THE EFFECT OF HOUSEHOLD SITUATION AND SOCIOECONOMIC FACTORS ON THE INDIVIDUAL DECISION TO MIGRATE: THE CASE OF KOSOVO

by

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ABSTRACT

This thesis focuses on determining and measuring the effects of the overall household situation and other socioeconomic factors on the individual decision to migrate for the case of Kosovo. As migration and development are not mutually exclusive, especially if the number of outflow migrant is high as in the case of Kosovo[1], it is important to understand the individual migration decision and try to use it as a mean of developing migration policies that may help in the economic development of the country. Considering that the government of Kosovo has not yet developed any strategy and/or policy that target the economics of migration, using the 2010 UNDP survey data of 3,981 individuals, this thesis studies the factors that affect the individuals intention to migrate decision and uses the results of the estimation to provide guidelines as to what future policies should the government develop in order to induce the economic development of the country through migration policies. The findings show that the worse the situation of the household and other socioeconomic factors, namely economic aspects such as earnings, the higher the probability for an individual to migrate.

[1] 17% of the whole population lives outside Kosovo (Mustafa, Kotorri, Gashi, Gashi, & Demukaj, 2007)

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LIST OF ABBREVIATIONS

CDF	Cumulative Distribution Function
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HH	Household
IMF	International Monetary Fund
UNDP	United Nations Development Program in Kosovo

INTRODUCTION

The social and economic development of a country is substantially affected by migration, and such effects encompass both the host and home country (Otrachshenko & Popova, 2012). The magnitude and relevance of these effects can be even more detrimental if the number of migrants relative to the corresponding population is significantly high. To formally support the latter, migration has been recognized as a phenomenon which "can have important impacts on economic development, especially on relatively poorer countries experiencing significant outflow of migrants"[2] (Sriskandarajah, 2005). It is important to note that the two phenomena, namely migration and development do not consider internal migration (movement of people inside one given country) but primarily focus on international migration, namely people who move from developing countries to developed ones (Skeldon, 2008), which is the one type being considered in this thesis. As the objective is to identify and analyze the forces driving international migration, it is the individual itself and his/her decisions that will serve as the main indicator to answer such question.

The individual decision to migrate is driven by several different factors that have been extensively analyzed and explored in the literature. In an economic framework, these factors that are assumed to affect the individual migration decision are divided into micro and macro-level factors (Otrachshenko & Popova, 2012). The first type of micro-level factors relates to individual based factors that include, but are not limited to, opportunities of education, probability of employment, expected income, social benefits, health condition, household situation, and life

[2] Kosovo is considered as a lower-middle-income country and in 2007 as one of the poorest countries in Europe by the World Bank

satisfaction[3]. The second types of factors which relate to the macro-level include, but are not limited to, corruption, governmental policies, societal situation, income/wage inequality and political condition[4].

For the purpose of this thesis, it is the micro-level factors that will have the main focus, as it is assumed that the macro-level indicators are incorporated and reflected to a high extent into the micro-level factors, and as such make the individual behave in a certain way. In addition to such factors that are widely discussed in the literature, this thesis will consider the overall household situation of the individual as an important variable to have an impact in the migrating decision of that particular individual. As the overall household situation of the individual is reported as it is perceived by the individual, it serves the purpose of portraying indirectly the satisfaction of the individual itself. Work analyzing the effect of life (dis)satisfaction (Otrachshenko & Popova, 2012) and/or job (dis)satisfaction (Antecol & Cobb-Clark, 2002) has already been analyzed before (with the latter source being focused on job quits and not migration), however the overall household situation of an individual has not really been analyzed before. Kosovo, as the country to be discussed in the thesis, with more than 17% of the whole population[5] living abroad (Mustafa, Kotorri, Gashi, Gashi, & Demukaj, 2007) provides a good basis for migration analysis. Keeping in mind that in Kosovo, the household is a very cohesive entity and is considered as a "sacred" part of the society and of the individual belonging to that particular household (Zejnullahu, 2009), it seems logical to include the household condition as an additional important factor in the individual decision to migrate. On the basis of the same

[3] (Bartel, 1979) (Berger & Blomquist, 1992) (Dustmann, Children and Return Migration, 2003) (Dustmann, Return Migration, Wage Differentials, and the Optimal Migration Duration, 2003) (Friedlander, 1992) (Levy & Wadycki, 1974) (Gibson & McKenzie, 2011) (Kennan & Walker, 2011) (Otrachshenko & Popova, 2012) among others

[4] (Borjas G. , 1999) (Barham & Boucher, 1998) (Dunlevy, 2006) (Stark, 2006) (Tiebout, 1956) among others

[5] The whole population here refers to the total number of Kosovars living in Kosovo and abroad which accounts for approximately 2.5 million individuals (Mustafa, Kotorri, Gashi, Gashi, & Demukaj, 2007). Nevertheless, this number is questionable because other higher numbers have been reported recently that go up to 30%.

argument and due to lack of proper data, some characteristics of the household head are also included in the final estimation.

The importance and usefulness of studying intention to migrate and examining the forces behind it is manifold. Based on Yang (1999), such analysis can be useful not only in predicting future migration patterns but also for planning in a socio-economic framework, especially for countries where the number of outflow migrants is high. Another attraction of studying migration intentions stems from the fact that stated intentions precede any actual migration, and thus may provide insights into the underlying causes of movement. In turn, better understanding of the migration-decision process provides behavioral and attitudinal insights which may be helpful in identifying means by which migration decisions can be influenced through policies and programs, if the government so desires (Jong & Fawcett, 1981). Such policies and programs can aim different objectives; however, the core of it is to contribute to the economic development and growth of the given country.

As migration is interlinked to the social and economic development of a country, the findings from this thesis are important to the future-policy making of Kosovo, considering that a formal model has not been analyzed before, especially in determining the correlates of the migration decision. The Government of Kosovo, namely the Ministry of Internal Affairs, has developed a National Strategy and Action Plan on Migration for the period 2009-2012 which is mainly concerned with the prevention of all possible forms of illegal migration and thus promotion of legal migration (Ministry of Internal Affairs, 2009). Up to this point in time, the government of Kosovo has not issued or developed any policies or official strategic documents which address the economics of migration (Poverty Reduction and Economic Management Unit, 2011). While considering the latter, it is important to formally identify, measure, and analyze the

factors that drive the individual migration decision and based on the latter build and adapt policies that will address such effects. Recognizing that the condition of the household and socioeconomic factors that affect the individual decision of migration are interlinked, it is the main objective of this thesis to analyze these factors, the magnitude of their effect and as such be able to propose policies that involve migration as a force of the development of Kosovo.

In order to answer these questions, the thesis starts with an overall picture of the demographic, economic and migration situation in Kosovo. Following the latter, the relevant literature is reviewed, specifically the theories of international migration and the some of the empirical analysis that has been done on the topic. Building on the theory discussed, Chapter 3 presents the main econometric model to be estimated, followed by a description of the hypothesized relationships between the relevant variables. The data to be used in the estimation and the corresponding analysis is presented in Chapter 4. Following the latter, Chapter 5 presents the findings of the estimation. Last but not least, Chapter 6 concludes and summarizes the thesis and discusses the policy recommendations related to the findings, while recognizing the possible future research that can be done on the topic.

CHAPTER 1: MIGRATION IN KOSOVO

In order to have an understanding of the migration situation in Kosovo, this chapter presents some demographic statistics as well as other information that relate to the migration patterns of Kosovars[6], and the effect of the latter on the developments in Kosovo. With a population of about 2 million and a gross domestic product (GDP) per capita of €2,700, Kosovo is listed as one of Europe's poorest countries (The World Bank Group, 2013). Despite this, Kosovo has a very good demographic condition. Based on the "Third Demographic, Social and Reproductive Health Survey in Kosovo" undertaken by the Statistical Office of Kosovo in 2009, almost two-thirds of the population (approximately 65%) account for the working age of 15 to 64 years old (Statistical Office of Kosovo, 2009) . As shown in Table 1, for 2009 population of individuals younger than age 15 and older than age 64 is 28% and 7% respectively.

Table 1. Percentage of population based on different age-groups

Population age group	Percentage of total population 2003	Percentage of total population 2009
Younger than age 15	33.1%	28.2%
Working age 15-64	60.5%	64.8%
Older than age 64	6.4%	7%

Source: constructed by the author using data from Statistical Office of Kosovo 2009

Comparing the numbers of 2009 with the Census of 2003, there is a decrease of five percentage points in the first age group and an increase in both the second and third age group; the numbers still show that the working age accounts for the largest part of the population. However, despite the young population being considered as an asset, what remains true is that the active working population of Kosovo is very low, and its unemployment rate accounts for almost 35% (The World Bank Group, 2013). In the recent years, it has been mostly the inability of the Kosovo

[6] Kosovar refers to an individual living in Kosovo. In the international community, the term Kosovan is much more popular; however for the purpose of this thesis the term Kosovar is used.

market to provide jobs to the labor supply that result in a high unemployment rate. Table 3 depicts, among other information, the unemployment rate for three different panels categorized by gender, area, age group and education level. In all categories unemployment is very high, ranging from 16% and up to 74%), and so is the amount of unused capital in the labor force.

Table 2. Breakdown of Unused Capital in Kosovo 2008

Numbers by gender and area	Total	Male	Female	Urban
Joblessness rate	63%	51%	76%	55%
Idleness rate	43%	26%	61%	35%
Unemployment rate	48%	43%	60%	41%
Employment rate	24%	38%	11%	31%
Labor force participation rate	43%	59	25%	50%
Numbers by age group	15-24	25-34	35-54	55-64
Joblessness rate	45%	72%	68%	75%
Idleness rate	25%	45%	49%	66%
Unemployment rate	74%	52%	37%	27%
Employment rate	8%	29%	35%	26%
Labor force participation rate	27%	52%	51%	34%
Numbers by education level	Lsec	Usec voc	Usec gen	Tertiary
Joblessness rate	70%	53%	50%	21%
Idleness rate	53%	22%	21%	7%
Unemployment rate	65%	44%	47%	16%
Employment rate	9%	39%	33%	76%
Labor force participation rate	25%	70%	63%	93%

Notes: Lsec = lower secondary education or less; Usec voc = vocational education; Usec gen = upper secondary education; and Tertiary = college degree or higher.[7]

Following the above mentioned data, the political and economic aspects of the country are still weak and fragile, even five years after the declaration of independence and fourteen years after the 1999 conflict. Considering the current situation, many individuals choose to migrate. The latter is also supported by the World Bank statistics, which indicates that the willingness of the people in the working age to migrate is higher even after the declaration of independence in 2008, accounting for 3.5% (Poverty Reduction and Economic Management Unit, 2011).

[7] The table was taken from the document of the World Bank "Kosovo – Unlocking Growth Potential-Strategies, Policies, Actions" published in 2010 and prepared by the Poverty Reduction and Economic Management Unit

Kosovo accounts for the highest international migration level in the Eastern Europe where one in every four households in Kosovo has at least one member living outside Kosovo (Povery Reduction and Economic Management Unit, 2010). Three crucial waves of migration have been identified throughout the history and different reports: 1. The old migration of the late 1960s until 1980s (14%); 2. The migration of the early 1990s (59%); and 3. The migration during the Kosovo war, specifically 1998-1999 (27%). The last category accounts for the highest number of migrants for which the main reasons of migration include the escape from the war, whereas the other periods mostly relate to economic reasons; the latter is assumed to be a main reason also for migration in the recent years.

The number of Kosovars living in Kosovo and abroad (including Kosovo Albanians, Serbs and other ethnicities), accounts for 2.5 million people and from this number approximately 17% live abroad, accounting for a Diaspora of almost 415.000 people[8] (Mustafa, Kotorri, Gashi, Gashi, & Demukaj, 2007). Table 2 shows the dispersion of the Diaspora among countries that are considered to be the main destinations of potential migrants even today.

Table 3. Percentage of migrants in different destination countries

Destination Country of Migration	Percentage of migrants
Germany	39%
Switzerland	23%
Italy	6-7%
Austria	6-7%
United Kingdom	4-5%
Sweden	4-5%
United States	3.5%
France	2%
Canada	2%
Croatia	2%

***Source*:** constructed by the author based on the statistics provided by Mustafa, Kotorri, Gashi & Demukaj (2007)

[8] As there has not been a formal measurement of the number of individuals in the Diaspora, this number should be considered with caution, considering that it is expected and assumed to be much higher.

To get some insight into the compilation of the Diaspora, I present some different factors such as education level and status in the host country. The majority of migrants (46%) have a high school education and around 10% of them have high education. More than 22% have finished some part of their education in another country. The majority of the migrants, almost 60%, have citizenship in the places where they live, 34% have residence permits (2-10 years), from which 1.3% are student visas. Approximately 4% of the migrants have an unidentified legal status (Mustafa, Kotorri, Gashi, Gashi, & Demukaj, 2007). Based on the statistics of the World Bank, it is shown that returned migrants are more qualified at all skill levels than non-migrants. Nevertheless, as already stated, the overall labor demand is quite low and as such it is not able to absorb nor attract the returned migrants in Kosovo (Povery Reduction and Economic Management Unit, 2010)

What is even more important to note, is that the Diaspora has been one of the major sources of income for Kosovo throughout the years through remittances. Table 4 shows that the amount of remittances has persisted during the years and accounts for a high percentage of the GDP. Based on the data of IMF, the amount of remittances will persist in the future as well, resulting in remittances to continue being one of the major components of the GDP of Kosovo (as cited by Mustafa, Kotorri, Gashi &Demukaj (2007)).

Table 4. Remittances as the main external source of financing in Kosovo[9]

Financing Source	2004	2005	2006	2007	2008	2009
Remittances/GDP (%)	12.2	13.9	15	15.1	13.9	12.9
FDI/GDP (%)	1.5	3.6	9.3	12.6	8.9	7.8
Exports (of goods)/GDP (%)	2.2	2.3	3.9	5.2	5.7	4.2
Donor Support/GDP (%)	11.5	12.2	10.2	8.7	7.5	8.6
Errors and Omissions	6.25	7.8	8.8	6.8	3.2	6.9
GDP (thousands of Euros)	2,928.00	3,005.00	3,118.00	3,411.00	3,849.00	3,843.00

Source: IMF and World Bank estimates (as cited by (Poverty Reduction and Economic Management Unit, 2011))

[9] The values of the macroeconomic indicators are not very much reliable so they should be considered with caution. Nevertheless, we assume that the true values do not vary by a large extent from the ones presented.

As pointed out by reports from the World Bank, the level of migration in Kosovo is expected to continue with the same pace. In addition to that, the potential integration to the EU could result in the working population to want to work in other places other than Kosovo. Keeping in mind the value of migration, in the context of remittances, and the drawbacks, in terms of losing human capital, the government of Kosovo has to strengthen its institutions and develop strategies to target migration policies.

CHAPTER 2: LITERATURE REVIEW

The aim of this chapter is to go through the theories on International Migration as well as similar empirical studies done on other developing countries.

1. Theories on Migration

Theories of migration have had a major spread among researchers in the past centuries. Different theories have been developed and each one of them involves different assumptions and modeling techniques in providing an understanding of the migration phenomena. As carefully elaborated by Massey, Hugo, Arango, Kouaouci, Pellegrino & Taylor (1993) the numerous theories of migration have evolved from one to the other by studying the factors affecting the persistence of population flows across time and space, and reasons of why such movement actually begins.

The first theory, namely the Neoclassical Economics of Migration, looks at migration as the individual's choice aiming to maximize income. The main assumptions of this theory, bases the decision to migrate on wage differentials between the host and source country, the employment conditions among the countries, and the migration costs involved. While recognizing the individual as a part of a household, the New Economics of Migration on the other hand, bases the migration decision at the household level while aiming to minimize the risks of potential family income loss and to overcome capital constraints on family production activities. Specifically, the market is not limited to the labor market only, but considers conditions in various markets which might affect the households' decision to have migrant members within the family.

While the Neoclassical Economics of Migration and the New Economics of Migration are based on individual and household decisions, namely micro-level data, there are other

theories that explain international migration at higher levels of aggregation. Both the Dual Labor Market Theory and the World Systems Theory fall in this category. The Dual Labor Market Theory "links immigration to the structural requirements of modern industrial economies", whereas the World Systems Theory, "sees immigration as a natural consequence of economic globalization and market penetration across boundaries" (Massey, Arango, Hugo, Kouaouci, Pellegrino, & Taylor, 1993).

The Neoclassical Economics of Migration in the micro-level has been thoroughly explored by Borjas (1989) in "Economic Theory and International Migration". What is initially recognized is that like any other resource, labor also is a scarce resource and it is allocated in different labor markets. Economic theory of migration aims to understand and explore such allocation of labor across international boundaries, with the individual's behavior and choice as the underlying force of such movement. Based on the latter, among the different questions posed by him, Borjas specifically asks the following: What are the determinants that contribute to "the direction, size and composition of immigration flows"? (Borjas G. J., 1989) More specifically, Borjas recognizes the existence of incentives to individuals that make them migrate, including but not limited to, initial sorting of the population across countries, international differences in income opportunities, political conditions, and immigration policies of the respective country.

The basis of his argument considers the scenario where individuals from a source country consider choices of remaining there or migrating to another country (the host country), if such decision results in a higher utility for the given individual. However, such a decision is not solely based on income differentials but also on other limitations of the source and host country, and of the given individual. Immigration policies of the source and host country have an effect on the decision of migration for the individual, as a potential migrant will choose the one country where

the policies of migration are more flexible, for example if the individual already has a family member in that specific country. Additionally, the education level, wealth, family characteristics, political background and/or family relationships with residents in the host country play a big role in the migration decision. All in all, all these factors are taken into consideration by the individual when choosing to migrate in the host country that ends up providing the highest utility and wellbeing maximization.

2. Empirical Studies on Migration

Generally, "a classical economic approach to migration implies that households move away from regions with low wages and high unemployment to those offering high wages and low unemployment" (Boheim & Taylor, 2002). Nevertheless, studies have expanded beyond these two determinants, and have explored other significant factors that drive the individual migration decision. Different models and approaches have been used in order to analyze the decisions to migrate in different countries, while identifying the relationship of different correlates to the migration decision. Most of the work is focused on an individual basis, and as such analyzed the intent of that individual to migrate from the country of origin. The overestimation of actual migration through intended migration has been pointed out in previous work; nevertheless, the strong connection between the two has also been supported by empirical evidence. Boheim & Taylor (2002) argue that the intention to migrate generally overestimates the actual migration of those individual, claiming that the probability of the former is three times higher than the probability of the latter. Furthermore, Gordon & Molho (1995/12), argue that a large number of people who intended to migrate did actually migrate in the near future.

Yang (1999), based on evidence from Hubei Province in China, argues that a married individual has a lower intention to migrate than a non-married one. In addition, he argues that

family networks, as in already having someone living abroad, tends to increase the intention of an individual to migrate abroad. On the other hand, Levy & Wadycki (1974), based on evidence from Venezuela, focus on the effect of different education levels on the decision to migrate. They find that the results differ between educated and uneducated people, arguing that the more educated are more likely to move than the less educated, as the former group has access to more information and can easily exploit more opportunities.

Many of the studies where the decision to migrate is evaluated, including but not limited to DaVanzo (1978), Kaluzny (1975), Kenna & Walker (2011), Otrachshenko & Popova (2012) among others, include different socioeconomic characteristics, namely micro-level information of the individual (or the household) and are based on survey data to conduct their analysis. Otrachshenko & Popova (2012) provide evidence from Central and Eastern European Countries on the effect of life (dis)satisfaction on the decision to migrate. They use two model techniques for their econometrics analysis: the multinominal logit estimation, where the dependant variable accounts for permanent migration, temporary migration and no leave, and the logit estimation for the within level estimation. In addition to life satisfaction, which is the main explanatory variable of the model, they include other individual socioeconomic indicators as well as country level macro specificities to properly determine the probability of migration.

The model to be used in this thesis will follow a similar yet simpler approach to the paper of Otrachshenko & Popova (2012), with the difference of the dependant variable being of a binary choice[10], instead of a nominal one. Moreover, as life satisfaction has shown to have an effect on the individual decision to migrate, this thesis will use the self-reported evaluation of the overall household situation of the individual instead. In addition, from all the developing

[10] A binary dependant variable on migration analysis has been developed in other papers, i.e. DaVanzo (1978), Kaluzny (1975) among others

countries on which studies have been done, i.e. Mexico, Venezuela, African Countries, Albania among others, an analysis on the migration behavior of individuals in Kosovo, which is the country of interest in this thesis, has not been done so far.

CHAPTER 3: THE THEORETICAL FRAMEWORK AND THE ECONOMETRIC MODEL

In this chapter I present the theoretical framework of the econometric model, the assumptions behind it, problems that might be encountered, as well as the hypothesized relationship of the variables of interest. Following the theoretical part, this chapter also introduces the empirical model for the individual migration decision as well as the hypothesized relationship between the variables.

1. The Theoretical Framework[11]

Since the dependant variable in the model is binary, takes the value of one to record "success" and the value of zero to record "failures" (the former referring to migrating while the latter referring to not migrating), the model is designed as a binary choice model. Considering the drawbacks of the Linear Probability Model, which results in the possibility of obtaining predictions either less than zero of greater than one, the estimation will exclude this method. As such, the model is designed as a binary response model or discrete choice model. In theory, under a binary response model, a latent variable is defined

$$y_i^* = \beta x_i + u_i \text{ , with the following observational rule}$$

$$y_i = 1, \text{ if } y_i^* > 0$$

$$y_i = 0, \text{ if otherwise.}$$

As a result, the probability of observing $y_i = 1$, becomes

$$\Pr(y_i = 1) = \Pr(y_i^* > 0) = \Pr(\beta x_i + u_i > 0) = \Pr(u_i > -\beta x_i) = \Pr(u_i < \beta x_i) = F(\beta x_i), \qquad (1)$$

[11] The theoretical framework is based on two books: Intermediate Econometrics (Wooldridge, 2003) and Econometric Analysis (Grenne, 2007)

where $F(.)$ is the cumulative distribution function (*cdf*) of the disturbance term u_i. Similar to the probability of "success", probability of "failure" is obtained by $\Pr(y_i = 0) = 1 - F(\beta x_i)$. From these probabilities, the likelihood function is of the following form:

$$L = \prod_{yi=1} F(\beta x_i) \prod_{yi=0} (1-F(\beta x_i)) \quad (2)$$

If we specify the *cdf*, then the likelihood function can be estimated by *Maximum Likelihood*. For the Probit, the *cdf* is assumed to be the standard normal, whereas for the Logit, the logistic. The estimation of the empirical model in this paper is estimated by Probit, while keeping in mind that the magnitude of the effects among the two methods does not differ much. Since the coefficients of the estimation from a binary response model are not partial effects and do not convey any meaning, other than the sign and significance which do portray the ones of the partial effects, marginal effects of the explanatory variables are computed by taking the derivative of the probability of success with respect to each explanatory variable. This way, it is possible to determine the effect of an additional unit of a given explanatory variable on the dependant variable, while holding all other characteristics constant.

2. The Econometric Model for the Individual Migration Decision

The empirical specification of the econometric model is based on one country only – Kosovo - and as such is of a cross-sectional nature. A similar approach has been described and adopted by Otrachshenko & Popova (2012), with the difference of following a two-level hierarchical model with random intercepts (that corresponds to "the average country-specific life satisfaction and the propensity to migrate"). Since the model used in this paper is limited to one country only, this type of analysis allows us to easily relate the individual characteristics and the

overall household situation of the individual to the individual decision to migrate and as such measure the effect of such factors on the individual migration decision.

The model to be estimated is of the following general form:

$$\Pr(MigrateDecision_i=1) = F\,(\beta_0 + \beta_1 * OverHHSit2_i + \beta_2 * OverHHSit3_i + \beta_3 * OverHHSit4_i + \beta_4 * MigrateReason_i + \boldsymbol{\gamma} * \mathbf{X}_i + \boldsymbol{\eta} * \mathbf{Y}_i + \varepsilon_i) \quad (3)$$

where the index *i* stands for the individual/respondent and the variable $MigrateDeciscion_i$, the dependant variable, represents the individual decision of the respondent of whether there is intent to leave his/her home country or not. Since the model does not differentiate between types of leaves, i.e. permanent or temporary leaves, the decision equals one for any type of leave and zero if the individual does not intent to leave. $OverallHHSitK_i$, for K=2,3 and 4 corresponds to the self reported overall situation of the household of the individual in terms of health, nourishment, clothing, housing, leisure and productive assets[12]. $MigrateReason_i$ is a dummy variable, which takes the value one if the individual decision to migrate is due to economic reasons, i.e. higher income, better housing conditions and better employment opportunities, and the value of zero if the individual decision to migrate is due to other reasons, i.e. political reasons, marriage or family reunion, or better education quality among other possible reasons. $\mathbf{X}_i$ is a vector of variables that correspond to socio-economic characteristics of the individual namely marital status, earnings, employment status, having a family member abroad, receiving remittances and living in an urban area, whereas $\mathbf{Y}_i$ corresponds to characteristics of the household and the head of the household, namely household head education, household head age, household head gender

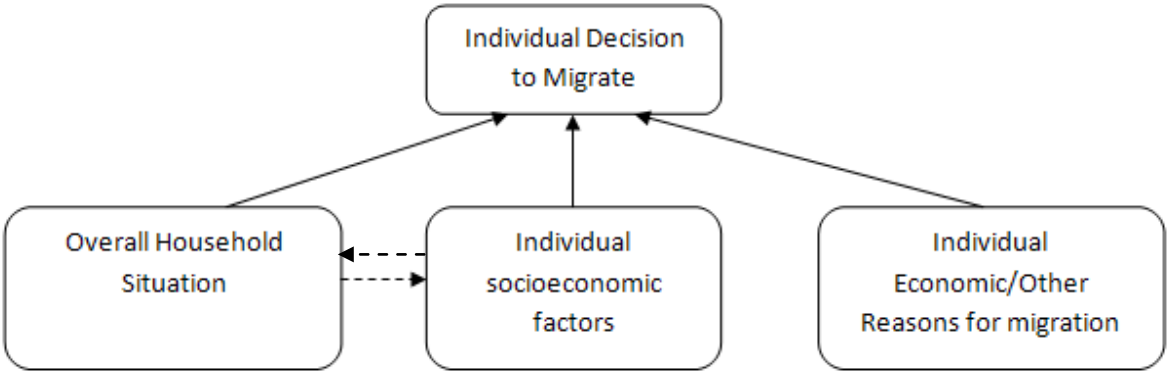
[12] Productive assets in this framework refer to Land, Tractors, Sheep, Cows etc (UNDP, United Nations Development Program, 2010)

and household size. $\beta_{j,}$ for j=1, 2, 3, 4, $\boldsymbol{\gamma}$ and $\boldsymbol{\eta}$ correspond to the separate coefficients of the explanatory variable, with $\boldsymbol{\gamma}$ and $\boldsymbol{\eta}$ being row vectors of coefficients for variables in the column vectors $\mathbf{X}_i$ and $\mathbf{Y}_i$. ε_i is the model's disturbance term.

In the survey, the answers to the overall household situation questions are ordered and take the values from one to four, four being the best. In order to identify the effect of each level of self reported household situation, $OverallHHSit_i$ is divided into four dummy variables, corresponding to the available responses of the survey, recording situations evaluated as "very difficult" up to "very good". In other words, $OverallHHSitK_i$, for K=1, 2, 3 and 4 corresponds to 1 for "very difficult", 2 for "difficult", 3 for "good (suitable)" and 4 for "very good". In order to avoid a "dummy variable trap", the lowest evaluation of the household situation, namely "very difficult", is recorded as the base category in the estimation.

With the aim of analyzing the determinants of the migration decision of the individual, as already mentioned, the method used to estimate the equation, namely equation (3), is *Maximum Likelihood Estimation*. Through the estimation of the equation (3) with a Probit model, the effect of the overall household situation and the individual socioeconomic characteristics on the probability of the individual to migrate from their home country can be examined. Despite the fact that "the use of data on the individuals who intend to migrate instead of those who actually migrate helps to circumvent a positive selection bias" (Otrachshenko & Popova, 2012), having omitted variable bias in the estimates of the effect of the overall household situation and other correlates on the migration decision of the individual can still be an issue. There are other unobserved factors, such as personal relationship to household members, cohesiveness of the household, idiosyncrasy and perfectionism that may make individuals have a worse household situation or socioeconomic status and as such migrate nevertheless.

Figure 1. Modeling of the Individual Decision to Migrate



Source: constructed by the author. *Notes:* The main variables of the equation are presented in boxes. The arrows portray the anticipated/hypothesized causal effects within the variables.

The hypothesized relationship of the variables included in the model is based not only on what theory suggests, but also on the economics behind these relationships. Figure 1 presents in a diagram the anticipated/hypothesized casual effects among the variables. Issues of multicollinearity among the variables might be present, nevertheless, overall household situation includes self –reported evaluation of the household based on nutrition, health, clothing and productive assets, factors that are not included as separate correlates in the model. However, the possibility of income of the individual being positively correlated with the situation of the household is recognized, but this effect is not as high as to cause multicollinearity in the model.

At this point in time, there can be concerns related to the presence of endogeneity, especially if the possibility of different macro-level factors such as corruption level, GDP, unemployment rate, social inequality, and/or provision of public goods that can affect both the correlates and the dependant variable (i.e. the overall household situation, individual socioeconomic factors and individual economic/other reasons for migration, as well as the individual decision of migration simultaneously) is recognized. However, isolating the migrating decision at the individual level and taking into consideration the idiosyncratic characteristics of

that particular individual and the household they live in, I assume that the effect of other exogenous factors, i.e. macro-level factors, will be incorporated in the responses of the individual to the different questions of the survey that portray the state of the specific individual and household at that point in time.

CHAPTER 4: DATA DESCRIPTION AND ANALYSIS

In this chapter, I present the description of the data, its compilation, and the possible data flaws that might affect the estimation.

1. Data Description

In order to analyze the effect of different factors on the decision to migrate, I use the cross-sectional survey of United Nations Development Program (UNDP) conducted in 2010 by UBO Consulting with 8000 individuals. The data from the survey is not public; however upon an official request to the UNDP Staff, the data was given to me. For the purpose of this study, the number of observations in the dataset has been reduced, in order to account for the information that are of importance.

To record the probability of migration, the respondents/individuals have been asked whether they have "specific plans to migrate in the near future (during 2011 or 2012)" (UNDP, United Nations Development Program, 2010). The individual had to answer by selecting one of the following possible answers: i) Yes, ii)No and iii)Do not know/Refuse to answer. As the last category of answers results in the probability of migration for the corresponding individuals to be unobserved, I exclude these individuals from the final dataset that is used in the econometric estimation model in Chapter 3. In addition, the respondents who did not give an answer or refused to answer to the questions of "How much do you earn?" and "What is your employment status?" are also excluded from the final dataset. With these modifications, the modified dataset of respondents living in Kosovo accounts for 3,981 individuals (this modified dataset from now on to be referred to as "respondent dataset").

Table 5 shows the variation of individuals from the respondent dataset based on various given characteristics, such as employment, marital status, and residence, having migrants abroad

and receiving remittances. From these statistics, we see that quite a lot of individuals from this sample intend to migrate, and from this number the majority of individuals are married, employed and live in an urban area. On the other hand, the percentage of married individuals among those who do not intend to migrate is much lower (41%) as is the employment percentage (34% as opposed to 60% for those who actually intend to migrate). Another interesting figure is that the individuals who have a family member abroad belong to the ones that plan to migrate in the near future (38% have migrants for the first category as opposed to 15% for the second). Following the individual characteristics, in Table 6 the percentages of "very difficult" and "difficult" household situation are higher among the people who intend to migrate than those who do not, which is to be expected for a developing country. Nevertheless, the table shows that the majority of people from the two groups, self report their overall household situation as "good".

Table 5. Percentage of respondent characteristics based on migration intention

Migration Intention	Number of respondents	Married	Employed	Migrants	Remittances	Urban
Intend to migrate	563	84%	60%	38%	23%	42%
Do not intend to migrate	3,418	41%	34%	15%	8%	48%
Total number of respondents	3,981	47%	38%	18%	10%	47%

Source: constructed by the author using the data
from the Kosovo Remittance Survey, 2008 of the UNDP

Table 6. The percentage of overall household situation based on migration intention

Migration Intention	Number of respondents	1 – (very difficult)	2 - (difficult)	3 - (good)	4 – (very good)
Intend to migrate	563	22%	25%	45%	8%
Do not intend to migrate	3,418	19%	16%	55%	11%
Total number of respondents	3,981				

Source: constructed by the author using the data
from the Kosovo Remittance Survey, 2008 of the UNDP

As already pointed out, the probability of migration is of importance to the analysis. From the dataset, 563 individuals had plans to migrate in the next two years (2011 and 2012 as of the time of the interview conducted in 2010), accounting for 14% of the whole dataset. What is important to recognize, is that the intention to migrate tends to overestimate the actual migration numbers in the future for a given set of individuals (Boheim & Taylor, 2002), so I will recognize the presence of an upward bias in the estimation, considering the fact that the value of 14% does not depict the real percentage of the real number of future migrants, namely the actual migration rate.

Due to the impossibility of retrieving the specific data in the survey, i.e. respondent's age, education level and gender, which are considered as very important characteristics of the individual that can affect the migration decision, the model will use the household head information to account for such data loss. Each respondent has been asked to list the members of the household (including themselves), and record the education level, age and gender of each member, however, the survey does not specify which one of the listed members is the actual respondent. What is clear however, is who the head of the household is. Based on the latter known information, I will use the head of household education level, age and gender as potential correlates of the individual decision to migrate. There is a possibility that the household head is the actual respondent, however, this information is impossible to be retrieved from the way the survey is designed.

When analyzing the compilation of the dataset based on the characteristics of the household, presented in Table 6, there are not a lot of differences in means among the individuals who intend to migrate and those who do not. An important statistic to pay attention to is that the average number of members in the household is relatively high; from the whole dataset 3,391

individuals belong to families with children, accounting for 85% of the whole dataset. The average education level of the head of the household is 11 and 12 years of schooling for the first and second group respectively. For the Kosovo education system, up to 12 years of schooling accounts to having finished high school. Based on the latter, the compilation of our dataset mainly includes households with a medium level of education. Even though the latter statement might appear as a wrong generalization, considering that it is the household head and not the individual I am focusing on now, this can be explained by the fact that the decision maker in the typical Kosovo household is still the head of the household and as such their characteristics can portray to some extent the actual situation of the given household.

Table 7. Averages of Household Characteristics

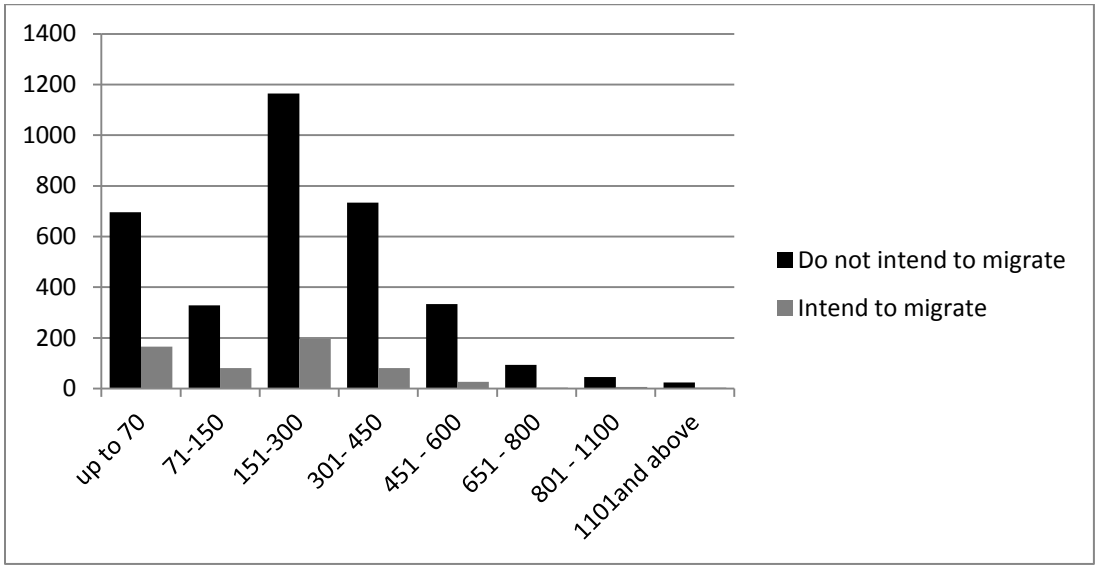
Migration Intention	Number of respondents	Average number of years of education (HHHead)	Average age (HHHead)	Average HH size	Average number of children in HH
Intend to migrate	563	11	46	5	2
Do not intend to migrate	3,418	12	48	5	3
Total number of respondents	3,981				

Source: constructed by the author using the data from the Kosovo Remittance Survey, 2008 of the UNDP.
Notes: HHHead corresponds to Household Head for the respective respondent/individual

The other important characteristic to observe is the individual's earnings. When looking at the whole dataset, the average earnings of the individual accounts for €268.22, which does correspond to the "lower middle level income" category as categorized by the The World Bank (2013). The earnings of the individuals who intend to migrate and those who do not intend to do so differ significantly. As presented in Figure 2, the earnings of the individuals who intend to migrate is much lower than of those who do not; when looking at averages, the average earnings for the people who do not intend to migrate and those who intend to migrate is €277.54 and

€211.67 respectively. The latter result corresponds to the responses of most individuals stating economic reason as the main reason behind their intention to migrate.

Figure 2. Dissemination of individuals based on their earnings and intention of migration



Source: constructed by the author using the data from the Kosovo Remittance Survey, 2008 of the UNDP.

CHAPTER 5: FINDINGS

In this chapter, I present and discuss the empirical results of the model of the decision to migrate abroad, namely equation (3).

1. Empirical Results of the Econometric Model

To understand the migration decision and its variation to different conditions of the household, I have included four dummy variables of the overall household situation corresponding to each situation level, with the lowest situation level serving as a comparison base. In addition, the other socioeconomic factors of the individual and the household information are included; these are constrained by the information/variables available in the data. Two other important variables that I measure are *Migrant* which is a dummy variable that accounts for the individual having a family member abroad and *Remit* which accounts for the individual receiving remittances from abroad.

The estimation results for the decision to migrate based on equation (3) are presented in Table 8. There are two models presented: the reduced model and the extended model. In the reduced model (second column of the table) I include only the individual socioeconomic factors as explanatory variables, whereas in the extended model (third column of the table) I include the household information as well[13]. The standard errors used in the estimation are Robust Covariance – White and are presented in parentheses to account for possible heteroskedasticity. *Overall Household Situation = 1* is used as the base for Overall Household Situation. *MigrateReason* is a dummy variable with a value of 1 if the migration intention reasons of the potential migration are economic. For people who do not plan to migrate, *MigrateReason*

[13] As discussed in Chapter 4, the data on the respondent are not easily retrieved from the way the survey is designed, and thus we include the household head information to account for the missing important variables of the individual. As already mentioned, there is a slight probability that the household head is the actual respondent.

accounts for the factors in the case of a hypothetical migration. *Education* is recorded in years of schooling and *Income* is recorded as the logarithm of the respondent's earnings.

Table 8. Probit Estimation Output on the Decision to Migrate

Left-hand side variable	*MigrateDecision*			
Method	Maximum Likelihood-Probit			
Model type	Reduced Model		Extended Model	
Right-hand side variables	Coefficients	Standard Errors	Coefficients	Standard Errors
Overall HH Situation = 2	0.217**	(0.104)	0.193*	(0.104)
Overall HH Situation= 3	-0.079	(0.105)	-0.055	(0.106)
Overall HH Situation = 4	-0.268*	(0.141)	-0.186	(0.143)
MigrateReason	0.688***	(0.064)	0.676***	(0.065)
Married	-0.041	(0.089)	0.005	(0.099)
Employed	0.134	(0.115)	0.056	(0.122)
Income	-0.148**	(0.073)	-0.147**	(0.074)
Urban	-0.139**	(0.059)	-0.139**	(0.060)
HHHead Age	-	-	-0.015***	(0.003)
HHHead Gender	-	-	-0.211**	(0.097)
HHHead Education	-	-	-0.036***	(0.011)
HH Size	-	-	0.038***	(0.014)
Remit	0.318***	(0.106)	0.309***	(0.107)
Migrants	0.256***	(0.087)	0.271***	(0.088)
Standard Errors	Robust Covariance - White			
McFadden R^2	**0.083**		**0.102**	
Total Obs.	**3325**		**3325**	

Source: calculations of the author. *Notes*: *, **, *** stand for the 10%, 5%, and 1% significance levels, respectively. The original estimation outputs can be found in the Appendix

From the estimation outputs we observe important information. To begin with, both McFadden-R^2's are low, even though the one of the extended model is higher (10.2% as opposed to 8.3% for the reduced model); this is a good indicator as the extended model better explains the variation in the dependant variable. Nevertheless, such a low coefficient of variation has been observed in other similar studies with survey data and with similar explanatory variables, i.e. Otrachshenko & Popova (2012) with 19.4% and Boheim & Taylor (2002) with 16.6%. Since this is a Probit model, the coefficients cannot be interpreted as partial effects; however, their sign and significance still reflect the sign and significance of the partial effects (Wooldridge, 2003). In

this case, we can compute the marginal effects for the explanatory variables, which show the effect of an additional unit of a given explanatory variable on the probability of migrating, holding all other characteristics constant. The marginal effects of the explanatory variables for the extended model are depicted in Table 9.

Table 9. Marginal Effects for the Decision to Migrate

Model type	**Extended Model**
Right-hand side variables	Marginal Effects
Overall HH Situation = 2	0.0368*
Overall HH Situation= 3	-0.0105
Overall HH Situation = 4	-0.0355
MigrateReason	0.129***
Married	0.0010
Employed	0.0106
Income	-0.0281**
Urban	-0.0265**
HHHead Age	-0.0028***
HHHead Male	-0.0403**
HHHead Education	-0.0070***
HH Size	0.0718***
Remit	0.0590***
Migrants	0.0518***
Total Obs.	**3325**

Source: calculations of the author. *Notes*: *, **, *** stand for the 10%, 5%, and 1% significance levels, respectively.

In the extended model (both Table 6 and Table 9), there are several variables that appear to be insignificant in explaining the individual migration decision. The insignificance of some of the variables is surprising, as in the case of *Married* and *Employed.* One way to explain this result could be that higher income is much more detrimental in the migration decision for the individual than employment, if the latter in the origin country does not provide opportunities for promotion and increase of income. To support this argument, *Income* is indeed significant in the model and has a negative sign. As shown in Table 9, holding all other characteristics constant, the probability of the individual to migrate decreases by 2.8%, for each unit increase in his/her

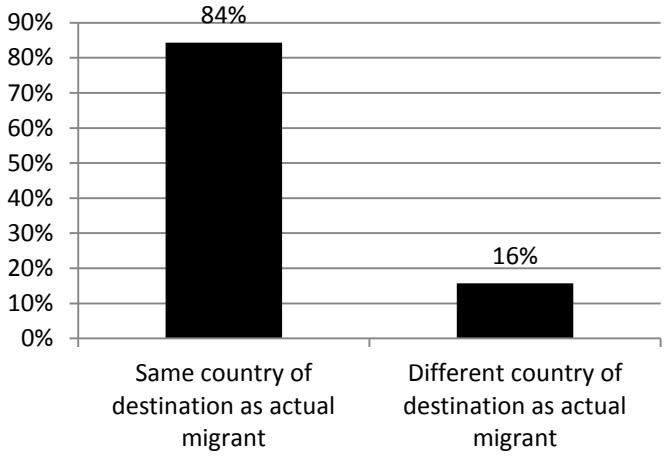
income. In a more general term it is observed that the higher the income of the individual in the country of origin, i.e. Kosovo, the lower the probability of migration. This result corresponds to the literature, specifically the theories of international migration where the individual tends to migrate in order to maximize his utility in which the income received is one of the main indicators. On another note, the marginal effect on the probability of the intention to migrate for individuals whose reasons of potential migration are economic is higher by 12.9% than for individuals whose reasons of potential migration are non-economic. Even though the effect is quite large, the result further strengthens the corresponding with literature, where economic reasons, play a highly significant role in the utility function of an individual who intends to migrate.

Having a "good" and "very good" household situation, namely *OverallHHSit=3* and *OverallHHSit=4*, does not seem to have an effect in explaining the migration decision of the individual. However, as seen in Table 9, the marginal effect on the probability of the intention to migrate for an individual with overall household situation = 2, "difficult", is higher by 3.6% compared to the base group individuals with a "very difficult" household situation, overall household situation = 1. The magnitude of the marginal effect is relatively high, given the assumption that the differences between the two levels are not that high. Nevertheless, when looking at the data, the average earning of the individuals with a "very difficult" household situation is €95.22, whereas for the ones with a "difficult household situation" it is €153.84. Based on these results, one might argue that there are migration costs involved if as individual decides to migrate, as pointed out in the theory of New Economics of Migration, and as such it is the ones with a slightly higher ability to cover these costs that would have a higher intention to undergo the migration procedures.

Furthermore, Table 9 shows that the probability of migration for an individual who already has a family member abroad and receives remittances is higher by 5.9% and 5.1% respectively compared to the individuals who do not have migrants abroad and do not receive remittances. The latter is actually a very interesting result, because one might assume that since there are already members living abroad and they provide financial support to the ones living in Kosovo, the desire of the individuals living in Kosovo should be higher to stay in Kosovo given the lower cost of living and the possibility to be close to home and in a familiar environment. On the other hand, it does makes sense to find that individuals who have a family member abroad and receive remittances to have a higher intention to migrate, based on the assumption that the actual migrant has already developed some networking in the host country and receives good income if he/she is able to send a portion of that income back home in the form of remittances. The former argument of the potential migrant having a higher intention to migrate due to networking of the actual migrant can hold only if the potential migrant, in case of migration, chooses the host country of the actual migrant as a destination. Luckily, the survey does ask respondents to specify the country where they would like to migrate, if the response to planning to migrate in the near future is yes. The statistics of these individuals are presented in Figure 3.

From all 563 individuals who have intended to migrate at the time of the survey, 496 have actually stated the country they would like to migrate to. From the 496 individuals, we have information for only 46 actual migrant relatives. Nevertheless, from these 46 actual migrant relatives, 41 responses of the potential migrant/family member of the actual migrant involve the same country of destination as the respective actual migrant. In percentage terms, as shown in Figure 3, this accounts for 84% of the selected sample.

Figure 3. Percentage of migrants choosing the same country of destination as actual migrant relatives



Source: constructed by the author using the data from the Kosovo Remittance Survey, 2008 of the UNDP

While recognizing the small size of this particular sample, it still makes sense to trust the result of the estimation in Table 9, because the explanatory variable in the main model, namely *Migrant,* is highly significant and has a positive sign.

The characteristics of the head of the household and the household size are all highly significant, yet some of the variables have unexpected signs. The significance could easily stem from the high possibility of the head of the household being indeed the respondent (as explained in Chapter 4 in the Data Description and Analysis). The results show that the probability of migration is lower by 4% if the household head is male than if the household head is female. Nevertheless, this result can be explained by the fact that in Kosovo most male household heads have a higher probability to obtain income than female household heads (male unemployment is 41%, while female unemployment is 56% (Department of Population Statistics, 2011)), and being so a family member from the latter household would have a higher incentive to migrate than for the former group. On the other hand, if the respondent is indeed the household head then

such result would make sense in the case of a large household size, where the male household would bear the responsibility of taking care of the family members and the physical assets.

Furthermore, if the household head is one year older and has one more year of schooling, the probability to migrate of the individual belonging to that household decreases by 0.2% and 0.6%, respectively. If the household head is indeed the respondent, then this result can be explained by considering that the older an individual, the harder it becomes to adapt to changes and move to a new place. If the household head is not the respondent, then the decrease in the intention to migrate would probably relate to reasons such as taking care of the household head or the household head having enough experience as to have a good job and earn well. Education wise, one would argue that the more educated the individual the higher the probability of that person to explore new opportunities and have access to information, thus a higher probability of migrating. Nevertheless, this result could also mean that the more educated the individual, the more he will be able to explore the opportunities in the country of origin as well. In terms of household size, the marginal effect on the probability of the intention to migrate increases by 7.2% for an additional member in the household of the individual. Even though the effect is quite high, the sign is economically acceptable as the household with more members can allow for an individual in the household to move, or vice versa the individual can allow him/herself to move more easily if there are more remaining members in the household to be taken care of[14].

All in all, the estimation results show that in this dataset, the marginal effects on the probability of the intention to migrate for individuals who earn more live in an urban area and in a household where the head is male, older and with more years of schooling, is lower than for those who do not have such attributes. On the other hand, the marginal effects on the probability of the intention to migrate for individuals who have a difficult household situation (in terms of

[14] The larger the size of the household, the more expenses there are and as such the more income is required.

nutrition, clothing, health and productive assets) and whose migration reasons are economic, household size is large, have migrants abroad and receive remittances, is higher than for those who do not have such attributes.

CHAPTER 6: CONCLUSIONS AND POLICY RECOMMENDATIONS

Analysis of migration and its determinants has been widely discussed in the literature, and its recognition in the economic development of the country of origin has received a lot of attention. The government of Kosovo has not yet developed any policies that connect the different aspects of migration into the development plan of the country (Poverty Reduction and Economic Management Unit, 2011). With the aim of providing the recommendations of proper policies that address the economics of migration, this paper provides evidence on the impacts that different socioeconomic factors and household conditions have on the individual decision to migrate by analyzing UNDP survey data of 3,981 individuals in 2010.

This thesis introduces the effect of the overall household situation of the individual on their intention to migrate. Such variable shows to indeed have an effect, especially for individuals who are worse off in terms of household situation. From the various results obtained, the paper finds that individuals with difficult household condition[15], with a family member abroad and receiving remittances have a higher marginal effect on the probability of intention to migrate than those who have a very difficult household condition, do not have anyone abroad and do not receive remittances. From the socioeconomic factors, the marginal effect on the probability of the intention to migrate is lower for individuals who live in an urban area and have a male household head compared to the individuals who live a rural area and have a female as the head of household. Additionally, the marginal effect decreases with each additional unit, namely euro, of income and year of household head age and education. Further analysis of the last variable – education – could be of use especially if one is to analyze whether there is evidence of a "brain drain" in Kosovo or not.

[15] As previously mentioned, the household condition evaluated here refers to the overall situation of the household in terms of health, clothing, nutrition and productive assets

From the results, as anticipated it is observed that individuals who are worse off in terms of socioeconomic characteristics and general household situation are more prone to intentions of migration than the individuals who are better off. Based on the results, the paper suggests a few policies and strategies that the government of Kosovo can develop in order to incorporate migration in the main strategy for the economic development of the country. In general, if the government chooses to reduce the number of outflow migrants, then the results suggest that economic conditions in the country have to be improved. The improvement of such condition, including but not limited to earning opportunities and better health care (which is included as one of the categories in the evaluation of the household situation), could result in a reduction of international migration. Nonetheless, the main policies that this thesis aims to promote are those that will help to ease the migration process of individuals, at least in the short run.

Based on the results, which show that having migrants abroad and receiving remittances increases the probability of the intention to migrate, the government needs to put more effort on managing the networking process of these individuals as well fostering communication between the Diaspora and the potential migrants that do not have a migrant abroad. While recognizing that networking, as an underlying factor of having a migrant abroad and thus receiving remittances, shows to positively influence the intention to migrate, the government can invest in strengthening the involvement of the Diaspora in the migration process of temporary migrants. At this point in time, it is important to note that an analysis that distinguishes between the different types of leaves[16], which this thesis does not do, could even better and correctly help understand the migration behavior. Considering that in order to promote new jobs new

[16] Types of leaves can be categorized as permanent and temporary

investments are required, and the Diaspora persists in being an unexploited[17] yet powerful source of FDI and human capital for Kosovo, in the short term the government should promote temporary migration of individuals so that the investment capacity increases. This promotion of migration could be achieved by developing policies at each stage of the process prior to migration, which might also include the enhancement of the skills and capabilities of those individuals to have better employment opportunities abroad. Given the large and growing number of migrants, providing and promoting protection of their rights should also be given priority. Providing information on investment opportunities could lead to more migrants returning and investing at home. By doing so, as already stated, policy makers could focus on the preparation of potential migrants for seizing good employment opportunities in the host countries, smoothing of the process of remittances by easing the different existing channels, and/or providing opportunities for investment as well as employment for the ones returning. In principle, the Kosovars are the ones who are more familiar with the local environment as compared to a typical foreign investor, and as such this familiarity should be complemented with a more improved and smoother business environment so that the migrants are more likely to invest and return to their home country.

[17] Up to this point in time only a few migrants have actually returned to Kosovo for investment or working reasons (Poverty Reduction and Economic Management Unit, 2011)

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APPENDIX

2. Probit Model Output

2.1 Output for the Reduced Model

Dependent Variable: PLANMIG
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 05/30/13 Time: 17:46
Sample: 1 3981
Included observations: 3325
Convergence achieved after 5 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
OVERHHSIT2	0.217160	0.103722	2.093686	0.0363
OVERHHSIT3	-0.079208	0.104862	-0.755358	0.4500
OVERHHSIT4	-0.268047	0.141175	-1.898677	0.0576
REASONMIGCODE	0.687584	0.064168	10.71543	0.0000
LNRESP_EARN	-0.147808	0.072712	-2.032793	0.0421
RESP_EMPLOYCODE	0.133998	0.115475	1.160413	0.2459
URBAN	-0.138970	0.058719	-2.366674	0.0179
MIGRANTS	0.256116	0.086916	2.946715	0.0032
MIGRATEREASON	0.315760	0.106407	2.967490	0.0030
RESP_MARITAL	-0.041462	0.089012	-0.465802	0.6414
C	-0.794890	0.334689	-2.375012	0.0175

McFadden R-squared	0.083349	Mean dependent var	0.129323
S.D. dependent var	0.335608	S.E. of regression	0.322963
Akaike info criterion	0.712618	Sum squared resid	345.6679
Schwarz criterion	0.732829	Log likelihood	-1173.727
Hannan-Quinn criter.	0.719850	Deviance	2347.454
Restr. deviance	2560.904	Restr. log likelihood	-1280.452
LR statistic	213.4500	Avg. log likelihood	-0.353001
Prob(LR statistic)	0.000000		

Obs with Dep=0	2895	Total obs	3325
Obs with Dep=1	430		

3.1 Output for the Extended Model

Dependent Variable: PLANMIG
Method: ML - Binary Probit (Quadratic hill climbing)
Date: 05/30/13 Time: 17:51
Sample: 1 3981
Included observations: 3325
Convergence achieved after 6 iterations
QML (Huber/White) standard errors & covariance

Variable	Coefficient	Std. Error	z-Statistic	Prob.
OVERHHSIT2	0.192618	0.104119	1.849986	0.0643
OVERHHSIT3	-0.054755	0.105992	-0.516601	0.6054
OVERHHSIT4	-0.185700	0.143231	-1.296506	0.1948
REASONMIGCODE	0.676443	0.064656	10.46213	0.0000
LNRESP_EARN	-0.147236	0.073693	-1.997974	0.0457
RESP_EMPLOYCODE	0.055712	0.121649	0.457970	0.6470
URBAN	-0.138718	0.060257	-2.302113	0.0213
MIGRANTS	0.271014	0.087523	3.096481	0.0020
MIGRATEREASON	0.308623	0.106704	2.892340	0.0038
RESP_MARITAL	0.005251	0.099866	0.052583	0.9581
HHHGENDER	-0.211139	0.096656	-2.184434	0.0289
HHSIZE	0.037575	0.014344	2.619645	0.0088
HHHEDU	-0.036489	0.010690	-3.413435	0.0006
HHHAGE	-0.014616	0.002618	-5.582066	0.0000
C	0.321014	0.383339	0.837416	0.4024

McFadden R-squared	0.101523	Mean dependent var	0.129323
S.D. dependent var	0.335608	S.E. of regression	0.318976
Akaike info criterion	0.701027	Sum squared resid	336.7784
Schwarz criterion	0.728587	Log likelihood	-1150.457
Hannan-Quinn criter.	0.710888	Deviance	2300.914
Restr. deviance	2560.904	Restr. log likelihood	-1280.452
LR statistic	259.9902	Avg. log likelihood	-0.346002
Prob(LR statistic)	0.000000		

Obs with Dep=0	2895	Total obs	3325
Obs with Dep=1	430		