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Hidden Consequences of Remittances

The micro impact of remittance flows in the Albanian remittance-receiving households' behavior

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To my Mom and Dad

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ABSTRACT

During the last two decades, South-East European countries have experienced a large increase in the number of people migrating to more developed countries. With a large portion of their population abroad, these countries are highly dependent on remittances, which in the case of Albania far exceed Foreign Direct Investments.

Using household survey data for Albania, the first part of the study compares decision-making about human capital investment in remittance-receiving households and non-remittance-receiving households. The Cox proportional hazard model is used to capture the effects of remittances.

The second part the dissertation focuses on the impact of remittances on labor market participation using propensity score matching. This part of the dissertation relies on the matching approach for the identification. The nearest neighbor and kernel estimators are used to obtain the matching results.

Using instrumental variable method, the third part of the dissertation investigates the effect of remittances on health capital accumulation. Total expenditure is divided into two categories: expenditure on medicines and expenditure on visits and laboratory services. The estimation is presented for two separate sub groups, rural and urban area.

The vector of covariates includes information related to individual and households characteristics such as; age, gender, schooling, area of residence etc. In the models, household incomes are considered separately from remittances in order to identify whether income from remittances has the same effect as other types of household non-labor income in the decision-making of household members.

The findings suggest a negative relationship between education and remittance receiving status. The estimation of the survival function indicates that receiving remittances from household members working abroad increases the hazard of leaving school after the end of secondary education. The negative relationship between education and remittances is more evident for males living in rural areas.

In line with previous studies, empirical results show that receiving remittances does not have any impact in the probability of working or hours worked per week by males. Receipt of remittances seems to impact the labor market behavior of females, because they reduce their hours worked in presence of remittances.

The last part of the study indicates that households increase their expenditure for medicines and other health services in the presence of remittance income. The positive relationship is statistically significant in the case of remittance receiving households living in the rural area. The magnitude is lower in the case of total expenditure for visits and laboratory. However, total expenditure for visits and laboratory are likely to have significant impact on the health outcome given their prevention nature.

These findings show that remittance flows pay a heterogeneous role in the decision making process of remittance-receiving household members. However, these non-labor income flows may play an important role in supporting expenditures, especially for those living in rural areas.

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1 INTRODUCTION

"History shows that it is not only senseless and cruel, but also difficult to state who is a foreigner."

Claudio Magris, Danube: A Sentimental Journey from the Source to the Black Sea

1.1 BACKGROUND

International migration is a significant aspect of globalization and a major socio-economic phenomenon affecting both sending of receiving countries. Migration cannot be seen as an individual decision, rather than a force to set in motion the dynamics of development. Migrant remittances represent the first direct impact of migration on migrant sending countries. If we consider labor an export, the remittance flows are part of the payment for exporting labor services to the country of origin (Taylor, 1999).

The International Monetary Fund separates remittances into three different categories in its Balance of Payments. First, worker remittances, or the value of monetary transfers sent home from workers living abroad for more than one year. Second, compensation of employees, or the gross earning of foreigners residing abroad for fewer than 12 months including the value of in-kind benefits. Third, migrant transfers, or the net worth of migrants who move from one country to another. Estimation of migrant remittance flows is however complicated because a large share of remittances is not channeled through banking systems.

Globally, remittances constitute one of the largest sources of external financial flows to developing countries. In this focus migration can be seen as an instrument for fostering development

back home "moving forward by giving back"[1]. A number of remittance initiatives go through informal unrecorded channels. Remittances seem to be the least controversial aspect of the debate on international migration. Both remitting and receiving countries are considering the long-term socio-economic implications of these transfers.

Remittances may help improve economic growth, especially if used for financing children's education and health expenses. Even when they are used for consumption, remittances generate multiplier effects, especially in countries with high unemployment (Maimbo & Ratha, 2005). A larger multiplier effect may be produced if remittances flow into rural households, whose consumption and expenditure are related to labor-intensive goods. Empirical studies show that remittances have an equalizing effect on the distribution of income among different groups of the community (Adelman & Taylor, 1990). At a macroeconomic point of view the great volume of remittances can result in a currency appreciation. On the other hand remittances enable receiving countries to pay for imports and repay foreign debt. The income effect of remittances may have important influence on production, inequality, and poverty.

Migration and remittances are both complex phenomena involving individuals; the development impact depends on a variety of variables. Remittances are more significant in low-income countries than in other countries (Maimbo & Ratha, 2005). Although for 2003 in nominal terms the top recipients of remittances included several large countries, remittances as a share of GDP were larger in smaller and poorer countries, including Albania shown in figure 1.1.

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[1] The emphasis of the Global Diaspora Forum 2012 being on "giving back".

Figure 1.1:Top 20 Developing Country Recipients of Remittances as Percentage of GDP, 2003
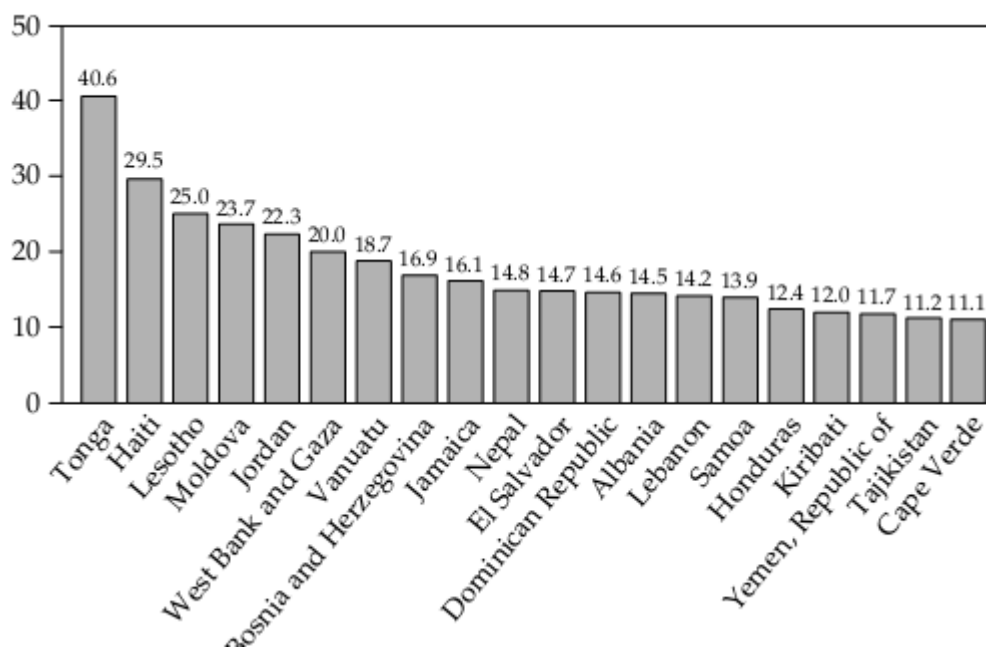
Source; S. Maimbo and D.Ratha (2005)

Since the fall of the communist system in the early 1990s, most Eastern European countries have shared the experience of economic collapse followed by gradual recovery. Output levels fell across these countries following the collapse of central planning and the shortage of vital products. The economic transformation of Albania has had several features that are unique by Eastern European standards. During the 1990s, an enormous proportion of Albanian labor force worked abroad mostly in Greece and Italy. Albania is an interesting case for discussing the impact of both migration and remittances. The international migration was legally forbidden and tightly controlled until a time when migration became a demographic and social process with about one-half of households reporting family members with migration experience (Azzarri, et al., 2006).

Over this period Albania's economy has grown at six percent annually. The rate of growth is the faster if compared to any other country in Central and Southern Europe represented in figure 1.2. Despite this, Albania's income level still remains low in regional terms. According to comparative data of 2009, Albania's GDP per capita is only 27 percent of EU average in purchasing power. Construction and services have been major contributors to growth, representing more than 60 percent of GDP.

Increasing productivity and workers' remittances appear to be the two major factors for the expansion of these sectors. GDP's agriculture share has been halved during the last decade, still remaining high in regional terms, accounting for 18 percent of GDP and about 40 percent of employment.

In Albania, total gross investments increased from 24.6 percent of the GDP in 2000 to 29.5 percent of the GDP in 2009. In the same period, private investment increased from 18 to 21.4 percent of the total investments. Remittance inflows to the country played an important role in these changes. As a result of the sustained economic growth, the absolute poverty[2] rate fell from 25.4 percent in 2002 to 12.4 in 2008 (World Bank, 2010). According to the World Bank (2010), the share of extremely poor[3] people decreased to 1.2 percent in 2008. This decline is due two main factors; remittance flows, and shifts of employment from agriculture to better paying sectors.

Figure 1.2:Macroeconomic Indicators of Central and Southeast European's Economies
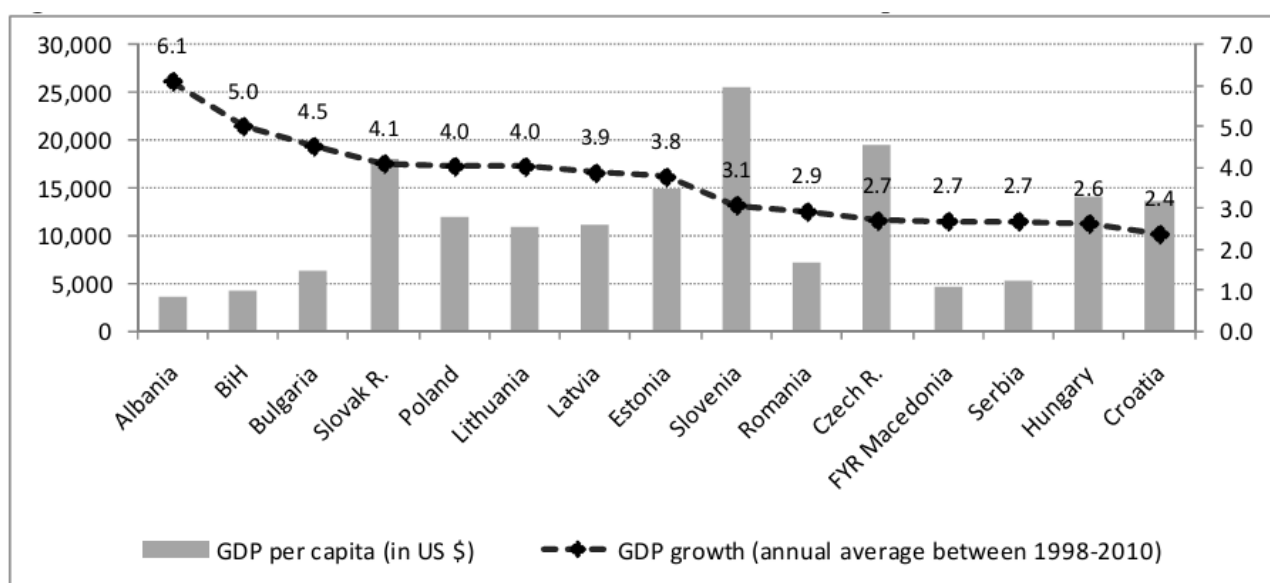
Source; World Bank (2010)

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[2] According to the UN declaration that resulted from the World Summit on Social Development in Copenhagen (1995), absolute poverty is a condition characterized by severe deprivation of basic human needs. It depends not only on income but also on access to services.

[3] World Bank (2005) defined extreme poverty as living on less than US$1.25 a day. This meant living on the equivalent of US$1.25 a day, in the US, buying US goods. In 2011, this means surviving on the equivalent to US$1.50.

Exports has been a major factor of economis growth. Exports in goods and services have incresed from 10 percent to 30 percent of GDP, since 1998. However, the trade deficit has stayed above 20 percent of GDP. As table 1.1 shows, about half of the trade deficit has been covered by remittances, FDI, and other capital inflows. Other capital inflows include unrecorded remittances (Bank of Albania, 2009).

Table 1.1: Balance of Payment as Percentage of GDP (data from the Bank of Albania)

	2004	2005	2006	2007	2008	2009
Current Account Balance	**(4.8)**	**(7.2)**	**(7.3)**	**(11.2)**	**(15.1)**	**(16.1)**
Trade Balance	**(21.8)**	**(23.8)**	**(24.0)**	**(27.2)**	**(27.3)**	**(26.3)**
Remittances	**13.7**	**13.7**	**14.1**	**13.5**	**10.9**	**10.7**
Capital account	**7.0**	**6.5**	**7.6**	**10.7**	**12.7**	**13.1**
FDI	**4.6**	**3.3**	**3.5**	**5.9**	**8.0**	**8.2**
Other capital	**1.1**	**2.4**	**3.2**	**3.9**	**0.6**	**(0.1)**
Loans	**1.0**	**0.7**	**0.8**	**0.8**	**4.6**	**5.0**

Source; Bank of Albania (2009)

Sound fiscal and monetary policies, supported by strong GDP growth contributed to the decline of public debt from 62 to 53 percent of GDP in the period between 2003 and 2007. However, Albanian fiscal and monetary policies allowed a rapid growth of the banking sector. The privatization of the Savings Bank[4] positivy affected the sector. Credit as a share of GDP grew from 4.7 to around 37 percent in the period between 2001 and 2009, as shown in figure 1.3. This credit remain concentrainted to the large companies. At the same time consumer credit and mortgage have expanded.

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[4] The Savings Bank was the largest Bank in Albania in the period before 1990.

After the unstable 1990s, inflation has largely been brought to within the Bank of Albania objective of 2 to 4 percent per year. The flexible exchange rate system has proven to be good in absorbing shocks (World Bank, 2010). Sound fiscal and monetary policies have been two important pillars of the macroeconomic stability. As a result public debt declined from 62 to 53 percent of GDP between 2003 and 2007. The trend however reversed in 2008 with the increase of public investments.

Figure 1.3: Deposits and Credit to Private Sector as Percentage to GDP
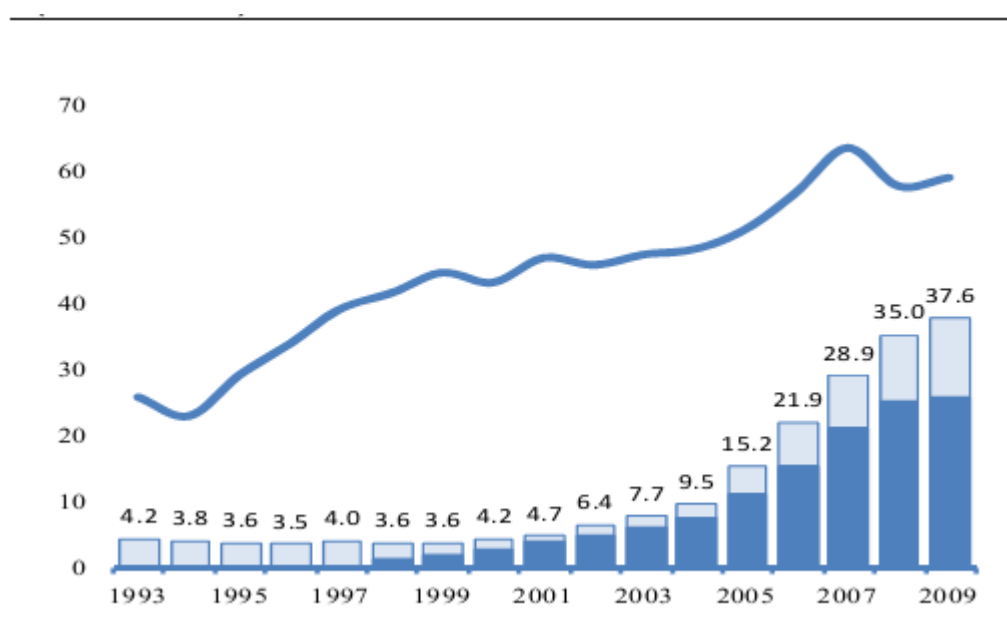
Note; Bars-credit to private sector, Line-Deposits

Source; Bank of Albania, 2009

Over the past 20 years natural population growth was offset by emigration. Currently around 1million of Albanians live abroad. Since 1990, almost a quarter of the Albanian population left the country along with a large rural to urban migration. The collapse of the Socialist Regime after 1989 was the most important factor of Albanian migration. After the first democratic elections in 1991, approximately 20,000 Albanians crossed the Adriatic Sea by boat to Italy (King & Vullnetari, 2003). Following the collapse of "pyramid schemes" another phase of mass migration took place in 1996-

1997. Since 2000, the political situation in the country has stabilized with a steady outflow of migrant nevertheless continuing.

Due to the geographical and cultural proximity the primary destination countries for Albanian migrants are Greece and Italy. Next to Greece and Italy are United States and United Kingdom. Despite the changes in the patterns of Albanian migration the dispersion in the Albanian Diaspora in recent years was relatively stable. Much of Albanian migration is economically driven and located in the low-skilled and informal sector. The migration in Albania affects mostly the economically active section of the population, the majority being male. Family reunification has been the main reason for female migration from Albania, reflecting the patriarchal family model. The main migration path for female migrants remains family reunification followed by migration for study purposes. Estimates show that while female migrants accounted for around 20 per cent of total Albanian migrants in 1990, their share was approximately 40 percent by 2001 (IOM, 2008).

According to the International Organization for Migration (2008), male Albanian migrants in Greece were mainly employed in construction around 49 percent and agriculture around 21 percent. In Italy the primary sector for male Albanian employment were construction around 43 percent, manufacturing 19 percent, and services 16 percent. In both countries, female migrants were primarily employed in the domestic sector. In the United Kingdom, construction and services were the two main sectors of occupation for men, 33 and 32 percent respectively, while women were principally employed in the services sector. Million of Albanians live abroad.

The loss of skills from migration is a phenomenon to be taken into consideration. Data, about the period 1990-2002, show that 47 percent of permanent migrants had secondary schooling or more, compared to 31 percent among non-migrants. During the first years of transition, the absence of jobs for those with secondary or tertiary education constituted an incentive for those people to migrate. Despite significant migration, unemployment rate still remain in double digits, 13.5 percent in 2010.

Migrant workers play an important role in the Albanian economy because large proportion of their earnings are transferred back home. About 68 percent of migrants send remittances back to

Albania. According to the Bank of Albania (2009) around 26 percent of Albanian houheholds receive remittances from migrants living abroad. There is strong evidence on the fact that the remittance behavior of Albanian migrants remains constant despite the country of residence.

Albanian migrants mainly send remittances through informal channels, around 77 percent, and less by formal ones. Due to geographical vicinity migrants residing in Greece and Italy travel at an average of two to three times a year to Albania and bring the money with them. Around 13 percent (IOM, 2008) of migrants prefer sending money through money transfer operators. The advantage of money transfer operators over banks includes faster transfer services and no requirement of a bank account for the migrant sender.

Albanian rate of economic growth, in the postcommunist era, exceeded that of all other European transition countries. However, during the period 1996-97 Albania witnessed the dramatic rise and collapse of the so called "pyramid schemes" that were larger relative to the size of the economy that any previous scheme of this kind. According to Korovilas (2005), during 1995-96 the pyramid investment schemes attracted total deposits equivalent to approximately half of Albania's GDP. This establishes a link between the flow of remittances and the rise and fall of pyramid schemes. Past Albanian Pyramid Schemes experience (Korovilas, 2005) showed how migrant remittances vanished in unregulated and fraudulent investment markets, during the first years of post communist changes.

An important issue related with the research on remittances is related to the undocumented remittance flows. This problem may be linked to the costs of sending remittance and undocumented migration. Therefore it is recommended to reduce the costs of sending remittances as well as liberalizing migration regimes around the world. Possible alternatives that reduce fees and commissions for sending money may include the formation of networks between public and private institutions and by strengthening the financial infrastructure to support remittances.

According to the Bank of Albania (2006) remittances flows seems to be important relative to other foreign exchange-earning activities. As shown in table 1.1 remittances represented around 14 percent of GDP and 65 percent of the trade balance for the period 2004-9. Remittances 'share of GDP was stable until the beginning of the crisis in 2007, but the share declined in 2008-9 (Figure 1.4). In this context, remittances of Albanians living abroad were down by around 8 percent for 2011 if compared to the same period of 2010 (Bank of Albania, 2011).

Table 1.2: Remittances as Percentage of GDP, Trade Balance and Imports (in million of USD)

	2000	2001	2002	2003	2004	2005
Current Account Balance	(163)	(218)	(421)	(407)	(358)	(561)
Trade Balance (*TB*)	(821)	(1,027)	(1,155)	(1,336)	(1,592)	(1,827)
Exports	255	305	330	447	603	659
Imports (*Imp*)	(1,076)	(1,332)	(1,485)	(1,783)	(2,195)	(2,486)
Remittances	531	615	632	778	1,028	1,161
GDP	3,709	4,114	4,505	5,859	7,549	8,380
Remittances as % to Imp	49%	46%	43%	44%	47%	47%
Remittances as % to TB	65%	60%	55%	58%	65%	64%
Remittances as % to GDP	14%	15%	14%	13%	14%	14%

Source; Bank of Albania (2006)

Remittances from Albanian migrats depend on EU economic performance. Migrant's income levels and employment levels are key short-term determinants of remittance flows. According to figure 1.4 remittance inflows declined in 2009 if compared to 2007. Remittances play an important role in Albania's domestic demand. Econometric studies suggest that a 10 percent decline in remittances would lead to around 3 percent reduction in domestic demand (World Bank, 2010). The

main contributors of Albania's GDP such as; construction, and services and food are the sectors affected the most by the decline in remittance flows.

Figure 1.4: Remittance Trends for the Period 2004-2011, (expressed in million Euros)
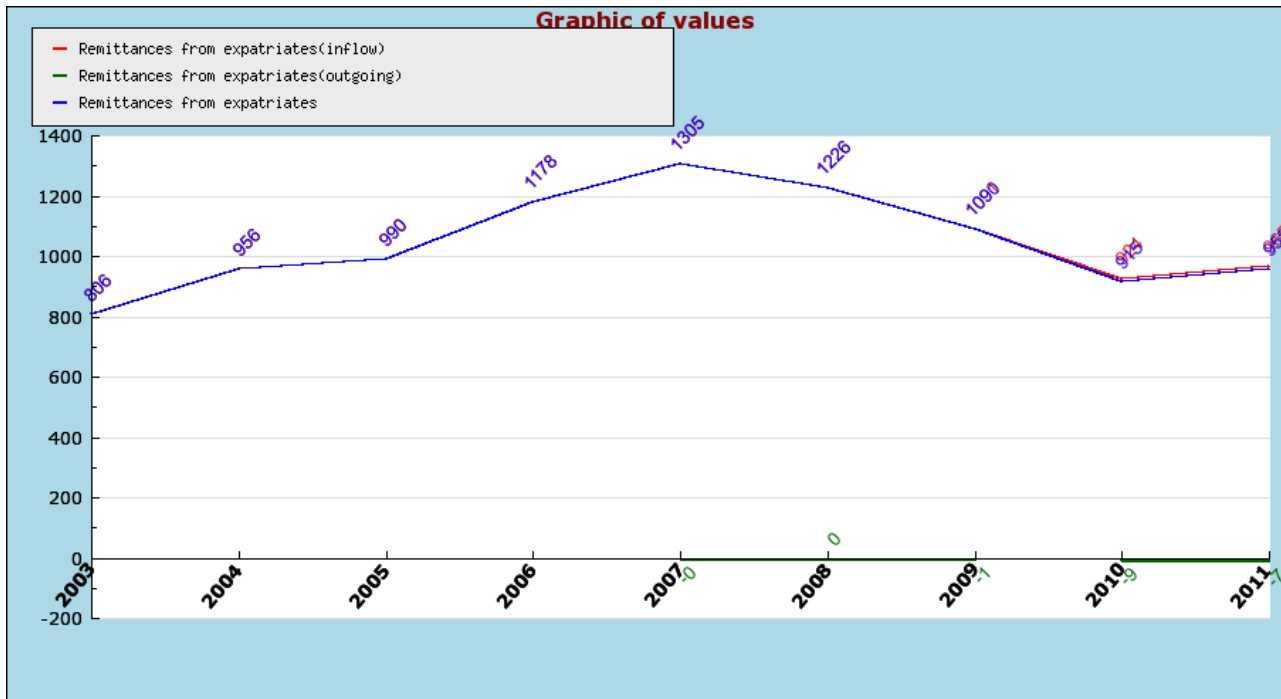
Source; Bank of Albania (2012)

Despite difficulties in host countries due to the crisis, migrants continue to send remittances home. Remittances in Albania still represent around 10 percent of the GDP. One explanation may be found in the altruistic behaviour of migrants in that they tend to send more remittances when the country of origin faces economic crises. Although empirical studies suggest that remittances have been directed more toward consumption than increasing the productive capacity, remittances may contribute through the multiplier effect when used for education and health.

The effect of remittances in terms of duration might be in short as well as in long term. The short term is usually related to consumption increase, income inequality, and poverty alleviation. While the long term effect is related to socio-economic development. According to the literature the impact of remittances is both positive and negative. Remittances can contribute to the well-being of

the household, but at the same time these income flows may result insecure because the household may fall into poverty in the moment these flows stop.

Given this background, this dissertation analyses the role of remittances on remittance-receiving households' spending patterns. The study focuses on the effect remittances have on education expenses, health expenses, and labor market participation of household members left behind. Using different empirical methodologies the dissertation tries to give answers to the following three questions. First, do remittance-receiving household members complete more grades of schooling? Second, do remittances alter labor market participation of remittance-receiving household members? Third, are remittances spent on health?

The choice of these research questions is motivated by the desire to better understand the socio-economic dimension of international migration and remittances. The basic idea behind the study is that remittance flows more than other sources of income might influence household spending decisions and social behavior within the origin community. The dissertation provides more evidence on the impact of remittances on the spending patterns of households in Albania and draw conclusions that may inform policies about the role of remittances in poverty reduction and development enhancing activities.

1.2   REMITTANCES AND DEVELOPMENT

Remittances have come to play an increasing role in the developing processes. Researchers estimate that nearly one tenth of the world's population is beneficiary of the migrants' earnings known as remittances. However, the role of migration and remittances in developing countries is not uniform among migrant sending countries, which makes it fascinating area of study. Recent studies have focused on the volume of remittance flows and their macroeconomic impact on remittance-receiving

countries. The development potential of remittances, their socio-economic impact will be examined in this dissertation.

Remittances tend to be more stable than private capital flows, and may even be counter cyclical relative to the recipient economy as shown in figure 1.5. They tend to rise when the recipient economy suffers a downturn, an economic crisis, or political conflict. In addition remittances help households to diversify their sources of income and thus reduce their vulnerability to risks.

Figure 1.5: Remittances and Capital Flows to Developing Countries
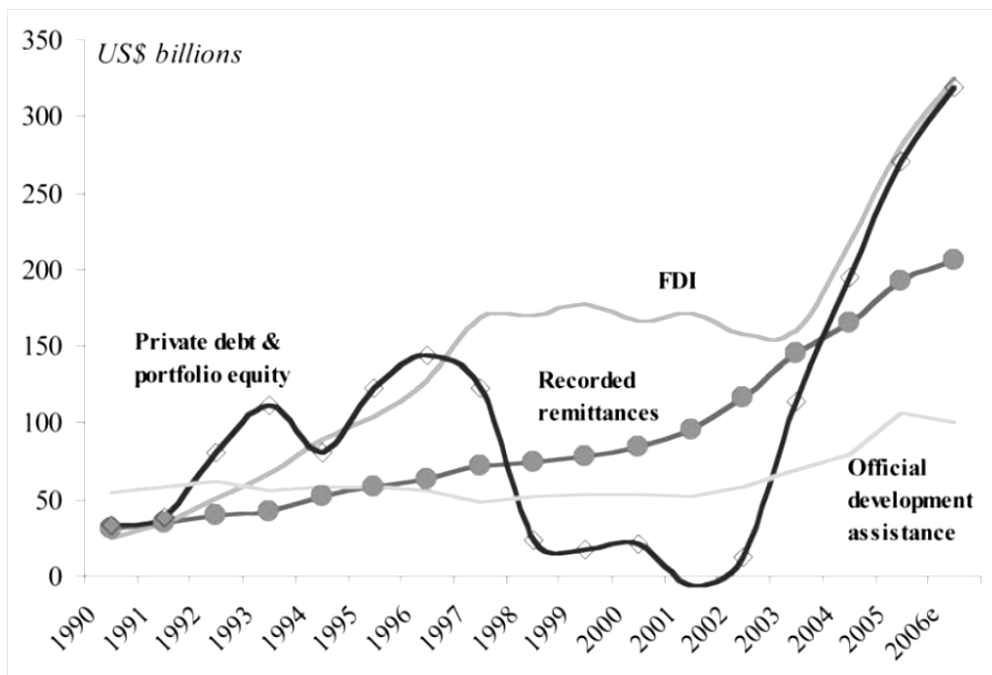
Source; Ratha, D. (2007)

Remittance flows affect poverty and welfare through indirect multiplier effect and macroeconomic impact. Remittances are associated with increased investments in education, entrepreneurship, and health all of which have a high social return. To the extent that remittances finance education and health and increase investments, remittances could have a positive effect on growth.

Most remittances go directly to the family budget and are often used to better subsistence needs and better housing. They thus contribute to family welfare and higher levels of living. Increased expenditure on food and housing and rising levels of living, combined with better knowledge on health often lead to improved productivity and development of human capital.

Remittances have also raised the levels of children's education, a key factor in future human development. It was also found that an increase in the share of households receiving remittances in a municipality led to both better health and schooling (Duryea, et al., 2005). In the Philippines, increased remittances led to increased educational expenditure, more children schooling and reduced child labor (Yang, 2008). The effect of remittances on retention of children in schools in urban areas was estimated to have been ten times higher than the effect of other sources of household income and around 2.6 times higher in rural areas (Cox-Edwards & Ureta, 2003).

However, it is not always clear whether remittances are more likely used for children's education. Probably both play a part in explaining the correlation between remittances and more schooling (Ghosh, 2006). This is why more investigation on the development role of remittances is needed.

Remittances are not spent only on current consumption; they may contribute to the growth of income generating enterprises. However, in some cases remittances may replace the existing production and increase reservation wage. Reductions in agricultural production associated with migration and remittances have been registered in different countries (Itzigsohn, 1995; Glytsos, 1998).

A stable flow of remittances enhance the credit worthiness of remittance-receiving households, making it easier for them to have access to loans from financial institutions. Access to credit through migration savings and human capital accumulation are claimed to have a positive impact on entrepreneurship among returning migrants.

Another contribution of remittances concerns the creation of community assets and services (Ghosh, 2006). In a number of countries in Africa, Asia, and Latin America remittances has been used to build social assets and facilities such as; schools, medical centres, and roads. Such investments in

social assets and physical infrastructure contribute to the welfare and economic development of those communities.

At the macroeconomic level, remittances can help development, especially in countries where remittances are an important source of foreign exchange and addition to the gross domestic product. Recent estimates (World Bank, 2008) show that recorded remittance receipts were nearly 6.7 percent of developing countries' imports and 7.5 percent of domestic investments. Access to foreign exchange earnings may provide a support for the balance of payments accounts. Remittance-receiving countries may use the flows to raise additional funds in the world capital market.

Rajan and Subramanian (2008) argue that remittances do not have systematic adverse effects on country's competitiveness. This may be due to the fact that, since remittances go to the private individuals and not to the governments, they do not have the same risk in encouraging corruption. It has been suggested that the relative stability of remittances help avoid real exchange rate volatility.

Remittances have also their downside. The positive effects of remittances on household welfare can be somewhat neutralized when remittances lead to showy consumption in remittance-receiving households and encourage imports of luxury goods. At the same time remittances may dampen exports if they lead to an appreciation of the external value of its currency, becoming a Dutch disease.

Excessive reliance on remittances to finance development can be self defeating because structural reforms may be postponed. This may bring to distortions in the economy through inefficient allocation of resources and lead to further dependence on remittances. Too much dependence to remittances makes the economy vulnerable to sudden changes in remittance receipts.

On the other hand remittances' multiplier effect is influenced by the nature of the linkage between remittance-receiving communities and the national economy. Research findings on the links between remittances and growth vary considerably. Remittances can contribute to investment and output growth, but this is not automatic.

Remittances can affect economic development via their impact on educational and health investments. However remittance flows might have effects on the labor-leisure allocation of remittance-receiving household members. The literature shows no consensus as to whether the net effect of remittances on the receiving households is positive or negative. Further investigation on the microeconomic impact of remittances is needed.

1.3   DATA OVERVIEW

The dataset used for the analysis of the research questions presented above is the Albanian Living Standards Measurement Survey for 2005. The 2005 ALSMS was conducted between May and July, with an additional visit to agriculture households in October. The survey work was undertaken by the Living Standards unit of INSTAT[5], with the technical assistance of World Bank. LSMS surveys are designed to collect data that can be used to study living standards and how living standards are affected by government policies.

Four survey instruments were used to collect the information; a household questionnaire, a diary for recording the household food consumption, a community questionnaire, and a price questionnaire. The household questionnaire includes all the core LSMS modules as defined in Grosh and Glewwe (2000), plus additional modules on migration, fertility, subjective poverty, agriculture, non-farm enterprises, and social capital.

The LSMS household questionnaire records information on a variety of dimensions of welfare and on the use of social services. The traditional list of modules included in LSMS survey includes; household roster, education, health, employment, migration, anthropometry, fertility, consumption, housing, agriculture, household enterprises, miscellaneous income, and savings and credit. Some of the

[5] INSTAT is the Albanian Institute of Statistics.

information (consumption, housing quality, and agriculture production) is collected only at the household level, but much of it (employment, education, and health) is collected at the individual level (Grosh & Glewwe, 2000).

Collecting migration information has not been a high priority in past LSMS surveys. Yet international migration has evident effects on most economies. Migration module as shown in table 1.4 includes questions for non-resident household members; children, parents, siblings or spouse of household members. Direct and indirect estimates for internal and international migration before 2001 can only be computed using ALSMS 2002. For the period after 2002, ALSMS 2005 provide extensive information on internal and international movements. The migration history of all present and former household members is documented. Furthermore, the socio economic profile and legal situation of migrants abroad were also recorded.

Concerning remittances, the information was available in the 2002 ALSMS in the transfers and social assistance module. The corresponding information appears in the migration module in the 2003 ALSMS, this module is similar to the one used in 2005 ALSMS. In particular, there is an additional section on adult children living abroad. For each adult child living abroad, we have information whether the head of the household has received remittances from the specific child and the corresponding amount, if any. The questionnaire also includes the main uses of the transfer. The survey offers information about the relationship between each person remitting to the household and the head, the location of the remitter and the amount given.

The Republic of Albania is divided geographically into 12 Prefectures. These are divided into Districts which, in turn, are divided in Cities and Communes. The Communes contain all the rural villages and the very small cities.

The sampling design, for ALSMS in 2005 represented in table 1.3, is related to the one used in 2002. In 2002 it was considered a stratified in two stage cluster sampling design in which the Primary

Sampling Units (PSUs) were represented by the census Enumeration Areas (EAs)[6] while the Second Stage Sampling Units (SSUs) were the households (denoted as HUs)[7]. The EAs were stratified according to the geographic area; mountain area, coastal area, and central area, their belonging to urban or rural areas, and Tirana town was considered as a separate stratum.

In order to obtain with the minimum of 50 and the maximum of 120 occupied housing units, the EAs with zero population has been taken off the sampling frame. Since the size of the EAs varied from 0 to 395 HUs, the smaller EAs has been collapsed with geographically adjacent ones and the largest EAs have been split into two or more EAs. A fixed number of valid dwelling units was selected systematically and with equal probability from the Listing Form pertaining to Tirana and from the Census form for the other areas. Once the HUs were selected, 4 of them were chosen at random and kept as reserve units. The selected HUs were numbered within the EAs.

The enumeration was completed in two visits. The core team pad additional visits to those enumerations whose questionnaire seemed to contain a higher number of errors. Supervisors discussed personally with the households all cases where there was a refusal.

The sampling design chosen for the 2005 ALSMS is similar to the one used in 2002. The selection of the new sample of 450 EAs has been carried out using the frame of EAs resulting from the Population Census. Before selecting the sample of PSUs, EAs from Tirana and Durrës has been updated to take into account the migration flows, which were particularly marked for these towns.

The sampling for the ALSMS was based on a stratified two-stage cluster design and includes 3,638 households and 17,302 individuals. The survey includes information about four regions: Tirana, the capital, and the Costal, Central, and Mountain regions, each disaggregated into urban and rural areas, and hence offer a comprehensive overview of national patterns. This is by far the best source of data to date for understanding the impact of migration in Albania.

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[6] The EAs in the frame are classified by Prefecture, District, City or Commune.

[7] In the survey only occupied dwellings has been used and not the total number of dwellings since many EAs contain a large number of empty dwellings.

Table 1.3: The 2005 LSMS Design

Geographic Area	Stratum	No. EAs (PSUs)	No. Hus (SSUs)	No. EAs in the sample	No. Hus in the sample
Coastal Area	Durres	383	29528	10	80
	Fier	168	14739	10	80
	Vlore	241	19979	10	80
	Other Urban	509	43712	30	240
	Rural	1479	125950	65	520
	Total Coastal	*2780*	*233908*	*125*	*1000*
Central Area	Shkoder	278	21570	10	80
	Elbasan	220	22076	10	80
	Berat	123	10528	10	80
	Korce	179	15099	10	80
	Other Urban	573	49336	20	160
	Rural	2436	209815	65	520
	Total Central	*3809*	*328424*	*125*	*1000*
Mountain Area	Other Urban	171	16095	50	400
	Rural	655	56292	75	600
	Total Mountain	*826*	*72387*	*125*	*1000*
Tirana	**Tirana**	**1336**	**108266**	**80**	**600**
	Overall Total	*8751*	*742985*	*455*	*3640*

The choice of the modules was aimed at matching as much as possible the specificity of Albanian in terms of data needs. Questions asked and their sequences were adapted to fit the Albanian reality. Household membership in this survey is defined as being away from the household for less than six months. The head of the household is always considered a member of the household irrespective of the time spent away from it.

Table 1.4:Contents of the 2005 ALSMS Household Questionnaire

Module	Broad description of the information collected	Respondent
Household roster	Details of household members and parents and language spoken	Head of the household or, if not available "principal respondent"
Education	Part A; Preschool, attendance, type of school, costs	Mother or guardian
	Part B; Schooling, attendance, and costs	All household members age 6 or over
	Part C; Parental opinion on children's schooling	Parent or guardian
Labor	Labor force participation Overview last 7 days Main and secondary job in the last 7 days. Employment History	All members age 15 and older
Migration	Part A; Internal migration of the household members	Most knowledgeable person
	Part B; International migration of the household members	
	Part C; Children living away and migration history	
	Part D; Sibling of head and spouse	
	Part E; Shocks of the household	
Health	Part A; General health status	All members 15 or older, parents or guardian or most knowledgeable person
	Part B; Access to health care	

The questionnaire was divided in two sections, and was administered to households in two visits, one section per visit. Table 1.4 provides a detailed description of the content of the modules of the questionnaire used for the purpose of answering the research questions in the next three chapters.

The ALSMS survey has a number of advantages in terms of the analysis of migration. These dataset cover a wide range of measures (table 1.4), including income and consumption usually

including remittance transfers to and from other household members, health, education, employment, as well as questions on the migration behavior of the respondents. The survey has a separate migration module for individual household members, and collects information on population movements.

The migration module of ALSMS questionnaire defines migrants as all those who were not born in their current residence, or if they were, those who have lived elsewhere for a period of 12 months or longer. The questionnaire also contains questions on the reasons for moving or migrating. Respondents are also asked about their employment in the place of residence.

The ALSMS allow quantification of who can be considered as migrants and analyze factors such as: employment, levels of education, health status as shown in table 1.4. Although ALSMS survey in general provides a representative sample of the population as a whole, it is not necessarily the case that the migrants included in the sample are representatives of all migrants.

Migration affect and is affected by many aspects of individual and family behavior. The following dissertation analyses of migration and remittance is extremely dependent on the links with other modules of the ALSMS survey. Remittances between migrants and their original households have several policy implications.

1.4   STRUCTURE OF THE THESIS

The analysis of remittances is frequently concentrated on examination of motives for migration and remitting. According to the literature three of these motives are relevant here. First, the risk-sharing motive (Stark, 1991) suggests that remittances are part of a risk-management strategy. Remittances provide benefits both to the migrant and the remittance-receiving household, providing security and

maintenance in the event of external shocks. Remittances are thus a form of mutual contract between the remitter and the remittance-receiving household.

Remittance flows are seen as an instrument to fulfill an obligation to the household based on responsibility and affection toward the family (Aggrawal & Horowitz, 2002). In this context migration is a family decision. When motivated by altruism, the amount of remittances varies depending on the number of household members that migrate and on the poverty level of the remittance-receiving household.

Another explanation can be the combination of the previous two (Clark & Drinkwater, 2001). In this point of view both altruism and self-interest influence the decision to migrate and remit. Whatever the motivation to remit, their use may potentially have an enormous socio-economic impact either in the long-run or short-run. It is important to better understand, the impact of these financial flows in the households life quality. Remittances directly increase the income of the recipient households and contribute to the diversification of income sources of the households providing insurance against idiosyncratic[8] and macroeconomic risk.

The following dissertation uses a household-level approach to ask whether remittances enable better education and health care. The analysis is also extended in the examination of the nexus between remittances and labor market participation of the remittance-receiving household members. The entire study is based on analysis of the dataset discussed in the previous section.

The dissertation is organized in three interlinked chapters on the microeconomic effects of remittances (chapter 2, 3 and 4). Chapter 2 focuses on the relationship between remittances and human capital investment. This relationship is examined by shedding light on the impact of remittances on the education of household members left behind.

This chapter compares decision-making about human capital investment in remittance-receiving households and non-remittance-receiving households. Following Cox-Edwards and Ureta

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[8] Risk that is confined to the remittance-receiving households

(2003), a Cox proportional hazard model is used to capture the effects of remittances. The crucial assumption in the proportional hazard model is that the effect of the covariates is proportional over the entire base line. The vector of covariates includes information such as; children's demographic characteristics, parental schooling, household income and the presence of remittances. In the model, household incomes are considered separately from remittances in order to identify whether income from remittances have the same effect as other types of household non-labor income in the decision to invest in more years of schooling for household members.

The overall findings of chapter 2 suggest a negative relationship between education and remittances. The estimation of the survival function indicates that receiving remittances from household members working abroad increases the hazard of leaving school after the end of secondary education. The negative effect of remittances on education attainment is more evident for males living in rural areas. One explanation of this result is that remittances contribute to further migration rather than to further education at home. Females have a higher probability of staying longer in school than do males, both in urban and rural areas. This result holds even when the survival function is estimated for remittance receiving households only.

The third chapter examines the decision about labor market participation in the presence of remittances. Do remittances alter labor market participation? This is the theme of chapter 3. Since remittance inflows are considered income transfers, remittance-receiving household members may substitute these remittance incomes for labor incomes. Using the same dataset, Dermendzhieva (2009) investigates the effect of migration and remittances on labor supply in Albania by estimating a linear probability model for the probability of a household member to be working on the subsamples of male and female household members separately.

In chapter 3 the relationship between remittances and labor market participation is analyzed using an alternative method, propensity score matching. I use propensity score matching to pair individuals that receive remittances with other individuals that are like them, except from remittances. The comparison between remittance-receiving households and those who don't receive remittances

leads to an identification problem because the presence of remittances may be correlated with unobserved determinants of workforce participation among these household members. The propensity score matching helps to overcome the potential bias (Caliendo & Kopeinig, 2005).

Among the strength of observational studies is the ability to estimate the treatment effect. On contrary a limitation of observational studies is the lack of treatment assignment. Non randomized groups usually differ in observed and unobserved characteristics resulting in differential selection into treatment groups causing selection bias. Propensity score are widely used techniques to compare groups, e. i. remittance-receiving household from non remittance-receiving households. Instrumental Variable analysis is the standard method used to control the selection bias. Apart from the strengths both methods have limitations.

Propensity score have some limitations. The imbalance in the sample sizes between remittance-receiving and non remittance-receiving households (around 30 percent of the respondent in the sample), the matching without replacement approach results in the reduction of the sample size. Instrumental Variable method, on the other hand relies on a strong assumptions that limit the use in practice; first, the absence of any direct effect of the instrument on the outcome; second, the variation in the IV causes substantial variation in the treatment variable.

Results from chapter 3 show that remittances do not alter the behavior of men in their labor force participation. These findings are in line with those of other studies about the same research question. However there is a statistically significant change in the labor market participation of women. Women who work appear to reduce their hours worked by 2.8 per week. A possible explanation is that remittances increase the reservation wage for women. Another explanation may be related with the fact that the departure of a family member may increase the need for more presence in the house environment.

The impact of remittances on health capital accumulation is explored in the fourth chapter using instrumental variable method. Consumers demand for health is positively correlated with labor

incomes. Does this positive relation still hold with non-labor incomes, such as remittances? Do remittances affect household consumption of health?

Amuendo-Dorantes and Pozo (2009) find that remittances income raises health expenditures in Mexico. Approximately six pesos of every 100 peso increment in remittance income are spent on health. Health care expenditure are less responsive to remittance income among lower-income households. They also find that households lacking any health care coverage exhibit greater remittance income sensitivity.

Using the ALSMS for 2005, Tomini and Maarse (2011) explore the informal payments for health care in Albania. They used multivariate logit and OLS to explain informal payments. Their findings suggest differences in determinants of informal payments for inpatient and outpatient care. Informal payments depend on demographic characteristics but are less dependent on income, suggesting homogeneity of payments across income categories.

Chapter 4 focuses on the effect of remittances on health capital accumulation in Albania. The relationship is analyzed in two directions; direct and indirect consequences. First, do remittances further more spending on health care and services and, second, is there any relationship between migration and remittances with health outcomes or health status.

Empirical results show that households increase their expenditure for medicines and other health services in the presence of remittance income. The IV-estimates show that total expenditure for medicines increase by around 9,400 Lek in the case of households living in the rural area of the country. The magnitude is lower in the case of total expenditure for visits and laboratory. According to the IV-estimates more years of education means less expenditure for medicines but more for visits and laboratory services. Interesting is that the presence of remittance income lowers the probability of chronic or sudden illness.

Alongside the IV method I used propensity score analysis to estimate the causal effect of remittances in the amount paid for medicines and health services. Propensity score analyses indicate a small but significant benefit of households associated with the receipt of remittances. In the presence

of remittances households increase their expenditure for medicines and other health services. This positive effect is more evident in the rural, mountain area.

The policy implications of the presence of remittances and the effect they have in health expenditure of household members are also important in choosing the right analytic strategy. Observed characteristics of the set of individuals used to compute the propensity score causal estimates allow us to identify characteristics of the reference population and thus make recommendations for individuals. On the other hand, IV approaches may be more applicable because they demonstrate the marginal effects of different changes.

The final chapter presents concluding remarks and discusses the limitations of my dissertation and issues for future research.

2 REMITTANCES AND HUMAN CAPITAL INVESTMENT

"Huge remittances could cause huge appreciation to the currencies. We need to ask ourselves, how do we measure the remittances, what effects do they have on social programs."

Dilip Ratha

2.1 INTRODUCTION

As labour markets become internationalized and people increasingly migrate to find work, remittances have become important for the survival of the low-income households in regions of outmigration. Remittance flows, funds received from migrants working abroad, have become enormously important as a source of income in many developing countries (Giuliano and Ruiz-Arranz, 2005; Mundaca, 2009).

Remittances have grown from $3 billion in 1975 to close to $370 billion in 2007 (World Bank, 2008). This dramatic growth has had important implications for poverty reduction (Adams & Page, 2005), economic growth (Solimano, 2003) and financial development (Aggarwal, et al., 2006). Several studies have suggested that remittances are the second largest source of external finance for developing countries after Foreign Direct Investments (FDI), both in absolute terms and as a proportion of GDP. Relative to capital flows, remittances tend to be stable and to increase during periods of economic downturns and natural disasters (Yang, 2008). While a surge of financial inflows, including foreign aid, can erode a country's competitiveness, remittances do not seem to have this adverse effect. Rajan and Subramanian (2008) argue that remittances may not lead to significant loss of competitiveness because they tend to dry up if exchange rates become overvalued.

Since the fall of the Berlin Wall in 1989, migration from Eastern Europe including the Balkans has increased sharply. According to World Bank estimates, in 2005 Albania was the fourth-ranked

country in the world in terms of share of emigrants in relation to population, with 27.5 percent of Albanians living abroad, mostly in Greece and Italy. In 2006, remittances were 13 percent of Albania's GDP, exceeding by more than three times both the FDI and the total amount of development aid received by the country. There are reasons to believe that this extraordinary volume of migration and remittances is likely to have had extensive consequences for the Albanian economy. In their review of the existing literature, for example Rapoport and Docquier (2006) argue that remittances have short-run economic benefits, and may have long-run implications for households' labor supply decisions, education opportunities for offspring and investment in household businesses.

The development potential of remittances is increasingly being recognized by researchers and policymakers. This paper examines the contribution of migration and remittances on human capital investment using cross-sectional data for Albania.

2.2   LITERATURE REVIEW

Remittances have been examined from both micro and macro perspectives. Treating remittances as a household issue the microeconomic literature examines the patterns of remittances, the motivatons for making them and the impact they have on the labour market and on family consumption. While the macroeconomic studies on the other hand concentrate on macro effects in recipient countries including economic growth, financial development, and poverty reduction.

2.2.1   REMITTANCES AND EDUCATION

Remittances can increase consumption or stimulate investments in economies with liquidity constraints (Castaldo & Reilly, 2007; Woodruff & Zenteno, 2007). In one of the first studies that examined the consequences of remittances on home countries of migrants Funkhouser (1992) found that remittances in Nicaragua increase self-employment for men and reduce the labor supply of women.

Most studies have focused on the impact of migration on the livelihood of migrants themselves, while less research has been done on those households who remain behind. The overall aim of this paper is to examine the impact of remittances on households' decisions in terms of education.

From a theoretical viewpoint, four micro motives have been suggested to explain migration transfers (Ropoport & Docquier, 2006; Docquier, et al., 2008). The first motive involves altruism, meaning that migrants care for those left behind. The second entails an exchange of services between migrants and the recipients of the remittances[9]. The third involves familial interactions, which may take the form of an insurance contract that protects the household members against shocks. However, remittances may also be a loan repayment for the costs of migrant's education and/or emigration.

The specific relationship between remittances and education achivement has been explored by focusing on the impact of remittances on the education of household members. Of particular concern for the process of economic development is how migration affects household investments in human capital. The empirical findings about this impact are ambiguous. The extra income from remittances may allow children to delay entering the workforce in order to further their studies. However, the departure of wage earners from a household may disrupt family life. Migration may reduce the number of adult role models in the home and may increase the demand on older children to assist in running and supporting the household. These effects may make it more difficult for children to remain

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[9] Similar evidence ranging from pure altruism to self-interest are presented in the case of Botswana (Lucas and Stark, 1985).

in school. Thus, migration may increase or decrease household investment in children's schooling (Hanson & Woodruff, 2003; Hanson, 2007).

Economic theory suggests that, by smoothing liquidity constraints, remittances should raise investment in human capital of household members. While schools may be state supported, in developing countries students are expected to pay for their books, transport, and supplies imposing additional costs to the household. Remittances by lifting up the budget constraint of poor households may increase the investment in human capital by increasing the maximum years of schooling the household can afford.

A few studies have examined the potential forward linkage between remittances and education. These studies provide a starting point for analysing the potential growth effects of remittances through human capital formation[10]. Hanson and Woodruff (2003) employ a reduced-form approach to estimate the effect of remittances on children's schooling and health in Mexico. They find a positive relationship between child education and having a family member abroad and argue that remittances are the mechanism that links the two. They control for the potential endogeneity of having a migrant family member by using historical state migration rates and household characteristics.

Cox-Edwards and Ureta (2003) reach similar conclusions about the impact of remittances in El Salvador. They estimate *survival functions* to show that remittances significantly contribute to reduce the hazard of school leaving in El Salvador using cross-sectional data collected in 1997. Their findings report rural/urban differences in the impact magnitude effect. One problem with this study is that it does not address potential sample selectivity issues and endogeneity of remittances. Thus, the findings could be tested using alternative econometric techniques.

In a subsequent study, Acosta (2006) examine the effects of remittances on age-based demographic sub-groups, using survey data for El Salvador. The evidence in this study suggest that girls and boys between 11 and 14 years of age seem to benefit from remittances in terms of higher

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[10] This is assuming that human capital formation is good for growth.

enrolment rates, but this positive impact does not apply to boys between 15 and 17 years of age. The study concludes that remittances are used as a substitute for child labor, a practice usually associated with higher school dropout rates (Acosta, 2006; Acosta, et al., 2007).

Elbadawy and Roushdy (2010) investigate a sample of Egyptian children who live in remittance-receiving households. They find than remittances have a positive effect on school attendance of boys rather than girls. The effect is particularly evident among those boys who are close to university enrollment age. For girls the positive effect is true only for those between 15 and 17 years of age.

Yang (2008) finds that remittances in the Philippines cause only minor improvements in school attendance for children between 10 and 16 years of age. There is a much greater impact in the attendance for boys between 17 and 21 years of age, an increase of remittances amounting to 10 percent of household income leads to a 10 percent increase in these boys' attendance.

The conflicting findings on the impact of remittances on education suggest that this relationship may vary by context and age and need to be further investigated. The first issue is whether there is a consistent pattern across age-groups, the second is variation by gender, and the third is about rural/urban differences.

2.2.2 REMITTANCES IN ALBANIA

There is an ongoing debate on the role of migration in the development of countries with high rates of migration such as Albania. The literature focuses on how remittances are spent by remittance-receiving households and their implications in terms of costs and benefits for the local economy. Researchers disagree over the extent to which remittances-receiving households use these financial resources productively. Some findings suggest the use of remittances mainly for short-term consumption needs rather than for long-term investments. The extent to which remittances contribute

to local development depends upon the household context, circumstances and the way decisions are made.

Since the beginning of the transition from a centralized to a market economy Albania has been characterized by rapid growth in the volume of migration with a particular peak in 1997-1998[11] following the Pyramid Scheme collapse (Azzarri & Carletto, 2009), and in 2000. Figure 1 shows the flow of the first-time migrant in the period 1991-2004, with a peak in 2000. In conjunction with the migration, the volume of remittances directed to households in Albania has grown rapidly. Remittances represent the most direct and immediate benefit for the remittance-receiving households and the local community. The lack of microeconomic restructuring, however, seems not to have stimulated local production and remittances have generally been used for the consumption of goods (Castaldo & Reilly, 2007), thus deepening the extroversion of the economy[12]. While remittances are generally flows of small individual transactions and the method of transfers may sometimes be informal or irregular, the total amount of remittances is substantial.

Figure 2.1: Flows of first-time migrants by year of migration, 1991-2004
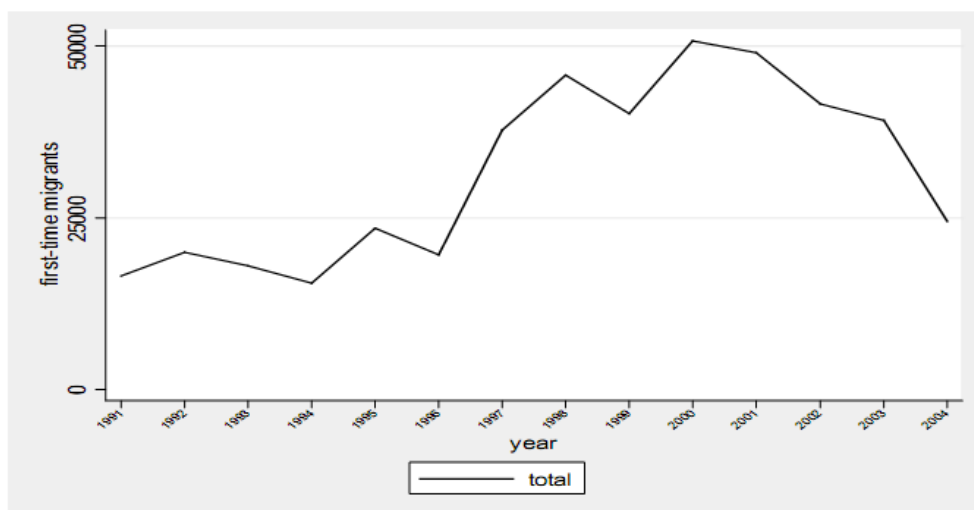
Source: C. Azzarri and G. Carletto (2009)

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[11] Peaking in 2000 at about 50.000 new migrants per year and steadily decreasing after that.

[12] Extroversion of the economy: meaning that the local consumption is higher that the GDP, while the difference is compensated by remittances and foreign aid (Samson, 1996).

There have been few empirical studies of the impact of remittances on the labor market issues in Albania. Utilizing the Albanian Living Standards Measurement Survey (LSMS) for 1996, Konica and Filer (2009) suggest that remittances have a negative effect on female labor market participation due to higher incomes from household members working abroad (Rodriguez & Tiongson, 2001; Amuendo-Dorantes & Pozo, 2006). This finding is consistent with studies conducted in other countries. In the Albanian case, however, Konica and Filer (2009) find that neither the existence of emigrants in the household nor the amount of remittances received has an effect on male labor force participation.

Using data collected between 2002 and 2004 by the World Bank, Duval and Wolff (2010) provide evidence about the patterns of remittances in Albania. This study used random and fixed effects discrete choice models to examine both the determinants of remittances sent by family members and adult children living abroad and the impact of these remittances on the living standards of the recipient. According to this paper, transfers are negatively correlated with both the sender's and recipient's levels of education. Remittances have a positive impact on economic indicators like "satisfaction with current situation", adequateness of food consumption, and the amount of affordable expenditure (Duval & Wolff, 2010).

Using data from the 2005 Albanian LSMS, Kilic, et al., (2009) measured the impact of the past migration experience of Albanian households on non-farm business ownership using instrumental variables regression techniques. These results indicate that households' past migration experiences exert a positive impact on the probability of owning a non-farm business. Using the same dataset, Dermendzhieva (2009) investigates the effect of migration and remittances on labor market participation. A linear probability model is estimated for the probability of a household member to be working on the subsamples of male and female household members separately. Dermendzhieva (2009) obtains large and negative coefficients for receiving remittances for young females and older males. These findings held when an instrumental variable was introduced.

Remittances are not only invested in physical capital, but also productively invested in human capital accumulation, such as education. The Becker (1991) model of investment in education states

that families take into consideration their education rate of return and its cost in order to choose the optimal education level for their children; in this model a range of factors may influence the educational attainment. If families have financial constraints the level of schooling for their children will be lower than optimal. By relaxing the household's liquidity constraints, remittances from abroad may facilitate investments in education.

Studies of households on Albania have focused mainly on the decision to work and do not consider how remittances impact human capital investment. My second chapter examines how remittances influence decisions to invest in schooling of the household members. Little is so far known about the extent that remittances effect socioeconomic outcomes such as school attainment. According to the literature on remittances, labor migration seems to have contradictory impact on the education of the household members left behind.

2.2.3   EDUCATION SYSTEM IN ALBANIA

Education improvement in Albania is supported by its growing economy; however the country faces many obstacles to matching the EU's education benchmarks or standards. While Albania's economy continues to grow its total government expenditure on education is around 3 percent of GDP (World Bank, 2010), the lowest in South Eastern Europe. Despite its challenges, Albania has made significant efforts in improving its education provision (UNICEF, 2008), some data are shown in table 2.1.

Albania has made significant progress toward achieving universal primary school enrolment. The net primary school enrolment ratio is 94 percent (UNICEF, 2008) which is above average of the

region. However, this figure has been in the decline since before 2001[13]. On the other hand secondary enrolment rate are among the lowest in the region, around 74 percent.

Important steps have been done toward closing gaps in equity in its education system, achieving gender parity[14] in primary education. The bigger gap in education opportunity is based on geographic position and economic status. Children living in rural areas have higher rates of participation than those children living in urban areas, throughout the primary education. According to UNICEF (2008), rural children have higher attendance rates, higher enrolment rates, and higher survival and completion rates. However, by secondary school the situation changes dramatically.

Table 2.1: Some comparative facts about Education in Albania

	Albania	South-Eastern Europe
Youth unemployment rate as percentage of unemployment rate	152%	-
Percentage of GDP spent on Education	3.7%	4.07%
Net Enrolment in Primary School, 2005	94%	92
(*Gender Parity Index, GPI Girls/Boys*)	(1.00)	
Net Enrolment in Secondary School, 2005 (*GPI*)	74% (0.98)	82
Gross Enrolment in Tertiary Education, 2005 (*GPI*)	19% (1.57)	35
Student/Teacher Ratio, 2005	18	18.2
Out of School Children (*% girls*)	14,000 (49)	80,000

Source; UNESCO EFA Global Monitoring Report, 2008

Approximate measures of quality indicate that Albania has much progress to make in improving the school based learning process. The percentage of survived students to the last grade in

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[13] UNICEF MICS 2006

[14] According to UNESCO, the Gender Parity Index (GPI) is 1.0.

primary school is the lowest in the region as shown in Table 2.2. Three percent of Albanian students drop out after grade one and two more drop out after grade two. From the two percent of students repeating at least one grade, the majority are boys. The average teacher-student ratio in Albania is 1 for 18, which is the highest in South East Europe.

Education financing in Albania is centralized, at the primary, secondary, and tertiary levels. Public spending on education as percentage of GDP is 3.7 percent. This figure is below average for the region, which spends an average of 4.4 percent, and significantly less than the OECD average, about 6 percent. The Ministry of Education and Science (MOES) is responsible for the administration of the education system at the national level. The MOES determines the network for primary and secondary schools, decides on the establishment of postsecondary colleges and universities, and elaborates the higher education financing standards.

Figure 2.2: Survival Rate to Last Grade in Primary School in the CEE/CIS Region
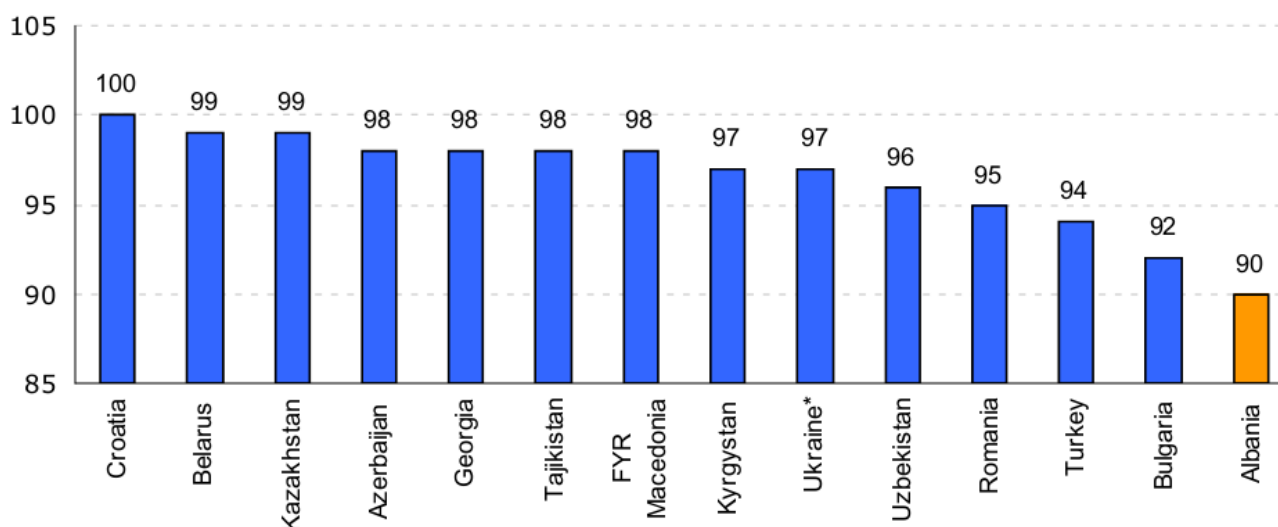
Source; UNICEF, 2008

Albanian structure of the education system includes; primary, secondary, and higher education. The same structure is also represented in the 2005 ALSMS. Primary education is compulsory and children enter primary school when they reach the age of 6. In 2008 instead of the eight-year compulsory primary education program began the implementation of nine-year basic education program. Secondary education is provided in high schools or gymnasia, technical, and

vocational schools. Prior to 2008 the duration of the secondary education program was four years, following the introduction of nine-years basic education, general secondary lasts three years. Starting from 2005 higher education program is organized according to Bologna process.

The education system in Albania is under the pressure of meeting the demand of a rapidly growing economy. In recent year, there has been a tendency for education expenditure to increase from 3.2 (as percent of the GDP) in 2005 to 3.7 percent in 2009. According to data from MOES, while the number of students has slowly declined for the basic education, the number of students in higher education has increased by over 50 percent in the last years. The result has been the decline in funding per student in higher education. As table 2.2 shows, funding per student in higher education has fallen over time from 25 percent of GDP per capita to 20 percent of GDP per capita between 2004 and 2009. From the data we notice that the cost per student in vocational secondary school is about 2.6 times that of the cost per student in a general secondary school.

Table 2.2: Spending per Student as percentage of GDP per Capita (data from MOES)

	2004	2005	2006	2007	2008	2009
Basic education	10.2	10.6	12.5	12.4	14.0	14.7
Secondary total	13.3	12.2	12.2	12.9	17.9	15.9
Secondary general	10.3	9.8	9.9	10.5	14.7	12.6
Secondary vocational	26.6	22.1	22.0	23.5	32.1	32.7
Higher education	25.4	22.4	20.9	22.3	23.0	19.7

Estimates on the impact of education on wages, show that individuals with secondary vocational education earn more than those with primary, although this is not always the case with secondary general school (World Bank, 2010). In all cases individuals with higher education earn significantly

more than those with secondary education. Returns to tertiary education over primary increased from

47.7 percent in 2005 to 51.9 percent in 2008 (World Bank, 2010).

Albanian tertiary public and private education has expanded rapidly in the last three years. The

number of students in universities rose to around 100,000 in 2008, from which 17 percent enrolled in

private universities. More data on the expansion of higher education enrolment are shown in table 2.3.

According to the World Bank, in 2012 the annual number of graduates was three times higher that it

was in 2005.

Table 2.3: The Expansion of Higher Education (data from MOES)

	2004	2005	2006	2007	2008	2009
Gross enrolment rate (%) *Students as a proportion of population 18-25 years old*	**21.6**	**24.7**	**28.2**	**29.2**	**29.9**	**37.3**
Total number of enrolled students	**63.3**	**74.8**	**86.9**	**90.2**	**92.7**	**116.1**
Full-time students (public)	42.2	50.6	58.9	62.3	61.3	76.8
Part-time students (public)	20.1	22.5	22.2	18.4	18.6	19.0
Private enrolled students	1.0	1.7	5.8	9.5	12.7	20.3
Total number of new entrants	**14.1**	**16.5**	**21.0**	**21.0**	**25.0**	**26.8**
Public	13.5	15.7	16.7	17.2	19.2	19.9
Private	0.6	0.8	4.4	3.8	5.8	6.9
Private students as % of total	1.5	2.3	6.6	10.5	13.7	17.5

Note; Numbers are in thousands

2.3.1   DATA SOURCES

Multipurpose household survey is one of the main sources of information for assessing living conditions and measuring the level of the poverty. They are an indispensable tool to assist policy-makers in monitoring and targeting social programs. They also provide data that can be used to investigate patterns of household investment in human capital or labor market participation.

In order to investigate the impact of remittances on the educational attainment, this study draws on data from the 2005 Albanian Living Standard Measurement Survey (ALSMS). The survey was carried out annually by the Albanian National Institute of Statistics with the technical assistance of the World Bank, from 2002 to 2005.

Remittances are defined as money received by households in the past 12 months prior to the survey in cash or in-kind from someone who does not live in the household e.g. child, head of the household or other relatives abroad. The cash remittances are reported in Lek and one issue is related to the monetary measurement error. In-kind remittances are not used in the empirical analysis, because they are mainly consumption items.

As part of the education module, the survey collected data on the highest grade for all household members and current enrolment status for each member aged 6 to 24. My study is restricted to a sample of 4,511 household members aged 13 to 26, because in 2005 Albania's education system provide eight years of compulsory schooling.

The question is whether household members who live in households with external migrants complete more grades of school at a given age than do other children. Sending migrants abroad may generate remittances that raise household income and allow children to complete more schooling, but it may also disrupt family life in a manner that hinders children's scholastic progress. Remittances can increase not only physical investments but also can expand human capital accumulation, such as health and education. There is evidence that remittances reduce school dropout hazard rates in El Salvador (Cox-Edwards & Ureta, 2003).

To examine the impact of remittances upon human capital investment decisions, my question is whether girls and boys living in the remittance-receiving households complete more years of schooling than those children living in non-remittance-receiving households. A significant fraction of the remittances are sent to low income families. An interesting question is whether this increasing source of income has an impact on human capital accumulation of those left behind.

The literature finds ambiguous relationship between remittances and schooling. In the case of Mexico (Hanson & Woodruff, 2003), data indicated a positive small effect of remittances on schooling only for children living in cities with fewer than 2,500 inhabitants and with mother with a very low level of education. Cox-Edwards and Ureta (2003) estimate a Cox proportional hazard model to examine the effect of remittances on schooling using El Salvador data. They find that remittances have a large and significant impact on school retention of individuals between 6 to 24 years old. Other studies that find similar results are Funkhouser (1992) and Yang (2008). The marginal effect of receiving remittances suggests that recipient households are more likely than non-recipients to keep children at school.

In order to characterize the remittance-receiving households, it is important to determine their position in the income distribution. There are important costs associated to the act of migrating, so it is possible that migrants do not come from the lowest quintiles of the income distribution and therefore

that remittances do not flow toward the poorest. It is possible that lowest income people cannot migrate and they receive fewer remittances. This situation is more likely to occur in rural areas where poverty rate is higher and in general the educational achievements are lower than those in the urban areas.

The empirical framework that will be used to capture the effect of remittances in the human capital investment is the proportional hazard model, (Cox-Edwards & Ureta, 2003):

$$h(t) = h_0(t) * \exp\{x_i{'}\beta\}$$

Where:

$h_0(t)$ is the baseline hazard of leaving school after grade t, which is left unspecified and is estimated

$x_i{'}$ is a vector of covariates such as; child's characteristics, location, parental schooling, household income and presence of remittances.

β is the vector of parameters which has been estimated.

The crucial assumption in the proportional hazard model is that the effect of the covariates is proportional over the entire base line.

The Cox (1972) model, which assumes that covariates multiplicatively shift the baseline hazard function, is one of the most popular because of its elegance and computational feasibility. The nice thing about this model is that $h_0(t)$, the baseline hazard is given no particular parameterization and can be left unestimated. There is no assumption about the shape of the hazard over time- it could be constant, increasing, decreasing or anything else we can imagine. It is assumed that whatever the general shape, it is the same for everyone. One subject's hazard is a multiplicative replica of another's (Cleves et. al. 2008). Comparing subject j to subject m, the model states that:

$$\frac{h(t/x_j)}{h(t/x_m)} = \frac{\exp(x_j\beta_x)}{\exp(x_m\beta_x)}$$

This is constant, assuming that covariates x_j and x_m do not change over time.

The advantage of the semiparametric Cox model is that we do not need to make assumption about $h_0(t)$. If wrong, such assumptions could produce misleading results about β (Cleves et. al. 2008). The cost is loss in efficiency, knowing the functional form of $h_0(t)$ we could estimate better β.

The choice of the hazard model is to some extent unusual in modeling school attainment levels. The Cox proportional hazard model is made for the analysis of survival-time data and the number of "grades completed" does not correspond one to one with the calendar year because the household members can be retained in grade. The framework allows me to choose one of the two possible outcomes for each individual: enrolled in school (right censored) or is not enrolled (failed).

The survivor function $S(t)$ is estimated using the estimator of Kaplan and Meier (1958). This function is the probability of survival past time t or, equivalently, the probability of failing after t. For a dataset with observed failure time, $t_1... t_k$, where k is the number of distinct failure times observed in the data, the Kaplan-Meier estimate at any given time t is given by;

$$\hat{S}(t) = \prod_{t_j \leq t} \left(\frac{n_j - d_j}{n_j} \right)$$

Where n_j is the number of individuals at risk at time t_j and d_j is the number of failures at time t_j. This product is over all observed failure times less than or equal to t.

The cumulative hazard function is defined as;

$$H(t) = \int_0^t h(u)du$$

Where, $h(\ )$ is the hazard function, and $H(t)$ may be interpreted as the number of expected failure in $(0,t)$ for a subject if failure were a repeatable process. There is the following theoretical relationship between $H(t)$ and $S(t)$,

$$H(t) = -\ln\{S(t)\}$$

Where, instead of $S(t)$ we could use the Kaplan-Meier estimator. There is another nonparametric method for estimating $H(t)$ that has better small-sample properties. The estimator is from Nelson (1972) and Aalen (1978),

$$\hat{H}(t) = \sum_{j|t_j \le t} \frac{d_j}{n_j}$$

Where n_j is the number at risk at time t_j, d_j is the number of failures at time t_j and the sum is over all distinct failure time less or equal to t.

In the model household incomes are separated from remittances in order to identify if income from remittances have the same effect as household income from work in the decision for more years of child's schooling. An advantageous feature of this model is that it yields an estimate of the underlying baseline hazard function; enabling us to identify the grade levels where dropout rates are concentrated.

Theoretically, the survival and the cumulative hazard functions are related by

$$S(t) = \exp\{-H(t)\}$$

We can use these relations to convert one estimate to the other. In small samples, the Kaplan-Meier product limit estimator is superior when estimating the survivor function and the Nelson-Aalen estimator is superior when estimating the cumulative hazard function. For the survivor function and the cumulative hazard function, both the Kaplan-Meier estimator and the Nelson-Aalen estimator are consistent estimate of each, and the statistics are asymptotically equivalent (Klein & Moeschberger,

2003). That is, in very large samples, it does not matter how we estimate the survivor function, whether by Kaplan-Meier or by transforming the Nelson-Aalen.

The use of the duration model to study school attainment poses some challenges, but at the same time it offers some advantages. First, the model makes use of all the available information about household members who are enrolled in school at the time of the survey as well as for those no longer enrolled. Second, the model allows flexible specification of the vector of variables. Whatever technique we use, we could do our survival analysis using the "analyze the first failure" method. This possibility needs no assumptions about the distribution of the failure times. Semi-parametric methods make assumptions about neither the distribution of the failure times nor how covariates serve to shift or otherwise change the survival experience.

Despite its semi-parametric nature, the Cox model is no different from the ordinary least-squares model in that there are many diagnostics that will check for model misspecification, outliers, influential points, etc. all the usual notions of what constitutes a well-fitting model are also true for the Cox models. In using the Cox model we have to take into account the survey design. Failure to do so may lead to biased point estimates and underestimated standard errors, resulting in incorrect inferences about the research question. All the previous assumptions rely on the simple random sampling design where each subject has the same chance of being selected into the sample. In many practical applications, the subjects may be selected into the sample based on a complex survey design with unequal sample-inclusion probabilities. Conventional estimation methods must be adjusted to produce correct estimates for the survey data.

Previous evidence has suggested that the positive effects of remittances on schooling vary with the educational attainment of the children's parents, being generally larger when the latter are low. Differential effects of this sort could be due to the fact that among poorer households with lower levels of schooling, remittances could have a more sizable effect in terms of relaxing budget constraint. However one can also expect an opposite effect, remittances having a smaller impact on education

when schooling of parents is low, if less educated parents exhibit lower preferences for educational over other alternative expenditures.

The answer to the relationship between remittances and schooling has fundamental policy implications. If remittances have an impact on schooling, we can conclude that there is support for Government fund to be transferred to poor households in order to enhance children education. Another policy implication derived from a positive effect of remittances on education levels is the reduction in the remittances transaction costs.

2.3.3 REGRESSION RESULTS

These results are based on 2005 cross-sectional data; household member participates in the survey for a time and, thereafter is no longer observed (right censoring). The *analysis time* in the dataset is the highest grade completed by the subjects and the *failure time* is recorder by the enrolment status; if enrolled the individual is considered "right censored", if not is considered "failed". Table 2.4 describes the set of the independent variables used to explain the enrolment status of the household members.

Table 2.4: Independent Variable Description

Age	**Age in years of the household members**
Area	=1 if Coastal =2 if Central =3 if Mountain =4 if Tirana
Female	=1 if the member is a female, 0 otherwise
Income_amount	Other incomes in amount
Moth_edu	Mothers education =0 if none or some primary =1 if completed primary 4 years =2 if completed 7/8 years =3 if completed secondary/vocational school =4 if completed university
Other income	=1 if household receives income, 0 otherwise
Remitt	=1 if the household receive remittances, 0 otherwise
Remitt_amount	Remittances in amount
Urban	=1 if urban, 0 otherwise

Figure 2.3: Estimation of Nelson-Aalen cumulative hazard
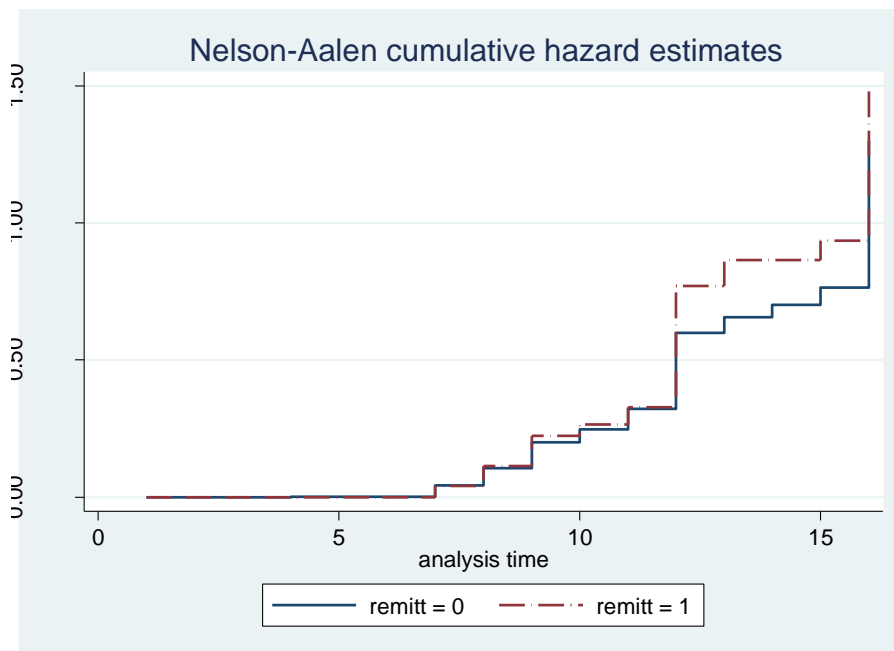
Table 2.5, shows the estimates of the determinants of the hazard of leaving school. In contrast to findings from other countries comparable to Albania, mothers' education is not statistically significant in this dataset. The regression results does not provide support for the effect of mother's education in the school attainment of household members, because according to the p-value 0.21 we fail to reject the null hypothesis that the mother's education has no effect on the hazard of leaving school.

For the case of remittance-receiving household, the hazard ratio is 1.196, which means that the presence of remittances increases the hazard of leaving school if compared to non-remittance receiving household by 19.6 percent. In other words remittances positively affect the probability of dropping out of school.

In Figure 2.4 notice that the difference in survival estimates is higher in magnitude for the rural areas and more evident after the secondary school or the twelve grade of schooling.

Table 2.5: Estimates of the determinants of the hazard of leaving school

Covariates	Hazard Ratio	St. Error	z-stat
Age	.496	.008	-40.56
Mothers education	1.199	.216	1.01
Receives remittances	1.196	.102	2.10
Income (net of remittances)	.859	.039	-3.31
Urban/Rural	.887	.042	-2.49
Female	.892	.040	-2.50
Log-likelihood		-14403.935	
Number of observations		4462	

Figure 2.4: Estimated survival functions in urban and rural areas, with and without remittances
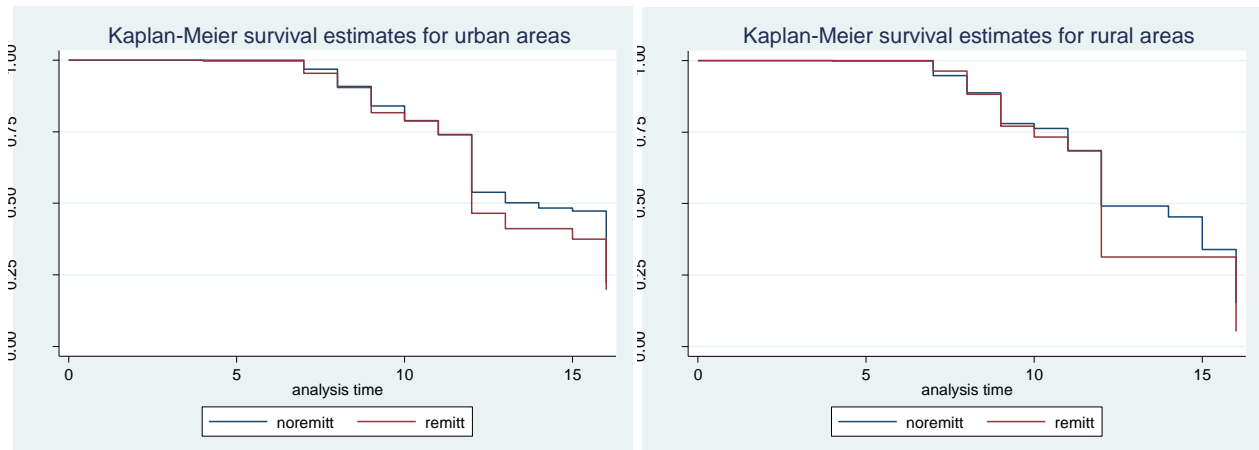
There is an important difference in school leaving behavior between male and female. The coefficient exp(β)=.892 for the indicator variable Female is statistically significant and means that being a female decreases the hazard of leaving school by 10.8 percent . This is more apparent in Figure 2.5 both for the rural and urban areas. One possible explanation for this finding is that male students have better labor market opportunities than do female students, and thus face higher opportunity costs of attending school. When estimating the survival function only for household members living in

remittance- receiving households shown in Figure 2.5, the hazard of leaving school is higher for males than females. This finding suggests that if there is a positive effect of remittances on education, it holds only for females (Figure 2.6).

Figure 2.5: Estimated survival functions, by gender, in urban and rural areas
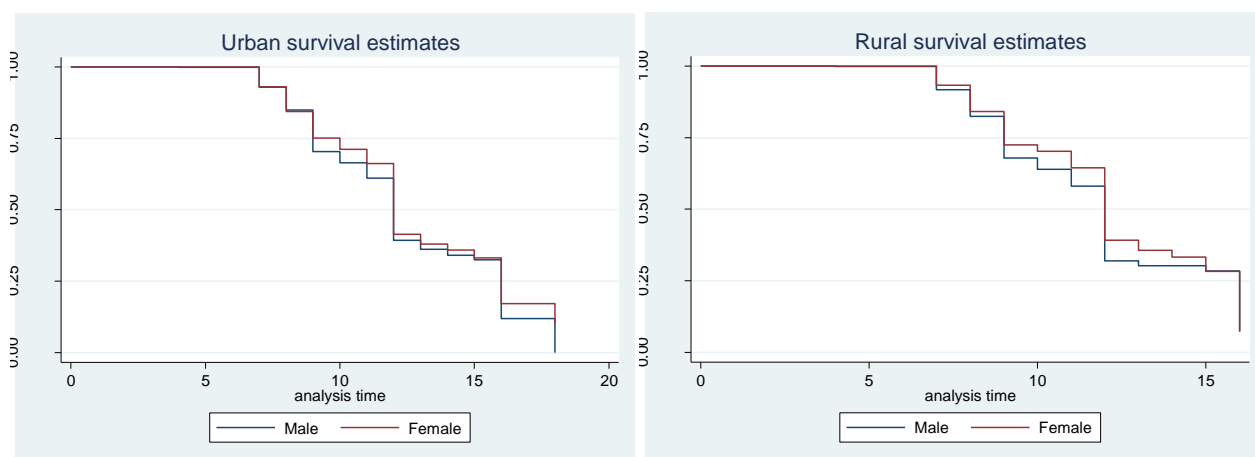
Incomes net from remittances have a positive effect in lowering the hazard of dropping school by around 14.1 percent for every unit increase in income level. This result is consistent with the previous literature on education and provides evidence on the fact that income matters for the choice of schooling levels of household members.

For those household members living in urban areas the hazard of leaving school after a given grade is 11.3 percent lower than for those living in rural areas. However, my next step is to examine whether the region or area of residence[15] is reflected into differences in the hazard of leaving school.

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[15] The sampling frame for the survey was stratified into four regions: coastal, central, mountain, and the capital Tirana

Figure 2.6: Estimated survival functions, by gender only for those remittance-receiving households
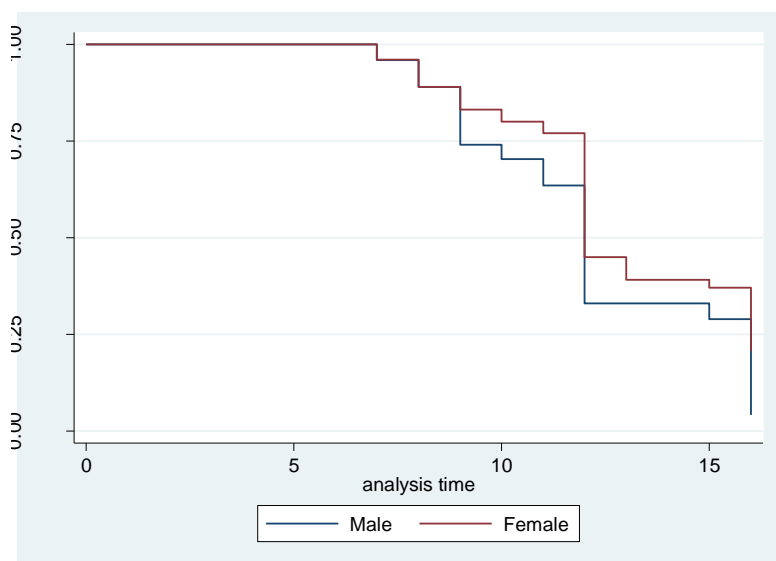
To shed more light on the initial controversial result of the negative effect of remittances on education I included more control variables in my regression. Table 2.6, shows the estimates of the determinants of the hazard of leaving school. Mothers' education still remain statistically non significant in this dataset. Often time the effect of father's schooling is different from that of mother's schooling. This is why I chose to test for differences in paternal and maternal schooling levels. The results provide support for the effect of father's education in the school attainment of household members, because according to the p-value 0.04 we can reject the null hypothesis that the father's education has no effect on the hazard of leaving school.

Members living in households where fathers are more educated face a hazard of leaving school 9 percent lower than others. Less educated parents exhibit lower preferences for educational over other alternative expenditures. The difference in paternal and maternal education effect can be related with the patriarchal nature of the Albanian society where fathers may have more influence in the decisions related to household member's education.

Table 2.6: Estimates of the determinants of the hazard of leaving school

| Covariates	Hazard Ratio	St. Error	z-stat
Age	.578	.007	-42.69
Mothers education	1.035	.081	.045
Fathers education	.910	.501	-1.65
Children 0-5 years old	1.073	.038	1.98
Receives remittances	1.213	.102	2.31
Income (net of remittances)	.840	.038	-3.79
Urban/Rural	.945	.045	-1.17
Area	.649	.144	-1.96
Female	.897	.041	-2.38
Distance to school	1.291	.164	2.06
Log-likelihood	-13247.992		
Number of observations	4283		

For the case of remittance-receiving household, the hazard ratio is 1.213, which means that the presence of remittances increases the hazard of leaving school if compared to non-remittance receiving household by 21.3 percent. In other words remittances positively affect the probability of dropping out of school.

Household characteristics such as the number of children below 5 years of age positively affect the hazard of leaving school, increasing it by 7.3 percent for those members living in households with more children below 5 years of age. The finding is not surprising. The number of younger brothers and sisters increases the hazard of living school. The investment in education model of Becker (1991) states that families take into consideration their education rate of return and its cost, in order to choose the optimal education level of their children, consequently in this model a range of factors may

influence the educational attainment. If families have financial constraints the level of schooling for their children will be lower than optimal.

The income net from remittances has a positive effect in lowering the hazard of leaving school by 16 percent. This suggests that household's budget constraints play a significant role in the choice of the levels of schooling for the household members. This result is consistent with previous literature. Hill and Duncan (1987) measure household income and report that a 10 percent increase in household income is associated with an increase in school attainment of less than 1 percent. In comparison to remittances we can conclude that income net from remittances can be a better proxy for "permanent income" than remittances and this may explain the difference in estimated effects.

Urban/rural differences are no longer statistically significant after the inclusion of other control variables. Area of residence also is not significant in the dataset. However the distance to school increases the probability of leaving school after a given grade. The coefficient exp (β) = 1.29 is statistically significant and means that as the distance from school increases the hazard of leaving school increases by 29.1 percent.

There is a significant difference in the hazard of leaving school for male and female. According to the results being a female lowers the hazard of leaving school for all levels by 10.3 percent. This result may be related to the delayed entering in the workforce for female or maybe men have a higher probability to leave school for later migrating.

The negative effect of remittances on education in the Albanian case is also confirmed after the estimation of a standard Probit. The dependent variable is the enrolment status in school during the time of the survey. Table 2.7, shows a small negative impact of remittances on school attendance. The first column considers only the impact of remittances on the school attendance while the second adds the control variables that describe child and household characteristics.

Table 2.7: Estimates of the determinants of children's school attendance

Method	Probit	Probit
Model	(1)	(2)
Age		-.075
		(.003)***
		[.005]***
Mothers education		.013
		(.004)**
		[.006]
Receives remittances	- .083	-.011
	(.023)***	(.021)
	[.031]***	[.024]
Income (net of remittances)		.073
		(.024)**
		[.019]**
Urban/Rural		0.99
		(.014)***
		[.022]***
Female		.036
		(.016)*
		[.025]

The marginal effect of receiving remittances suggests that members in remittance-receiving households have 8.3 percent less probability of being enrolled in a given grade if compared with members that live in non remittance- receiving households. After controlling for children and household characteristics the probit result in column 2 shows still a negative impact for remittances on school attendance, but it is smaller 1.1 percent and not statistically significant.

Apart from mothers education the findings related to other characteristics are in line with those tested with the Cox proportional model.

This chapter examines school attainment with cross-sectional data using Cox proportional hazard model. The results suggest a surprising finding about the impact of remittances on school attainment. The estimation of the survival function indicates that receiving remittances from household members working abroad increases the hazard of leaving school after the end of secondary education. The relationship between education and remittance receiving status is negative also after the Probit regression. However, still remains not statistically significant after adding the control variables.

The negative relationship between education and remittances is more evident for males living in rural areas. One explanation of this result is that remittances fuel further migration rather than further education at home. It is possible that remittance-receiving household members will later migrate not valuing the local education enrolment. On the other hand, the absence of a household head may lead to less parental control in the household, thus negatively affecting children's school enrolment. This absence may result in the need for children to undertake household work in substitution of members living abroad. The reason for higher drop rates can be related to the way remittances are used. Households with migrants may invest remittances in higher return activities that provide alternative avenues for skill formation and higher returns than staying in school.

Although parents' migration helps children to benefit economically, the lack of parental care may cause problems that affect long term children's welfare. The absence of parents may change the decision-making process within the household. Children may end up dropping out of the school.

Another group of determinants of school retention includes income, gender, and the urban residence. Increases in incomes have a positive effect on lowering the hazard of leaving school after a given grade. This suggests that relaxing the budget constraint of poor households does have an effect on children's educational attainment.

It should be noted that the variable that influences investment on children is the household's permanent household income. In the study it is used a proxy of the variable which is the household

income in one particular year composed by two components, permanent income and remittances. Arguing that income remittance flows are time invariant covariates is perhaps unrealistic. While it is probably the case that income mobility in Albania is quite low, a questions arises with respect to the stability through time of remittances.

Females have a higher probability of staying longer in school than do males, both in urban and rural areas. This result holds even when the survival function is estimated for remittance receiving households only. Another explanation is that, in patriarchal contexts, men are generally the frontrunners of international migration (Stecklov, et al., 2010).

Surprisingly mother's education does not affect the hazard of leaving school. However after adding the father's education in the regression, the results provide support for the effect of father's education in the school attainment of household members, because we can reject the null hypothesis that the father's education has no effect on the hazard of leaving school. This difference in paternal and maternal effect might be characteristic of the cultural context of Albania, when men may have more influence in the decisions related to household member's education.

Consistent with similar findings in other countries is the differential result in rural and urban areas. Schools are more available in urban areas, living conditions and the organization of the economy in the way it affects the cost of attending school is more favorable in urban rather than in rural. Table 2.6 suggests that a key reason for the rural-urban difference may be longer distance to school in rural areas.

The data used in the study are cross-sectional and in absence of longitudinal information there may be problems when attempting to isolate the household budget constraint. Current income is a weak measure of budget constraint especially when there is lack of information about permanent income, which has a stronger impact on improving opportunities for children schooling.

The negative results on education attainment in the Albanian context maybe related with the absence of parents that may change the decision-making process within the household implying a modification of children's duties and responsibilities. Children particularly in rural areas may drop out

school to work for the household. These findings claim more attention from the public authorities to be paid to the children of migrants.

Migration networks and information may increase the probability of migration in the future, making migration and education substitutes of one another. The immediate substitution effect by which the opportunity cost of staying longer at school increases due to the higher earning probability abroad induces children from migrant households to leave school earlier.

It is important to further investigate what children are doing instead of going to school and find if living in migrant households increases the probability for boys migrating themselves at school ages. Because the reduction in years of schooling might be a conscious choice of remittance-receiving household members in the face of better opportunities abroad it should be less of a policy concern then a restriction on schooling due to budget constraints. One possible policy solution can be related with the improvement of post compulsory school system especially in the rural areas where the drop out of school rate is higher.

However an important implication of my study is that money alone is not enough to stimulate improved educational opportunities in Albania. Public authorities must address investment in improving teacher and school administration quality, as well as pay more attention of the provision social and cultural opportunities for children living in migrant households.

3   REMITTANCES AND LABOR MARKET PARTICIPATION

3.1   INTRODUCTION

Migration out of Albania during the transition to the market economy has been massive, relative to the population. According to the World Bank (2010) one out of every three households in Albania, 34 percent, has at least one member currently living abroad, and 50 percent of these households have more than one. People from urban coastal part of the country are those with the highest propensity to migrate, while people from the poorer, rural mountain part are the least likely. Total remittances reported in the balance of payments increased from around 889 milion in 2003 to 1317 milion in 2009 which is 10.9 percent of the GDP. These transfers from migrants can have long-run beneficial impact on the economy if they are used in productive activities (Woodruff & Zenteno, 2007). However, remittances may have undesirable effects on the behaviour of those left behind. In particular there is a concern about whether remittances could cause Dutch disease effects (Acosta, et al., 2009).

On one hand remittances may increase the reservation wage of members living in the receiving-remittance households, but on the other these transfers may be used to relax budget constraints and as a mean of capital import, facilitating the climate for self-employment. Remittances may lead to a better participation in the business investments (Kilic, et al., 2009) through self employment or asset accumulation. Woodruff and Zenteno (2007) show that 27 percent of micro-enterprises in the urban areas in Mexico rely on remittances from abroad.

3.2   LITERATURE REVIEW

Remittances have been studied to state to what degree these flows serve to develop the migrant sending societies, including increased consumption levels, promotion of business investments, and increased availability of health and education services for family members left behind. Remittances may play an important role by providing financial support during difficult economic times, and by ensuring complementary social protection. But, the migration of a family member may have also a negative impact on the households' well-being. The absence of a family member may deprive the household of the migrant's market and non market production.

3.2.1   REMITTANCES IN RELATION TO THE LABOUR MARKET PARTICIPATION

Remittances can increase consumption or stimulate investments in economies with liquidity constraints (Castaldo & Reilly, 2007; Woodruff & Zenteno, 2007). One of the first studies that examined the consequences of remittances on home countries[16] is Funkhouser (1992), who finds that in Nicaragua that remittances increase self-employment for men and reduce the labor supply of women. However, from a development perspective, a decline in the labor supply in the recipient families should not necessarily be viewed as a negative effect. For instance, women in remittance-receiving households may carry out both parenting and home production activities (Acosta, 2006). Unemployment could increase if remittances are seen as providing a kind of welfare payment. However remittances by reducing the credit constraints in developing economies can encourage firms to increase their investment level. The overall effect on the unemployment will depend on which of these effects dominates.

Since remittance inflows are simple income transfers, recipient households may rationally substitute unearned remittance income for labor income. Regardless of their intended use, remittance

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[16] Home countries are the countries of origin of the migrants.

transfers may be subject to moral hazard problems (Chami, et al., 2005). These problems may induce recipients to divert resources to the consumption of leisure, thereby reducing their labor market effort. There are cases in which members of remittance-receiving families reduce their labor market participation in Pakistan (Kozel & Alderman, 1990) and in Caribbean Basin cities (Itzigsohn, 1995).

The impact of remittances on the decision to work has been examined by Rodriguez and Tiongson (2001) in Manila. Without accounting for the endogeneity of remittances with respect to labor supply, they conclude that remittances reduce employment. Using 2002 data from Mexico, Amuendo-Dorantes and Pozo (2006) show that, remittances appear to negatively affect female work effort only in rural areas and in the informal sector. Additionally, their results indicate that remittance-receiving men do not reduce their participation in labor market, but tend to shift into informal employment. Their study acounts for the endogeneity of remittance income and examines differences in the hours worked in various types of employment by men and women in urban and rural areas.

Using household survey data from Moldova, Görlich et al. (2007) examine labour market inactivity by considering three potential explanations: a "disincentive effect" in which leisure is considered a normal good and non-labour income raises the reservation wage of a potential worker; a labour subtitution effect, in which people in remittance-reciving households allocate more time to household production than their counterparts in the non-remittance-reciving households; an education effect, in which migration provides incentives for additional education[17] and remittances are used to invest in the education of those remaining at home.

There are few empirical studies of the relationship between remittances and labor market issues in Albania. Konica and Filer (2009), using Albanian Living Standards Measurement Survey (LSMS) for 1996, suggest that remittances have a negative effect on female labor market participation due to higher income from abroad. This finding is consistent with studies conducted in other countries. In the Albanian case however, Konica and Filer (2009) find that neither the existence of emigrants in

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[17] A phenomenon stressed by the "brain gain" literature

the household nor the amount of remittances received has an effect on labor force participation of Albanian males.

Using data from the 2005 Albanian LSMS Kilic, et al., (2009) measure the impact of past migration experience of Albanian households on non-farm business ownership through instrumental variables regression techniques. These results indicate that households' past migration experience exerts a positive impact on the probability of owning a non-farm business. Using the same dataset, Dermendzhieva (2009) investigates the effect of migration and remittances on labor supply in Albania. A linear probability model is estimated for the probability of a household member to be working on the subsamples of male and female household members separately. Only after using the instrumental variable, Dermendzhieva (2009) obtains large and negative coefficients for receiving remittances for females and older males.

The same question will be addressed using an alternative method, the propensity score matching. I will use propensity score matching to pair individuals that receive remittances with other individuals that are like them, expect from remittances. The question is whether remittances are acting as a disincentive for the participation in the labor market through a substitution effect or it may be an income effect of considering that remittances may affect decisions to accept more hours of work.

To date the studies on Albania have focused mainly on the decision to work and have not considered that remittances may change the hours worked or the type of work performed in the receiving economy, without altering employment rates. Hence, by focusing on work performance a clearer picture of the allocation of labor supply across different types of employment can be established.

In the neoclassical model of labor-leisure choice (Apps, et al., 1996), individuals allocate time to market activities and non-market activities maximizing utility subject to the budget constraint. The model isolates the factors that determine whether an individual works, and if so, how many hours she chooses to work. This theory lets us predict how changes in economic conditions or government policies will affect work incentives (Borjas, 2005). Individuals seek to maximize their well-being by consuming goods and leisure. The economic trade-off is clear. If individuals don't work, they can consume a lot of leisure, but they have to do without the goods and commodities that make their life more enjoyable, on the other hand if individuals work, they will be able to afford many of these goods, but they must give up some of their leisure time. In this framework wage rate and other income are the key economic variables that determine the allocation of time between the labor market and leisure activities.

According to Becker (1991) there are various divisions of labor among family members. The different divisions of labor are determined partly by biological differences and partly by different experiences and different investments in human capital. The theory of comparative advantages implies that the resources of members of a household should be allocated to different activities according to their comparative or relative efficiencies. These differences can be distinguished by the assumption that an hour of household or market activity of one member of the household is not a perfect substitute for an hour of time of another member of the household when they make the same investments in human capital. Specialization of tasks, such as the division of labor between members of the household, implies a dependence on others for certain tasks.

An important factor determining the labor market participation decision is the level of the reservation wage or the lowest wage rate at which a household member would be willing to accept a particular job. Non-labor income is a determinant of the reservation wage. For an individual the non-labor income depends on her own assets and the amount of income of the other household members.

The higher is the income of the other members of the household, the higher is the reservation wage of the individual (Cox-Edwards & Rodriguez-Oreggia, 2009). This reservation wage will influence the probability of the individual to participate in the labor market. In this context remittances may be considered as a disincentive for the market activities, because remittances increase the level of the non-labor income, increasing the reservation wage.

Assuming that remittances are not randomly assigned, various factors may confound their impact in the labor market participation by direct comparison of remittance-receiving to non remittance-receiving households. Matching techniques helps avoiding these problems.

3.2.3   AN OVERVIEW ON ALBANIAN LABOR MARKET STRUCTURE

Albanian labor market has faced the transition from full employment, like most formerly planned economies, to market based employment model. After 1990s, public sector employment has declined and the private sector job creation has been slow to compensate. Passed the recession of 1997-1998, the country reached macroeconomic stability with economic growth rates more than 5 percentage points year by year. However, these high economic growth rates did not translate into lower employment rates. The unemployment rate is around 13 percent (INSTAT, 2012). According to the World Bank (2006) only 60 percent of the working age population was employed in 2004, which is below other countries in the region.

An important issue negatively affecting the labor market is the informal employment. According to estimates (World Bank, 2006) around three-quarters of the workforce is employed informally. About 55 percent of workers in the non-agricultural sector are employed in the informal economy. Figures are much higher for workers in agriculture, where most of them are self-employed workers. The probability of being an informal worker is higher for young males with low educational

attainment (ILO, 2006). Informal employment has costs for individuals, enterprises and the whole economy. Important consequences of informal economy are those related to the loss in revenues from tax evasion, distortion of the labor market, and unfair competition.

During the last two decades, Albania has experienced high rates of migration, both internal and international. Many Albanians, around 40 percent of the working age population, have chosen to leave the country to find better jobs. The high rates of migration have generated both opportunities and constraints for Albanian households (ILO, 2006). On one hand, remittances from migrants represent an effective instrument for poverty alleviation. About 55 percent of migrants send to their families remittances that represent around 13 percent of the total income of the households. On the other hand, migration led to a "brain drain" process, because more educated Albanians tend to move.

Figures represented in Table 3.1 give signals of discouragements in the labor force. Unemployment rate is high and increasing. Labor market outcome are particularly not favorable for female household members. Compared to their male counterparts, female household members experience lower participation in the labor force. Not only data on employment are lower for female, but on average female wages are lower as well[18]. Younger individuals aged 15-24 are more affected by unemployment problems. Youth unemployment rates have been consistently higher than that of adults.

The highest employment rates are in the Central region. However, Tirana, centrally located has the highest unemployment rate around 19 percent. These results indicate that rural areas have more favorable labor market indicators than urban areas. Differences in the regional rates reflect the effect of the internal migration from rural to urban areas.

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[18] Female wages are 35 percent lower than those of men, even after adjusting for age, education, and other characteristics.

Table 3.1: Labor Force Balance for Individuals aged 15-64 (data from INSTAT)

	2007	2008	2009
Labor force participation rate	**65.2**	**61.9**	**61.9**
Male	74.4	72.1	73.3
Female	56.2	52.8	51.8
Employment rate	**56.4**	**53.8**	**53.4**
Male	63.6	63.0	64.3
Female	49.3	45.6	43.6
Unemployment rate	**13.5**	**13.0**	**13.8**
Male	14.4	12.5	12.2
Female	12.2	13.5	15.9
Unemployment rate (15-24)	**20.1**	**27.2**	**27.2**
Male	22.8	27.1	26.2
Female	16.6	27.2	28.3
Unemployment rate (25-64)	**12.0**	**10.9**	**11.3**
Male	12.6	10.3	9.6
Female	11.3	11.6	13.4

Public sector employment has declined during the period of transition. As Table 3.2 shows public sector employment is less than 20 percent. On the other hand, job creation in the private sector has not been strong enough to compensate the decline in the public sector. The mobility between employment statuses is relatively low in the country.

Table 3.2: Employment Structure According to the Sectors (data from INSTAT)

	2007		2008		2009	
	Male	**Female**	**Male**	**Female**	**Male**	**Female**
Public sector	**15.1**	**15.4**	**18.0**	**18.7**	**16.0**	**17.6**
Agriculture private sector	**36.7**	**60.4**	**33.3**	**55.8**	**33.2**	**56.5**
Non-agriculture private sector	**48.3**	**24.1**	**48.7**	**25.5**	**50.8**	**25.9**

3.3   METHODOLOGY

3.3.1   THE ESTIMATION FRAMEWORK

The relationship between remittances and labor market participation has been examined before for Albania, but the methodology in this paper differs from previous ones. The comparison between remittance-receiving household and those who don't leads to an identification problem because the presence of remittances may be correlated with unobserved determinants of participation among these household members.

To overcome the potential bias, I will use the propensity score matching to find a comparison group for individuals in remittance-receiving households. The question arises because I'd like to capture the difference between the household member's participation in the labor market with and without remittances. It is obvious that we cannot observe both outcomes for the same member at the same time. Taking the mean outcome of non-participants as an approximation is not advisable, since participants and non-participants usually differ even in the absence of treatment (Caliendo & Kopeinig, 2005). This problem is known as selection bias. The matching approach is one possible solution to this problem.

Heckman's (1974; 1978; 1979) sample selection model was developed using an econometric framework for handling limited dependent variables. Heckman's original model focused on the incidental truncation of a dependent variable. Maddala (1983) extended the sample selection perspective to the evaluation of treatment effectiveness. The treatment effect model differs from the sample selection model in two aspects: first, a dummy variable indicating the treatment condition w_i ($w_i = 1$ if the participant *i* live in the remittance-receiving household and $w_0 = 0$ otherwise) is directly entered into the regression equation and second the outcome variable y_i of the regression equation is observed for both $w_i = 1$, and $w_0 = 0$. Specifically, the treatment effect model is expressed in two equations:

Regression equation: $y_i = x_i\beta + w_i\delta + \varepsilon_i$

Selection equation: $w_i^* = z_i\gamma + u_i$, $w_i = 1$ if $w_i^* > 0$, and $w_i = 0$ otherwise

$P(w_i = 1|z_i) = \Phi(z_i\gamma)$ and $P(w_i = 0|z_i) = 1 - \Phi(z_i\gamma)$

Where, ε_j and u_j are bi-variate normal with mean zero and covariance matrix $\begin{bmatrix} \sigma_\varepsilon & \rho \\ \rho & 1 \end{bmatrix}$

The paper estimates the probability of receiving remittances as a function of individual and household characteristics, rank remittance-receiving and non-receiving individuals by their propensity score, pair those individuals with similar propensity scores, and calculate the average difference in labor force participation across them.

The focus will be in the comparison of the labor market participation of individuals exposed to no treatment (non-remittance receiving households) and labor market participation of individuals exposed to treatment (remittance receiving households). Since only one of these two outcomes is observed for each individual, I will estimate the difference in labor market participation between those treated and those with the same probability of being treated (Ichino, et al., 2008).

The advantage of using propensity score is simplicity in estimation (Heckman, et al., 1998). When using the matching method based on propensity score, the treatment effects estimation is conducted in two stages. First, by building a model that describes the treatment decision. Then, by conducting a model that describes the outcomes.

Propensity score enables using one-dimensional nonparametric regression techniques to estimate average treatment effect. Rosenbaum and Rubin (1983) showed that, if treatment assignment and potential outcomes are independent conditional to covariates *X*, then they are independent conditional on a one-dimensional propensity score, which is the probability of treatment given *X*. Hence instead of regressing on all covariates *X* it is sufficient to regress on this propensity score to avoid selection bias.

The propensity score is;

$$p(x) \equiv P(D=1 \mid X=x) = E(D \mid X=x)$$

where;

$$p(X) = F(h(X_i))$$

$F(.)$ can be the normal or the logistic cumulative distribution,

$D = 1$ if the subject is treated (receive remittances) and 0 otherwise,

X_i is the vector of pre-treatment characteristics.

Rosenbaum and Rubin (1983) established the following conditions to estimate the Average Treatment on the Treated (ATT) effect base on the propensity score:

Condition 1: The Balancing Hypothesis

$$D \perp X \mid p(X)$$

This means that for observations with the same propensity score, the distribution of pre-treatment characteristics must be the same across control and treated group. That is, conditional on the propensity score, each individual has the same probability of assignment to treatment, as in a randomized experiment.

Condition 2: "Unconfoundedness"[19] given the propensity score.

Suppose the assignment to treatment is "unconfounded",

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[19] A term first used by Rubin (1990).

$$Y_1, Y_0 \perp D | X$$

Then assignment to treatment is "unconfounded" given the propensity score,

$$Y_1, Y_0 \perp D | p(X)$$

This condition refers to the case where adjusting for differences in a fixed set of covariates removes biases in comparisons between treated and control units, thus allowing for a causal interpretation of those adjusted differences.

Under the specific assumption the population average treatment effect can be estimated ate the standard rate without functional form assumptions. A variety of estimators have been proposed for implementing this. The estimators include regression estimators; propensity score based estimators, and matching estimators. In practice the differences between the estimators are relatively minor when applied appropriately, although matching in combination with regression is generally more robust.

I need to point out some limitations of propensity score matching. According to Rubin (1997), propensity score matching cannot adjust for unobserved covariates, works better in larger samples, and does not handle any covariate that is related to treatment assignment, but not related to the outcome. Rubin recommended performing sensitivity analysis. It is also worth saying that propensity score matching is a rapidly growing field of study and many developments are still in a testing stage. However, propensity score matching is promising approach that offers a growing evidentiary base for observational studies facing violations of the un-confoundedness assumption and selection biases.

It is important to point out that, even though Propensity Score Matching methods can balance observed baseline covariates across treatment groups, they do nothing to balance unmeasured characteristics and confounders. Hence, as with all observational studies Propensity Score Matching methods have the limitation that remaining unmeasured confounding may still be present. Unmeasured confounding can be a major source of bias in observational research.

Propensity Score Matching is "data hungry" in terms of numbers of treated and non-treated members entering in the matching process. Smaller samples will provide less precise estimates of treatment effects and may results in small effects passing undetected. This is also the case with other methods. However, a complication that arises in the case of matching is that the estimation of the propensity score and the matching itself both add variation additional to the normal sampling variation.

3.3.2 THE MATCHING METHODS

The estimate of the propensity score is not enough to estimate ATT of interest. The reason is that the probability of observing two individuals with exactly the same value of propensity score is in principle zero since $p(X)$ is a continuous variable (Becker, et al., 2004). To overcome the problem the most widely used are nearest neighbor matching, radius matching, kernel matching and stratification matching.

The nearest neighbor method consists of matching each treated (remittance-receiving) individual with the control (non remittance-receiving) individual that has the closest propensity score. The method is usually applied with replacement in the control units. The nearest neighbor matching estimator sorts all records by the estimated propensity score, and then search forward and backward for the closest control units. Treated i is matched to that non-treated j such that:

$$\left| p_i - p_j \right| = \min_{k \in \{D=0\}} \left\{ \left| p_i - p_k \right| \right\}.$$

If for a treated unit forward and backward matches happen to equally well, then it will be drawn either the forward or forward matches. The nearest neighbor matching with replacement will be used, where an individual can be used more than once as a match. Matching with replacement

involves a trade-off between bias and variance (Caliendo & Kopeinig, 2005). With replacement the average quality of matching will increase and the bias will decrease. On the other hand it increases the variance of the estimator (Smith & Todd, 2005). With the nearest neighbor method each treated unit has a match, but this is not necessary the best match since we are looking for the closest.

A solution to the problem is to define a neighborhood within which a match can be considered. This method is called radius matching. The selection of the radius should be appropriate since a very small radius can reject treated observation.

Kernel estimator compares the outcome of each treated unit to the average outcome of a group of non-treated individuals where the weight of each individual in the comparison group is proportional to the individual's closeness to that in the comparison group. Kernel and Local Linear Matching are non-nonparametric matching estimators that use weighted average of all individuals to construct a counterfactual outcome.

Kernel matching associate to the outcome y_i of treated i a matched outcome given by a kernel-weighted average of the outcome of all non-treated, where the weight given to non-treated j is in proportion to the closeness between i and j:

$$\hat{Y}_j = \frac{\sum_{j \in D=0} K\left(\dfrac{p_i - p_j}{h}\right) Y_j}{\sum_{j \in D=0} K\left(\dfrac{p_i - p_j}{h}\right)}$$

Control j's outcome Y_i is weighted by;

$$w_{ij} = \frac{K\left(\dfrac{p_i - p_j}{h}\right)}{\sum_{j \in D=0} K\left(\dfrac{p_i - p_j}{h}\right)}$$ Where h is the closeness of matches

Weights depend on the distance between each individual from the control group for which the counterfactual is estimated. The application of Kernel matching needs to choose the kernel function and the bandwidth parameter. The second appears to be more important, high bandwidth values lead to a better fit and a decreasing variance between the estimated and true density function. The difference between kernel and local linear matching is that the second includes in addition to the intercept a linear term in the propensity score of a treated individual. This seems an advantage when the comparison group is distributed asymmetrically around the treated individuals, e.g. when there are gaps in the propensity score distribution (Caliendo & Kopeinig, 2005).

Another method consisting in the division in intervals of the range of variation of the propensity score is the stratification matching. Within each interval treated and control individuals have on average the same propensity score.

The set of covariates will include the following individual and household characteristics: age, age squared, gender, schooling, marital status, and number of children less than six in the household, area of residence, region and income net from remittances.

3.3.3   SENSITIVITY ANALYSIS

The reason for developing propensity scores and then matching is that the data are usually not balanced (Guo & Fraser, 2010), and hence the treatment assignment is not ignorable. After matching on the estimated propensity scores, at least the sample is balanced on the covariates and therefore we can conduct multivariate analyses and undertake covariate adjustments for the matched sample like in randomized experiments.

Selection bias is sometimes called "selectivity bias" (Maddala, 1983), or "hidden bias" (Rosenbaum, 2002). Selection effects are often categorized on the basis of the source of bias such as self-selection, researcher selection, geographic selection, etc. Whenever an observational study presents selection bias, treatment (remittance) assignment becomes a matter of great importance. A variety of techniques have been developed for correcting for selection bias. In this paper I will carry out the sensitivity analysis using the Rosenbaum bounds method (Rosenbaum, 2002). The aim of this method is to determine if the average treatment effect may be modified by unobserved variables. This type of analysis seek to answer the question on how sensitive are findings to the so called "hidden bias". According to Rosenbaum (2005), a sensitivity analysis addresses the question about what the unmeasured covariate would have to be like to alter the conclusions of the study. Therefore the fundamental task for this analysis is to derive a range of possible values indicating the "hidden bias".

Suppose that there are two units j and k, and that the two units have the same observed covariates x bur possibly different chances of receiving treatment π; that is $x_j = x_k$, but $\pi_j \neq \pi_k$. Then, units j and k might be matched to form a matched pair or placed in the same subclass. The probability that units j and k receive the treatment are $\pi_j/(1-\pi_j)$ and $\pi_k/(1-\pi_k)$, respectively. The probability ratio is:

$$\frac{\pi_j/(1-\pi_j)}{\pi_k/(1-\pi_k)} = \frac{\pi_j(1-\pi_k)}{\pi_k(1-\pi_j)}$$

The sensitivity analysis assumes that this ratio for units with the same covariates x is at most some number $\Gamma \geq 1$, that is,

$$\frac{1}{\Gamma} \leq \frac{\pi_j(1-\pi_k)}{\pi_k(1-\pi_j)} \leq \Gamma \text{ for all } j,k \text{ with } x_j = x_k.$$

By the above definitions, if Γ were 1, then $\pi_j = \pi_k$ whenever $x_j = x_k$, so the study would be free of "hidden bias". If $\Gamma = 2$, then two units that appear similar, that have the same x, could differ in their

chance of receiving the treatment by as much as a factor of 2, so one unit might be twice as likely as the other to receive the treatment.

Rosenbaum bound method uses matching estimates to calculate confidence intervals of the treatment effect, for different values of Γ. If the lowest Γ producing a confidence interval that includes zero is small (i.e. less than two), it is likely that such unobserved characteristic exists and therefore that the estimated treatment effect is sensitive to unobserved.

Rosenbaum developed various methods of sensitivity analysis, including the Wilcoxon's signed-rank test, and the Hodges-Lehmann point an interval estimates for sensitivity analysis evaluating matched pair studies, sign-score methods for sensitivity analysis evaluating matching with multiple controls, sensitivity analysis for matching with multiple controls when responses are continues variables, and sensitivity analysis for comparing two unmatched groups.

3.4   RESULTS

In the study are included 9,177 individuals between the ages of 19 and 65 from the four areas; Coastal, Central, Mountain and the capital Tirana. In Figure 1 we can notice the distribution of the remittances and their use. The majority, about 82 percent of the remittances goes to the building or remodeling of the houses, while only about 5 percent serves as investment to the households own business.

Figure 3.1: Remittances in relation to their use
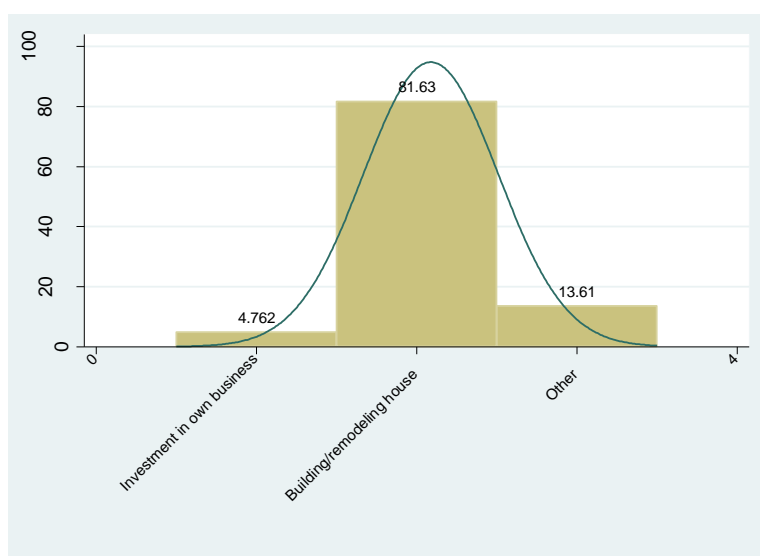
It is important to know who receives remittances how much different is the household from the one not receiving anything if significant differences exist. Table 3.3 presents statistical tests of the differences in the two groups of households those receiving remittances and those not receiving.

Table 3.3: Comparative descriptive statistics conditional on receiving remittances

	Non Remittance receiving HH		*Remittance receiving HH*		*Differences*	
	Mean	**Standard deviation**	**Mean**	**Standard deviation**	**Differences**	**Standard errors**
HH size	*4.90*	*1.79*	*4.27*	*1.86*	*.62****	*.05*
Urban	*.54*	*.49*	*.39*	*.48*	*.14****	*.01*
Age	*38.65*	*12.74*	*39.33*	*14.54*	*-.68**	*.39*
Female	*.50*	*.50*	*.45*	*.49*	*.05****	*.01*
Education	*9.05*	*3.67*	*8.72*	*3.23*	*.33****	*.12*
Not working	*.34*	*.47*	*.27*	*.44*	*.07****	*.01*
Central (Area)	*.25*	*.43*	*.28*	*.45*	*-.03***	*.01*
Mountain (Area)	*.27*	*.44*	*.23*	*.42*	*.03****	*.01*
Hours work (per week)	*44.08*	*13.10*	*41.81*	*14.06*	*2.26****	*.40*
Head	*.31*	*.46*	*.25*	*.43*	*.06****	*.01*
Number of observations	**7,909**		**1,268**			

Note: ***, **, and * indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

Table 3.3 is designed to compare the means of the two groups and test the statistic significance of the difference of the means. As we can notice from the results the differences are all statistically significant at different significance level. Remittance-receiving households have a smaller household size (4.27) in respect to the non remittance-receiving households (4.90). This difference may be related to the fact that members or part of the household has migrated. Remittance receiving are more likely to be older and living in rural areas far from the central part of the country. The members of the household receiving remittances are less likely to be the head of the family and less likely to be female. Remittance-receiving individuals have completed less years of schooling (8.72) in comparison to individuals (9.05) that don't receive remittances. Not all the differences are statistically significant at 1 percent level. However it is import to put emphasis in the higher probability of not working for those individuals that live in remittance-receiving households. There is a statistically significant difference in the hours of work during a week around 2.26 more for those living in non remittance-receiving households.

A rigorous propensity score modeling begins with estimation of the conditional probability of receiving treatment, in our case of receiving remittances. In this study I used the logistic regression for estimating the conditional probability of receiving remittances using a vector of observed covariates shown in Table 3.4.

Table 3.4: Estimation of the probability of receiving remittances

Receive Remittances	Logistic regression (1)
HH size	-.221 (.023)***
Urban	-.587 (.087)***
Education	.499 (.140)***
Education Squared	-.099 (.025)***
Age	-.049 (.021)**
Age Squared	.008 (.003)**
Female	-.519 (.095)***
Married	.083 (.031)*
Coastal	.302 (.121)
Central	.128 (.123)
Mountain	-.005 (.129)
Head of HH	-.814 (.117)***
Cons	-.439 (.524)

Note: ***, **, and * indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

From the logistic estimation the probability of receiving remittances is the household lives in urban area and the size of the household is smaller. Being married and not the head of the family increases the probability of receiving remittances; maybe this is related to the fact that male head members of the family mostly migrate and living behind the rest of the household. It is interesting and in contrast with Table 3.4 the positive relation between the years of education and the probability of receiving remittances. However, as expected the square of the years of education is negatively related with the conditional probability. Younger members of the household are more likely to receive remittances. The area of residence of the household is not statistically significant.

By definition a propensity score is a conditional probability of a study participant receiving treatment given observed covariates; hence not only treated participants but also control participants have non zero propensity scores. Having obtained propensities I used nearest neighbor matching within a caliper of $.25\sigma_p$. For each treated observation I find the non-treated observations that are closest to the treated observation to serve as the corresponding control observation.

Figure 3.2: Propensity score histogram by treatment status for the labor market participation decision
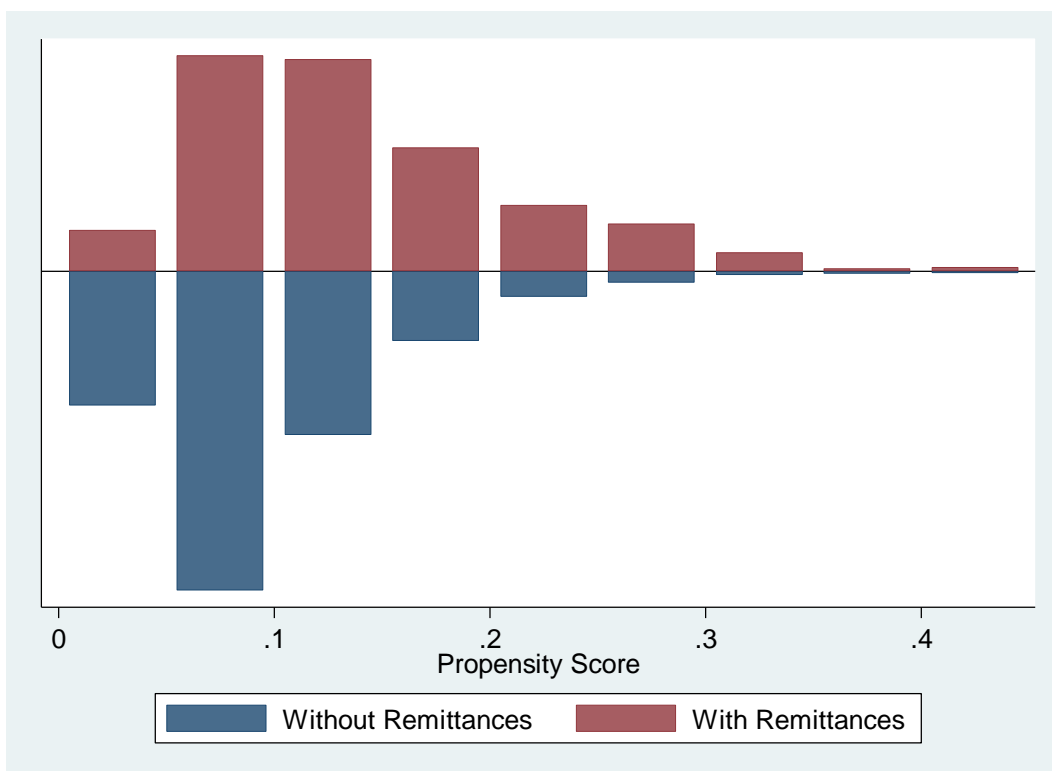
Figure 3.2 represents the differences in terms of participation in the labor market of the two groups of remittance-receiving and non remittance-receiving conditional to the covariates. The histogram shows the distribution of the predicted propensity score between receiving-remittance household members and non receiving-remittance household members. While there is a good overlap

between distributions of the propensity score in the two treatment[20] group, it can be seen that for values of propensity score higher than 0.2 the number of individuals from remittance- receiving household is higher than those from non remittance-receiving households.

Table 3.5 presents the Average Treatment effect on Treated (ATT) using Nearest-Neighbor and Kernel Estimator. The difference is obtained after running *psmatch2* with the Stata software package*. For the individuals in the treatment group, receiving remittances lowers the probability of participating in the labor force by .041 or around 4 percent. However this difference results not statistically significant when using the Nearest Neighbor estimator. Kernel Matching estimate of ATT is statistically significant and higher than the previous difference around 5.5 percent.

Table 3.5: Estimated ATT with Nearest Neighbor and Kernel Estimator

	Treated	*Controls*	*Differences*
Nearest Neighbor Estimator			
Unmatched	.273	.347	-.074 (.011)***
ATT	.273	.314	-.041 (.024)
Kernel Estimator			
Unmatched	.273	.347	-.074 (.011)***
ATT	.273	.328	-.055 (.011)***

*Note: ***, **, and * indicate the statistic significance respectively at 1, 5, and 10 percent level or better.*

In order to answer the question posed in the beginning of the paper I have to examine the difference in the probability of not working and the hours of work per week. I group data in three categories; treated individuals, non-treated individuals, and matched control individuals. There are a

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[20] Treatment is the remittance receiving status.

total of 1,268 treated or remittance-receiving household members. However the common support is made of 953 household members.

In Table 3.6 are given the differences between treated and matched controls and tested their significance. We can notice the expected difference between treated and non-treated either in the probability of not working or in quantity of hours worked per week. However the most important difference for us is the one between treated and the matched control. The comparison between a remittance-receiving individual and a non remittance-receiving individual does not give us the insight to understand completely the labor market participation. This is why we need an individual that is in every dimension exactly alike the individual who receives remittances except for the receipt of remittances. This is the matched control.

As we can notice, the difference between the matched and the treated males is not statistically significant. In the case of female the probability of not participating in the labor market is greater for those receiving remittances; this difference is not large enough in relation to its standard error to conclude that there is a significant difference in this probability. However receiving remittances affect the hours worked for females, who are found to work around 3 hours fewer per week if they receive remittances. This difference is statistically significant.

Table 3.6: Descriptive statistics for the treated, non-treated and matched groups

	Treated	*Not Treated*	*Test of the differences*	*Matched*	*Test of the differences*
Male					
Not in the labor force	.214	.165	.048 (.019)**	0.213	.011 (.044)
Hours per week	42.623	45.307	-2.684 (.616)***	44.793	-2.171 (2.023)
Female					
Not in the labor force	.486	.428	.058 (.025)**	.483	.003 (.011)
Hours per week	41.486	43.011	-1.524 (.666)**	44.357	-2.871 (1.192)**

Note: ***, **, and * indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

Propensity score matching method accounts for endogeneity because it captures unobservable characteristics distinguishing remittance-receiving households from non remittance-receiving households. Empirical results show that receiving remittances for males does not have any impact in the probability of working or hours worked per week. Receipt of remittances seems to impact the labor market behavior of females, because they reduce their hours worked in presence of remittances.

Results of the Probit regression with kernel and nearest neighbor estimator are presented in table 3.7 about the hours worked per week. While, the difference between remittance-receiving and non remittance receiving households, has been illustrated with the results of figure 3.2. In the case of the kernel estimator during the regression a Gaussian type kernel has been used. The number of Neighbors used to calculate the matched outcome in this case is four for the Nearest Neighbor estimator.

Table 3.7: Probit Regression Results using Kernel and NN Estimator for the Hours Worked per week

Receive Remittances	Kernel Estimator (normal type)	Nearest Neighbor Estimator
HH size	-.086 (.009)***	-.083 (.007)***
Urban	-.119 (.036)**	-.119 (.036)**
Education	-.014 (.004)**	-.014 (.004)**
Age	.001 (.003)	.001 (.003)
Age Squared	-.004 (.002)	-.000 (.000)
Female	-.003 (.036)	-.003 (.036)
Coastal	.056 (.050)	.056 (.050)
Central	.173 (.052)**	.171 (.052)**
Mountain	-.075 (.054)	-.073 (.055)
Head of HH	.037 (.050)	.035 (.052)
Cons	-.049 (.101)	-.042 (.103)
Nr of observations	8129	8129
LR chi^2 (10)	175.68	175.62
Pseudo R^2	0.182	0.179

*Note: ***, **,* and * indicate the statistic significance respectively at 1, 5, and 10 percent level or better.*

From table 3.7 we can notice the direction of the relationship of the independent variables and the dependent variable, in this case the hours worked per week. The treatment condition is the presence of remittance flows in the household. Results using the two estimators kernel and nearest neighbor have only few differences either in the direction of the relationship and the marginal effect of covariates. Hours worked per week lower if the household member is female which are similar with the findings in the previous section. Negative effect in the hours worked per week has also the household size, living in the urban areas, education level, and the mountain location. As expected the relationship between age and the number of hours worked has a concave form, first increasing and then decreasing.

Figure 3.2: Propensity score histogram by treatment status for the hours worked per week
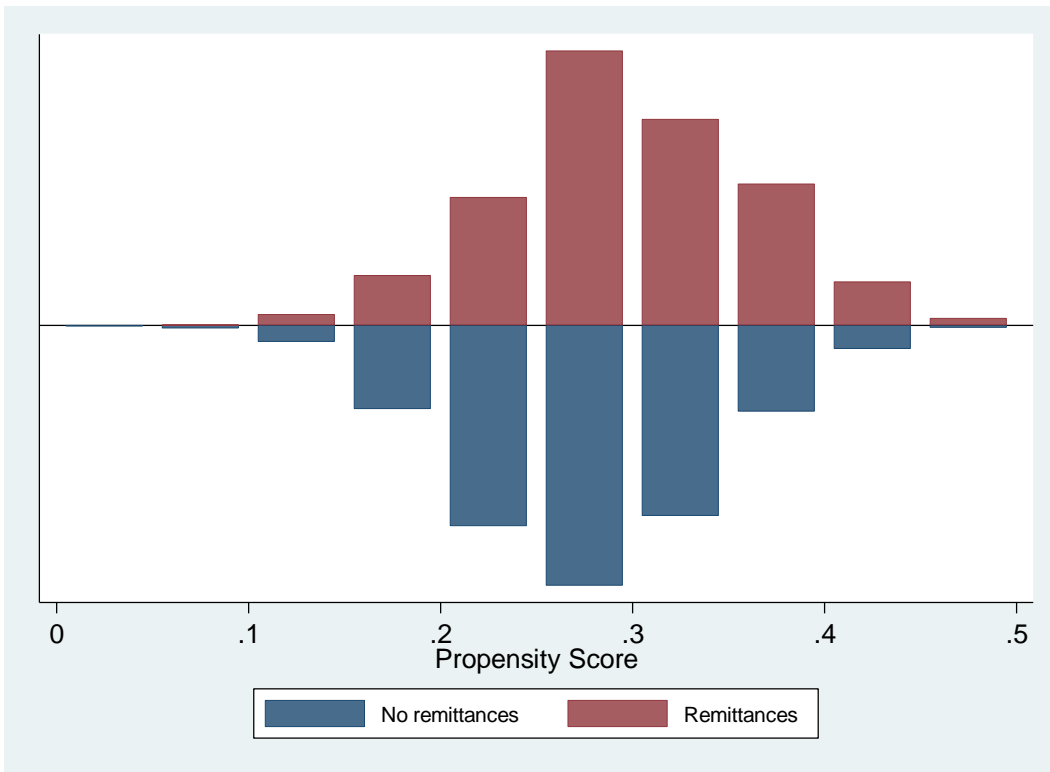
In figure 3.2 the propensity score histogram represents the distribution of the propensity score between receiving-remittance household members and non receiving-remittance household members. We notice a good overlap between the distributions of the propensity score in the two treatment group, it can be seen that for values of propensity score higher than 0.3 the number of individuals from remittance- receiving household is higher than those from non remittance-receiving households.

Using *pstest* I check the success of the matching for the group of exogenous variables used. This is a t-test on the hypothesis that the mean value of each variable is the same in the treatment group and the non-treatment group. This t-test is done before and after matching. Furthermore, a bias before and after matching is calculated. If p>0.1, the null hypothesis cannot be rejected on the 10 percent significance. This "bias" is defined as the difference of the mean values of the treatment group and the non treatment group divided by the square root of the average sample variance in the treatment group and the not matched non treatment group. Results are presented in table 3.8.

In table 3.8 we can see the difference of the values of the exogenous variables between the two groups before the matching. E.g. the average level of education is 8.7 in the treatment group and 8.9 in the control group. These factors have a significant influence on the treatment probability. By the matching the differences between treatment and non treatment group are reduced considerably. Apart for the not working status (around 26 percent reduction), for the other variables the percentage of bias reduction is higher than 60 percent. This reduction of bias is evident in the figure 3.3. However, the bias was already small before the matching. The null hypothesis that the mean values of the two groups do not differ after the matching can be rejected for the household size of the family, living in the urban areas, education level, central, mountain, and not working. We can conclude that through the propensity score matching it was possible to generate a control group which is similar enough to the treatment group to be used for the ATT estimation.

Table 3.8: Estimated Reduction of Bias after Matching

	Mean		% bias	% reduction	t-test	
	Treated	Control		|bias|	t	p>|t|
HH size						
Unmatched	4.097	4.528	-23.9		-9.59	0.000
Matched	4.097	4.114	-1.00	96.0	-0.34	0.734
Urban						
Unmatched	.420	.470	-10.1		-4.07	0.000
Matched	.420	.421	-0.2	98.0	-0.07	0.944
Education						
Unmatched	8.726	8.930	-6.1		-2.44	0.015
Matched	8.726	8.659	2.0	67.6	0.67	0.503
Age						
Unmatched	37.187	36.760	2.2		0.87	0.385
Matched	37.187	37.232	-0.2	89.4	-0.08	0.938
Age Squared						
Unmatched	1765.1	1753.7	0.7		0.30	0.767
Matched	1765.1	1773.0	-0.5	31.6	-0.17	0.863
Female						
Unmatched	.453	.463	-2.1		-0.86	0.391
Matched	.453	.456	-0.6	71.8	-0.20	0.840
Coastal						
Unmatched	.340	.318	4.8		1.94	0.053
Matched	.340	.338	0.5	89.0	0.18	0.860
Central						
Unmatched	.312	.242	15.5		6.40	0.000
Matched	.312	.315	-0.7	95.4	-0.23	0.815
Mountain						
Unmatched	.205	.263	-13.8		-5.48	0.000
Matched	.205	.201	0.9	93.7	0.31	0.757
Head of HH						
Unmatched	.256	.241	3.5		1.44	0.149
Matched	.256	.254	0.5	84.7	0.18	0.855
Not working						
Unmatched	.273	.347	-16.2		-6.47	0.000
Matched	.273	.328	-12.0	26.1	-4.08	0.000

Figure 3.3: Standardized Percentage Bias across the Covariates
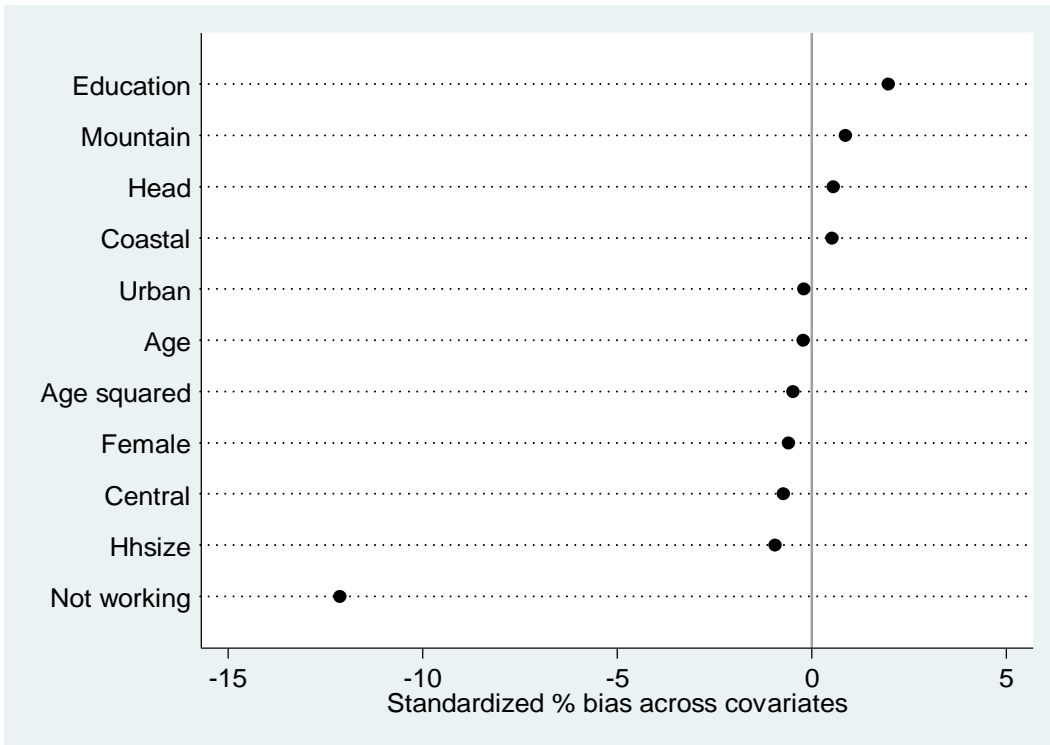
To assess the robustness of the study, I conducted a sensitivity analysis.. By running the command, *rbounds* returns the minimum and the maximum values of the p value using the Wilcoxon's signed-rank test[21]. Results of the sensitivity analysis are shown in table 3.9. The sensitivity analysis shows that the study becomes sensitive to hidden bias at Γ=1.4 (p<.05). Because 1.4 is a small value, we can conclude that the study is sensitive to hidden bias, and therefore, further analysis that controls for additional biases is warranted.

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[21] Compute the Wilcoxon signed-rank statistic for the outcome difference between treated and control groups.

Table 3.9: Results od the Sensitivity Analysis for the Study of Labor Market Participation

Γ	Minimum	Maximum
1	<.00001	<.00001
1.2	<.00001	.0096
1.4	<.00001	.0466
1.6	<.00001	.0515
1.8	<.00001	.0567
2	<.00001	.0887

3.5 CONCLUDING COMMENTS

The chapter focuses on the fact whether the receipt of remittances have any effect in the labor market participation. I used propensity score matching procedure to assess the relationship between remittances and the probability of being in the labor market. Results show that remittances do not alter the behavior of men on their labor force participation or hours worked. However there is a statistically significant change in the labor market participation of women. Women who work appear to reduce their hours worked by 2.8 per week. A possible explanation is that remittances increase the reservation wage for women. Another explanation maybe related with the fact that the departure of a family member may increase the need for more presence in the house environment.

It is important to highlight the fact that remittances are received by households with significant differences in characteristics. According to the statistical test in mean differences remittances are more likely to be received from older persons living in the rural area of the country. Remittance-receiving household members result to have less years of schooling. Being older and less educated puts persons in a bad position in the labor market even without the presence of remittances.

Empirical results show that the difference between the matched and the treated males is not statistically significant, this is why we cannot come up with a definitive conclusion about the presence of remittances in the participation in labor market of male household members . In the case of female the probability of not participating in the labor market is greater for those receiving remittances; this difference is not large enough in relation to its standard error to conclude that there is a significant difference in this probability. However receiving remittances affect the hours worked for females, who are found to work around 2.8 hours fewer per week if they receive remittances. This difference maybe related with the fact that in the presence of remittances female household members decide to reduce their hours dedicated to productive activities.

The study on the effect of other covariates in the decision to participate in the labor market and the quantity of hours worked per week give interesting insights. Urban location and hours worked have a negative relationship, which maybe related with more productive workplaces in the urban areas if compared to the rural area. Education level is also negatively related with the quantity of work. This result however not statistically significant is interesting for further investigation. While, as expected the age variable and the hours worked per week presents a concave relationship.

The variability of remittance receipt by gender may be a possible explanation for the different result in the labor participation behavior of household members. Women, who are typically more likely to stay back home caring after children and elder parents, are also more likely to receive remittance flows from a spouse living abroad to regular and periodical transfers. The regularity of remittance flows may induce to different labor market participation from men and women.

Micro aspects of the distortion in the labor market participation due to the presence of remittances maybe an explanation for the macro dynamics of the labor market. During the last two decades of open economy era for Albania there has been a paradox in the relationship between growth rate and unemployment rate. Increasing trends of economic growth were not accompanied with the decrease in the labor market. This can be considered a consequence of remittances. These capital

flows discourage the participation in the labor market without decreasing the unemployment rate bur in the other side encourages consumption of goods and services.

4 REMITTANCES AND HEALTH CAPITAL RELATION

4.1 INTRODUCTION

Health is an important factor of future productivity, in this way it has a direct impact on economic growth and poverty reduction. According to Grossman (1972) health capital differs from other forms of human capital because an individual's stock of knowledge affects her market and nonmarket activities, while "the stock of health" determines the amount of time she can spend earning money and consuming commodities. This brings differences in the demand for health if compared to the demand for other capitals. Health is demanded for two reasons; as a consumption commodity and as an investment commodity. Consumers demand for health is positively correlated with labor incomes. Does this positive relation still hold with non-labor incomes, such as remittances? Do remittances affect household consumption of health?

Empirical studies show that remittances can relax household budget constraints and finance the cost of healthcare (Amuendo-Dorantes, et al., 2007). On the other hand remittances may help maintain household consumption during an unexpected health shock (Wagstaff & Menno, 2005). Migration networks also provide information motivating left behind households to adopt healthier lifestyle or better health seeking behavior (Hildebrandt & McKenzie, 2005).

4.2 LITERATURE REVIEW

The research focused on the relationship between migration and health in developing countries can be divided into two research areas. On one side, the impact of migration and remittances on the health outcome or status and on the other hand the impact of migration and remittances on the access to health care or health spending.

4.2.1 THE NATURE OF THE DEMAND FOR HEALTH CARE

If we accept the economist's view of health as an asset capable of being produced, then health production can be viewed as an investment which counterbalance for the capital consumption (Zweifel, et al., 2009). Investment is achieved by the input of medical care and prevention. The return on the stock of health capital is spending less time in bad health. Demand for medical care is a derived demand. Consumers consume health care not as an end in itself but because they wish to be healthy. Economic agents will maximize overall utility by the optimal management of their stock of health over time.

Grossmans' model on health demand function proceeds from the assumption that individuals are born with an initial capital stock of health, this stock diminishes with age, the stock can be increased by investment in health, households are subject to a household production function, households attempt to maximize their utility given income and resource constraints, and medical care is one of a number of inputs into a utility function and is subject to the same income and resource constraints as any other.

The model assumes that individuals assess the benefits from expenditures that will improve their health and compare their benefits to those derived from the expenditures on other goods and services. Consumers are assumed to have knowledge on their own health status, its rate of depreciation and the production function relating health improvements to health care expenditure.

The inter-temporal utility function for a typical consumer is assumed to be;

$$U = U(\phi_0 H_0, ..., \phi_n H_n; Z_0 ...... Z_n)$$

Where H_0 is the inherited stock of health, H_i is the stock of health in period i, ϕ_i, the amount of health care consumed, $\phi_i H_i$ is the total consumption of health services, and Z_i is the total consumption of other commodities, excluding health. This utility function can be maximized to derive the expected behavior of the rational consumer. Maximization within a budget constraint leads the individual to equate the marginal return on health to the marginal cost. The return to the

j-th individual is made up of marginal physic return (a_j) and the marginal monetary return (y_j)[22]. The cost of health capital is the rate of the interest forgone on other assets (r_j) plus the rate of depreciation (δ_j);

$$y_j + a_j = r_j + \delta_j$$

Some important implications from the cost-minimizing demand for medical services, for a given health capital H_i, are; first, the higher the price of medical care the smaller the quantity demanded, second, the higher the initial wage rate, the higher the demand for medical care. A higher level of education has a negative effect on the demand for medical care. The model provides a starting point for a series of health demand studies. The empirical findings show that households see health care in the same light in other consumption items, meaning that it is consumed if it contributes more in net terms to the household's welfare than the alternatives.

The demand for medical care depends on the health capital which is chosen optimally by the individual. In the pure investment model (Grossman, 1972), health is only valued for its impact on wealth. There are some important predicted partial correlations of this model. First, an increase in the price of medical care raises the cost of investment in health capital and thus reduces its optimal quantity. Second, a higher available wage level increases the demand for health as a capital good. This

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[22] Utility is measured in money metric terms.

effect dominates the increased cost of time, since medical care consume less time than the working time gained (Zweifel, et al., 2009). Therefore a rise in the wage rate causes the optimal quantity of capital health to increase. Third, a higher educational level raises health productivity[23] and if the price elasticity of demand for health is less than 1, when all other things are accounted for, he expects to find a negative relation between education and the amount of medical services demanded[24]. There is an additional implication involves the investment in health over the life cycle. If the price elasticity of demand is less than 1, then the effect of age on the demand for medical care is positive if the depreciation rate on health rises with age.

4.2.2   THE LINK BETWEEN MIGRATION, REMITTANCES AND HEALTH OUTCOMES

The literature on the causal effect of income on health has find evidence of a positive relationship both at the micro and at the macro level. Strauss and Thomas (1998) focus on the positive role of health in the labor market supply. Health has a positive and statistically significant effect on economic growth. Bloom, et al., (2004) suggests that a one year improvement in a population life expectancy contributes to an increase of 4 percent in output.

Some empirical studies conclude that migration of a household member results in poor health condition for those household members left behind. Kanaiaupuni and Donato (1999) findings suggest higher rates of infant mortality in Mexican communities experiencing intense U.S. migration. However two factors diminish the disruptive effects of migration: migrant remittance to the village and the institutionalization of migration over time. They use multilevel methods to data from Mexico.

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[23] More highly educated people are more skillful in combining medical inputs to produce health.

[24] The elasticity with respect to wealth must also be less than 1to have a negative effect on education (Grossman, 1972)

Hildebrandt and McKenzie (2005) found that migration From Mexico to U.S. improves health outcomes resulting in lower rates of infant mortality and higher birth weight for members of household left behind. According to their results migrants are negatively selected from the overall rural distribution in terms of the health of their children. They show that in addition to health improvements which arise from income effects, having a migrant member are associated with sizeable increases in the health knowledge on the part of mothers.

According to Fajnzylber and Lopez (2007) children from remittance-receiving households tend to have higher health outcomesthen those from non remittance-receiving household with similar with similar demographic and socio-economic characteristics. Their study focuses on the relationship between remittances and anthropometric child health indicators in two countries, Guatemala and Nicaragua. The results suggest also that the impact of remittances on children health is concentrated on low income households located in the first quintile of the income distribution.

Using country level longitudinal data over the period 1990-2004 from Sub-Saharan countries Bhargava and Docquier (2008) analyze the effects of the medical brain drain on life expectancy and number of deaths due to AIDS. They estimate a system of equations in a random effects specification for medical brain drain rates, life expectancy, and numbers of deaths due to AIDS. Their findings show that in countries in which the HIV prevalence rate exceeds 3 percent, the double of the medical brain drain rate is associated with a 20 percent increase in adult deaths from AIDS.

4.2.3   THE LINK BETWEEN MIGRATION, REMITTANCES AND HEALTH CARE EXPENDITURE

In a narrower way other sources of income transfers such as remittances are expected to have positive impact on the health expenditure. In analyzing the role of remittances in the provision of health care it is important to consider the relationship between migration and health.

Using 2002 Mexico Survey, Amuendo-Dorantes and Pozo (2009) find that international remittances raise health expenditures. Approximately 6 pesos of every 100 peso increment in remittance income are spent on health. Health care expenditure is less responsive to remittance income among lower-income households. They also find that households lacking any health care coverage exhibit greater remittance income sensitivity. Hence remittances may contribute to equalization in the usage of health care services by households with and without some kind of health care coverage.

Lindstrom and Munoz-Franco (2006) used data from Guatemala to examine how migration experience and social ties to migrants influence the probability of using maternal health care servoces. They find that remittances are a potential way through which migration affect health care services in rural areas. Migration experience is strongly associated formal delivery assistance. However, this relationship is due to the positive association between migration and enabling resources.

According to Jorge (2008) there is a statistically significant positive relationship between remittances and the household's expenditure on health for households without access to employment's medical insurance. The researcher uses a Tobit model with random effects finding that 10 percent changes in remittances are devoted to health expenditure. The study shows an important difference in the effect between remittances and "institutional transfers".

Using LSMS for 2005 Tomini and Maarse (2011) explores the demand side of informal payments for health care in Albania. They used multivariate logit and OLS to explain informal payments. Their findings suggest differences in determinants of informal payments in inpatients and outpatients care. Informal payments depend on demographic characteristics but are less dependent on income, suggesting homogeneity of payments across income categories.

Given current and projected declines in remittance flows, it is important to understand the role of these transfers in the household's well-being through better health outcomes. This is why the following study will focus on the effect of remittances on the health capital accumulation in Albania. The relationship will be analyzed in two directions; direct and indirect consequences. First, do

remittances further more spending on health care and services and second, is there any relationship between migration and remittances with health outcomes or health status.

4.2.4   AN OVERVIEW OF ALBANIA'S HEALTH PROFILE

Since 1992, emigration from Albania has grown rapidly. According INSTAT (2005) 40 percent of those who have left the country were aged 19-40 years old, many of whom with high levels of education. Compared to averages for Eur-B+C countries[25], Albania has a relatively high proportion of people aged 0-14 and a low proportion of people aged over 65. However, according to WHO (2005), by 2030, the percentage of people 65 and over is predicted to double.

Table 4.1: Demographic Indicators for Albania and other Eur-B+C Countries (data from WHO, 2005)

	Albania	Eur-B+C		
		Average	Minimum	Maximum
Population (in 1000s)	3102.8		-	
0-14 years (%)	28.1		-	
15-64 years (%)	64.1		-	
65+ years (%)	7.9		-	
Urban population (%)	43.2	63.7	25.0	73.3
Live births (per 1000)	15.2	12.8	8.6	27.1
Natural population growth (per 1000)	9.4	0.8	-7.5	23.0
Net migration (per 1000)	-4.9	1.8	-6.6	2.1

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[25] Referring to World Health Origination, the reference-group for comparison includes geographical groups with similar health and socioeconomic trend and development. The 27 European countries, with very low child mortality and very low adult mortality, are designed by Eur-A. Other 25 European countries with low child mortality and low or high adult mortality are designed as Eur-B+C.

Natural population growth is much higher in Albania than the average in Eur-B+C countries, as shown in table 4.1. The birth rate is high if compared to the other countries Eur-B+C, however this rate is falling, represented in figure 4.1. The uncontrolled movement of the population in the post communist era has changed the urban/rural ratio. In 1989, only 36 percent of Albanian lived in urban areas. This figure was 43 percent, in 2002 (WHO, 2005). Nevertheless, the indicators about urban population are still less than that of Eur-B+C countries.

World Bank (2011) estimated that a person born in Albania in 2010 can expect to live 77 years on average. Woman in Albania have around 3 more years of life expectancy (LE). National figures show that Albanians gained more than three years in LE between1987 to 2003. As the length of life increases, people may respond with changes in lifestyle. In this context, health care services need to adequate shifting toward prevention and management of chronic diseases.

Figure 4.1: Percentage of Albanian Population aged 0-14, 15-64, and 65+ (1950-2050 projected)
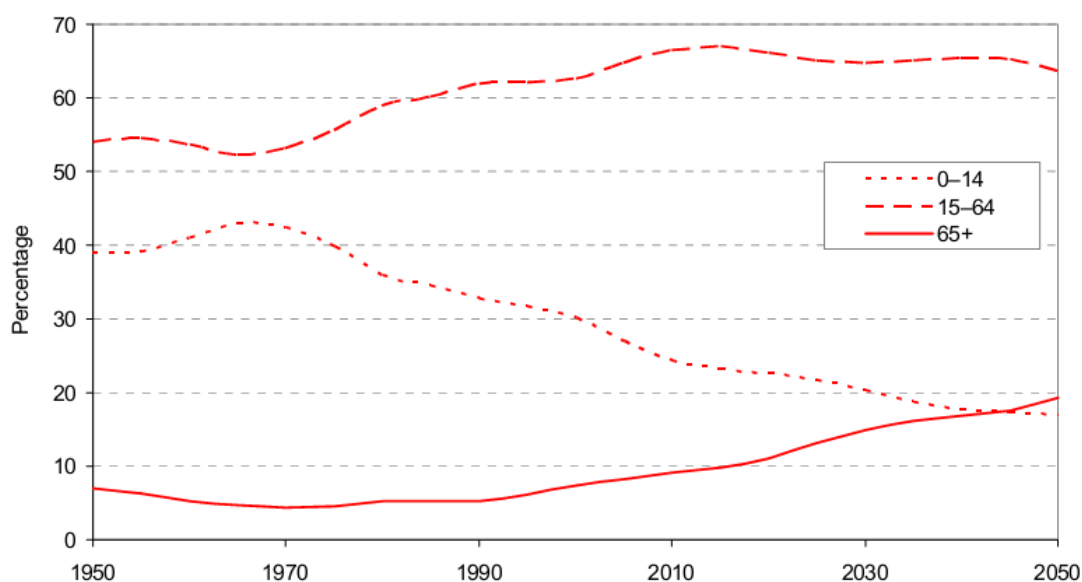
Source; United Nations, 2005

Income is an important factor in affecting health status. Higher incomes enable people to afford the goods and services that contribute to better health; better food and living conditions. Total expenditure on health as a percentage of GDP is around 7 percent (WHO, 2010). The structure of total expenditure on health was composed for 2009 by general government expenditure on health in 41 percent, while the rest is covered by the private expenditure on health. Albanian per capita expenditure on in health is 534 in USD (WHO, 2010), from this amount 354 represent the government expenditure on health, while the rest consist in households out of pocket spending on health.

The Ministry of Health is the major funder and provider of health care services in Albania. This Ministry organizes most health services, with the partial exception of primary care. In figure 4.1 there is represents the organization chart of the health care system. Under the Ministry of Health, the Institute of Public Health is responsible for health protection[26], environmental health, the quality control of drinking water and air. It works mainly through the district health services. The local government authorities of all rural communes own and organize their primary health care facilities. The Ministry of Health gives them grants for equipment, maintenance, and paying the staff salaries. In urban areas, Ministry of Health district offices still own and manage such services. Private health services begin to develop in Albania in the beginning of 1990s. Today the private health sector provides various types of services and facilities. Most private sector facilities are well equipped and organized.

Albanian health services are funded through a mix of taxation and statutory insurance. State remains the major source of health care financing, its contribution shrank from 1990s, while out-of-pocket payments increased. The Ministry of Finance allocates money to the Health Insurance Fund, to cover unwaged groups, and to the Ministry of Health. Health Insurance Institute is established to provide an additional source of health care financing, to offer a broader range of health care services, to control administrative costs, and to ensure equity. Premiums have been kept low with different rates for different income groups, and purchase a restricted package of health services and

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[26] The Institute of Public Health is particularly responsible for the prevention and control of infectious disease, and the national vaccination programme.

pharmaceuticals. On the other hand, insurance contributions are collected by the district offices of the Social Insurance Institute (SII). Contribution rates are set according to income rather than health risk. Complementary source of health financing are out-of-pocket payments which account for an increasing proportion of health care expenditure.

Figure 4.2: Organization chart of Albanian Health Care System

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                              ┌──────────────┐
                              │  Parliament  │
                              └──────┬───────┘
                                     │
                              ┌──────┴───────┐
                              │  Government  │
                              └──────┬───────┘
          ┌──────────────────┬──────┴────────────┐
┌─────────────────┐  ┌────────────────┐  ┌──────────────┐
│ Health Insurance│  │ Ministry of    │  │ Ministry of  │
│    Institute    │  │    Health      │  │   Finance    │
└─────────────────┘  └───────┬────────┘  └──────────────┘
              ┌──────────────┼────────────┬──────────────┐
       ┌──────────────┐ ┌──────────┐ ┌──────────────────┐
       │ Institutes for│ │ National │ │ Tirana University│
       │ public health │ │institutes│ │     Hospital     │
       └──────────────┘ └──────────┘ └──────────────────┘
┌────────────┐  ┌────────────┐
│   Local    │  │  Districts │
│ government │  │            │
└─────┬──────┘  └─────┬──────┘
      │         ┌──────────────┐
      │         │ Public health│
┌──────────┐    │   services   │
│Primary   │    └──────────────┘
│  care    │    ┌──────────────┐
└──────────┘    │  Hospitals   │
┌──────────┐    └──────────────┘
│Health    │    ┌──────────────┐
│ posts    │    │  Polyclinics │
└──────────┘    └──────────────┘
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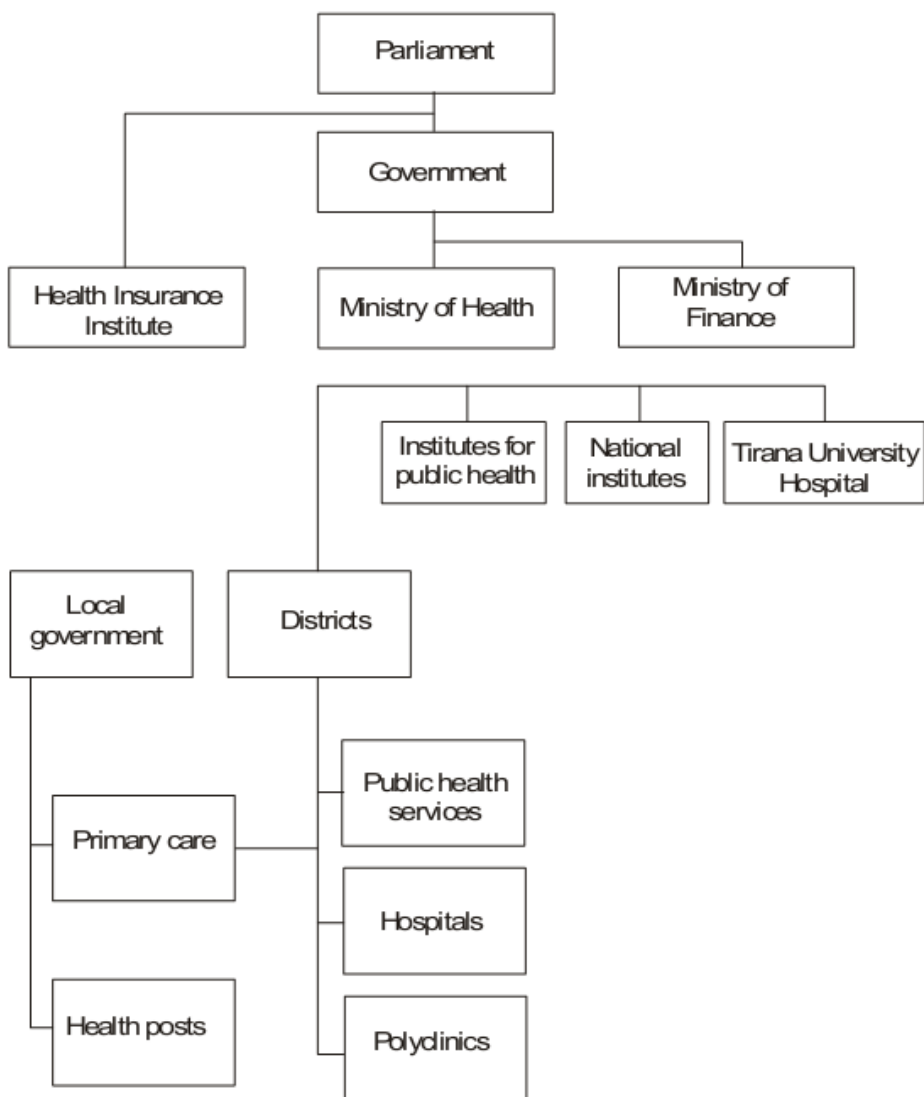
Source; Nuri, 2005

Eligibility to health care is based on both citizenship and payment of insurance contribution. Access to free primary care is restricted to patients, and their dependants who have paid their insurance contribution. The state is responsible for low-income groups; therefore, people are not refused the medical services. There is another barrier to access in some rural areas where medical staff; doctors and nurses, have left the medical facilities due to socioeconomic factors.

Health care spending must be increased and services must be improved in order to strengthen the health care system. Such an increase is strongly linked to country's socioeconomic development. The health insurance system has been a relative success, with the fund showing a surplus in its initial years of operation (Nuri, 2005). However, some groups (e.g. farmers, self-employed) are not making contributions which affect the equity of health care financing. The growing proportion of private expenditure for health through out-of-pocket payments further influences health care equity and access. Albania's health care service is still facing challenges, due to internal migration and health personnel in rural areas.

In this context it is important to understand if remittance inflows may contribute in the health care utilization. Because facts show that trends of out-of-pocket payments are increasing, remittances may play an important role in increasing health care access for those households by filling in the shortfalls in the health care recourses.

4.3   METHODOLOGY

4.3.1   THE ESTIMATION FRAMEWORK

The first concern is to determine the differential effect of remittances in the health outcomes. The econometric model analyzes the relationship between remittances and self-reported health status. The

health status is described by two components; rating of health condition and days unable to carry out usual activities. The following model is specified;

$$HS_i = \alpha_0 + \alpha_1 R_i + \alpha_2 X_i + \varepsilon_i \qquad (1)$$

In equation (1) the self-reported Health Status (HS) is given in relation to the remittance income (R) and a vector of household characteristics; demographic and socio-economic. However, the estimated parameter in equation (1) may be inconsistent due to endogeneity or reverse causality. The potential correlation between household remittance income and the error term results from common determinants of remittance and health conditions. The regression estimates measure only the magnitude of association, rather than the magnitude and direction of causality. This is a fundamental problem because such marginal effects are a key input to economic policy. The way to al overcome this issue is to instrument remittances.

The second concern is to understand how remittances influence household health expenditures. Remittances as non-labor income relax budget constraint and may contribute to increase the household medical use. Health care expenditure is modeled as follows (Amuendo-Dorantes et. al. 2009);

$$HCE = \alpha_0 + \alpha_1 R + \alpha_2 X_i + \varepsilon_i \qquad (2)$$

In equation (2) Health Care Expenditure (HCE) is given in relation to remittances (R) and the vector of household characteristics. To overcome the endogeneity problem I used an instrument, which is correlated with household remittance income but not with household health care expenditure. I selected the Instrumental Variable (IV) approach introduces an instrumental variable, z, which has the property that changes in z are associated with changes in x but do not lead to changes in y (health status and health care expenditure), except indirectly via x. The IV estimator provides a consistent estimator under the very strong assumption that valid instruments exist, where the instruments are variables that satisfy $E(u \mid z) = 0$.

The challenge to the application of the IV approach is to find such an instrumental variable, z that is omitted but meets the two conditions listed above. Heckman (1997) examined the use of the IV approach to estimate the effect of treatment on the treated, and the local average treatment effect. He concluded that when responses to treatment vary, the standard argument justifying the use of instrumental variable fails unless person specific responses to the treatment do not influence the decision to participate in the treatment being evaluated. This is not the case of the survey data used in this study.

To further investigate the dynamic of health expenditure in the suspected presence of endogeneity I will also use the propensity score matching method explained in the previous chapter. The main between the two methods is that propensity scoring uses observable measures to conduct a weight based on selection where IV method rely an instrument variable made for unmeasured factors or characteristics. Both methods present strengths and weaknesses.

In the absence of randomization, observed treatment[27] is generally not independent outcomes[28] and moreover the treatment assignment mechanism is not completely observed. In the absence of randomization, propensity score and IV method can lead to unbiased estimates of casual effects under differing assumptions regarding the assignment of the treatment.

The propensity score, which involves comparing households with similar propensity to receive remittances, attempts to balance observed characteristics in the remittance-receiving group as could occur in a randomized experiment. The propensity score for individual i, $e(x_i) = P(D_i = 1 | X_i = x)$, is defined to be the probability to receive remittances given a vector of observed characteristics. Rosenbaum and Rubin (1983) have shown that matching on the propensity score produces treatment groups that are balanced. Thaus, under the assumption that the treatment assignment is ignorable, unbiased estimates of the average causal effect can be obtained by comparing individuals with similar values of the propensity score.

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[27] Remittance receiving status

[28] Higher health expenditure or better health conditions.

The propensity score aproach is a powerful method for balancing treatment groups in a study according to *observed* characteristics, but only controls for *unobserved* characterstics to the extent that they are correlated with the observed variables. Alternatively, IV methos seek to estimate causal effects in the presence of unobserved differences between treatment groups. According to this approach, the variable denoted as instrument is related to the treatment but not to the outcomes except through their effect on treatment. Application of the IV method proceeds in two stages; first, the instrument is used to predict treatment independent of the unobserved selection effects, and second, individual's outcomes in terms of health expenditure are then compared given the predicted treatment rather than the actual treatment.

The main difference between the two methods is that propensity scoring uses observable measures to conduct a weight based on selection whereas IV methods rely on an instrumental variable made from unmeasured or unobserved factors. An advantage of the IV approach is that it accounts for unmeasured factors correlated with the outcome. The weakness of the IV method is that the instrument can be challenging to find and difficult to validate. However, in my study I will use a set of three instrumental variables; the number of household members living abroad, the country where the migrants are currently living, and whether a household member spoke Greek or Italian.

4.4   RESULTS

4.4.1   HEALTH OUTCOMES IN PRESENCE OF REMITTANCES

The first step is to understand in terms of outcomes the health conditions of the household members and then capture if there is any difference of these conditions in presence of remittances. Health outcomes will be measured by three different dependent variables; self-reported health conditions, chronic illness presence and sudden illness in the past 4 weeks. Figure 4.3 presents the distribution of

self-reported health conditions. From 18,231 individuals included in the sample, we have information about the health condition for 4,641 household members.

Figure 4.3: Rating of Health Conditions
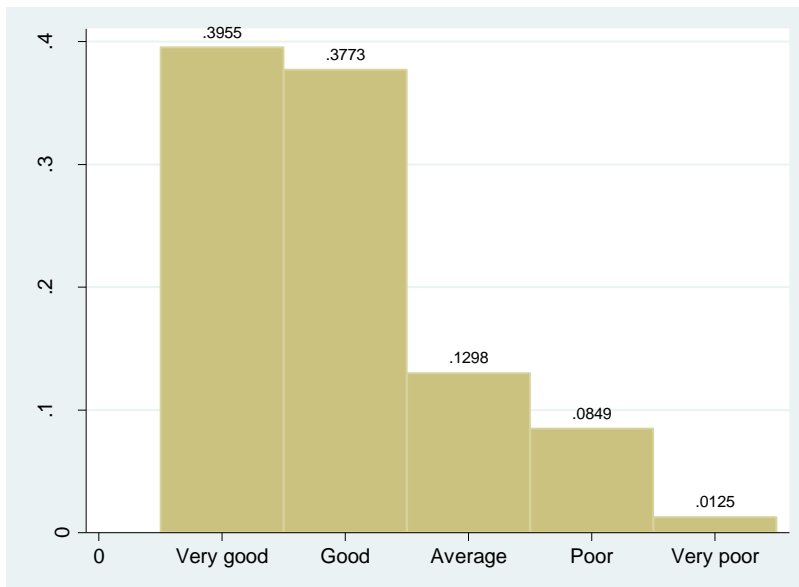
In table 4.2 are summarized results about the relationship between the health conditions and the vector of variables including age, area of residence, gender, education, household size and the presence of remittances. The health conditions are measured as a categorical variable, where 1 means very good and 5 means very poor. Along with the OLS are presented results from the ordered logistic and probit regression. Receiving remittances, even if not statistically significant seems to contribute in a worst self-reported health condition.

As expected, the education level has a positive and statistically significant impact in the health conditions. Living in the urban area, especially in the central part of the country is related with better self-reported health conditions. Statistically significant and contributing in a poorer self-reported health conditions are, female status, the age and the mountain residence. The later maybe related with the lack of access to the health services in this area of the country.

Table 4.2: Estimation of Self-Reported Health Conditions

Rating of Health Conditions	OLS (1)	Ordered Logistic (2)	Ordered Probit (3)
HH size	.008	.027	.013
	(.006)	(.015)*	(.009)
Urban	-.067	-.141	-.085
	(.029)**	(.070)**	(.041)**
Education	-.027	-.059	-.034
	(.003)***	(.008)***	(.005)***
Age	.026	.062	.035
	(.000)***	(.001)***	(.001)***
Female	.112	.304	.165
	(.027)***	(.069)***	(.040)***
Receive Remittances	.029	.084	.045
	(.027)	(.065)	(.038)
Coastal	.058	.154	.079
	(.040)	(.097)	(.056)
Central	-.024	-.067	-.036
	(.041)	(.101)	(.058)
Mountain	.110	.316	.172
	(.042)***	(.101)***	(.058)***
Head of HH	-.012	.031	.022
	(.040)	(.095)	(.054)
Cons	1.098	-	-
	(.071)***		
N	4,641	4,641	4,641
R-squared	0.332	-	-
Pseudo R-squared	-	0.150	0.148

Note: ***, **, and *** indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

Because self-reported health conditions maybe subjective and represent perceived health status rather than objective health conditions, I extended the analyses on the health outcomes in other dependent variables as shown in table 4.3.

In table 4.3 are presented the results of logit regressions where as dependent variables are used the probability of suffering of chronic illness and sudden illness in the past four weeks. Household members are less likely to suffer chronic and sudden illness if more educated and younger. The probability of suffering of a chronic or sudden illness is higher in the case of female household members. Being head of the household is related with higher probability of suffering from chronic and sudden illness.

Table 4.3: Estimation of Health Conditions in Terms of Chronic or Sudden Illness

	Suffer from Chronic Illness	*Suffer from Sudden Illness*
HH size	-.067	.015
	(.025)**	(.029)
Urban	.087	-.101
	(.108)	(.132)
Education	-.075	-.015
	(.013)***	(.016)
Age	.075	.013
	(.003)***	(.003)***
Female	.885	.425
	(.137)***	(.132)***
Receive Remittances	-.030	.008
	(.101)	(.121)
Coastal	.303	.128
	(.146)**	(.200)
Central	.216	.450
	(.154)	(.201)**
Mountain	-.208	.461
	(.163)	(.203)**
Head of HH	.476	.393
	(.148)***	(.170)**
Cons	-4.869	-3.520
	(.297)***	(.332)***
N	5,005	5,005
Pseudo R-squared	-	0.026

*Note: ***, **,* and *** indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

Chronic illnesses are more probable in the coastal area. Surprisingly, greater the size of the household lower the probability of chronic illnesses. Receiving remittances lower the probability of suffering from chronic illness, but the effect is not statistically significant.

In this section I will focus on the relationship between health care expenditure and remittances. Recognizing the endogeneity of migration and remittances I am using Instrumental Variable techniques. I find an instrumental variable that is correlated with remittances but not correlated with health care behavior of household members. Amuendo-Dorantes, et al., (2007) instrument remittances usign information on the percent of migrants in the state of residency and information on the per capita count of the Western Union offices in the country during the previous year.

The instruments used by Kilic, et al., (2007) include whether a household member spoke either Greek or Italian, whether the head of the household had any family relative or friend living abroad in 1990, the diastance in kilometers between the place of residence and the closest point exit from Albania, the annual average number of economic and labor market shocks experienced by the households, and whether the household owned a satellite dish in 1990. All these variables may satisfy the criteria for a valid instrument; they may influence the amount of remittances or the decision to migrate and may not have a direct connection with health care attitudes. In my study I will use a set of three instrumental variables; the number of household members living abroad, the country where the migrants are currently living, and whether a household member spoke Greek or Italian.

Greece and Italy are the major destinations for the Albanian migrants and knowledge on the language of the country of destination may reduce the cost of migration and the possibility of migrants to send remittances back home. The flow of remittances may be determined by the number of household members living abroad and the country of residence of the migrants. These instruments are not correlated to the health care behavior and health care expenditure of household members left behind.

Table 4.4 reports on the impact of remittances on the total expenditure for medicines. The IV estimates for the overall sample indicate that, receiving remittances has a greater impact in terms of magnitude to the total expenditure for medicines. However in both cases remittance incomes do not

seem to be statistically significant. Results are represented in the table divided into two sub groups rural and urban. The IV estimates show that remittance incomes have a positive and statistically significant effect only in the case of rural remittance receiving households meaning that the total expenditure for medicines rise with the presence of remittances in the rural area.

For the entire sample the non-IV estimates show that the total expenditure rises if the household member is older, female, the head of the household and living in the mountain area of the country. In the other hand total expenditure for medicine lower if the household member has more years of education, has a health license, is not working and the household size is greater. The direction of the relationship still holds in the IV-estimates for the entire sample, except for the case of having a health license. In the presence of remittances, expenditure for medicines increases depending on the results presented by the IV-estimates. We notice an increase in the magnitude of total expenditure for medicines in the case of female household members.

In the rural sub group the IV-estimates show a positive and statistically significant impact of remittances. In the same sub group positive impact in the total expenditure for medicines have age, the possession of a health license, being the head of the household and not working.

Surprisingly the relationship between total expenditure in medicines and the income net from remittances is negative in the case of households living in the rural area. These results are not in line with the literature related with the health care behavior. More educated household members spent less for medicines; however we notice that the magnitude is lower in the rural sub group if compared to the urban sub group. This result maybe related with the previous findings about the negative correlation between chronicle illness and education shown in table 2. In this case we can conclude that more educated household members focus more on prevention. Interesting in this sub group is the positive relation in the case of households living in the mountain area. The difficulties of the access to medical service infrastructures maybe one of the reasons of this relationship.

In the urban sub group the non-IV estimates show that total expenditures for medicines increase with age, female status, being the household head and living in the mountain area. In the

other side the total expenditure for medicines lower in the presence of a health license, if the household size is greater, if the household member is not working and if more educated. In the urban sub group the magnitude for educated household members is higher if compared to the rural sub group. This result is higher in the case of urban sub group IV-estimates.

Table 4.4: The Impact of Remittances on the Total Expenditure for Medicines

Total Expenditure for Medicines	All		Rural		Urban	
	NoIV	IV	NoIV	IV	NoIV	IV
Receive Remittances	384.060 (799.926)	1168.343 (10376.090)	154.750 (447.714)	9388.832 (4083.426)**	272.937 (1700.557)	34154.830 (58174.190)
Urban	2793.112 (932.073)**	2352.49 (978.453)**	-	-	-	-
Education	-369.817 (116.674)**	-300.846 (127.344)**	-86.950 (71.338)	-31.824 (84.476)	-683.623 (231.441)**	-838.034 (478.271)*
Age	27.673 (78.495)	4.833 (82.974)	43.407 (41.669)	35.549 (49.049)	35.463 (178.717)	111.065 (319.190)
Age Squared	.713 (.983)	.840 (1.042)	.488 (.518)	.595 (.603)	1.939 (2.268)	-.574 (4.138)
Female	1415.409 (859.931)*	2151.001 (947.255)**	1231.827 (483.821)**	1652.88 (589.035)***	1036.402 (1798.877)	4229.389 (3070.196)
Has Health License	-613.849 (840.010)	188.129 (875.050)	769.928 (520.518)	1691.686 (654.832)**	-2119.058 (1611.866)	1044.025 (3550.328)
Income net Remittances	.029 (.013)*	.016 (.013)	-.030 (.010)***	-.041 (.012)***	.053 (.022)**	.019 (.043)
HH size	-493.059 (221.284)**	-243.956 (362.169)	35.135 (118.632)	509.870 (198.529)**	-1181.125 (507.235)**	-1543.127 (1115.884)

Not working	-258.674	-274.439	1116.467	1808.881	-674.316	-77.491
	(773.891)	(874.495)	(464.411)**	(600.710)***	(1524.258)	(1700.451)
Coastal	1273.667	885.392	-239.888	762.802	-41.474	2298.664
	(1202.893)	(1300.407)	(496.536)	(618.770)	(1908.727)	(4170.608)
Central	1629.174	1519.742	1234.121	386.602	-343.613	751.246
	(1269.352)	(1506.061)	(1165.540)	(633.302)	(2121.748)	(2549.583)
Mountain	4378.423	3150.895	496.536	156.980	9519.731	6262.789
	(1301.748)***	(1372.600)**	(526.829)	(27.430)***	(2250.697)***	(2473.883)**
Head of HH	4516.190	4263.074	1293.200	1727.736	6736.172	6741.399
	(1214.094)***	(1331.845)***	(692.992)*	(835.200)**	(2528.164)***	(3085.784)**
Cons	1457.852	279.485	1698.405	-4575.805	9001.387	18176.340
	(2470.532)	(4912.204)	(1205.592)	(2380.743)**	(5184.701)*	(19160.380)
N	8,129	6,328	4,419	3,538	3,710	2,790
R-squared	0.014	0.011	0.031	-	0.019	-
F-statistic	8.370	-	11.80	-	5.61	-
Prob>F	0.000	-	0.000	-	0.000	-
Wald chi2(14)	-	76.57	-	112.98	-	33.58
Prob>chi2	-	0.000	-	0.000	-	0.001

Note: ***, **, and ** indicate the statistic significance respectively at 1, 5 and 10 percent level or better.*

Table 4.5 reports variables affecting the total expenditure for medical visits and laboratory services. This dependent variable may be considered as the one describing prevention behavior. The set of covariates are the same as those in table 3 and the results are presented divided by sub groups of households living in urban and rural area. The main variable of interest for us is remittance income. The IV-estimates suggest that remittances have a positive impact in the expenditure for medical visits and laboratory service. This relationship holds in rural sub group; however the magnitude is higher in the urban sub group but not statistically significant. Remittance income positively affects the expenditure in medical visits and laboratory services in the entire sample.

The OLS estimates, in the first column in table 4.5, show that the total expenditure increases in the urban area. In contrast with the findings in table 4.4, the relation between total expenditure for visits and the education is positive. More years of education lead to higher expenditure for visits and laboratory services. This result may be related to a higher propensity of educated household members to the prevention through visits and other similar services.

As expected higher age means higher expenditure for visits and laboratory services. Referring to the theory, the human capital formation predicts a positive correlation of the demand for health care and the rate of depreciation on the health stock. The OLS estimates show that the magnitude is higher in the urban area if compared to the entire sample and the rural area.

Total expenditure figures show that the estimated relation is positive for female household members. Male household members are less intensive users of the health care system because they face a higher opportunity cost in compared to female household members. All other things being the same we can expect household size to negatively affect the expenditure for visits and laboratory work. The coefficient is negative in the case of the entire sample and the rural sub group. Larger households will have a lower per capita income reducing the demand for health care. However the IV-estimate is positive in the urban sub group. Being the head of the household means a higher expenditure for visits and laboratory work.

Table 4.5: The Impact of Remittances on the Total Expenditure for Medical Visits and Laboratory Services

Total Expenditure for Medicines	All		Rural		Urban	
	NoIV	*IV*	*NoIV*	*IV*	*NoIV*	*IV*
Receive Remittances	1217.026 (529.141)**	1828.160 (1075.388)*	967.173 (420.510)**	1115.622 (485.053)**	950.711 (2344.92)	7876.910 (9129.380)
Urban	2239.370 (1384.995)*	1792.218 (1573.710)	-	-	-	-
Education	308.607 (171.106)*	137.341 (204.816)	377.468 (161.763)**	329.080 (194.221)*	295.454 (319.137)	580.565 (750.580)
Age	499.468 (116.593)***	432.250 (133.452)***	176.884 (94.487)*	128.774 (112.770)	1072.858 (246.435)***	782.565 (500.925)
Age Squared	-6.819 (1.460)***	-6.218 (1.676)***	-2.379 (1.175)**	-1.972 (1.387)	-14.693 (3.127)***	-11.561 (6.494)*
Female	7409.449 (1277.297)***	8586.695 (1523.532)***	7789.948 (1097.095)***	9308.444 (1354.254)***	6843.674 (2480.495)**	5577.973 (4818.249)
Has Health License	-989.794 (1232.583)	-8.582 (1407.400)	-2304.040 (1180.308)**	-623.109 (1505.528)	118.388 (2222.623)	-1985.162 (5571.751)
Income net Remittances	.086 (.018)***	.084 (.022)***	.051 (.023)**	.030 (.028)	.084 (.031)**	.143 (.068)**
HH size	-475.496 (325.974)	390.472 (582.500)	-703.364 (269.006)**	-178.664 (456.439)	109.226 (699.433)	17166.81 (4842.712)***
Not working	-1722.361 (1139.618)	-1482.819 (1406.507)	2857.365 (1053.082)**	3834.151 (1381.097)**	-6519.365 (2101.820)**	1932.154 (1751.226)
Coastal	-6694.502 (1685.186)***	-5794.548 (2091.528)**	-1968.688 (1125.928)*	875.247 (1422.619)	-3507.643 (2631.969)	-7409.264 (2668.623)**

Central	-6475.467	-5855.235	1854.564	1604.832	-5805.466	-8020.896
	(1793.183)***	(2422.295)**	(1137.305)*	(1456.028)	(2925.707)**	(6545.195)
Mountain	-8269.977	-7151.328	-2423.832	475.432	-9236.156	-5075.969
	(1831.525)***	(2207.641)***	(1194.619)**	(534.718)	(3103.516)**	(4001.220)
Head of HH	9222.295	9704.155	2701.673	4129.855	16507.28	1932.154
	(1801.848)***	(2142.092)***	(1571.404)*	(1920.213)**	(3486.11)***	(1751.226)
Cons	1457.852	-8142.849	841.550	-6707.62	-9360.632	-37078.500
	(2470.532)	(7900.615)	(2733.756)	(5473.577)	(7149.252)	(30069.58)
N	8,129	6,328	4,419	3,538	3,710	2,790
R-squared	0.022	-	0.023	-	0.023	-
F-statistic	13.55	-	8.78	-	6.85	-
Prob>F	0.000	-	0.000	-	0.000	-
Wald chi2(14)	-	130.19	-	79.78	-	54.14
Prob>chi2	-	0.000	-	0.000	-	0.000

 Note: ***, **, and *** indicate the statistic significance respectively at 1, 5 and 10 percent level or better.

The direction of the relation is negative for all the three areas of residence; Coastal, Central and Mountain. However the effect does not have a clear direction if divided by sub groups. Income net from remittances has a positive effect either in the entire sample or in the sub groups. The theoretical model predicts that the elasticity of demand for all forms of medical services with respect to income should be positive unless it is considered an inferior good. The effect of non-working status[29] is negative in the sample but have different direction for the sub groups suggesting a positive relation in the rural area and a negative one in the urban area.

4.4.3   PROPENSITY SCORE ESTIMATION OF THE HEALTH EXPENDITURE

Result of the Average Treatment Effect on health expenditure and total amount paid for medicines on the basis of Propensity Score matching are reported in table 4.6. The Propensity score estimators used in this part of the study are the Kernel and Nearest Neighbor estimators.

Table 4.6: Estimation of the average treatment effect for health expenditure and medicine expenses

	Total Paid for Medicines			Total paid for Health Services		
	Treated	Controls	Differences	Treated	Controls	Differences
Nearest Neighbor Estimator						
Unmatched	4164.86	4436.47	-271.61 (795.39)	10385.35	11508.40	-1123.04 (1187.03)
ATT	4164.86	2689,21	1475.65 (1002.47)	10385.35	8800.17	1585.18 (2248.62)
ATU	4436.47	3502.92	-933.55	11508.40	10645.88	-862.52
ATE			-1086.13			-173.58
Kernel Estimator						
Unmatched	4164.86	4436.47	-271.61 (795.39)	10385.35	11508.40	-1123.04 (1187.03)
ATT	4164.86	4029,10	135.76 (726.03)	10385.35	10725.86	-340.50 (1157.71)
ATU	4436.47	4401.24	-35.23	11508.40	12036.40	528.00
ATE			-63.53			283.55

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[29] The household members maybe unemployed, or out of the labor force, (e.g. children and older members).

In table 4.6 the average treatment effect (ATE) for an individual drawn from the overall population at random, is 1086.13 lek (for the total amount paid for medicines). This means that the amount spent by a randomly drawn individual would be 1086.13 lek higher because of the participation in the treatment group so receiving remittances. This results because a positive effect is estimated for the untreated (ATU), non remittance-receiving households who are much more numerous than the treated[30]. So the ATE does not have a direct interpretation for the evaluation of the presence of remittances.

The ATU is estimated by matching a similar remittance-receiving individual to a non remittance-receiving individual. Because of the small number of individuals receiving remittances one would have to check if the balancing is also achieved for this group otherwise the ATU might be biased. However, ATE, ATU, and ATT are linked as follows; $ATE = N_1/N*ATT + N_0/N*ATU$, where N_1 is the number of treated and N_0 is the number of untreated. So the number of treated and untreated is important in drawing final conclusion.

However, the sign of the ATT (average treatment effect on the treated) is important in giving answer to the question about the presence of remittances. The positive sign of ATT means that the total amount paid for medicines is raised by 1475.65 lek if the individual receive remittances. This positive result is evident when used both kernel and NN estimator. However, we cannot draw the same conclusion for the health service expenditures. Different estimators give different directions of the relationship. These results according to the estimated standard errors are not statistically significant.

Before running psmatch2 in order to obtain the above average treatment effect, the probit regression results are presented in table 4.7. We can notice that the findings are similar to those presented after the use of IV method both in the direction of relationship and the magnitude. There are differences in the effect of remittances in the urban areas in this table the direction of the relation is

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[30] From the estimation the support is divided in 2,288 treated and 5,841 untreated.

the opposite of the one presented using IV method, table 4.5. the same difference is noticed for the female variable.

Table 4.7: Regression results before matching method

Receive Remittances	Total paid for medicines	Total paid for health services
HH size	-.082 (.009)***	-.081 (.006)***
Urban	-.093 (.036)*	-.072 (.021)*
Education	-.015 (.004)**	-.013 (.004)**
Age	.001 (.003)***	.001 (.003)***
Female	-.003 (.036)	-.002 (.021)
Coastal	.060 (.050)	.058 (.050)
Central	.176 (.052)**	.174 (.052)**
Mountain	-.062 (.054)	-.067 (.043)
Head of HH	.034 (.050)	.036 (.050)
Not Working	-.145 (.032)***	-.134 (.057)**
Cons	-.038 (.101)	-.033 (.096)
N	8,129	8,129
Pseudo R-squared	0.20	0.21

*Note: ***, **, and * indicate the statistic significance respectively at 1, 5, and 10 percent level or better.*

One of the assumptions of the propensity score method is that related to the common support or better the measure of the overlap of the distribution of the propensities. If the assumption holds, there must be an overlap of the propensity scores of remittance-receiving and non remittance receiving households. The results are presented for the total amount paid for medicines and health services in figure 4.4.

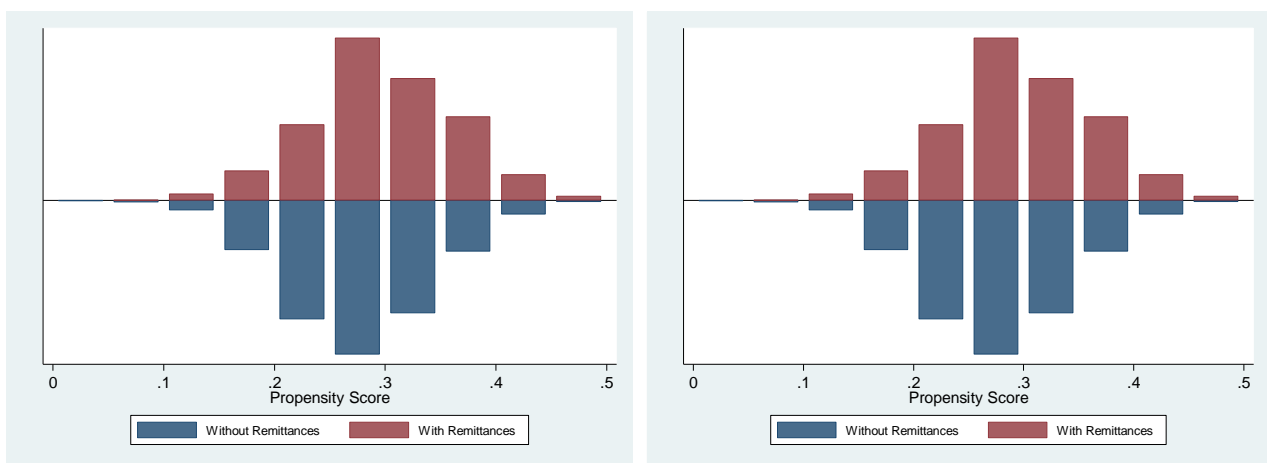**Figure 4.4: estimation of propensity score distribution**

Figure 4.4 represents the differences in terms of amounts paid for medicines and health services of the two groups of remittance-receiving and non remittance-receiving conditional to the covariates. The histograms show the distribution of the predicted propensity score between receiving-remittance household members and non receiving-remittance household members. We notice that there is a good overlap between distributions of the propensity score in the two treatment group,.

The chapter examines the relationship between remittance income and total expenditure for health care using instrumental variable method. Total expenditure is divided into two categories: expenditure going in medicines and expenditure going in visits and laboratory services. The estimation is presented for two separate sub group rural and urban area.

The overall findings of the chapter indicate that households increase their expenditure for medicines and other health services in presence of remittance income. The positive relationship is statistically significant in the case of remittance receiving households living in the rural area. The IV-estimates show that total expenditure for medicines increase by around 9,400 Lek in the case of households living in the rural area of the country. The magnitude is lower in the case of total expenditure for visits and laboratory. However, total expenditure for visits and laboratory are likely to have significant impact on the health outcome given their prevention nature. Remittance flows may play an important policy role in supporting total expenditure for the health care of remittance receiving households, especially for those living in rural area where the access is limited if compared to the urban area.

According to the IV-estimates more years of education means less expenditure for medicines but more for visits and laboratory services. This may be related with the fact that educated household members are more efficient producers of health meaning that they are more skilful in combining medical prevention services for better health outcomes. The total health care expenditure increases with age, for female household members, and households living in the mountain area of the country.

Part of the research is the estimation of remittance income in the self-reported health condition. OLS estimates show a positive impact of remittances in increasing the probability of reporting good or very good health condition; however the effect is not statistically significant. Interesting is that the presence of remittance income lowers the probability of chronicle or sudden illness.

Alongside the IV method I used propensity score analysis to estimate the causal effect of remittances in the amount paid for medicines and health services. Propensity score analyses indicate a small but significant benefit of households associated with the receipt of remittances. In the presence of remittances households increase their expenditure for medicines and other health services. This positive effect is more evident in the rural, mountain area. As mentioned previously IV-estimates were also consistent with a higher benefit for remittance-receiving households. However, results obtain from the propensity score estimates are not statistically significant.

Both propensity score and IV approaches rely on critical assumptions and are subjects to biases if the assumptions are not met. On the other side, if there is heterogeneity in the impact of remittances, propensity score and IV estimates of causal effect may differ even if the assumptions are valid. Propensity score analyses rely on the assumption that conditional on observed data, remittances are randomly assigned. In contrast, IV approach relies on the identification of good instruments. The greater, the ability of the instrument to predict treatment, the larger the size of the matching population.

The policy implications of the presence of remittances and the effect they have in health expenditure of household members are also important in choosing the right analytic strategy. Observed characteristics of the set of individuals used to compute the propensity score causal estimates allow us to identify characteristics of the reference population and thus make recommendations for individuals. On the other hand, IV approaches may be more applicable because they demonstrate the marginal effects of different changes.

Health outcomes are influenced by a variety of factors at individual, household, and community levels; diet, health behavior, access to clean water, and health services. However, other socioeconomic determinants; income, education, and employment, may affect health status.

According to the literature, education tends to enhance individual's job opportunities. This way it can improve income levels and give more access to knowledge about healthy behavior and increase the tendency to seek for treatment. On the other hand being employed tends to better for the health

status then being unemployed. Vulnerability to health risk is correlated with long-term unemployment.

It is important to note that the data used are cross sectional data in this way we can capture the use of remittances on day-to-day needs, including the consumption of medical goods and services, and not on long-term health promotion and medical prevention. This observation needs to be further investigated by using time series data.

In general it seems that remittance flows are improving the health services access, particularly in rural areas of the country. Policy makers should consider incorporating the remittance dimension into development and health care reforms.

5 CONCLUSIONS AND FUTURE RESEARCH

5.1 CONCLUSIONS AND POLICY IMPLICATIONS

The dissertation focuses on the microeconomic impact of remittance flows in the socio-economic Albanian context. The overall study concentrates on further understanding of the micro impact of remittance flows to the remittance-receiving household behavior.

The question in the second chapter is whether household members who live in households with external migrants complete more grades of school at a given age than do other children. To examine the impact of remittances upon human capital investment decisions, the empirical framework used is the proportional hazard model, (Cox-Edwards & Ureta, 2003). Incomes net from remittances have a positive effect in lowering the hazard of dropping school which is consistent with the previous literature on education and provides evidence on the fact that income matters for the choice of schooling levels of household members.

There is an important difference in school leaving behavior between male and female. Being female decreases the hazard of leaving school both for the rural and urban areas. One possible explanation for this finding is that male students have better labor market opportunities than do female students, and thus face higher opportunity costs of attending school. This finding suggests that if there is a positive effect of remittances on education, it holds only for females.

The negative relationship between education and remittances is evident for males living in rural areas. One explanation of this result is that remittances fuel further migration rather than further education at home. It is possible that remittance-receiving household members will later migrate not valuing the local education enrolment. The reason for higher drop rates can be related to the way remittances are used. Households with migrants may invest remittances in higher return activities that provide alternative avenues for skill formation and higher returns than staying in school.

The variable that influences investment on children is the permanent household income. In the study it is used a proxy of the variable which is the household income in one particular year composed by two components, permanent income and remittances. Arguing that income remittance flows are time invariant covariates is perhaps nonrealistic. While it is probably the case that income mobility in Albania is quite low, a questions raises with respect to the stability through time of remittances.

Variables indicating parents' education and income levels are relevant in increasing the probability of school attendance. The economic status and logistic facilities such as the distance from school influence the drop-out rates. This could point to the inadequacy of the supply for schools in Albania, especially in the rural area. The general findings in the second chapter claim for a greater attention to be paid to children from remittance-receiving households by the Albanian public authorities. It is important to understand that even if migration and remittances are important sources of economic growth, there can be costs related to the loss of human capital in the long term. School attendance should be sustained in those households where one or both parents have migrated with proper instruments from public authorities.

In the third chapter, the relationship between remittances and labor market participation is analyzed. The effect of remittances has been examined before for Albania, but the methodology used differs from previous ones. The comparison between remittance-receiving household and those who don't leads to an identification problem because the presence of remittances may be correlated with unobserved determinants of participation among these household members. To overcome the potential bias, I used the propensity score matching to find a comparison group for individuals in remittance-receiving households.

The question arises because I'd like to capture the difference between the household member's participation in the labor market with and without remittances. It is obvious that we cannot observe both outcomes for the same member at the same time. Taking the mean outcome of non-participants as an approximation is not advisable, since participants and non-participants usually differ even in the

absence of treatment (Caliendo & Kopeinig, 2005). This problem is known as selection bias. The matching approach is one possible solution to this problem.

From the empirical results we can notice the expected negative difference between treated and non-treated either in the probability of not working or in quantity of hours worked per week. However, this difference between the matched and the treated males is not statistically significant. In the case of female the probability of not participating in the labor market is greater for those receiving remittances; this difference is not large enough in relation to its standard error to conclude that there is a significant difference in this probability. However receiving remittances affect the hours worked for females, who are found to work fewer hours per week if they receive remittances.

The remittance flows discourage the participation in the labor market without decreasing the unemployment rate but in the other side encourages consumption of goods and services. This can constitute the reason for explaining the Albanian paradox in the relationship between growth rate and unemployment rate. Increasing trends of economic growth were not accompanied with the decrease in the labor market.

Possible solutions to reduce the negative effect remittances have on the labor market participation of remittance-receiving household members could be related with the adoption of mechanisms that encourage the entrepreneurial activities in which remittances may be invested. In this way remittances would contribute to the economic growth of Albania.

The last empirical chapters of the dissertation focus on the role remittances have on the health capital accumulation in Albania. This part of the study analyses the effect of remittances on household's well-being through better health outcomes. The relationship is examined in two directions; direct and indirect consequences. First, do remittances further more spending on health care and services and second, is there any relationship between migration and remittances with health outcomes.

The overall findings indicate that households increase their expenditure for medicines and other health services in presence of remittance income. The magnitude is lower in the case of total

expenditure for visits and laboratory. However, total expenditure for visits and laboratory are likely to have significant impact on the health outcome given their prevention nature. Remittance flows may play an important policy role in supporting total expenditure for the health care of remittance receiving households, especially for those living in rural area where the access is limited if compared to the urban area.

If the patterns presented in the study reflect the real relationship between remittances and health care expenditure, then decreased remittance flows will cause immediate concern for the health of remittance-receiving household members. Improving coverage and quality of care within the national health care system will help insure that remittances complement but do not serve as a substitute to formal access to care.

The gender dimension is also taken into consideration in all the three empirical chapters. The results substantially confirm what has been so long stated by the literature in terms of spending decisions within the household. When receiving remittances female household members are expected to spend more for the health care and education of the other household members. They are more disposed to use remittance flows in expenditure categories that allow enhancing children's human capital and well-being.

Overall findings of my dissertation suggest that remittance flows can be treated from the households differently than other income sources. The remittance flows are an instrument in the alleviation of liquidity constraint; therefore have a positive impact on local and broad development.

Given the volume of remittance flows in the country it is important to develop the capital potential of remittance through banking and financing. Senders and remittance-receiving households maybe encouraged to participate in the banking industry. Government and private institutions may focus on strategies that link remittance transfers and banking options as a way to induce migrants into the financial system. Remittances may support micro-finance institutions. Since the migration trends from this country are unlikely to reverse in the future, the study is a tool for understanding some of the long-term implications of migration for the Albanian economy.

Authorities can facilitate remittance flows and enhance their development impact through the application of appropriate policies. Remittances should not be viewed as a substitute for official development aid. Encouraging remittances through banking system can improve the development impact of these financial flows by encouraging savings and enabling better matching with investment opportunities. However, in order to provide better policies related to remittances better work with surveys need to be done in order to understand perceptions and activities of both remitters and receivers.

5.2   FUTURE RESEARCH

Overall findings of the dissertation enrich the remittance literature. The stronger effect on females as opposed to males schooling diverges from that found in the literature cited earlier. With respect to schooling outcomes my study extended the literature by focusing on a duration model. This helps to shed light on the effect remittances have on school retention rate of children living in remittance-receiving households.

Another important contribution of my dissertation is related to the investigation between remittances and health care investment and access. Empirical results confirm the positive effect remittances have on health care expenditure. This result converges with findings in other countries. While the analyses of labor market participation in the presence of remittances is in line with other studies conducted in the Albanian context but it uses the propensity score matching methods. The research on how remittances affect labor market participation of household members could be extended by including the uncertainty of future remittance flows in the analyses, since this will probably affect household member's decisions.

The limitations to the study carried out in the dissertation are related with the nature of the data. In absence of longitudinal data the use of cross-sectional data to make inferences neglects the endogeneity thereby make the interpretation of the estimated effect of remittances suspect. Perhaps if there would be the possibility to make use of the panel aspects of the data it would help to get a better handle on identifying the exogenous change in remittances, such as year to year changes in remittances within the households.

Remittances are complex to understand and explain and because of this there is plenty of space for further research on the effect remittances has on the development of receiving countries. The argument provides motivation to expand the existing analysis by including other questions on the microeconomic effect of remittances which will entail understanding the dynamics of these financial flows. International migration has extensive effects throughout most developing economies, with policy implications for many issues regarding labor markets, consumption smoothing, the environment, education, and provision of services and facilities. Government policies on the other hand, affect migration or remittance flows by altering the factors that determine peoples' movement.

Alongside the begining of the crisis a decline in remittances and migration flows was expected all over the world, data on Albania remittance flows confirm this, as well. Empirical studies show that migrants' incomes are key short term determinants of remittance flows. However, on the other hand migrants despite difficulties due to the crisis, keep sending remittances back home. Reasons maybe related to some altruistic migrants' behavior sending more remittances when the country of origin faces crises. In this context it is important to understand if remittances are responsive to risks and expected returns.

According to the New Economics of Labor Migration, remittances are seen as a by-product of migration undertaken to diversify risk spatially. First, spatial diversification may function as a mechanism to insure and smooth consumption for remittance-receiving households. Second, remittances maybe motivated by portfolio variables. Migrants may accumulate and distribute assets across sending and receiving countries influenced by portfolio variables. This constitutes a strong

motivation to examine how portfolio variables, reflecting changes in market conditions affect individual's remittance flows.

Remittances may be sent due to altruism or self-interest. According to the literature self-interest includes investment as well as saving motives. It is important to investigate if social networks play any role on the propensity of migrant to remit. Social networks may increase remittances sent for altruistic reasons because high remitting networks may exert pressure towards remitting more. On the other hand social networks may reduce remittances sent for self-interest reasons because networks may refer good savings or investment opportunities in the country of origin. Moreover, social networks may facilitate remittance sending by informing network members about possibilities of transferring money back home. The impact of social networks on remitting behavior has been marginally addressed.

The future steps of my study will be toward better understanding whether social network play a direct role in explaining the remitting behavior.

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