unwillingness to work, by reducing working incentives.

This paper is organized as following: section 2 presents the literature review, section 3 provides background information about Albania in general, as well as emigration and remittances in Albania, section 4 describes the data, section 5 presents the methodology used, section 6 shows the results and their interpretations, section 7 elaborates on limitations and possible explanations about the problems, and section 8 concludes.

2. Literature Review

In general, there cannot be achieved a broad consistency among the researchers on a certain positive or negative impact that remittance inflows have on the remittance-receiving countries. There are studies that show supportive evidence on the positive impact of remittances in the receiving countries. Usually they find that remittances are helpful in decreasing poverty and increasing development of the receiving countries.

However, several studies have concluded that besides the positive effects, some negative impacts are also present in both micro and macro terms for the receiving countries. The studies that highlight the positive effects of remittances, find these effects mainly in terms of poverty alleviation and increasing development mostly in developing and emerging economies. For instance, (Gupta, Pattillo, & Wagh, 2007) show empirically that remittances are helpful to alleviate poverty and promote financial development in sub-Saharan Africa. In a macro-perspective, (Giuliano & Ruiz-Arranz, 2005) use a cross-country dataset of 30 developing economies for the time period 1975-2002 and find that in less countries that were less financially developed, remittances promoted growth. In their study for six remittance-receiver countries including Albania, (Meyer & Shera, 2016) use a fixed effects approach and find that remittances positively affect GDP growth.

On the other hand, there are studies that confirm some negative aspects of remittance inflows in the receiving countries. These are related to the exchange rate appreciation, increase of the non-tradable sector and consumption of foreign goods. Moreover, evidences presented in some studies suggest decrease on the labour supply of the remittance-receiver households, who tend to increase leisure, decrease labour, and increase their reservation wages, given remittances are a reliable additional source of income for them. (Acosta, Lartey, & Mandelman, 2007) show for the case of El Salvador that remittance inflows are accompanied with the Dutch disease, which is associated with exchange rate appreciation and an increase of the non-tradable sector, relative to the tradable sector. Furthermore, they show that remittance inflows decrease labour supply. In a study for Mexico, (Airola, 2008) finds that remittances affect labour supply participation decisions, by reducing the hours worked of the head of the households. This magnitude of this effect is larger for females. The same effect is also found in the paper of (Kim, 2007) ,who investigates the case of Jamaica, a remittance-receiver country and faces high unemployment rates over years. The households who receive remittances are found to

have higher reservation wages, which affects their labour participation decisions. In their study for temporary migration in case of Philippines, (Rodriguez & Tiongson, 2001) find that migration reduces the labour supply of non-migrant family members, and the effects vary across gender, differences in education, and family ties among the households.

Other studies investigate the impact of migration and remittances particularly for Albania. (Konica & Filer, 2009) use survey data from year 1996 and observe the link between remittances and starting an individual or family enterprises, and the effect of remittances received by the households in their labour force participation. Their findings suggest that remittances supported the development of private enterprises, and reduced labour supply of females. Another early study by (Gedeshi, 2002) presents descriptive statistics based on the responses of the interviewed Albanian emigrants mainly in the neighbouring countries. One of the main findings of this study is that remittances are mainly used for “financing the immediate necessities of the family in the homeland”, and a much smaller share of the respondents aimed to use remittances as a “source for financing their own investment in Albania.” This indicates that remittances played a major role in reducing poverty and improving living conditions, rather than being used for investment purposes. Furthermore, the author elaborates on the trends of remittance inflows and the factors that influence these trends, but not all the factors can be related to the actual environment, since there have been many changes in the economic and social environment during the years. In a more recent empirical study, (Dermendzhieva, 2010) investigates on the impact that remittances have in labour supply in Albania. The author uses survey data from the Living Standards Measurement Survey 2005 in Albania, and controls for the endogeneity issues by using Instrumental Variables. The IV results of this study suggest that remittances have a negative and significant effect in the probability of working for married females, and males in the groupage 46-60 years old.

Overall, these studies suggest that remittances are helpful on alleviating poverty and developing some sectors of the economy, such as small household enterprises, but there should be paid attention to the negative impacts as well, in order to be able to design effective policies that may help to decrease the negative effects.

3. Background information

3.1. Remittances and labour force participation

According to World Bank Development Indicators, in terms of income, Albania is classified as an upper-middle income country (World Bank, 2016). In terms of the World Economic Situation and Prospects classifications, Albania is classified as economy in transition (United Nations, 2014). By definition, a transition economy is known as “an economy that is changing from being one under government control to being a market economy (Cambridge Dictionary, 2017).” Starting from the early 1990s, remittances have been and continue to be a reliable source of income for many households in Albania. A large fraction of people has migrated during this period mostly in neighbouring EU countries such as Greece and Italy and has continuously sent money to their families and relatives back home. In a macroeconomic perspective, this is reflected by the share of remittances on GDP, which has varied from 12 to 5,64 percent of the GDP on the last ten years (Bank of Albania, 2017).

Considering these numbers, remittances appear to be an important component of the GDP of Albania, implying that they might play a significant role on the budget of many households. In figure 1. there are presented the remittance inflows in Albania (in million Euros) during the time period 2002-2014. As shown in the figure, the total amount of remittance inflows reached the maximum values in 2007 with the total amount of remittances of 951.2 million Euros, whereas the minimum was in 2013 with the corresponding value of 543.8 million Euros.

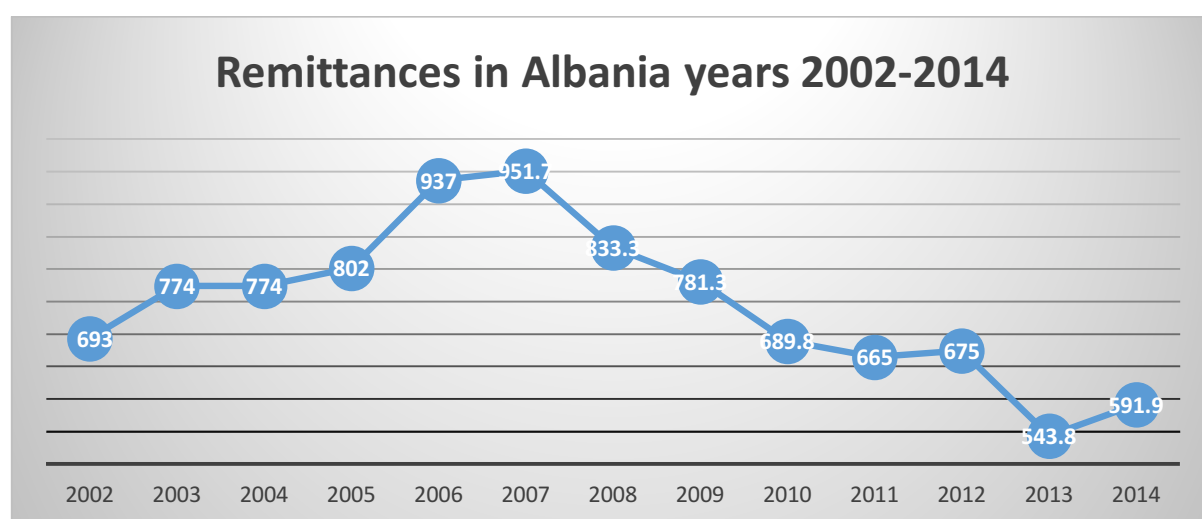


Figure 1. The y-axis represents the amount of remittances flows in Albania (million Euro) and the x-axis represents the years. Data Source: Bank of Albania, author's presentation.

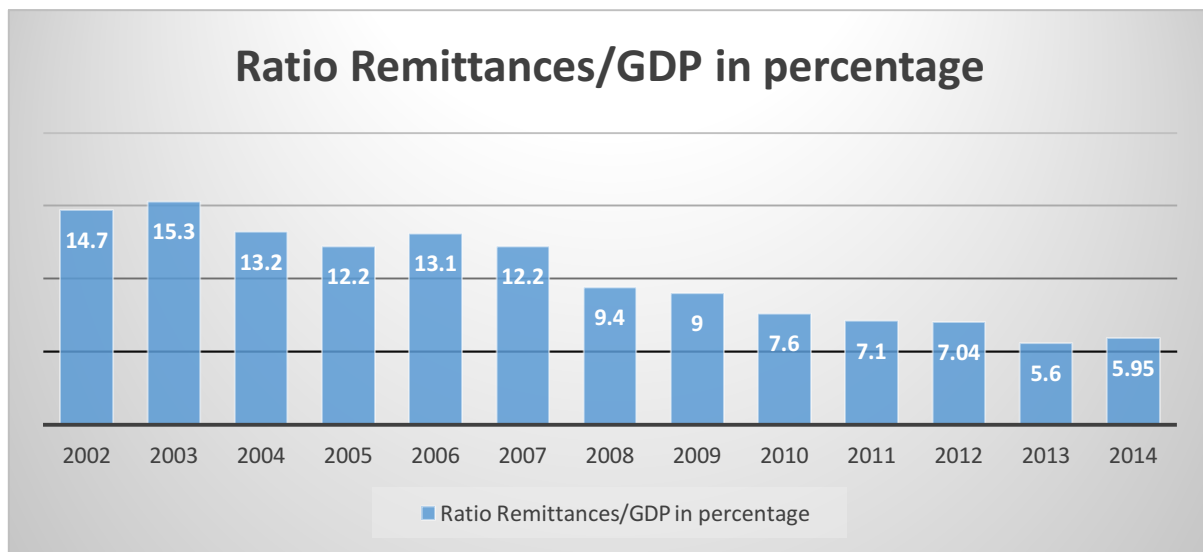


Figure 2. The y-axis represents the ratio of remittance inflows over GDP in Albania (in percentage). The x-axis represents the years. Data Source: Bank of Albania, author's calculations.

Besides the presentation of the amount of remittance inflows in Albania, it is interesting to observe how these numbers are reflected relative to GDP. Therefore, in figure 2., there are presented the ratios of remittances over GDP from year 2002 to 2014, expressed in percentage. In contrast with the previous figure, from 2003 the trend of the ratio is decreasing up to 2005. In 2006 remittances account for 13,1% of GDP, and this ratio continues to decrease and reaches the minimum value in 2013, which is 5,6% of GDP. In 2014, the ratio starts to increase, following the same trend as the amount of remittance inflows presented in figure 1. The data presented in this figure demonstrate that remittance inflows not only are present as high amounts of monetary inflows that Albanian economy receives every year, but also they account for a considerable share of GDP, with a minimum percentage of 5,6% and a maximum of 15,3% of GDP.

The other side of the research question is the unwillingness to work, which, in macroeconomic terms can be reflected by the participation in labour force. Figure 3. presents the labour force participation rates for years 2007-2016 (INSTAT, 2017). The data presented in the graph show that there is a high volatility on the labour force participation rate from one year to another. An example of this volatility is the difference between the labour force participation rates in two subsequent years: 2010 and 2011 where this rate has been increased with 6%. Also, from 2012 to 2013 the labour force participation rate has been decreased with 5,6%. The fact that the

labour force participation rates have the tendency to incur considerable changes even in short periods of time, indicates that labour force participation can be easily influenced by factors that are directly related to the (un)willingness to work. On the other hand, considering that remittances account for a considerable share of Albania's GDP over years, it is interesting to observe whether the amount of remittances received by the households affects their (un)willingness to work, which consequently affects the participation on the labour force. Before proceeding with data, methodology, and empirical findings, in the next subsections I will briefly elaborate on historical and cultural factors that have affected international migration and remittance inflows in Albania.

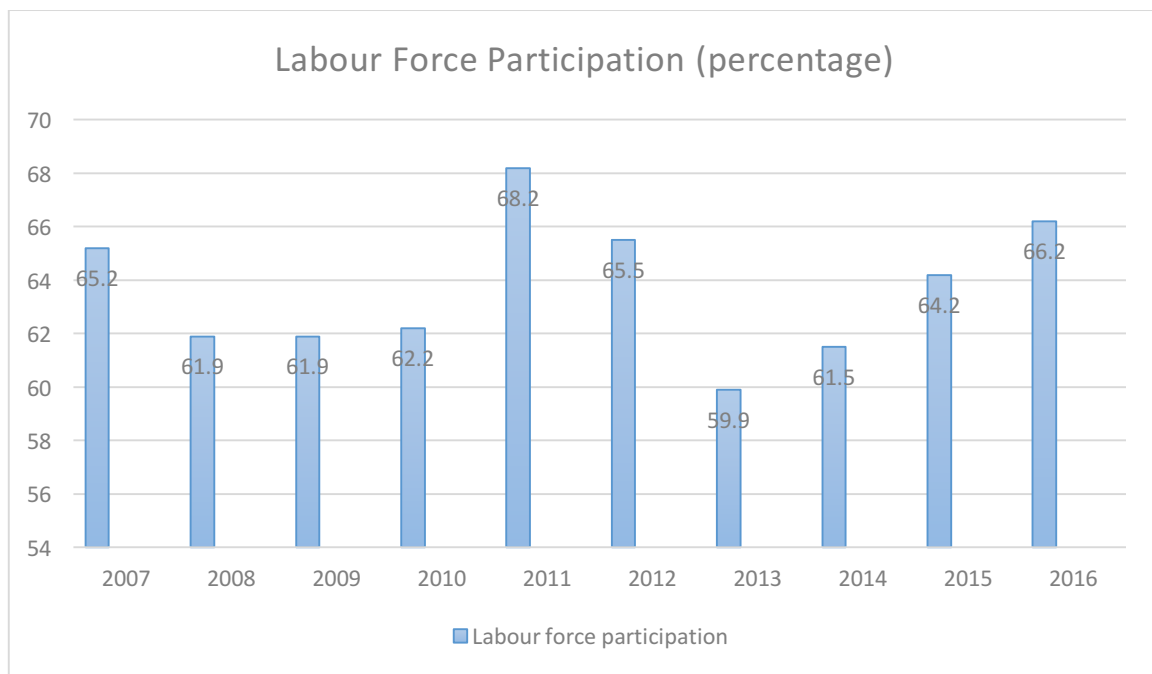


Figure 3.: Labour force participation rate in percentage. X-axis represents the years, Y-axis represents the percentage of the labour force participation rate, data source: INSTAT, author's presentation

3.2. Post-communist migration

The communist regime took place in Albania for almost 50 years from 1945 to 1990. One of the features of the regime was the prohibition to travel, migrate, and even become influenced by the western culture. After the fall of the communist regime, Albania was facing the challenges of transition from a centralised economy, to an open market economy, which was accompanied by poverty, unemployment and many other economic and social difficulties. Therefore, influenced by the western media, and eager to seek for a prosperous life Albanians

massively migrated mainly in the neighbouring countries such as Greece and Italy, taking advantage from the geographical proximity of these countries with Albania (Carlo Azzarri, Calogero Corletto, 2009).

The first episodes of post-communist migration were in 1990 and 1991. In 1990 around 5000 Albanians who wanted to leave Albania, had the refugee status through the Embassies of some of the Western European Countries. Afterwards, almost one year later, a large number of nearly 26000 people who desperately wanted to live and work abroad, went in Italy. They arrived in Italy in overcrowded ships via the Adriatic Sea, and the Italian government allowed them to reside there by giving them the refugee status. Meanwhile, for many those who did not choose migration as a way to improve their lives, things got deteriorated with the arise of the “pyramid saving schemes”. Taking advantage from the fact that most of the people were not adequately informed regarding the way that the market economy, financial markets and investment schemes worked, the entrepreneurs that created these schemes deceived the Albanians. They claimed that saving money in these schemes would allow people to receive very high interest rates on their savings. The interest rates reached extremely high values in 1996 up to 200% in the months prior to their collapse. Being attracted by the very high interest rates, approximately 2 million people put their savings (many of them even sold their houses or properties) in these defrauding schemes. The total amount of these savings was around 2 billion dollars. After more than three years of operation, these firms collapsed and all the people who had their deposits in these firms lost their money. This created a chaotic situation inside the country, leading to economic and political instability accompanied by civil conflicts (Jarvis, 1999). Under this desperate situation, many people saw migration as a way to resolve their problems and escape poverty. Almost 70000 Albanians migrated in that period. The migration flows were present even in the subsequent years (Bajraba & Bajraba, 2015).

According to the United Nations Statistics’ on International Migration, until the year 2000 there were 822,676 migrants whose origin country was Albania. These numbers have continued to increase reaching 1,122,910 in 2015 (United Nations, 2016). However, regardless the fact that the numbers of migration flows are not as high as during the early 2000s, migration is a continuing event in Albania, since many people view migration as a golden opportunity to improve their lives and their families’ lives. Most importantly, the tendencies to migrate are present among the young generation, meaning that this trend will continue to be present in the

Albanian society. Survey statistics of 2015 on young people confirm this reality by showing that 59.8% of the respondents aspire to migrate abroad (Çela, Kamberi, & Pici, 2015).

3.3. Cultural context

The model of the typical Albanian family can be described as a consolidated and traditional family, where people are closely linked to each other and all the members tend to contribute in the family's wellbeing. Even though the tendency to embrace a more modern mentality regarding familiar and social relationships is increasing, the role of family continues to remain important in many aspects of peoples' lives and decision making. Not only the earlier generations, but also the young people nowadays, are closely linked to their parents and/or siblings. Most of them consider family members as the people to whom they can rely mostly while facing difficulties. Furthermore, they look at the family's influence in their lives and decisions as a positive element. For instance, the majority of young people, despite their economic background prefer to live with their parents rather than on their own, confirming that the foundations of the traditional family continue to remain present (Çela, Kamberi, & Pici, 2015).

The presence of the traditional elements in Albanian families, suggests that family members besides potential benefits, have also responsibilities towards each other. In the case of people who live and work abroad, this is translated into a moral obligation to provide financial assistance to their families and/or relatives in their homeland. According to the 'Questionnaire on the foreign currency remittances of long-term legal immigrants' conducted from the Bank of Albania in 2003, the main recipients of remittances were the parents, wives and children of the migrants. The main purpose of sending money to their families resulted to be: 'meeting the essential needs of the family', followed by 'furnishing the house' (Uruçi & Gedeshi, 2004).

4. Data

The data are collected in collaboration with INSTAT (Institute of Statistics in Albania), which is the official institution for data collection and analysis in Albania. These data are part of the datasets of Household Budget Survey(HBS), and are not available online. The data is collected by interviewing households regarding their income, expenditures, employment status and other individual characteristics, such as age and education. The dataset contains data from 2009 and 2014 and the total number of observations is 42426. For reasons that will be explained further,

I use only the observations for the head of the households in the regression analysis. The total number of observations for the head of the households is 12160, whereas the number of observations for 2009 is 5596 and the number of observations for 2014 is 6565. The sample selection is random, meaning that the respondents are from all of the main regions in Albania, from both urban and rural areas. There are 12 districts in Albania, and from each district there have been interviewed different households. The number of observations is higher in the districts with a higher population density. For example, in Tirana district, which includes the capital city Tirana and has the highest population density, the number of observations is 2867, whereas in Kukës, which has the lowest population density, the number of observations is 546. Table 1. presents the number and the percentage of observations for each district.

Table 1: Sampling in terms of Districts

District Name	Frequency	Percentage
Berat	703	5.78
Dibër	553	4.55
Durrës	1044	8.59
Elbasan	1410	11.60
Fier	1460	12.01
Gjirokastër	472	3.88
Korçë	990	8.14
Kukës	315	2.59
Lezhë	546	4.49
Shkodër	1035	8.51
Tiranë	2,867	23.58
Vlorë	765	6.29
Total	12,160	100.00

As shown in the table, the highest percentage of observations is from Tirana, the district of the capital city, which is the most populated city in Albania, followed by Elbasan, Fier and Durrës. Furthermore, the data are arranged in terms of smaller groups, based on the geographic proximity of interviewed households from each other, called Primary Sampling Units. In total there are 653 primary sampling units that contain observations for each household.

Up to this point, the quality of the data is good given the randomness of the sample and the availability of the time variation. However, the observations are not from the same households in both years. Unfortunately, this does not allow for a panel data analysis. The availability of panel data would allow me to use fixed or random effects estimations, which would be very helpful to solve the omitted variables problem, and come closer to the estimation of a causal

effect. Given that this is not possible due to the nature of the data, I use a time dummy to control for the time variation, and use month fixed effects and primary sampling unit fixed effects. I prefer primary sampling unit fixed effects to district fixed effects because of the smaller size and largest number of the primary sampling units. Then, I proceed with the analysis by using the indicators for the head of the household. I use the observations for the head of the households only, because of the inability to control for within-groups(households) fixed effects. In Table 2. there are presented summary statistics about the variables included in the regression.

Table 2. Summary statistics for the variables of interest

Variable	Observations	Mean	Standard Deviation	Minimum Value	Maximum Value
Yearly Amount of Remittances	12160	1720259	8548071	0	421000000
Unwillingness to work (0=willing to work, 1=not willing to work)	12160	.0133557	.0656835	0	1
Age of the Head of the Household	12160	55.72961	13.31466	12	101
School Years of the Head of the Household	12160	9.605345	3.749815	0	22
Head of the Household is Female (0=Male, 1=Female)	12160	.1372533	.3441287	0	1
Head of the household Married (0=Single, 1=Married)	12160	.3787007	.4850833	0	1
Number of Persons in the Household	12160	3.890296	1.715846	1	19
Total consumption expenditure (quarterly)	42426	739542.7	522074.9	28000	8776090
Total annual income	42426	4352559	17100000	0	1510000000

Table 2: The amounts are expressed in Albanian currency: old leks.1 Euro=1350 old leks

The main variable of interest is the amount of remittances that each household receives. This represents the yearly amount of remittances received expressed in old leks (Albanian currency). The interviewers have declared the amount of remittances that they have received in the last 12 months. The mean of this variable is 1720259 old leks, which is approximately equivalent to 1274 Euros. This implies that in average, a remittance-receiver family receives 109 (14715) euros(lek) per month. In terms of the minimum wage in Albania, which is 23000 lek per month, the average remittance incomes exceed half of a monthly minimum wage.

However, there exists the possibility that the amount of remittances is underreported mostly by the households who receive high amounts of remittances. One of the explanations regarding this phenomenon is the “fear” of the households to declare that they receive high amounts of remittances, given that in most of the cases they are not being sent in formal channels i.e. banks, but they are transferred as cash money by the emigrant him/herself, or by their relative or friends towards their families. Unfortunately, the existence or magnitude of this phenomenon cannot be controlled, since one cannot control whether the households are truly declaring the amount of their remittance incomes. Yet, I take into account the fact that this problem may be present, and restrict the sample by excluding the highest remittance-receiver households, as a robustness check for the analysis in the next sections.

For the main explanatory variable “remittances” there are three possible forms of inclusion in the regression. The first one is in its binary form that shows whether the individual receives or not remittances. The second one is by including the amount of remittances that each individual receives, and the third one is the standardized amount of remittances received. The preferred alternative is the standardized amount of remittances because it is based on the amount of remittances received and the beta coefficient of the standardized values represents the impact of an increase of the amount of remittances with one standard deviation. The standardization of the variable can be interpreted as a way to make the scaling of the units negligible, and thus allows for an easier interpretation of the magnitude of the coefficients. The standardized values of a variable can be obtained by subtracting the mean of the variable from their each of the values, and dividing the values by the standard deviation (Wooldridge, *Introductory Econometrics, A Modern Approach*, 2013).

The dependent variable in the regression that will be presented further is the unwillingness to work and takes the values between 0 and 1. It indicates the proportion of the persons that are

not willing to work within a household. The minimum value of this variable shows that none of the persons in the household is unwilling to work, whereas the maximum shows that all the persons are not willing to work. For constructing this measure, the respondents were asked whether they were willing to work if they were offered a job within 2 weeks from the moment they were interviewed. Although this seems to be a good proxy for measuring the individuals' unwillingness to work, there are two potential problems related to this measure. The first one is the potential measurement error that arises due to time inconsistency of the responses regarding the willingness to work. The respondents have provided their answers based on the time when they were interviewed. For instance, a respondent who has been interviewed in January has been answered to the question based on the following two weeks of January, whereas a respondent who has been interviewed in June is based on the following two weeks of June for answering to the question. If the respondents' answers would have been affected by the time on which they provided their answers, then the measurement error would be a serious issue in that case. However, one cannot control whether the respondents' answers would have been different if they answered in a different time of the year. Therefore, considering that all the respondents were interviewed within one year, it is very likely that their answers would not change based on the month of the interview, which minimizes the issue of measurement error. The second problem is related to the way that people tend to answer to this question: some of them may feel uncomfortable to report that they would not be willing to work if they were offered a job. Some of the reasons behind this may be: the mistrust to the interviewer regarding the confidentiality of their answer, the fear of being prejudiced by the interviewer, and also the fear that other people or even government authorities may be informed about their answers. Unfortunately, one cannot be able to control the truthfulness of the answers of the respondents. Overall, despite the two potential problems that were mentioned regarding the measure of the (un)willingness to work, in terms of this dataset, this is the best proxy that can be used in order to provide an accurate measure of the (un)willingness to work.

The variable "Head Age" indicates the age of the head of the household. Therefore, the mean of this variable is 55.7, which indicates a relatively old age. The variable "Head School years" presents the number of school years for the head of the household. The mean of this variable is 9.6, and the minimum and maximum values range between 0 and 22 years of schooling. The variables "Head Female" and "Head Married" are binary variables that indicate whether the head of the household is a female or married. The last variable presented in Table 2., presents the number of the persons in a household. The mean of this variable is 3.8, indicating that in

average a family is composed by 4 persons, and the minimum and the maximum number of the persons within a household range from 1 to 19.

In the last two rows of the table there are shown summary statistics about total quarterly spending and total annual income. I use the total number of observations while presenting these statistics in order to create a clearer idea regarding income and expenditure levels. The mean of the total quarterly expenditures is 739542.7 old leks. The minimum value of total quarterly expenditures is 28000 old leks, and the maximum value is 8776090 old leks. By comparing the average amount of consumption with the average amount of remittances in quarterly basis (for the remittance-receiving households), it results that remittances may account for more than a half of consumption expenditures. In terms of the research question, these numbers show that remittance-receiver households are more likely to not prefer to work, given that they can cover more than a half of their consumption expenditures through remittances. The mean of the annual income level is 4352559 old leks, whereas the minimum income level is 0 and the maximum level of annual income is 1510000000 old leks. The minimal and maximal values of yearly income indicate that in the sample there are observations that indicate for unemployed people, whose income level is 0, and also rich people, whose income levels are extremely high compared to the average income level.

5. Methodology

This section describes the methodology used for addressing the research question. The first step for estimating the relationship between remittances and unwillingness to work, is the construction of the baseline equation. In this regression the dependent variable is the unwillingness to work, which shows the fraction of the individuals that are not willing to work within a household. The main explanatory variable is the standardized amount of remittances. As mentioned in the data section, this measure is preferred towards the amount of remittances because it allows to avoid the problems that arise as a result of the scaling units. Equation (1) presents the baseline regression:

$$(1) \text{Unwillingess}_{it} = \beta_1 \text{Remittances}_{it} + \beta_2 X_{it} \Gamma + \text{Year}_{2014} + \varepsilon_{it}$$

The second term in the right hand-side of the equation represents a vector of control variables included in the regression. The control variables indicate the Age of the head of the household,

the quadratic term of age, marital status of the head of the household, gender of the head of the household, number of school years of the head of the household, and the number of the people living within a household. The third term on the right hand-side of the regression represents a time dummy that takes the value of 0 if the year is 2009, and the value of 1 if the year is 2014. The term ε_{it} is used to represent the unobserved factors that remain in the error term of the regression. Further in this section, this error term will be decomposed in two parts, in order to demonstrate the distinction between the variables that may be used as instruments, and the other unobserved variables. The baseline equation is first estimated by using pooled OLS, without fixed effects, where observations of both years are included. Next, I include Month dummies and Primary Sampling Unit dummies, as a way to capture month fixed effects and primary sampling unit fixed effects.

The reason behind using these dummies for capturing the fixed effects, is the intention to minimize the omitted variables bias problem. The presence of the omitted variable bias problem can be attributed to the fact that usually it is not possible to include all the explanatory variables in the regression. Therefore, due to data availability, or measurement problems, many of the potential explanatory variables that are related to the dependent variable, remain in the error term. In case of this regression, one of the possible omitted variables is the reservation wages: the reservation wages are very likely to be positively correlated with the unwillingness to work. The explanation about this correlation is intuitive: as the reservation wage of an individual increases, his/her unwillingness to work will increase as well, given that he/she will require a higher wage in order to participate in the labour market.

After using pooled OLS and controlling for month and PSU fixed effects, the final step towards overcoming the endogeneity problems, and finding a causal effect, is the Instrumental Variable approach. Before elaborating further on the challenges that are associated with the IV approach, I will first investigate whether the variable of remittances is endogenous, which would make IV necessary. In order to do this, I run a Hausman test for endogeneity. This test is used to show whether the differences between OLS and IV estimates are statistically significant, and if this is the case, one can conclude that the variable of interest, in this case remittances, is endogenous (Wooldridge, *Introductory Econometrics, A Modern Approach*, 2009). Table 1., in the Appendix shows the results of the Hausman test for endogeneity. The results of this test show that the null hypothesis which states that the differences in coefficients are not systematic,

is rejected at 1% level. This implies that the variable of remittances is endogenous, and therefore it is necessary to use an IV.

The main challenge of using the IV method is to find an instrument that is exogenous and related to the dependent variable “not willing to work” only through remittances. Geographical indicators such as: distance from a certain point, are considered to be good instruments by the researchers, since they seem to satisfy both the exogeneity condition, and exclusion restriction. However, there cannot be found a general solution regarding the choice of the instruments. This choice of the instrument depends on the specific regression equation that the researcher is estimating. For each specific equation that one is interested to estimate the instrument needs to be exogenous and affect the dependent variable only through the instrumented variable. Finding a good instrument is challenging, not only because there has to be satisfied the exogeneity condition, which should not be confounded with the externality of the variable chosen as an instrument, but also because this condition cannot be tested empirically (Deaton, 2009).

The general form of the regression can be presented as:

$$(2) \text{ Unwillingess}_{it} = \beta_1 \text{Remittances}_{it} + \beta_2 X_{it} \Gamma + \text{Year}_{2014} + u_{it} + \mu_{it}$$

The notation of the variables is the same as in equation (1). The only difference here is in the decomposition of the error term, where u_{it} represents the exogenous variables that are not included in the regression and can potentially be used as instruments, and μ_{it} represents the remaining unobserved factors.

The main purpose in this research is to find a casual effect of remittances in the unwillingness to work, and the main threat to causality is the possible endogeneity of the variable of remittances. Therefore, a possible solution is to find an instrumental variable, Z that affects only the amount of remittances, but not the error term. Mathematically, these conditions can be expressed as:

1. $E[X|Z] \neq 0$
2. $E[\varepsilon|Z] = 0$

The Instrumental Variable approach consist in two stages. In the first stage the instrumented variable “amount of remittances” is regressed on the instrument. This is a way to exploit the exogenous part of the main explanatory variable. The regression can be presented as:

$$(3) X=Z\gamma + \rho,$$

where X is the amount of remittances, Z is the instrument, γ is the coefficient of the instrument, and ρ is the error term. The main conditions for the first stage to be valid are the F-statistic above 10, and γ statistically significant. Then, after filtering the exogenous part of the instrumented variable in the first stage, this part is used in the second stage regression, which is the regression that presents the impact of the X variable on Y.

In the context of exploiting the causal relationship between remittances and willingness to work, I use the distance from land borders and the distance from the two ports of each Prefecture in Albania to construct the geographical instrument. The fact that the data are constructed based on 12 Prefectures allows me to assign the average distance from each Prefecture to the closest land border, to each observation based on their location. The same logic is followed for constructing the sea distance instrument: given that there are two ports from where individuals can migrate, I estimated the average distance of each Prefecture to the closest sea port. Then, after obtaining separately the variables that represent land distance and sea distance, I construct the total distance instrument as the sum of land and sea distances.

Another variable that is related to the dependent variable only through remittances, although as will discussed below there may be other channels of correlation that may question this, is the exchange rate. Since the observations correspond to different months, the average monthly exchange rate for each year can be assigned to each observation, giving a new variable that represents the exchange rate. This variable can be used as an instrument separately, or as an interaction with the total distance. The results are presented in the next section, and each of the instruments and the outcome will be discussed in more details below.

6. Estimations

In this section there will be presented the estimation results for the baseline regression, first without including month and primary sampling unit fixed effects, and then with their inclusion, both separately and simultaneously. Table 3., presents the results of the baseline equation.

Column (1) shows the results of the simple OLS regression, where the only explanatory variable is the standardized amount of remittances. The coefficient is positive and significant at 1% level, meaning that this coefficient is significant in statistical terms. In an economic perspective, the magnitude implies that an increase in the amount of remittances with one standard deviation, is associated with an increase of the unwillingness to work with 0.0099 standard deviations. While using only the standardized amount of remittances as a control variable, the R-squared is 0.0227.

Column (2) presents the results of the multiple regression, which is based on the baseline equation (1). As in the previous case, the coefficient of remittances is statistically significant at 1% level, and its magnitude has been slightly decreased compared to the coefficient of the simple regression. The coefficients of head age and the quadratic term of head age, are both statistically significant at 1% level.

The coefficient for head age has a positive sign, implying that as head age increases, the unwillingness to work increases with 0.0015 units, whereas the coefficient of head age squared has a negative sign. This can be related to the trade-off between education and work: while the individual invests in education he/she is more likely to reduce his/her work incentives. Then, at a further moment in life, the individual increases his/her work incentives, given that he/she has already invested in education and professional skill improvements. Therefore, in that point of time, the individual does not need to choose between working and schooling, since working is the best option in that moment.

The estimated coefficients of head married and head female are not statistically significant in this regression, even though the sign is negative. The coefficient for head school is significant at 5% level, and it is negative. The interpretation for the magnitude of this coefficient is that an increase with one year of schooling for the head of the household is associated with a decrease by 0.0004 units of the unwillingness to work. Thus, an increase in education is associated with a decrease of the work disincentives. The coefficient for the number of persons in the household is positive and significant at 10% level. This may be attributed to the fact that a larger number of members in the family is associated with more household duties such as: taking care of the children and maintaining the dwelling. Therefore, the work incentives are likely to be reduced in this case.

Table 3. Effect of remittances in the unwillingness to work, Pooled OLS

	(1)	(2)	(3)	(4)
Remittances	.0099*** (.00058)	.0089*** (.0006)	.0090 *** (.0006)	.0089*** (.0025)
Head Age		.00149*** (.0003)	.0015*** (.0003)	.0014*** (.0003)
Head Age2		-.000013*** (.000002)	-.0000133*** (.000002)	-.0000119*** (.000002)
Head Married		-.0037 (.0027)	-.0037 (.0027)	-.0030 (.0042)
Head Female		-.00063 (.00208)	-.00068 (.00208)	-.00089 (.0026)
Head School		-.000419** (.00017)	-.00042** (.00017)	-.00008 (.0002)
HH Number		.00068* (.00036)	.00066* (.00036)	.00038 (.00038)
Year 2014		-.01293*** (.0025)	-.01290*** (.0025)	-.01032** (.0039)
Constant	.01335*** (.00058)	-.00358 (.00973)	-.00293 (.00992)	.00288 (.010104)
Month Fixed Effects	No	No	Yes	Yes
PSU Fixed Effects	No	No	No	Yes
N	12160	12160	12160	12160
R-Squared	0.0227	0.0307	0.0318	0.0862
F-Statistics	283.69	48.08	22.00	

Standard errors in parenthesis, * significant at 10% level, ** significant at 5%level, ***significant at 1% level, no stars implies not significant.

In order to demonstrate this correlation, Table 4., presents the results of the simple and multiple regression of unpaid job to number of household members. The unpaid job is referred to working in an individual farm, or maintaining the dwelling. The coefficient of HH number in the simple regression presented in Table 4., column (1), indicates that there is a positive and

statistically significant correlation between the number of family members within a household, and working in an unpaid job. In columns 2 and 3 there are presented the results of multiple regressions of unpaid job in the number of people in the household, with and without including Month and PSU dummies. As it can be inferred from the results presented in these columns, the coefficient of the number of household members remains statistically significant at 1% in column 2 and 5% in column 3, and its sign is positive. The magnitude of this coefficient decreases as more control variables are included in the regression. Overall, the results of Table 4., indicate that there is a positive and significant correlation between the number of household members and working in an unpaid job, which is robust after including additional control variables and Month and PSU dummies.

In Table 3., the coefficient of the year 2014 dummy is negative and significant at 1% level. The R-squared is now 0.0307, which is higher compared to the simple regression. In column (3) there are presented the results of the baseline regression after adding month dummies. The coefficient of remittances continues to be statistically significant at 1%, and its magnitude has been slightly increased compared to the results in column 2. The same pattern can be observed for the coefficients of the other explanatory variables as well: their statistical significance is the same as in the previous results, and their magnitude is associated with minor changes. The R-squared has also been slightly increased.

Column (4) in Table 3., shows the results of the baseline regression with month fixed effects and primary sampling unit fixed effects. The coefficient of remittances has been slightly decreased, but continues to remain statistically significant at 1% level. The coefficients of head age and head age squared also show the same pattern: they remain significant at 1% level, and show minor changes in their magnitude. The difference with the previous results can be found in the coefficients of HH number and head school, which became insignificant. Also, the coefficient of year 2014 is no longer significant at 1% level, but at 5% level, although the sign is the same. The R-squared has been increased and has reached the magnitude of 0.0862.

Overall, based on the results obtained so far, the main finding is that the coefficient of remittances remains robust, despite different specifications used for the baseline equation. The inclusion of the month dummies and primary sampling unit dummies, did not change neither the significance nor the sign of the coefficient. Also, the magnitude has shown only minor changes in all the different specifications.

Table 4: Regression of working in an unpaid job, main explanatory variable: number of people in a household

	(1)	(2)	(3)
Number of HH members	.0077*** (.0007)	.0035*** (.0007)	.0018** (.00073)
Remittances		-.0017 (.0013)	-.0031*** (.0012)
Age of Head of HH		.0078*** (.0006)	.0071*** (.0006)
Age2 of Head of HH		-.00007*** (0.000005)	-.00006*** (0.000005)
Head of HH Married		.0152*** (.0057)	.0161*** (.0053)
Head of HH Female		-.02507*** (.0043)	-.0157*** (.0041)
Head of HH Education		-.0066*** (.0004)	-.0041*** (.00037)
Year 2014		.0066 (.0053)	.0124 (.0051)
Constant	.0211*** (.0031)	-.0989*** (.0204)	-.0129 (.0306)
PSU Fixed Effects	No	No	Yes
Month fixed Effects	No	No	Yes
R-Squared	0.009	0.0488	0.2644
N	12160	12160	12160

Table 4: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant.

As mentioned previously in the data section, one problematic issue is the possibility of underreporting the true amount of remittances received, by the households who actually receive high amount of remittances. In reality, it given it is not possible to investigate whether the households truly report the amount of remittances that they receive given that while interviewing them, one is not able to control whether they are telling the truth or not. Therefore, as an attempt to overcome this problem, I extend the previous analysis by restricting the sample. The sample restriction is done by excluding the highest remittance-receiver households, given

that they are more likely to underreport the high amount of remittances that they may receive. The new sample now consists in 11499 observations, and the maximum amount of remittances received is 9900000 old leks in year, equivalent to 7333,3 euros per year.

Table 5. Correlation between remittances and unwillingness to work with restricted sample

	(1)	(2)	(3)	(4)
Remittances	.00867*** (.00055)	.00828*** (.00055)	.00842*** (.00056)	.00852*** (.0012)
Head Age		.00125*** (.00028)	.001269*** (.000289)	.00119 *** (.00031)
Head Age2		-.000011*** (2.56e-06)	-.0000113 *** (2.56e-06)	-.0000103 *** (2.64e-06)
Head Married		-.005138** (.0025936)	-.00509** (.0025931)	-.0042789 (.0040261)
Head Female		-.00178 (.00194)	-.00172 (.00194)	-.00161 (.00242)
Head School		-.00026 (.00016)	-.00026 (.00016)	.000046 (.00020)
HH Number		.00068 ** (.00034)	.00065 * (.00034)	.000483 (.00037)
Year 2014		-.01035*** (.00239)	-.010358 *** (.00239)	-.00796** (.00381)
Constant	.0106*** (.00055)	-.00448 (.00916)	-.00320 (.0093)	.01998* (.01181)
Month Fixed Effects	No	No	Yes	Yes
PSU Fixed Effects	No	No	No	Yes
N	11499	11499	11499	11499
R-Squared	0.0208	0.0260	0.0283	0.0845
F-Statistics	244.79	38.33	17.61	

Table 5: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant. Estimations with restricted sample, if yearly remittances are equal or less than 9900000 old leks.

The regression is based on the same equation as previously. In Table 5., column (1) shows the results of the simple regression, column (2) shows the results of the multiple regression with the additional control variables, column (3) shows the results of the multiple regression with month dummies included, and column (4) shows the results of the multiple regression with both month dummies and primary sampling unit dummies included. As it can be inferred by the coefficients shown in the table, the results for remittances are very similar to the previous results presented in Table 3. On the other hand, there are some changes that can be noticed on the coefficients of the other explanatory variables: in this case, in the specifications presented in column (2) and (3) the coefficient of schooling has become insignificant, whereas the coefficient of head married has become significant. The negative sign implies that being married is associated with a decrease in the unwillingness to work. This coefficient becomes insignificant when adding primary sampling unit dummies. The main finding of the analysis with the restricted sample, is that the coefficient of remittances continues to remain robust in terms of statistical significance, sign, and magnitude, regardless the sample restriction.

7. Instrumental Variables approach

7.1. The instruments

In this subsection there will be presented the instruments used and the way they are constructed. As an attempt towards finding a causal effect of remittances in the unwillingness to work, I use instruments for the main explanatory variables, remittances, in order to overcome endogeneity problems. I use separately three different instruments in the two-stage least-squares regression. The first instrument is the exchange rate. The reason why I use this instrument is that the exchange rate is correlated with the amount of remittances. An increase in the amount of remittances affects the exchange rate by appreciating the domestic currency Lek towards the foreign currencies e.g: Euro. The reason behind this is that the monetary inflows in Albania that come from abroad are in foreign currency (mainly Euro, because the main share of emigrants is in the Eurozone countries). This leads to an increase in the money supply in the foreign currency, while the supply of the domestic currency remains the same. As the amount of foreign currency in the Albanian money market increases relative to the amount of the domestic currency, the domestic currency appreciates relative to the foreign currency. This is an implication that there is a relationship between the amount of remittances inflow in the country and the exchange rate. Moreover, the exchange rate is not related to the unwillingness

to work through any other channel except remittances. Thus, in a theoretical viewpoint, the exchange rate is expected to be a good instrument for solving the endogeneity problems in the regression of the unwillingness to work on remittances. The construction of the exchange rate instrument is done by matching each month of the data with the monthly exchange rate of 2009 and 2014 respectively. The data on monthly exchange rate are obtained from the website of the Bank of Albania (Bank of Albania, 2017).

The second instrument that I use is the distance from the land borders and the sea ports with each Prefecture. The distance instruments easily satisfy the exogeneity condition: distance from the land borders and sea ports are exogenously given and do not directly affect the dependent variable. On the other hand, distance from the land borders and sea ports is positively correlated with the migration patterns, and consequently with the amount of remittances that the households of the migrants receive from them. Intuitively, the propensity to migrate is higher in the areas that are close or allow for an easier access in the neighbouring countries. First of all, people who live nearby the neighbouring countries can migrate easier in these countries, even in the short-run or find a temporary job there. The proximity of their settlements with the border facilitates the migration of these people and increases their incentives to migrate, because they are more related to the neighbouring countries, not only through economic and trade activities, but also through cultural exchanges. Also, the fact that many of family members, relatives, or friends of these people might have migrated earlier, creates even more incentives for these people to migrate due to their network and information regarding the respective foreign country.

I construct the distance instrument by assigning the average distance of each Prefecture from the border to the respective observations. The same procedure is followed for constructing the sea distance instrument. Then, the total distance instrument, is constructed as a sum of both land distance and sea distance instruments. I use the total distance instrument for the estimations because people have massively migrated and continue to migrate using both routes. Finally, I construct an interaction instrument, which is the interaction of the exchange rate instrument and total distance instrument. The reason behind constructing this instrument is the fact that both distance and exchange rate are correlated with remittances, and the only way that these variables affect the unwillingness to work is through remittances. Therefore, besides using each variable separately as an instrument, it would be interesting to observe the interaction of both instruments as a new instrument.

7.2. First stage results

In this subsection there will be presented the first stage results. In Table 4. there are presented the results of the first stage regressions for each instrument. In these regressions the dependent variable is the standardized amount of remittances and the independent variables are the respective instruments for each regression. There are two main conditions for the first stage to be valid: the coefficient of the instrument has to be statistically significant, and the F-statistic should be higher than 10 (Bosker, 2017). In column 1 there is presented the first stage of using total distance as an instrument. The correlation of the total distance and the amount of remittances is positive and significant. The F-statistic is 66.15, which is higher than 10. This indicate that based on the first stage results only, in a statistical perspective, total distance appears to be good instrument for remittances. Column 2, shows the results of the regression of standardized amount of remittances on the exchange rate. The coefficient of the exchange rate is negative and statistically significant at 1% level, and the F-statistic is much higher than the rule of thumb 10, meaning that this is also a valid instrument from a statistical point of view.

Table 6: First stage results. Dependent variable: Standardized amount of remittances

	(1)	(2)	(3)
Total distance	.0014*** (.00017)		
Exchange rate		-.02445*** (.00198)	
Interaction			.0000082*** (0.0000012)
Constant	-.2456*** (.0315)	3.3356*** (.2713)	-.1970*** (.0314)
F-statistic	66.15	151.27	42.91
Number	12160	12160	12160

Table 6: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant.

In column 3, there are presented the results of the regression of remittances on the interaction between total distance and total exchange rate. The coefficient is positive and significant at 1%

level, although the magnitude is very low compared to the magnitudes of the coefficients for distance and exchange rate separately. Even in this case the F-statistic is sufficiently high, implying that this instrument is also acceptable considering the statistical indicators.

7.3. Reduced form estimates

In this subsection there will be presented the results of the reduced form estimates. The reduced form is basically the regression of the endogenous variable on the other control variables that are included in the regression. In this case, remittances will be the dependent variable, and the other control variables will be included in the regression as control variables. The reduced form equation is used to test for partial correlation. While including the instrument, and the other control variables in the regression, one can observe the correlation between the instrument and the endogenous variable, while controlling for the effect that the other control variables may have in this correlation (Wooldridge, *Introductory Econometrics, A Modern Approach*, 2009).

Table 7., presents the results of the reduced form estimations. In column 1 there are presented the results of the reduced form with the interaction variable used as the main control variable. The coefficient of this variable indicates that the partial correlation between the interaction variable and remittances is positive and significant at 1% level. The R-squared indicates that more than 13% of remittances is explained by the variables included in this regression. The other variables that are statistically significant at 1 % level in this regression are: gender, number of members in a household, and the year dummy. In contrast, age of the head of the household, its quadratic term, and education of the head of the household are insignificant.

In column 2, there are shown the results of the reduced form with exchange rate used as the main explanatory variable. In contrast with the results of column 1, the coefficient of exchange rate is positive, but statistically insignificant. This implies that despite the fact that there is a correlation between exchange rate and remittances, which was demonstrated in the first stage estimations, while accounting for the correlation between the other control variables and remittances, the relationship between exchange rate and remittances is no longer significant. This is an indication that the exchange rate instrument is a weak instrument, and therefore may be problematic for the final outcome, if used as an instrument.

Table 7: Reduced form results, three different instruments included separately

	(1-Interaction)	(2-Exchange rate)	(3-Total distance)
Instrument	.000027*** (.0000055)	.0035 (.0046)	.0037*** (.0007)
Age of Head of HH	.0048 (.0036)	.0054 (.0036)	.0047 (.0035)
Age2 of Head of HH	-.00003 (.00003)	-.000037 (.00003)	-.00003 (.00003)
Head of HH married	-.0194 (.0562)	-.00865 (.0555)	-.0204 (.0564)
Head of HH Female	.1013*** (.0360)	.1045*** (.0369)	.1011*** (.0360)
Head of HH Education	-.0031 (.0027)	-.0047* (.0027)	-.0031 (.0027)
Number of HH members	.10411*** (.0225)	.1082*** (.0228)	.104*** (.0225)
Year 2014	-.3858*** (.0755)	-.3227*** (.0668)	-.3485*** (.0709)
Constant	-.5544*** (.1947)	-.4194 (.6226)	-.6182*** (.2045)
PSU fixed effects	Yes	Yes	Yes
R-squared	0.1345	0.1263	0.1346
N	12160	12160	12160

Table 7: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant.

In column 3, there are presented the results of the reduced form estimates with total distance used as the main explanatory variable. The coefficient of total distance is positive and approximately 137 times higher in magnitude compared to the interaction coefficient. This coefficient is significant at 1% level, implying that this is not the case of a weak instrument. The coefficients of the other control variables are very similar in sign, magnitude, and statistical significance, with the coefficients of the reduced form equation presented in column 1. The same similarity can be observed in the magnitude of the R-squared. Overall, the estimations of the reduced form with the three types of specifications, infer that the partial correlation is

present between remittances and interaction term, and remittances and total distance term, whereas it is not significant in the case of exchange rate, meaning that the exchange rate should be considered as a weak instrument. In section 8, there will be presented further arguments regarding the problems that are related to the exchange rate instrument.

7.4. Second stage results

In this subsection there are presented the results of the estimations of the second stage, using IV approach. Table 7., presents the results of the second stage of regression, using each instrument separately, and their interaction. The estimations presented in this table show the results of the second stage of the IV regression without including neither PSU fixed effects, nor Month fixed effects. Column 1 in Table 8., shows the results of the second stage of the IV regression while using the interaction between exchange rate and distance as an instrument. The coefficient of remittances is positive and significant at 5% level. The magnitude of this coefficient is 2.7 times higher compared to the previous results of pooled OLS with and without controlling for Month and PSU fixed effects. Also, the standard errors of this coefficient are almost 18 higher compared to the OLS coefficient. This is associated with a wide range of the confidence interval at 95% confidence level, whose values are between 0.0028 and 0.045.

As argued in (Wooldridge, *Introductory Econometrics, A Modern Approach*, 2009), this is not an unexpected outcome while trying to obtain a good estimator by assuming the endogeneity of remittances. The coefficients of age of the head of household, and the quadratic term of age, are very similar to the respective coefficients in the pooled OLS regression, without including month and PSU dummies. The coefficients that indicate marital status, gender, number of school years, and number of household members, are insignificant. This is in contrast with the previous results, where the coefficient on education was significant at 5% level, and the coefficient on the number of family members was significant at 10% level. Finally, the coefficient of year 2014 is negative and significant at 5% level, indicating that year 2014 is negatively correlated with the unwillingness to work. This is in line with the expectations, and as will be explained in further sections, year 2009 is associated with higher remittance inflows, exchange rate appreciation, and increase of the unwillingness to work.

Table 8: Second stage results using each instrument separately

	(1-Interaction Instrument)	(2-Exchange rate instrument)	(3-Distance instrument)
Remittances	.0268** (.0109)	.3173 (.7866)	.02504** (.0097)
Age of Head of HH	.0014*** (.0003)	.00039 (.0032)	.0014*** (.00032)
Age2 of Head of HH	-.000013*** (.000003)	-0.000005 (.000024)	-.000013*** (0.0000028)
Head of HH married	-.0041 (.0028)	-.0106 (.0218)	-.00407 (.00282)
Head of HH Education	-.00028 (.00019)	.0019 (.0061)	-.00029 (.00019)
Head of HH Female	-.0026 (.0024)	-.0348 (.0877)	-.0024 (.0024)
Year 2014	-.0088** (.0034)	.0577 (.1807)	-.0092*** (.0034)
Number of HH members	-.0013 (.0012)	-.0340 (.0886)	-.0011 (.00116)
Constant	-.0009 (.0102)	.0426 (.1267)	-.00116 (.01012)
PSU fixed effects	No	No	No
N	12160	12160	12160

Table8: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant.

In column 2 there are presented the results of the second stage of the IV regression, with the exchange rate instrument. All the coefficients in this regression are statistically insignificant, meaning that using the exchange rate instrument separately, makes the regression estimates meaningless and leads to inefficient results. In the next section, I will elaborate further regarding the problems that this instrument is associated with.

Column 3 shows the results of the second stage of IV regression, while using total distance as an instrument. The coefficient of remittances is significant at 5% level, and its magnitude is very similar to the respective coefficient in column 1. The magnitude has been slightly decreased, as well as the standard errors. Also, the other coefficients of the control variables, are very similar with the coefficients of the regression with the interaction term as an instrument, in both terms of magnitude and statistical significance. The only difference is in the coefficient of year 2014, which is now significant at 1% level, and slightly higher in magnitude.

In Table 9., there are shown the results of the second stage results while including Primary Sampling Unit dummies, as an attempt to capture PSU fixed effects. In contrast with the results presented in Table 7., where PSU dummies were not included, the coefficients of remittances are insignificant in all the regression specifications, regardless the instrument used. This suggests that the inclusion of PSU fixed effects, is associated with a decrease in the magnitude of the coefficient of remittances, which in turn decreases the z-statistic, and leads to statistically insignificant estimates.

8. Problems with the exchange rate instrument

The results in the previous subsection demonstrated that when using exchange rate as instrument, all the coefficients of the control variables were insignificant. On the other hand, when using only distance as an instrument, or the interaction between distance and the exchange rate, the coefficient of remittances was positive and statistically significant, as expected. The problems with the exchange rate variable can be observed firstly in the reduced form results. The insignificant of the coefficient of exchange rate in the reduced form, implies that the partial correlation between exchange rate and remittances is no longer present after the inclusion of the other control variables in the regression. This indicates that the exchange rate variable is a weak instrument, and this is problematic for the final outcome.

Table 9: Second stage results using each instrument separately

	(1-Interaction Instrument)	(2-Exchange rate instrument)	(3-Distance instrument)
Remittances	.0079 (.0062)	.1257 (.1398)	.0064 (.0062)
Age of Head of HH	.0014*** (.00031)	.00075 (.0009)	.0014*** (.0003)
Age2 of Head of HH	-.000012*** (.000003)	-0.0000075 (.00000758)	-.000012*** (0.0000028)
Head of HH married	-.0029 (.0027)	-.0019 (.0056)	-.0029 (.00282)
Head of HH Education	-.00008 (.00019)	.00048 (.00076)	-.00008 (.00019)
Head of HH Female	-.00062 (.0022)	-.0129 (.0152)	-.00047 (.0022)
Year 2014	-.0105*** (.0032)	.0243 (.0417)	-.0109*** (.0032)
Number of HH members	.00051 (.00077)	-.0123 (.0152)	.00066 (.00077)
Constant	.0181 (.0156)	.0168 (.0313)	.0181 (.0156)
PSU fixed effects	Yes	Yes	Yes
N	12160	12160	12160

Table9: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant. Standard errors are clustered by PSU.

There are possible explanations that can be provided regarding the problems that associate the use of the exchange rate as an instrument. In contrast with the geographical distance, which is constant over time and is correlated with migration and consequently with remittances, exchange rate is volatile and it changes with the change of the amount of remittances. Several empirical evidences demonstrate that an increase in remittance inflows leads to an appreciation of the real exchange rate. (Lopez, Molina, & Bussolo, 2007) find that for several Latin

American countries the increase in the amount of remittances inflows in these countries, is associated with an appreciation of the real exchange rate. The same pattern is confirmed by (Lartey, Mandelman, & Acosta, 2008), who use a panel of 109 countries during the time period 1990-2003 in their analysis. Taking these findings into consideration, a similar association can be found for the case of Albania. The total amount of remittance inflows from 2009 to 2014 has been decreased with almost 150 million euros in Albania, reaching the minimum in 2013.

In the meantime, the exchange rate in 2014 was depreciated compared to 2009: the average annual exchange rate in 2009 was 132.19 Lek/Euro, and it turned into 139.97 Lek/Euro in 2014 (Bank of Albania, 2017). At a first sight, the correlation between the increase in the remittances inflows and exchange rate appreciation is evident even for the case of Albania for years 2009 and 2014. In addition, in order to provide further evidence about this correlation, I run two simple OLS regressions where I regress the standardized amount of remittances on the exchange rate, and the exchange rate on the standardized amount of remittances. I use the full sample with 42426 observations for these estimations.

Table 10. presents the results of these regressions. When the dependent variable is the standardized amount of remittances (column 1), the coefficient of the exchange rate is negative and significant at 1% level. The same sign and significance is in the case when the dependent variable is the exchange rate, and the control variable is the standardized amount of remittances. The significance at 1% level in both regressions demonstrates that the relationship between the amount of remittances and exchange rate is statistically significant, and the negative sign of the coefficients implies that this correlation is in line with the previous findings. When observing the sign of this correlation, one should keep in mind that the exchange rate is expressed as: $X(\text{Lek}/\text{Euro})$, where X represents the amount of domestic currency Lek, relative to one Euro. Therefore, the negative correlation coefficient found in the data, and the previous findings in other remittance-receiver countries, indicate that an increase in the amount of remittance inflows in the country, decreases the value of X . This suggests that one Euro will be exchanged with a lower amount of the domestic currency, which is an appreciation of the domestic exchange rate.

Table 10: Correlation between the standardized amount of remittances and the exchange rate(OLS)

	(1) Dependent variable: remittances	(2) Dependent variable: Exchange rate
Remittances		-.6508*** (.0215)
Exchange rate	-.0323*** (.0011)	
Constant	4.4133*** (.1464)	136.84*** (.0215)
N	42426	42426
F-statistic	909.67	909.67
R-squared	0.021	0.021

Table 10: Standard errors are reported in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. No stars implies that the coefficient is insignificant.

After clarifying the correlation between the amount of remittance inflows in the country and the appreciation of exchange rate, it is more simple to provide an explanation regarding the problems that the exchange rate instrument presented. First of all, there has been substantial changes in the amount of remittances inflows from 2009 to 2014, which is associated with exchange rate depreciation. The decline in the total amount of remittances, where the minimum is reached in 2013, can partially be attributed to the Greek crisis. During the Greek crisis, a considerable number of Albanian emigrants, who lived and worked in Greece, decided to return in Albania and withdraw their savings from their Greek Bank accounts. The withdrawal process was present starting from 2008, and is estimated to have continued even in the subsequent years (ACIT, 2012). Taking into consideration the fact that the economic conditions were not deteriorated only in Greece, but also in other Eurozone countries, such as Italy and Spain, and that the largest share of Albanian emigrants is in Greece and Italy, the decrease in the amount of remittances from 2009 to 2014, can be explained by these events. On the other hand, given that from the beginning of the Greek crisis, many of Albanian migrants withdrew their savings and sent them as remittances in Albania, can explain the fact that the amount of remittance inflows declined gradually from the beginning of the crisis, and reached the minimum in 2013. These considerable changes create volatility in the data of exchange rate and amount of remittances of year 2009 relative to year 2014. Moreover, the share of the data from 2014 is

larger than the share of the data from 2009, which makes the final outcome to be driven more from the 2014 results. Another problem with the use of the exchange rate as an instrument, is the relationship that it has with the macro fundamentals, which may influence individual saving decisions. Consequently, this may create another channel of correlation between the exchange rate and unwillingness to work. The reason behind this is that unwillingness to work may be correlated with savings, and savings are influenced by the interest rate, which is correlated with the exchange rate.

9. Conclusions

This study presents an attempt towards finding a causal effect of remittances on the individuals' unwillingness to work. The first estimations are conducted using Pooled OLS regression, given that the data are not panel data, and therefore do not allow for using other models such as fixed effects. The OLS results provide information regarding the correlation between the control variables and the dependent variable, which indicate that there is a positive and significant relationship between the remittances and unwillingness to work of the households. The magnitude of the coefficient of remittances suggests that an increase in the standard deviation of remittances with one unit, is associated with an increase with 0.009 units of the unwillingness to work. The results are robust after the inclusion of month and PSU dummies, which are used for capturing month and PSU fixed effects. Then, as an attempt to avoid omitted variable bias and endogeneity problems, I estimate the econometric model using Instrumental Variables with and without including PSU dummies. The results of the IV are consistent only in the cases where total distance of the interaction term are used as instruments, and infer that the IV coefficient is positive and higher than the OLS coefficient. On the other hand, the use of exchange rate as an instrument is problematic. This is confirmed by the reduced form results and the second stage results. These problems with the exchange rate can be attributed to the high exchange rate volatility between years 2009 and 2014, and the differences in the observation numbers in these years. Also, the IV results are not robust after the inclusion of PSU dummies.

However, despite the problems and limitations of the analysis, the IV procedure while using total distance, and interaction as an instrument, without including PSU dummies, indicates that the amount of remittances positively affects the unwillingness to work, which is consistent with the findings in the previous regressions.

The consistent result of the positive impact of remittances in the unwillingness to work for the Albanian remittance-receiver individuals, indicates that for these households remittances play the role of an additional source of income. Therefore, their demand for leisure increases and the alternative options such as: taking care of the children, or maintaining the dwelling, become more attractive than working, which explains the increase of the unwillingness to work.

The main finding can be explained also through the labour market environment. As shown in the previous sections, Albania is a country with continuous levels of high unemployment. This is an indicator of a problematic labour market, where labour supply is higher than the labour demand, and consequently the wages are not high. Therefore, the incentives to work for the remittance-receiver individuals are low, considering the low wages offered in the labour market. The fact that remittances are associated with an increase in the unwillingness to work, can be interpreted in two ways in terms of the consequences for the Albanian economy. The first interpretation would be that the increase in the unwillingness to work is a negative outcome, which can be translated into a decrease of the labour force of the country. On the other hand, given the high unemployment rates in Albania, keeping a part of people out of the labour force, and providing an additional source of income to them through remittances, can be considered as an “opportunity” for them to not become unemployed. Instead of constantly looking for a job and not finding it, which would be associated with lack of income and poverty for these individuals, they can cover their expenditures through remittances, and thus not face poverty and hard living conditions. However, in a long-term perspective the increase of the unwillingness to work is not a good indicator for the economy. As a way to solve this problem there can be designed policies that increase the incentives of the individuals for creating and developing microenterprises. A better environment for microenterprises would create incentives for remittance-receiver households to invest the amounts of remittances and generate more income, instead of using them as an additional source of income in absence of wages.

10. Bibliography

- Çela, A., Kamberi, G., & Pici, E. (2015). *Albanian Youth 2015 "Slow Change, Internet Dependency and...EU trust!"*. Friederich Ebert Stiftung.
- ACIT. (2012, August). *Study on the Economic Impact of the Greek Crisis in Albania*. Retrieved from ACIT, USAID:
<https://www.usaid.gov/sites/default/files/documents/1863/USAID%20Study%20on%20Greek%20Crisis.pdf>
- Acosta, P. A., Lartey, E. K., & Mandelman, F. S. (2007, April). *Remittances and the Dutch Disease*. Retrieved from Federal Reserve Bank of Atlanta:
<https://www.frbatlanta.org/-/media/Documents/filelegacydocs/wp0708.pdf>
- Airola, J. (2008). Labor Supply in Response to Remittance Income: The Case of Mexico. *The Journal of Developing Areas*, 41, 69-78.
- Bajraba, K., & Bajraba, J. (2015, September 10). *Migration Information Source*. Retrieved from Migration Policy Institute : <http://www.migrationpolicy.org/article/embracing-emigration-migration-development-nexus-albania>
- Bank of Albania. (2017). *Monetary Policy, Exchange Rates Archive*. Retrieved from Bank of Albania:
https://www.bankofalbania.org/web/exchange_rates_archive_2372_2.php?kc=0,2,3,5,0
- Bank of Albania. (2017). *Statistics, Time Series Database of the Bank of Albania*. Retrieved from Bank of Albania:
https://www.bankofalbania.org/?evn=agregate_detaje&evb=agregate&cregtab_id=536&periudha_id=5&crd=0,3,4,0,0,22&ln=1
- Bosker, M. (2017). *Applied Econometrics: A Crash Course. Empirics of Trade and Development*. Rotterdam: EUR-ESE.
- Cambridge Dictionary. (2017). *transition economy*. Retrieved 2017, from Cambridge Dictionary: <http://dictionary.cambridge.org/us/dictionary/english/transition-economy>
- Carlo Azzarri, Calogero Corletto. (2009, May). *Modeling Migration Dynamics in Albania, A Hazard Function Approach*. Retrieved from World Bank:
<http://documents.worldbank.org/curated/en/909861468006293697/pdf/WPS4945.pdf>
- Deaton, A. S. (2009, January). Instruments of Development: Randomization in the Tropics, and the Search for the Elusive Keys to Economic Development. *National Bureau of Economic Research*, 12-14.
- Dermendzhieva, Z. (2010). *Migration, remittances, and labor supply in Albania*. Retrieved from The World Bank: http://wbox.cerge-ei.cz/pdf/gdn/RRCVIII_60_paper_01.pdf
- Gedeshi, I. (2002). Role of Remittances from Albanian Emigrants and Their Influence in the Country's Economy. *Eastern European Economics*, 40(5), 49-72.
- Giuliano, P., & Ruiz-Arranz, M. (2005). *Remittances, Financial Development, and Growth*. IMF.

- Gupta, S., Pattillo, C., & Wagh, S. (2007). *Impact of Remittances on Poverty and Financial Development in Sub-Saharan Africa*. IMF.
- INSTAT. (2017). *Labour Market*. Retrieved from INSTAT:
<http://www.instat.gov.al/al/themes/tregu-i-pun%C3%ABs.aspx>
- INSTAT. (2017). *Labour Market, Publications*. Retrieved from INSTAT:
<http://www.instat.gov.al/al/themes/tregu-i-punës/publications/books.aspx>
- Jarvis, C. (1999). *The Rise and Fall of the Pyramid Schemes in Albania*. Retrieved from International Monetary Fund:
<https://poseidon01.ssrn.com/delivery.php?ID=024094113006078093076095082087004102067074018037042059108036062109006100020035023036026086017008115018015102019087008084106119125002031021088070004088119003085110122002111105022014070115118119092&EXT=pdf>
- Kim, N. (2007, February). *The Impact of Remittances on Labor Supply: The case of Jamaica*. Retrieved from World Bank:
<https://openknowledge.worldbank.org/handle/10986/7152?show=full>
- Konica, N., & Filer, R. K. (2009). Albanian Emigration: Causes and Consequences. *South-Eastern Europe Journal of Economics 1*, 75-98.
- Lartey, E. K., Mandelman, F. S., & Acosta, P. A. (2008, March). *Remittances, Exchange Rate Regimes, and the Dutch Disease: A Panel Data Analysis*. Retrieved from Federal Reserve Bank of Atlanta: <https://www.frbatlanta.org/-/media/Documents/research/publications/wp/2008/wp0812.pdf?la=en>
- Lopez, H., Molina, L., & Bussolo, M. (2007, April). *Remittances and the real exchange rate*. Retrieved from World Bank Policy Research Working Paper 4213, April 2007:
<https://poseidon01.ssrn.com/delivery.php?ID=679064026081101078127098116020113078035010031014027056097013062086030037000020022000123003074006088029018009055007111127105110116120027017111127077028124086096001004080092020090014095066022&EXT=pdf>
- Meyer, D., & Shera, A. (2016, June). *The impact of remittances on economic growth: An econometric model*. Retrieved from EconomiA:
<http://dx.doi.org/10.1016/j.econ.2016.06.001>
- Rodriguez, E. R., & Tiongson, E. R. (2001). Temporary Migration Overseas and Household Labor Supply: Evidence from Urban Philippines. *The International Migration Review*, 709-725.
- United Nations. (2014). *Country Classification*. Retrieved from United Nations:
http://www.un.org/en/development/desa/policy/wesp/wesp_current/2014wesp_country_classification.pdf
- United Nations. (2016). *International Migrant Stock 2015*. Retrieved from United Nations, Department of Economic and Social Affairs:
<http://www.un.org/en/development/desa/population/migration/data/estimates2/estimates15.shtml>
- Uruçi, E., & Gedeshi, I. (2004). *Role of Remittances in the Social Economic Development of the Country*. Bank of Albania.
- Wooldridge, J. M. (2009). Introductory Econometrics, A Modern Approach. In J. M. Wooldridge, *Introductory Econometrics, A Modern Approach* (Vol. 4, p. 527). South-Western CENGAGE Learning.
- Wooldridge, J. M. (2013). *Introductory Econometrics, A Modern Approach*. Michigan State University.

World Bank. (2016). *Data Bank, World Development Indicators*. Retrieved from The World Bank: <http://databank.worldbank.org/data/reports.aspx?source=world-development-indicators>

World Bank. (2017). *Understanding Poverty/Topics/Migration/Overview*. Retrieved from World Bank: <http://www.worldbank.org/en/topic/migrationremittancesdiasporaissues/overview>

11. Appendix

Table 1: Hausman test for endogeneity of remittances

	<i>(b)</i> <i>all cats</i>	<i>(B)</i>	<i>(b-B) difference</i>	<i>Standard errors</i>
<i>Age of Head of HH</i>	.0036	.0015	.0021	.0046
<i>Age2 of Head of HH</i>	-.00003	-.000013	-.000013	.000041
<i>Head of HH Married</i>	.0223	-.0037	.02602	.04103
<i>Head of HH Female</i>	.1108	-.00063	.1114	.0312
<i>Education of Head of HH</i>	-.0076	-.00042	-.0072	.0026
<i>Number of HH members</i>	.1126	.00068	.1119	.0054
<i>Year 2014</i>	-.2292	-.0129	-.2162	.0380

H0: Difference in coefficients is not systematic

Prob>Chi2=0.0000

The null hypothesis is rejected, meaning that the differences in coefficients are statistically significant, and remittances is endogenous.