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## **Return migration and labour market outcomes of the returnees**

### **Does the return really pay off? The case-study of Romania and Bulgaria**

Isilda Shima

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#### **Abstract**

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In this study we analyse the labour market performance of Romanian and Bulgarian return migrants and whether it really pays off to return home. We looked at the employment dynamics of returnees from the perspective of employment and occupational status switches to capture the effects of the work experience abroad on the upgrade in the home labour market. After predicting the wages and measuring the wage premium upon return, we apply an endogenous switching ordered probit model to estimate simultaneously the decision to migrate temporarily and the determinants of an upgrading of labour market performance upon return. The labor market performance of return migrants is analysed by using the 2005 World Bank Surveys in Bulgaria and Romania. The main conclusion is that the interdependence in the decision-making between return migration and labour market participation requires counting them simultaneously. While, the labour market participation upon return are strongly determined by the intentions of a permanent return and the expectation of return premiums for the skills and experience acquired abroad, the permanent intentions of return are determined by the experience abroad, the family ties and by intentions of other household members to migrate.

**JEL Codes: F22, J24, J61**

**Keywords: return migration, wage premium, occupational upgrading**

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**Return migration and labour market outcomes of the returnees**

**Does the return really pay off?**

**The case-study of Romania and Bulgaria**

Author: Isilda Shima

### **Preface**

*This study is prepared for the "FIW Studypool I", launched by the Research Centre of International Economics (Forschungsschwerpunkt Internationale Wirtschaft: FIW) in November 2008. The call was composed of four thematic work packages and the current study is prepared within the framework of "Migration Issues" focusing on productivity and labour market performance of migrants upon return to the country of origin.*

*The study was commissioned by the Austrian Federal Ministry of Economics, Family and Youth (BMWFJ) and was hosted by the European Centre for Social Welfare Policy and Research in Vienna. Specifically, the study investigates the performance of return migrants of the last two member countries that joined the European Union, i.e. Bulgaria and Romania. The migratory movements of citizens originating from these countries have been very intensive and circulatory, thus investigating the migration patterns and labour market outcomes of Romanian and Bulgarian migrants is of particular relevance not only for destination but also for the home countries.*

*The views expressed here are those of the author and do not necessarily represent the views of the European Centre for Social Welfare Policy and Research.*

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## Introduction

The policies of the European Union concerning migration are moving in the direction of temporary rather than permanent migration, aiming to assist the host countries to deal with the demand for labour as well as to facilitate the integration of the immigrants. International migration is not a one direction process and the return of migrants is a potential valuable asset for the country of origin. For instance, the study of [Beine et al \(2006\)](#) has shown that the home country may suffer from high-skilled migration (brain drain), but in case of return to the country of origin, the skills and savings acquired in the host country could contribute to the development of the home country.

The current study has multiple objectives.

1. *Firstly*, this study provides detailed empirical evidence and contributes to the delineation of the profile of temporary and permanent returnees and their expectations upon return. The aim is to analyse the effects of temporary migration and the labour market outcomes of the return migrants upon return to their home country. As [Dustmann \(1996\)](#), [Dustmann et al \(2008\)](#), [Piracha \(2003\)](#) and others show, the human capital acquired abroad is highly valued at home and as such it raises potential wages. Accordingly, we will start by finding out whether there is a wage premium for the work experience gained abroad. We intend to measure the wage differentials among the returnees prior to versus after their return. A two-step Heckman procedure will be used to measure the wage differential prior to migration and post-return in order to identify whether the experience abroad produces an income premium upon return.
2. *Secondly*, the return migration is a crucial process, which has important policy implications across all forms it assumes such as circular, seasonal

or temporary. Apart from that, return migration is characterized by substantial heterogeneity in many aspects. Therefore, the study investigates the labour market outcomes by exploring whether there is an upgrade in terms of employment and occupational status of returnees. The switch from one employment status to the other depends on wage premiums, the occupational choice, the working sector, the transferability of skills and experience acquired abroad, the connections and the network in the home labour market, migratory intentions and other individual and socio-economic characteristics. Thus we intend to investigate how these conditions impact the employment status of migrants upon return to their home labour market and whether the returnees could improve their employment or occupation status at home due to the experience acquired abroad. Using an endogenous switching ordered probit model we aim to analyse the employment upgrading in the local labour market and ascertain those factors, which favour an efficient allocation of their human capital acquired abroad.

3. *Thirdly*, the research performs a detailed case-study of Bulgaria and Romania, countries that after the fall of the communist system suffered shortages of labour demand, which forced their citizens to migrate massively following different roots and typologies of migration. Occupational mobility has been very intensive and at the same time it has been characterized by large outflows of migrants, both highly and low-skilled, and large inflows of returnees, temporal, circular or permanent. Several market conditions and individual reasons have determined the potential employment and occupational upgrading upon a migrant's return.

The first motivation of following the above methodological approach is that despite the importance and the potential of return migrants, what we know on post-return labour market performance is that, given a sufficient wage premium

for return migrants, the net effect of skilled mobility on average human capital and wages of the home country is expected to be positive ([Mayr and Peri, 2008](#)). Secondly, the decision to migrate is driven not only by income differentials but also by the quality of life and the basket of opportunities in the high-income countries whereas the motivation to return, apart from the income premiums, is spurred also by family motives, cultural affinities as well as the desire to contribute to the progress of the native country ([World Bank, 2008](#)). In addition, in a European context, [Iara \(2006\)](#) shows that from a policy perspective, return migration requires an extension of opportunities for temporary work migration to the EU by exchange programmes or training schemes, in order to enhance the positive effects of this phenomenon.

The rest of the report is organized as follows. Section 1 presents the literature review and section 2 provides descriptive statistics of Bulgarian and Romanian return migrants. Section 3 expounds the methodology and the database used for the analysis. Section 4 continues with the estimation results. In the last section we draw conclusions and policy implications.

## **1. Literature review**

The process of return migration is very dynamic and influenced by several determinants. The effect of this process on the human capital of the home country can be positive in case of a positive selectivity of those who emigrate and those who return home. [Borjas \(1996\)](#) has demonstrated that there exists a negative selectivity among the returnees who tend to be less productive than those who remain abroad. However, [Venturini \(2008\)](#) finds that there exists a positive selectivity among the highly-skilled migrants, which are more likely to leave the host country and return home.

[Dustmann \(1996\)](#) argues that if the decision to return home is human capital-driven the return is optimal at the point where the potential wages at



home are expected to increase more than the wages in the host country. In addition, another study of [Dustmann \(2003\)](#) using a simple dynamic model of optimal migration duration shows that, conditional upon the decision to migrate temporarily, the returnees optimize their stay abroad if the migration duration decreases (increases) as the **wage differential** in the host country increases (decreases). In spite of that, [Dustmann \(2003\)](#) argues that the wage differential only partly explains the dynamics of migration decisions and he proposes that other relevant determinants should be taken into account. [Constant and Massey \(2002\)](#) show that emigrants in Germany have higher probabilities to return if they have weak employment ties with the labour market in the host country and strong socio-economic ties with their home country. However, [Constant and Massey \(2002\)](#) sustain that higher wages and better employment opportunities at home do not fully explain the decision to return. Also other conditions such as family ties and social and cultural ones are important as a matter of fact.

Furthermore, other studies have shown that increasing human capital in the host country and retrieving benefits upon return are not the only main motives to migrate. [Kirdar \(2005\)](#) shows that Turks that immigrated to Germany with the intention to accumulate wealth (together with a predisposition for consumption at home), after having reached a high savings rate, are more likely of returning home. In addition, [Kirdar \(2005\)](#) finds that most of the returnees have disadvantageous employment conditions, e.g. they are unemployed or receive low earnings. Thus, he observes a negative selectivity among the returnees.

[Iara \(2006\)](#) also finds that the work experience in Western European countries of immigrants from Central Eastern European Counties produces **skill diffusion** and a wage premium upon return for the work abroad. Also [Lacuasta \(2006\)](#) and [Rainhold and Thom \(2008\)](#) show that a working experience abroad of longer than 3 years results in **skill-upgrading** which is associated with wage premiums upon return. Thus, the choice of temporary migration may positively

generate an upgrading of skills followed by higher wages upon returning to the home country.

[Dustmann \(2007\)](#) sustains that the decision to temporarily migrate is conditional on the expectations of migrants about the economic conditions in their country after return which likewise influence the individual decisions about investment in human capital, employment choice abroad and the **share of savings or remittances**. The knowledge acquired in the host country leads to an upgrade of **skills and productivity of migrants**, which is ultimately valorized in the labour market of the country of origin compared to the host country's labour market. Thus, in order to appropriately assess the labour market performance of return migrants it is relevant to take into account information about their **skill acquisition** in the host country.

However, as [Stark \(1998\)](#) shows, the return migrants are selected from both tails of the migrants' skills distribution. For example, [Radu and Epstein \(2007\)](#) show that the return migrants in Romania expect high returns from their migration experience abroad. While there is a significant wage premium for the highly skilled and those with high education attainments, those considered as less skilled would benefit from the experience accumulated abroad if they work as self-employed and have started their **own business upon return**. Also, [de Coulon and Piracha \(2005\)](#) find that although the Albanian return migrants are negatively selected, the permanence and the work experience gained abroad turn out to provide an income premium especially if the returnees choose to work as self-employed.

Thus the above-mentioned literature shows that the pool of return migrants is composed by highly-skilled and low-skilled individuals who are heterogeneous in their motives to return, their behaviour and characteristics and their expected outcomes upon return.

## **2. Romania and Bulgaria: patterns of migration and return**

According to the OECD (2008), the phenomenon of return migration in these two countries is prevalent either as return to the home country or to another host country. The share of immigrants that leave the host country after a stay of five years ranges from 20 to 50 percent. There are no significant differences between men and women but approaching the retirement age and being young increases the likelihood of return. Concerning the educational level, peaks of return exist at both tails of the education distribution, with higher rates of return among the low- and highly-skilled individuals. The return could be voluntary or not but according to OECD most of the immigrants return because of a dissatisfaction with the outcomes of the migration experience or because of their achieved targets, their socio-cultural and family ties with the home country, or the expected benefits upon their return for the experience gained abroad. For all these reasons, return migration requires to be addressed through migration policies that could help to manage it effectively both for the destination and sending country.

### **The case of Bulgaria**

Because of the political and socio-economic transformation, the migration flows among Bulgarians have increased significantly. Similar to Romania also Bulgaria is facing high demographic problems, shortages of labour supply and a highly migratory population. [Beleva \(2008\)](#) shows that between 1989 and 2007 the main migratory movement of Bulgarians within the EU has been in the order of 120,000 respectively to each of the countries, Spain and Greece, 80,000 to the UK, 50,000 respectively to Italy and Germany, 30,000 to Austria etc. whereas more than 200,000 migrants moved to the USA, 45,000 to Canada and more

than 20,000 to Australia.<sup>1</sup> However, the National Migration and Integration Strategy in 2006 states that the intention of long-term emigration decreased by about 50 percent compared to 2001 and the intention of staying abroad does not exceed 5 years for the working-age population. The statistics showed that between 2001 and 2007 the share of potential highly-educated emigrants intending to migrate for longer periods of time increased from 19 to 21 percent, while those with a low level of education and qualification opting for temporary and circular migration increased from 26 to 42 percent.<sup>2</sup>

[Beleva \(2008\)](#) also states that the likelihood of return of the highly skilled is not negligible. A national survey in 1996 showed that one fifth of those who migrated after 1989 returned home. However, more recent surveys found that young migrants do not have a strong preference toward permanent migration and temporary migration is considered as an intermediate alternative to the political and socio-economic transition at home. Also, [Beleva \(2008\)](#) sustains that the highly- and middle-educated Bulgarian migrants that moved abroad to escape the unemployment status at home, used to accept under-qualified jobs, which consequently raised the problem of a brain waste among Bulgarians. Other authors like [Minchev and Boschnakov \(2006\)](#) show that the return migrants are mostly male, married and below the age of 45 and more than 80 percent of them have secondary education.

Concerning transnational practices, [COMPAS \(2008\)](#) stated that the network effect among the Bulgarian and Romanian migrants is quite strong. However, while its effects could be significant among the low-skilled migrants, concerning the highly skilled this effect is not very powerful. Accordingly, in our analysis, we will take into account the effect of networks both in the host and home country.

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<sup>1</sup> Source: National Migration and Integration Strategy of the Republic of Bulgaria, May 2008, Draft, pp. 8.

<sup>2</sup> Beleva(2008). Original source: Family patterns and migration, National Representative Survey, 2007.

[Minchev and Boschnakov \(2006\)](#) show that among the return migrants the remittances served not only to satisfy the consumption needs, but also to invest in profitable activities or start their own business. However, the remittances sent home depend on educational level, gender and age.

Other features of migration such as language and social affinity, geographical proximity and presence of networks are important determinants of migration flows of Romanians and Bulgarians toward Mediterranean and Southern European countries. For example, studies in the UK have shown that most of the highly-educated Bulgarian and Romanian migrants have moved to the UK because of better opportunities to find jobs adequate to their skills while the low-educated ones moved to Southern European countries ([COMPAS 2008](#)).

Summarizing, the migration patterns of the Bulgarian migrants indicate a circulatory trend among the low skilled. Whereas the highly skilled, which suffer from the shortage of labour demand and the labour market structure, are destined to longer durations of migration abroad in spite of their preference for temporary migration.

### **The case of Romania**

According to UN statistics, in 2006 more than 2 million Romanians work and live abroad, at least on a temporary basis, and more than 50 percent of them live in Italy. More than 77 percent of them have a secondary education degree while only 9 percent hold a university degree. In the case of Romania, [Ferro \(2004\)](#) investigated the labour migration experience of high-skilled Romanians and in particular of IT staff and qualified researchers. She finds that the working perspective, the life quality and encouraging foreign immigration policies are the most relevant pull factors for leaving the home country. An interesting result of her research was also the fact that the higher the integration in the host country, the more likely is their return home. She also finds that the role played by

international networks and transnational relations contributes to the local development through the spread of information, supply of jobs and promotion of business.

The [OECD \(2008\)](#) argues that the barriers to a free entry of migrants from Romania and Bulgaria have been partly removed and those countries that did not impose restrictions could satiate their labour market through the reduction of labour shortages and structural unemployment.<sup>3</sup> However, one disadvantage for the high-skilled immigrants, especially in the initial phase of migration, is the acceptance of under-qualified jobs as is the case for the Romanians in Italy. [Cingolani \(2007\)](#) has shown that more than 93 percent of high-skilled immigrants have undertaken under-qualified occupations and this is preserved over time for more than 70 percent of them. However, it is interesting to know that 82 percent of those who accept an under-qualified occupation are those who intend to return home after a limited period of time in Italy. Moreover, [Cingolani and Piperno \(2005\)](#) argue that after ten years' of work in Italy, the out-migration of Romanians and their permanent return home are increasing. Even though this phenomenon is still marginal it is expected to increase rapidly as the socio-economic situation at home improves.

Another distinctive phenomenon among Romanian migrants is the vast presence of migrant women choosing to have a circular migration experience. A further relevant characteristic is the family network support, which is intensively present at various stages of migration. The high mobility among Romanians was also related to their legally and professionally weak position (those without regular documents and unqualified are more vulnerable and consequently are supposed to adapt their mobility plans). Following Massey's (2002) migration theory of networks, the relevance of networks abroad and their support for integration into the host country are evident. As concerns the implications of

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<sup>3</sup> See OECD(2008) <http://www.oecd.org/dataoecd/60/48/39311348.pdf>

remittances, little evidence is found on their effect on investment and entrepreneurship. In spite of a high flux of remittances sent home their positive direct effect has still to be documented.

Iara (2008) argues that the high intensity of Romanian migration flows in different forms of temporary migration. The encountered linguistic and cultural affinity with the main host countries and the admission to the labour markets of the EU Member States, support an increasing mobility of migrants, which in turn has important repercussions both for the host and home country. However, the improvement of the socio-economic conditions at home, the shortage of skills and the increasing demand for know-how require the return of emigrants to Romania. Thus, policies addressing temporary migration, encouraging permanent return and making the return and integration in the local labour market affordable and rewarding, are desirable.

Summarizing, temporary migration is quite an intensive experience for Romanian migrants. The pool of migrants is relatively well educated and the negative labour market situation in the host country in particular induces the highly-skilled migrants to return to their home country. The duration of stay abroad is relatively longer than 5 years and there is an increasing trend of returns in particular for those that accepted under-qualified jobs in the host country.

### **The database and some descriptive statistics**

The data we use in order to assess the labour market performance of return migrants in Bulgaria and Romania are extracted from the surveys commissioned by the World Bank in 2005. These surveys provide information on the reasons for which migrants seem to have left their country, their earnings in the home country, their personal characteristics, their difficulty to enter the labour market at re-entry, their acquired skills abroad etc. We introduce some descriptive statistics in [Tables 1 and 2](#) in the Appendix.

These surveys were identical, having the same number of interviews and the same questionnaires implemented. The selected sample was 1200 return migrants for each country. The returnees were basically migrants who returned home after a certain period of stay abroad and most of them were males, with a relatively high educational level (more than 11 years for Romanians and 12 years for Bulgarians), and being relatively young with an average age above 35 for Bulgarians and 36 for Romanians.

The descriptive results showed that the employment status prior to migration, the economic condition and the level of income were less advantageous compared to the status upon return. For the majority of Romanian returnees the main destination countries were Germany, Hungary, Italy and Spain and the duration of the first stay abroad was approximately 21 months for the Romanians and 32 months for the Bulgarians. During their migratory experience the average earnings of Romanians were much lower than the earnings of Bulgarians, but they could remit a monthly amount of income higher than that of Bulgarians. Moreover, the amount remitted was 50 percent higher than their earnings prior to migration. Compared to the Bulgarians, the Romanian return migrants were devoted to learn a foreign language and to acquire new skills on the job (respectively 52 percent versus 42 percent and 48 percent versus 26 percent). However the Bulgarian returnees were keener to enhance their educational level (3 versus 1.6 percent). A negative labour market experience and an illegal status of stay were more common among Bulgarians compared to Romanian returnees, respectively 13 versus 9 percent and 10 versus 7 percent.

However, upon return 29 percent of the Bulgarians have intentions to not leave the country and re-emigrate while for the Romanians the share reaches 44 percent. Concerning the connections and the network at home, which support reintegration in the local labour market, 48 percent of the returnees in Romania and 39 percent in Bulgaria, experienced such support. On the other hand the



network abroad supported 50 percent of the Bulgarians and 21 percent of the Romanian returnees during their migration experience. Another indicator is the intention to start an own business, which is more intense among Romanians than Bulgarians, 10 versus 6 percent.

### **3. Model specification**

Taking into consideration the above accumulated knowledge, this study intends to respond to the following research questions: How do the temporary migration and intentions of return affect the labour market performance and occupational upgrading of the returnees? Are the wage premiums and permanent intentions to return the main determinants of labour market performance for the returnees? Are there other relevant actors on the scene, apart from wage premiums, that determine the labour market performance of returnees? Which are these actors and how strong is their effect?

The methodology and the conceptual framework adapted in this study are structured as follows:

1. First, we will measure the wage effects of the work experience abroad within the group of the returnees. Thus, we will define the wage premium as the difference between the earnings before migration and the earnings after the migration experience and the return to the home country. Our purpose is to observe whether there is a wage differential among returnees that choose to participate in the local labour market versus those that are unemployed or out of the labour force.
2. Secondly, we will investigate the labour market outcomes of the returnees in terms of upgrading in the home labour market in case of temporary migration and their intentions to return home permanently. We will explore

whether there is an upgrade of employment status of returnees conditional upon the intention to return permanently.<sup>4</sup>

3. In this study we will comprise two relevant suggestions by Dustmann (2002), the one on overcoming the simultaneity bias and the one on the migration typology differentiation. First, we intend to distinguish between the permanent intentions of return at home and other forms of migration such as circular or permanent migration. Second, we will estimate simultaneously the decision of return migration and the expected outcome in the labour market at home.<sup>5</sup>
4. To account for endogeneity and the selectivity bias we implement an estimation strategy developed by Miranda and Rabe-Hesketh (2006) which allows estimating concurrently the decision to migrate temporarily and how it affects the employment outcome of the returnees upon the return to the home country.<sup>6</sup>

### **Specification 1: Wage Premium**

The literature and several studies attempt to analyse return migration and the motive to return from the prospective of wage premiums. The likelihood of higher earnings at home as a return to the investment in human capital and

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<sup>4</sup> The intuition behind it is that temporary migration and the intention of a permanent return are signals of positive expectation not only in terms of wage premiums but also of prestige and upgrading in employment status in the home labour market, which accordingly indicates a positive selectivity among returnees. Likewise we could expect that return premiums through the employment upgrading will imply skill distribution and human capital gains for the local labour market and the economy of the home country.

<sup>5</sup> The individuals are heterogeneous not only in expectation and intentions but also in their personal characteristics, the socio-economic circumstances they face upon return, their intentions and the outcomes of their decisions.

<sup>6</sup> The bias in the migration patterns is generated not only by the non-random emigration or out-migration but also by the typology of migration, which could be permanent, temporary or circular. Consequently, estimation of outcome equations, such as labour market outcomes, which ignore the typology of migration, may lead to biased results due to the simultaneous decision to return and the decision to perform in the labour market of the country of origin.

experience gained abroad is considered as one of the principal determinants to return home (Dustman 1997). While some studies find that there is a significant wage premium for the return migrants, in some other studies the wage premium has been almost negligible. For example the study of Peri and Mayer (2009) using an overlapping generation model shows that there is a wage premium for the highly-educated return migrants to Central and Eastern European countries. Whereas Co, Gang and Yun, using the Hungarian Household Panel Survey, show that among the returnees integrated in the local labour market mostly females obtained a wage premium as a return to their work experience.

As explained above, we intend to compare post-migration labour earnings with pre-migration labour earnings, which could be attributed to human capital gained abroad. The approach we intend to adopt follows Heckman's before-after estimator, which is frequently used to compare a person with himself/herself.<sup>7</sup>

This estimator usually requires longitudinal data or sequential cross-sectional data from the same sample, which could allow investigating the same individual before and after a certain event. An advantage of this approach is that the available information about the labour market experience prior to migration allows evaluating the effects of migration experience abroad in relation to the post-migration earnings. In our case, even though we do not have longitudinal data, the available information concerning the labour market earnings before and after the migration experience could permit us to measure the outcomes before and after the migration experience and compute the difference in the expected earnings because of participation in migration.<sup>8</sup>

Thus, assuming the individual decides to migrate at time  $t=0$  and return at  $t=1$  the gain from the work experience abroad could be estimated by subtracting predicted pre-migration earnings from post-migration earnings. Thus, denoting the post- and pre-migration earnings with  $W_p$  and  $W_b$  ( $p$ =post-migration and

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<sup>7</sup> See Heckman(1999).

<sup>8</sup> Alternatively, this approach is considered the econometric fixed effect estimator with no comparison group (Heckman, 1999).

b=pre-migration) respectively, the gain from the work experience abroad, using the before-after estimator, is defined as:

$$W_{1p} - W_{0b} = (W_{1p} - W_{0p}) + (W_{0p} - W_{0b}) \quad (3.1)$$

In spite of the strong assumption imposed by this approach, it is assumed that the approximation error  $(W_{0p} - W_{0b})$  equalizes zero. Thus assuming that difference  $(W_{0p} - W_{0b})$  goes to zero, we may estimate the impact of migration experience abroad on those who return and participate in the local labour market by subtracting the average pre-migration earnings from the average post-migration earnings.<sup>9</sup>

As an alternative to cope with the strong assumption of zero approximation error, the literature suggests using the same sample and the same individuals followed over time. In such cases the solution is replacing the missing data or at least averages of the missing data, using predictive values.<sup>10</sup>

For this purpose, firstly we will use the Heckman two-step procedure to predict the earnings before and after the migration experience for those unemployed or out of the labour force and secondly we will use the before-after estimator to capture the effect of the work experience abroad or whether there is a wage premium attributed to the migration experience. The dependent variable is the log wage earnings prior to migration and the explanatory variables are personal characteristics, the working experience, education and household characteristics. The log earning equation of post-migration earnings includes additional variables such as skills acquisition on the job while abroad, the share of remittances, the frequency of migration. Thus, following the human capital model of earnings the log wage equation is defined as follows:

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<sup>9</sup> This assumption allows attributing the difference in earnings in particular to the migration experience abroad rather than to personal characteristics.

<sup>10</sup> Heckman (1999)

$$W_i = \alpha_1 + X_{li} * \beta_1 + \varepsilon_{li} \quad (3.2)$$

where  $W$  is the log value of normal monthly earnings,  $X$  are the explanatory variables that could determine the earnings and include personal characteristics and human capital (education and work experience), while  $\beta$  are the parameters that capture the effects of the explanatory variables on the dependent variable and finally the  $\varepsilon$  stands for the stochastic error term which is usually assumed to be i.i.d. Following the Heckman procedure the selection equation is given by the expression below

$$W_i = \alpha_1 + X'_{li} * \beta_1 + \lambda_i + u_{li} \quad (3.3)$$

where the selectivity correction term  $\lambda_i$  includes factors which are not directly related to the worker's productivity (e.g. these could be some explanatory variables that are not included in the wage equation such as number of children, household family size, marital status etc) which correct the mean value of earnings for the selectivity bias. Finally  $u_{li}$  is a stochastic error term that is heteroscedastic and asymptotically distributed. The average monthly earnings will be estimated separately for men and women, both for wages prior to and after migration using the two-step Heckman procedure. In order to observe the wage premium for the work experience abroad we use the Before-After Estimator as proposed by Heckman (1999). The wage differential computed as in the above equation (0.1) will estimate whether the human capital abroad contributed to provide the returnees with a wage premium.

**Specification 2: Maximum likelihood estimation using endogenous switching ordered probit models**

As we explained above, the estimation of the labour market performance of the returnees requires coping also with the problem of endogeneity. As shown by Miranda and Rabe-Hesketh (2006), the selectivity and endogeneity tackled by the two-step Heckman procedure provide only approximative results and mostly the solvency is only partial. Accordingly, Miranda and Rabe-Hesketh (2006) propose the method of maximum likelihood estimation of endogenous switching and sample selection models for binary and ordinal variables, which solve the problems of selectivity and endogeneity. However, the criticism of the endogenous switching models arises from the difficulty to derive consistent standard errors from the estimation methods (Lokishn and Sajaja, 2004).

In our case we want to model an ordinal response variable such as the upgrading in the labour market of the returnees, which is a function of an endogenous variable such as the intention to permanently return home. The endogeneity problem can be caused by the presence of explanatory variables, which are not exogenous but correlated with the omitted variables. For our purpose, we use the endogenous switching ordered probit method of estimation proposed by Miranda and Rabe-Hesketh (2006), which allows to estimate simultaneously the equation of the temporary migration choice (permanent return intentions) and the equation of labour market performance (upgrading upon return). The advantage of this approach is that it allows correcting for endogeneity when analysing the return migration patterns. Moreover, it allows investigating return migration in terms of pulling factors such as earning premiums but also in terms of other relevant determinants to return.<sup>11</sup> Apart

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<sup>11</sup> As shown in Constant and Massey (2002) and as explained above, the return premium in terms of higher earnings and employment opportunities is not the main persuading factor for migrants to return home. They sustain that family and social ties at home could influence migrants' decision to return home even in the case of no wage differential. Thus, our purpose is to go one step further and measure the effects not only of one of the main pulling factors such as wage premiums, but also the effect of other pulling and pushing factors such as family ties, network at home, the labour market experience abroad, the acquisition of skills on the job while abroad and their transferability at home, the intentions of starting an own business etc.

from the advantage, one of the difficulties encountered with this type of modelling is related to the model specification.<sup>12</sup>

As shown in Borjas (2003), in order to analyse the labour market outcomes in the presence of migratory flows it is relevant to define skill groups in terms of educational attainment and work experience. We categorize as upgrading if the post-employment status is superior compared to the prior one, and as downgrading if the post-employment status is inferior to the prior one, and stagnant if the post-employment status is the same as prior to departure. The categories of employment status are non-participation, employee, employer and self-employment. Thus, the switch from non-participation to the status of employee, employer or self-employed, employee to employer and self-employed and, lastly, from employer to self-employed are considered to be an upgrading of the employment status, while the switch from self-employed to one of the other categories, employer to employee, employee to non-participation are considered as downgrading. We will try to perform the same analysis by classifying the employment upgrading by the switches in occupational status, which is categorized in 15 levels.<sup>13</sup>

Usually we know whether the individual returned home or not but the decision to return permanently or enter into circular migration is not directly observed. Accordingly, we denote as  $P_i$  the decision to return,  $P_i = 1$  if the return migrant has intentions to stay home permanently, hence his decision was to

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<sup>12</sup> However, applications of such methods have solved this difficulty. See Miranda and Rabe-Hesketh (2006), Bratti and Miranda (2009).

<sup>13</sup> The switch in employment status will be between unemployment, employee, employer and self-employed while the switch in occupational status is between Legislator, senior official and manager; Professional; Technician and associate professional; Clerk; Service worker or shop and market sales worker; Skilled agricultural or fisheries worker; Craft or related trades worker; Plant or machine operators assembler; Unskilled worker; Armed forces; Student; Unemployed; Retired; other.

experience a temporary migration, and  $P_i = 0$  if the individual has intentions to re-migrate, enter into circular, seasonal or permanent migration.<sup>14</sup>

Following Miranda and Rabe-Hesketh (2006), labour market outcome  $L_i$  is assumed to depend on permanent return  $P_i$ , which is an endogenous dichotomous variable, and on explanatory variables denoted as  $X_i$ . Likewise, the endogenous dummy variable  $P_i$  depends on a group of explanatory variables, which could be similar or different from the ones entering in the first equation  $L_i$ , and are denoted as  $Z_i$ . Thus we specify the labour market outcome upon the return as:

$$L_i^* = x_i' \beta + \delta * P_i + \varepsilon_i \tag{3.4}$$

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

and

$$0 \text{ otherwise}$$

In this case:

- $L_i^*$  is a latent continuous variable
- $\beta$  is a vector of parameters to be estimated with dimension  $B \times 1$
- $\delta$  is the coefficient linked with the endogenous switching equation
- $\varepsilon_i$  is the stochastic error term.

The explanatory variables, deterministic for the labour market outcome upon the return, are the permanent intention to return home, the wage premium upon return, the investment in human capital, education or the acquisition of new

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<sup>14</sup> Thus we would like to know what would be the labour market outcome for the return migrant in case he/she decides to migrate temporarily and for those who migrate again, how they would have performed in case they had decided to not re-migrate.



skills abroad, duration of stay abroad, age, the share of remittances and the intentions to start an own private business activity.

Likewise we formulate the choice of return migration as a latent endogenous dummy variable or the endogenous switching regressor as follows:

$$P_i^* = z_i' \eta + \xi_i \quad (3.5)$$

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

0 otherwise

in this case:

- $P_i^*$  is a latent continuous variable
- $\eta$  is a  $N \times 1$  vector of parameters to be estimated
- $\xi_i$  is the stochastic error term.<sup>15</sup>

The explanatory variables included in the deterministic part of the permanent return equation are: age, education, the connection with networks at home and abroad, household members' intentions to migrate, negative labour experience abroad, and negative experience related to an illegal status while abroad. For example, as Cingolani (2007) sustains, the role of networks while abroad and at home has been considered very relevant for the population of these countries and considering the effects of networks could provide useful insights concerning the decisions to return home temporarily or permanently. The presence of migration networks at home impacts the choices of the activities upon return and

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<sup>15</sup> However, as pointed out by Dustmann (2000), the intentions not necessarily correspond to the realizations.

depending on the work experience abroad and the skills accumulated, the returnees might choose to engage in entrepreneurial activities.<sup>16</sup> Another particular determinant, relevant for Bulgaria and Romania, is the legal status of migrants while abroad, which has caused disadvantageous labour market participation for a relatively high number of migrants from Bulgaria and Romania, which had no work permit. This is especially true before the access of Romania and Bulgaria to the European Union in 2007. Depending on the return to skills in the host country compared to the return to skills in the source country, the wage gap between the host and source country and the decision whether to migrate temporarily will determine a positive or negative selectivity. The estimation of the endogenous switch ordered probit model is based on the assumption that the residuals are bivariate and normally distributed and specified as:

$$\begin{aligned}\varepsilon_i &= \lambda * \varphi_i + \nu_i \\ \xi_i &= \varphi_i + \mu_i\end{aligned}\tag{3.6}$$

where  $\nu_i$ ,  $\varphi_i$  and  $\mu_i$  are normally distributed  $N(0,1)$  while  $\lambda$  is a free parameter called factor loading.<sup>17</sup> Thus we further express the system of equations as below:

$$\begin{aligned}L_i^* &= x_i' \beta + \lambda * \varphi_i + \nu_i \\ P_i^* &= z_i' \eta + \varphi_i + \mu_i\end{aligned}\tag{3.7}$$

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<sup>16</sup> For endogenous return decisions, the effects of migrant networks and social interactions range from simple decisions on destination countries, better information about employment opportunities abroad to social dynamics of circular and repeated migration (Epstein, 2007).

<sup>17</sup> The factor loading allows the correlation in the data. If it equalizes 0 it implies that there is no correlation in the data and the individuals are selected randomly, thus the model is estimated using ordered probit regressions.

the data correlation is given by :

$$\rho = \frac{\lambda}{\sqrt{2(\lambda^2 + 1)}} \quad (3.8)$$

In our context, our dependent variable, the labour market outcome upon return, can be constructed as a categorical and ordered variable that takes value 1 if the employment and occupational status of the returnee have been upgraded compared to the status prior to migration, takes value 2 if the post-return status hasn't changed from the prior one and lastly it will take value 3 if there has been a downgrading in post-return employment status (i.e. inferior to the prior one). The variable of interest is ordered as below:

$$L_1 > L_2 > L_3$$

To estimate simultaneously the system of equations as suggested by Miranda and Rabe-Hesketh (2006), latent variables are combined into a common variable  $V_{ij}$  where  $j=1$  stands for the L outcome and  $j=2$  stands for the P response. Defining the dummies  $d_{1ij}=1$  for  $j=1$  and  $d_{2ij}=1$  for  $j=2$ , the conditional mean of  $V_{ij}$  is specified as follows:

$$E(V_{ij} / \varphi_i) \equiv \pi_{ji}$$

$$\ell_{ji} = g_j(\pi_{ji}) = d_{1ji}(x_i'\beta + \delta * P_i + \lambda * \varphi_i) + d_{2ji}(z_i'\eta + \varphi_i) \quad (3.9)$$

The combination variable  $V_{ij}$  is linked through  $\ell_{ji}$  and the link function is restricted to be a probit for the switching equation and an ordered probit for the outcome equation. Important decisions of the individual such as the choice for migration and the return afterwards, the duration of stay in the host country, the activities while abroad and the decision for participation in the labour market upon return are endogenously and simultaneously chosen by the individual. The selected endogenous dummy ordered probit model and the maximum likelihood estimation method proposed by Miranda and Rabe-Hesketh (2006) fit nicely to our purpose of modelling as this estimation strategy allows endogenizing the return decision and analysing its effect on the labour market outcome of the returnees.<sup>18</sup>

#### **4. Estimation and results**

In order to analyse how the returnees perform in the local labour market after a certain working period abroad we look at the employment dynamics of returnees. As indicators of the employment dynamics we focused on employment and switches in occupational status. The change of pre-migration employment status to a relatively better post-return employment status, e.g. the switch from out of the labour force to the status of employee signals an upgrade in the labour market that could be attributed to the work experience abroad. The switch in occupational status is similarly important because the change to a post-migration occupation reflects the skills' upgrading from the work experience abroad better than the one prior to migration. While the former indicator captures the effects of the work experience abroad on the upgrading in the home labour market, the latter one captures the effects of accumulating new skills while being abroad.

The World Bank database concerning Bulgarian and Romanian returnees

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<sup>18</sup> For more details see Miranda and Rabe-Hesketh (2006).

provides us with information about the labour market characteristics of the returnees' pre- and post-return migration experience. This information allows us to find out, first, whether the return migrants upgrade in the home labour market and, second, whether the intention and experience of temporary migration are determinant for the upgrading.

Similar to Epstein and Radu (2007), a signal of upgrading is given when the returnee switches from unemployed to employee, employer or self-employed and from employee to employer and self-employed while downgrading is signalled when there is a switch from employee, self-employed and employer to non-employment and from self-employment to employee. Skills' upgrading is defined as the switch between the occupational statuses pre- and post-return migration, classified into 15 categories and ranked according to the skill level.

The approach adapted from Epstein's and Radu's (2007) analysis takes the decision to return as exogenous and uses a multinomial logit estimation method to measure the labour market upgrading upon return. Differently from them, we consider the intentions to return as endogenous and use an endogenous ordered probit model to measure labour market upgrading. The migration plans of returnees are analysed simultaneously with the upgrade in occupations of returnees, defined as switches in the employment and occupation status in post-migration compared to before migration. One hypothesis is that the increased propensity of migrants to return permanently at home is a signal of the expectation to upgrade and to attain higher outcomes in the domestic labour market.

#### **4.1 Employment upgrading estimates of Bulgarian returnees**

The estimation results attained by implementing the endogenous switching order probit model of Miranda and Rabe-Hesketh (2006) are provided in Table 3 to Table 6 in the Appendix.

[Table 3](#) shows the estimation results of labour market upgrading using as indicator the employment status in the case of Bulgaria. The estimated coefficients show that the intention to return permanently increases with age sustaining the hypothesis that with the advancement of age, the migrant is more likely to return home. Also the enhancement of education is found to positively affect the intentions of a permanent return home. Apart from these pulling determinants to return home, the intentions of starting a private business and the support of the network at home incentivize a permanent return. In line with other findings, having a negative experience in the host country labour market as well as the uncertainty of an illegal status during the time spent abroad, push the migrants to permanently return. However, the strongest and negative impact on the intention of a permanent return at home is given by the variable that captures the intentions of household members to settle abroad. The value of the coefficient indicates that the permanent return at home strongly depends on the intentions and decisions of family members. These findings correspond to previous findings sustained by authors from the literature.<sup>19</sup>

Concerning the estimated coefficients of the upgrading equation, the intention of a permanent return at home increases the likelihood of enhancing the labour market position of the returnees. We also find that other relevant factors, which positively affect the upgrading of the employment status, are the wage premium upon return and the acquisition of new job skills during the work experience abroad. To a certain extent also the average amount of remittances sent home has a positive effect, and this is particularly important if the returnees upon their return choose to invest and start their own business activity.

It is also interesting to observe that the migration duration and its square have corresponding negative and positive signs. The interpretation is that the migration duration abroad is U-shaped meaning that for rather short migration durations there is a low probability of employment upgrading and after exceeding

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<sup>19</sup> See Constant and Massey (2002).

a certain value, the upgrading has high probabilities of relatively long migration durations. Accordingly, there is a turning point after which the duration of stay abroad would result in a better labour market position upon return.

This finding is also in line with findings of Dustmann (2003) on the optimal duration abroad, who argues that migrants find it optimal to reduce their stay abroad only when there is an increase in wage differential between the host and home country.

However, the intention of a permanent return strongly affects the upgrading in the labour market. As it was found also by Epstein and Radu (2007) the labour market behaviour of permanent returnees compared to temporal or circular ones is different. The intention of a permanent return encourages the integration in the local labour market and the allocation of more efforts to improve the post-migration employment status compared to the prior one.

The effect of networks at home is significantly positive. In countries where networks contribute to the matching process between people and jobs, the fact of being out of the networks in the home labour market might actually harden migrants' insertion in the home labour market upon their return. Thus, having a good network at home relatively increases the probability to return permanently.

## **4.2 Occupational upgrading estimates of Bulgarian returnees**

The results concerning the switch in occupation are provided in [Table 5](#). The presented results concerning the endogenous switching equation of permanent return are confirmed. As regards the estimation, results of the upgrading equation (the switching between occupational pre- and post-migration experience that captures the skills' upgrading) show that there is a positive effect produced by the skills accumulated abroad, the intention to return permanently and for migration durations that last relatively longer. The counter-intuitive

result in the data is the negative effect of education on the occupational upgrading. We find that while education positively influences the choice of the returnees to move permanently at home, with regard to occupational upgrading education has a negative sign. Consequently, highly educated migrants have lower probabilities of an occupational upgrading compared to the medium-skilled ones. The explanation for the permanent return of highly educated migrants could be the mismatch between the qualification and occupation during their stay abroad that makes the choice of migrants to return permanently at home more likely. Consequently, the acceptance of an under-qualified job is only a temporary solution that pushes the migrant to return home permanently.

The interpretation of occupational outcome could be the shortage of labour demand for the highly skilled upon return at home. Therefore, the low likelihood of an occupational upgrade in the Bulgarian labour market could be due to the labour market structure, which does not offer jobs adequate to their education level. Somehow the labour structure prevents the transfer of acquired knowledge, which could result in lower productivity and performance of highly educated returned migrants in the home labour markets.

This finding is similar to what De Coulon & Piracha (2003) concluded in the case of Albanian returnees, i.e. that the upgrade in the labour market is attributed to the skills acquired abroad rather than to formal education and labour experience.

This result has important policy implications, in particular for those policies that might ease the returnees' entry, performance and transfer of knowledge in the home labour market by offering them adequate occupational incentives corresponding to their qualifications. Thus, how to attract the talents to return is the direction that return migration policies should go for.

The consequence of this malfunction of the labour market structure, which does not enable the highly educated to upgrade, might be the hesitation of the



returnees to accept jobs below their skill level and consequently their eventual decision to migrate again in spite of permanent intentions of return.

With the intention of observing the gender differences we have estimated the upgrading of employment status separately for men and women. [Table 3](#) shows that the coefficient estimates, both for men and women, are significant concerning the wage premium, but the effect is slightly stronger among women. This result is similar with the findings of Co et al (2000), which show that for Hungarian returnees, there is a higher wage premium for women compared to men, which could be explained by the gender differences in the sectoral labour market experience abroad. However, the permanent return is the main determinant for upgrading the employment status upon return in case of men while for women the permanent return is strongly determined by the intentions of a household member to move abroad.

This finding emphasizes the relevance of family ties for the programming of future migration decisions and consequently the labour market ones, especially among women in Bulgaria. Another interesting difference between male and female returnees is the finding that their intention of starting an own business is significantly positive only among men and it strongly affects the intentions to return permanently at home. This result is complementary to the results obtained concerning the effects of network support at home, which also establishes a positive relationship with the “permanent return at home” variable among men. Similar conclusions were drawn from the study by De Coulon & Piracha (2003), which finds that a considerable number of Albanian returnees choose temporary migration, as guestworkers, and upon return they decide to set up their own business which provides them with higher earnings than self-employed.

### 4.3 Employment upgrading estimates of Romanian returnees

The estimation results for Romanian returnees ([Table 4](#)) show that the upgrading in employment status has a positive relationship with the intentions of a permanent return and the wage premium, where the permanent return is positively affected by formal education and intentions of becoming an entrepreneur upon return. As in the case of Bulgarian returnees, these factors are determinant for the permanent return at home while the network at home and the one abroad appear to be insignificant among the Romanian returnees. Cingoloani (2005) uses the example of Romanian immigrants in Italy to show that while the network plays an important role in the beginning, with the passing of time its effect fades away and concerning the ties at home the distance weakens the chains of the network at home. Looking at the gender differences we find that for women the upgrade in employment is positively related with the duration of stay abroad and permanent return intentions whereas for men the duration of stay has no significance for an upgrading. Moreover, male returnees have a wage premium upon return that rewards their upgrade in the labour market, which is not confirmed for women and finally, the permanent return of men is strongly determined by the intentions of starting an own business. It is interesting to notice that among women the complications due to an illegal status significantly increase the probability of return while among men the negative labour market experience abroad strongly determines the intentions of permanent return. The results show that there may be a negative selectivity among Romanian returnees, both among men and women, but in spite of that men find their way in the home labour market through self-employment whereas the employment upgrading among females is less advantageous. These findings confirm that, on the one hand, there have been fervent pushing factors for the Romanian migrants to return and on the other hand, the structure of the Romanian labour market is not prepared to welcome them.

#### 4.4 Occupational upgrading estimates of Romanian returnees

The estimation of the occupational upgrading equation demonstrated in [Table 5](#) show that there is no confirmation of a positive effect of wage premium and skills acquired on the job abroad on the labour market outcome (in spite of the expected positive sign they are not significant). The duration of stay abroad shows to not have any significant effect on occupational upgrading and the complications of an illegal status increase the likelihood of permanent return. All the results above urge a negative selectivity among the Romanian returnees, which due to an unfavourable situation abroad could not embrace another alternative than returning to their home country, which in turn, due to the transitional period, cannot afford to offer an adequate employment or occupation status to the returnees. A further explanation could be, first, the relatively short migration duration, insufficient for accumulating and building skills, and second, the pool from which the returnees were selected.

For the Romanian returnees, we also checked for the country of destination ([Table 6](#)) and how it impacts the intentions of a permanent return home. The estimated coefficients of the dummy variables corresponding to the main destination countries of Romanian returnees such as Germany, Hungary, Italy and Spain demonstrated that there is a negative relationship between the intentions to return permanently at home and the main destination countries Hungary, Italy and Spain. Concerning Germany, the effect is found to be positive but insignificant. However, these results confirm the circulatory and seasonal migratory patterns of Romanian migrants towards countries, which have closer linguistic and socio-cultural affinities such as Hungary, Italy and Spain. Even though the permanent return would be associated with an upgrading of the returnees in terms of employment or occupational status, the likelihood that the

Romanian migrants return permanently is still low compared to circulatory or seasonal migration.

As De Coulon & Piracha (2003) argue, the expectations of higher earnings relative to their own skills pull migrants toward a certain destination country, while the expectations for relatively higher post-migration earnings as a reward for the new skills acquired abroad pull the migrants to return home. The returned Romanian migrants enjoy a wage premium in accordance with their upgrade in employment status but not with their occupational status. The interpretation of the employment status' upgrading is related to the generation of higher earnings by working as self-employed versus employee or being unemployed.

However, the occupational switches upon return do not guarantee a wage premium. It is interesting that the average amount of remittances has a significant and negative impact on occupational upgrading, implying that savings acquired abroad are more rewarding than the upgrade in form of access to better jobs in the local labour market. These results induce us to conclude that the return of Romanian immigrants is in most cases negatively selected, not voluntary but at the same time preferred as circulatory. The permanent return is not driven by positive expectations at home but rather by their negative experiences abroad and consequently their involuntary permanent return does not result in rewarding labour market outcomes.

## **5. Conclusions**

The motives behind the choice of return migration require investigating, as they can be not just wage premiums or the optimal migration duration abroad but rather the investment in human capital abroad, remittances and savings patterns in the host country. More crucially, the return migration is also influenced by the performance in the home country labour market upon return,

accounting for individual heterogeneity. Thus, in this study we made an effort to analyse who are the returnees, what is their labour market performance and whether it really pays off to return home.

The simultaneous character of decision-making in the case of return migration leads to a simultaneity bias. The approach proposed by Miranda and Rabe-Hesketh (2006) that we implement in this study allows correcting for selectivity bias and coping with the endogeneity problem when analysing return migration patterns. Therefore, after predicting the wages and measuring the wage premium upon return, we apply an endogenous switching ordered probit model to estimate simultaneously the decision to migrate temporarily (the intention to return permanently to the country of origin) and the determinants of an upgrading of labour market performance upon return. The countries taken into investigation were Bulgaria and Romania, which experienced not only large outflows but also large inflows. In order to assess the labour market performance of return migrants in Bulgaria and Romania, we used the surveys commissioned by the World Bank in 2005.

We looked at the employment dynamics of returnees from the perspective of employment and occupational status switches. For example, a switch out of the labour force into the status of employee signals an upgrade in the labour market that could be attributed to the work experience abroad while a switch in occupational status signals skills acquired abroad. While the former indicator captures the effects of the work experience abroad on the upgrade in the home labour market, the latter captures the effects of accumulating new skills while being abroad. We have selected this classification, which is particularly relevant in the context of Romania and Bulgaria.

Our analysis showed that the labour market outcome among Bulgarian returnees is as follows:

Labour market upgrading using as indicator the employment status:

- Is positively related with the intention of a permanent return.
- With the increase of age, it is more likely that migrants return home.
- The enhancement of education positively affects a permanent return home.
- The intentions of starting a private business and the support of the network at home incentivize a permanent return.
- Having a negative experience in the host country labour market as well as the uncertainty of an illegal status push the migrants to permanently return home.
- The intentions of household members to settle abroad determine the intentions of returning home permanently in a strongly negative way.
- Wage premiums upon return and acquisition of new job skills during the work experience abroad have a positive effect on employment status' upgrading.
- The average amount of remittances sent home has a positive effect, and this is particularly important if the returnees upon return choose to invest and start an own business activity.
- Migration duration abroad is U-shaped meaning that there is a turning point after which the migration duration increases the probability of improving the labour market status upon return.

Labour market upgrading using as indicator a switch in occupation:

- Is positively affected by the skills accumulated abroad, the intention to return permanently and longer migration durations.
- Is negatively related to education meaning that highly educated migrants have lower probabilities of an occupational upgrading compared to the medium-skilled ones, which could be explained by a shortage of demand on the labour market for the highly skilled.

The analysis showed that the labour market upgrading among Romanian returnees:

- Has a positive relationship with the intentions of a permanent return and the wage premium.
- The permanent return is positively affected by education and intentions of becoming an entrepreneur upon return.
- Differently from Bulgarian returnees, the networks at home and abroad appear to be insignificant among Romanian returnees.
- Among women, the upgrade in employment is positively related to the duration of stay abroad and permanent return intentions whereas among men, the duration of stay has no impact on upgrading.
- Male returnees have a wage premium upon return that rewards their upgrade in the labour market, which is not confirmed for women.
- The permanent return of men is positively determined by the intention of starting an own business.
- With reference to occupational upgrading, there is no confirmation of a wage premium effect (even though it has the expected sign, it is not significant).
- The duration of stay abroad shows to not have any significant effect on occupational upgrading.
- Complications due to the illegal status increase the likelihood to return permanently.
- There is a negative relationship between the intention to return permanently at home and the main destination countries Hungary, Italy and Spain, while for Germany the effect is positive but insignificant. These results confirm the circulatory and seasonal migratory patterns of Romanian migrants toward countries, which have closer linguistic and socio-cultural affinities such as Hungary, Italy and Spain.

- Even though a permanent return would be associated with upgrading of the returnees in terms of employment or occupational status, the likelihood that the Romanian migrants return permanently is still low compared to circulatory or seasonal migration.
- The average amount of remittances has a significant and negative impact on occupational upgrading, implying that savings acquired abroad are more attractive than the upgrade in form of an access to better jobs in the local labour market.

Thus, the main conclusion is that the upgrading in the local labour market in terms of work experience abroad and skills acquisition strongly depends on the skill composition of the return migrant, on the type of selectivity and the intentions to return permanently. The interdependence in the decision-making process about return migration and labour market participation requires counting them simultaneously.

On the one hand, the labour market participation decision and occupational choice upon return are strongly determined by the intentions of a permanent return and the expectation of return premiums for the skills and experience acquired abroad. On the other hand, the permanent intentions of return are determined by the experience abroad, the family ties and by intentions of household members to migrate. In spite of monetary incentives, which determine the labour market upgrading, a strong determinant for a permanent return home are the household members' intentions toward migration.

While the performance of Bulgarian returnees pays them off in terms of occupation, wage premium and upgrading in the labour market, still the rewards for the education and work experience are negative. The interpretation is that even though there is a positive selection among the returnees, the labour market structure is not able to reward the highly educated because the transfer of knowledge and skills is not adequately channelled upon return and the skills



might be inapplicable in a local labour market. Thus, of particular importance would be introducing measures that promote and reward the accumulated skills and motivate the returnees by improving remuneration and a basket of occupational choice.

In the case of the Romanian returnees we conclude that the main determinants that erode the upgrading in terms of employment and occupational status are the negative selectivity among the returnees, the circulatory migration intentions versus permanent return of migrants and the labour market structure, which does not really pay off the returnees in terms of occupation and wage premiums.

As most of the Romanian migrants return at home after a short period of time mainly because of negative labour market experiences or an illegal status abroad, this would prevent them to acquire skills, knowledge and work experience that could be transferred at home upon return. Thus, rigid labour market structures and anti-migration policies in the host country would be harmful toward investments in human and social capital of immigrants and as a consequence would impair their full productivity potential through premature returns.

From the perspective of home labour markets, even though return migration is set forward as a certain benefit for the home country, there may be several reasons for which migrants on their return might not fare in the expected way concerning skills, productivity and performance. In order to take best advantage of their human capital, home and host countries must be aware of these impediments and adopt policies to ease the entry of return migrants to the labour market.

## Appendix

**Table 1: Descriptive Statistics: Bulgarian returnees**

<b>Variables</b>	<b>Obs</b>	<b>Mean</b>	<b>St Dev.</b>	<b>Min</b>	<b>Max</b>
<b>Employment upgrade</b>	1199	0,917	0,625	0	2
<b>Occupational upgrade</b>	1199	0,806	0,687	0	2
<b>Return permanent</b>	1199	0,290	0,454	0	1
<b>Age</b>	1199	35,268	11,042	18	71
<b>Years of Education</b>	1199	12,521	3,289	5	18
<b>Duration of first stay abroad (months)</b>	1199	32,480	33,376	1	240
<b>Remittances (monthly)</b>	1199	76,341	281,915	0	5200
<b>Start own business</b>	1199	0,063	0,242	0	1
<b>Negative labour market experience abroad</b>	1199	0,134	0,341	0	1
<b>Negative experience because of illegal status abroad</b>	1199	0,100	0,300	0	1
<b>Prior migration income(monthly)</b>	790	207,703	164,373	24	2000
<b>Earnings abroad(monthly)</b>	1196	1226,332	1141,698	9	15000
<b>Post migration income(monthly)</b>	600	299,492	357,044	1	4000
<b>new language acquisition</b>	1192	0,427	0,495	0	1
<b>skills acquired at job</b>	1192	0,263	0,441	0	1
<b>Enhance education</b>	1192	0,025	0,157	0	1
<b>Home network</b>	1199	0,391	0,488	0	1
<b>Abroad Network</b>	1199	0,506	0,500	0	1

**Table 2: Descriptive Statistics: Romanian returnees**

<b>Variables</b>	<b>Obs</b>	<b>Mean</b>	<b>St Dev.</b>	<b>Min</b>	<b>Max</b>
<b>Employment upgrade</b>	1199	0,872	0,681	0	2
<b>Occupational upgrade</b>	1199	0,817	0,755	0	2
<b>Return permanent</b>	1199	0,440	0,497	0	1
<b>Age</b>	1199	36,333	10,774	18	72
<b>Years of Education</b>	1199	11,118	3,272	5	18
<b>Duration of first stay abroad (months)</b>	1199	21,465	25,579	1	180
<b>Remittances (monthly)</b>	1199	153,373	275,529	0	2000
<b>Start own business</b>	1199	0,105	0,307	0	1
<b>Negative labour market experience abroad</b>	1199	0,099	0,299	0	1
<b>Negative experience because of illegal status abroad</b>	1199	0,074	0,262	0	1
<b>Prior migration income(monthly)</b>	948	103,843	82,525	9	550
<b>Earnings abroad(monthly)</b>	1199	799,177	540,399	9	8300
<b>Post migration income(monthly)</b>	630	169,051	156,739	9	1500
<b>new language acquisition</b>	1195	0,526	0,500	0	1
<b>skills acquired at job</b>	1195	0,489	0,500	0	1
<b>Enhance education</b>	1195	0,016	0,125	0	1
<b>Home network</b>	1199	0,490	0,500	0	1
<b>Abroad Network</b>	1199	0,217	0,412	0	1

**Table 3: Employment status upgrading: Bulgarian returnees**Estimation results using an endogenous switching ordered probit model <sup>20</sup>

<b>Employment upgrading</b>			
	All returnees	Female	Male
<b>Permanent return</b>	0.758** (0.231)	0.343 (0.383)	0.743** (-0.243)
<b>Wage Premium</b>	0.001*** (0.000)	0.002** (0.001)	0.001** (0.000)
<b>Age</b>	-0.009** (0.003)	-0.01* (0.005)	-0.01* (-0.005)
<b>Job skills acquisition</b>	0.180* (0.079)	0.101 (0.164)	0.152* (-0.097)
<b>Education</b>	-0.008 (0.011)	0.000 (0.015)	-0.016 (-0.015)
<b>Duration abroad</b>	-0.008** (0.003)	-0.02*** (0.004)	-0.004 (-0.003)
<b>Duration abroad squared</b>	0.000** (0.000)	0.000* (0.000)	0.000* (0.000)
<b>Av. remittances Education</b>	0.000* (0.000)	-0.000 (0.000)	0.000* (0.000)
<b>Switching equation (endogenous dummy=permanent return)</b>			
<b>Age</b>	-0.074** (0.026)	-0.009 (0.043)	-0.099** (-0.035)
<b>Age squared</b>	0.001** (0.000)	0.000 (0.001)	0.001** (0.000)
<b>Start own business</b>	0.187* (0.102)	0.127 (0.175)	0.223* (-0.13)
<b>Education</b>	0.041** (0.013)	0.015 (0.019)	0.065*** (-0.018)
<b>Network home</b>	0.393** (0.145)	0.241 (0.236)	0.456** (-0.193)
<b>Network abroad</b>	0.254* (0.142)	0.362* (0.228)	0.203 (-0.19)
<b>Household Member abroad</b>	-1.011 (0.116)***	-1.23*** (0.182)	-0.948*** (-0.153)
<b>Negative labour market experience abroad</b>	0.266* (0.117)	0.193 (0.170)	0.294* (-0.167)
<b>Complications due to illegal status</b>	0.359** (0.137)	-0.245 (0.239)	0.724** (-0.176)
<b>Cons</b>	-0.0128 (0.500)	-0.697 (0.795)	0.033 (-0.665)
<b>_cut1</b>	-0.988 (0.199)***	-1.192*** (0.287)	-1.036*** (-0.27)
<b>_cut2</b>	0.747*** (0.187)	0.494* (0.287)	0.770** (-0.259)
<b>Nr. observations</b>	1199	486	713
<b>Log likelihood</b>	-1739.14	-704.92	-1010.21

<sup>20</sup> Standard errors are reported in the parenthesis and \* stands for  $p < .05$ , \*\* for  $p < .01$ , and \*\*\* for  $p < .001$

**Table 4: Employment status upgrading: Romanian returnees**

Estimation results using an endogenous switching ordered probit model

<b>Employment upgrading</b>			
	All returnees	Female	Male
<b>Permanent return</b>	1.095***	0.900*	1.358***
	(0.251)	(0.390)	(0.305)
<b>Wage Premium</b>	0.005**	0.004	0.009***
	(0.002)	(0.004)	(0.003)
<b>Age</b>	-0.028***	-0.025**	-0.035***
	(0.003)	(0.007)	(0.004)
<b>Job skills acquisition</b>	-0.173*	-0.062	-0.394**
	(0.081)	(0.128)	(0.127)
<b>Education</b>	-0.010	-0.034	-0.025
	(0.015)	(0.033)	(0.019)
<b>Duration abroad</b>	-0.004	-0.021*	-0.001
	(0.003)	(0.008)	(0.003)
<b>Duration abroad squared</b>	0.000	0.000*	0.000
	(0.000)	(0.000)	(0.000)
<b>Av. remittances Education</b>	0.000*	-0.000	0.000
	(0.000)	(0.000)	(0.000)
<b>Switching equation (endogenous dummy=permanent return)</b>			
<b>Age</b>	0.030	0.019	0.041
	(0.022)	(0.040)	(0.027)
<b>Age squared</b>	0.000	-0.000	-0.000
	(0.000)	(0.001)	(0.000)
<b>Start own business</b>	0.139*	-0.053	0.200
	(0.086)	(0.180)	(0.105)
<b>Education</b>	0.036**	0.055**	0.028*
	(0.012)	(0.021)	(0.014)
<b>Network home</b>	-0.002	0.177	-0.112
	(0.085)	(0.152)	(0.101)
<b>Network abroad</b>	0.118	0.242	0.041
	(0.102)	(0.193)	(0.117)
<b>Household Member abroad</b>	-0.647***	-0.863***	-0.541***
	(0.096)	(0.171)	(0.120)
<b>Negative labour market experience abroad</b>	-0.182	0.151	-0.498**
	(0.124)	(0.203)	(0.168)
<b>Complications due to illegal status</b>	0.191	0.424	0.058
	(0.138)	(0.246)	(0.164)
<b>Cons</b>	-1.447**	-1.335	-1.610**
	(0.444)	(0.778)	(0.541)
<b>_cut1</b>	-1.066***	-1.483***	-1.098***
	(0.18)	(0.333)	(0.235)
<b>_cut2</b>	0.421**	0.317	0.222
	(0.176)	(0.315)	(0.224)
<b>Nr. observations</b>	1199	393	809
<b>Log likelihood</b>	-1902	-587.6	-1287.9

**Table 5: Occupational status upgrading: Romanian and Bulgarian returnees**  
 Estimation results using an endogenous switching ordered probit model

<b>Occupational upgrading</b>		
	Bulgarian returnees	Romanian Returnees
<b>Permanent return</b>	0.628** (0.203)	0,874* (0,322)
<b>Wage Premium</b>	0.000 (0.000)	-0,000 (0,002)
<b>Age</b>	0.004 (0.003)	-0,021*** (0,004)
<b>Job skills acquisition</b>	0.242** (0.078)	0,068 (0,081)
<b>Education</b>	-0.021 (0.010)	0,024 (0,016)
<b>Duration abroad</b>	-0.008*** (0.002)	-0,005 (0,003)
<b>Duration abroad squared</b>	0.000** (0.000)	0,000 (0,000)
<b>Av. remittances Education</b>	-0.000 (0.000)	-0,000 (0,000)
<b>Switching equation (endogenous dummy=permanent return)</b>		
<b>Age</b>	-0.06 (0.026)*	0,030 (0,022)
<b>Age squared</b>	0.001* (0.000)	-0,000 (0,000)
<b>Start own business</b>	0.18* (0.102)	0,195* (0,083)
<b>Education</b>	0.042** (0.013)	0,0362** (0,012)
<b>Network home</b>	0.412** (0.146)	0,0153 (0,086)
<b>Network abroad</b>	0.262* (0.142)	0,116 (0,102)
<b>Household Member abroad</b>	-1.018*** (0.116)	-0,59*** (0,105)
<b>Negative labour market experience abroad</b>	0.305** (0.113)	-0,231* (0,125)
<b>Complications due to illegal status</b>	0.397** (0.135)	0,287* (0,138)
<b>Cons</b>	-0.291 (0.494)	-1,495** (0,439)
<b>_cut1</b>	-0.442* (0.187)	-0,445* (0,173)
<b>_cut2</b>	0.933*** (0.183)	0,628** (0,179)
<b>Nr. observations</b>	1199	1199
<b>Log likelihood</b>	-1842	-2002,5

**Table 6: Labour market upgrading: Romanian returnees (destination country included)**

Estimation results using an endogenous switching ordered probit model

Occupational upgrading		Employment upgrading	
Permanent return	0.794** (0.277)	Permanent return	1.192*** (0.218)
Wage Premium	-0.000 (0.002)	Wage Premium	0.005** (0.002)
Age	-0.020*** (0.004)	Age	-0.029*** (0.003)
Job skills acquisition	0.069 (0.082)	Job skills acquisition	-0.171* (0.080)
Education	0.026* (0.015)	Education	-0.012 (0.015)
Duration abroad	-0.004 (0.003)	Duration abroad	-0.003 (0.003)
Duration abroad squared	0.000 (0.000)	Duration abroad squared	0.000 (0.000)
Av. remittances Education	-0.000* (0.000)	Av. remittances Education	-0.000* (0.000)
Switching equation (endogenous dummy=permanent return)			
Country Germany	-0.025 (0.132)	Country Germany	0.070 (0.128)
Country Hungary	-0.398** (0.153)	Country Hungary	-0.285* (0.155)
Country Italy	-0.456*** (0.111)	Country Italy	-0.482*** (0.107)
Country Spain	-0.539** (0.175)	Country Spain	-0.538** (0.167)
Age	0.040* (0.023)	Age	0.036 (0.022)
Age squared	-0.000 (0.000)	Age squared	-0.000 (0.000)
Start own business	0.216* (0.085)	Start own business	0.154* (0.086)
Education	0.031** (0.012)	Education	0.031** (0.012)
Network home	0.017 (0.088)	Network home	0.000 (0.085)
Network abroad	0.126 (0.105)	Network abroad	0.125 (0.101)
Household Member abroad	-0.592*** (0.102)	Household Member abroad	-0.622*** (0.098)
Negative labour market experience abroad	-0.221* (0.129)	Negative labour market experience abroad	-0.156 (0.125)
Complications due to illegal status	0.289* (0.140)	Complications due to illegal status	0.205 (0.136)

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Cons	-1.491*** (0.446)	Cons	-1.388** (0.443)
_cut1	-0.441* (0.174)	_cut1	-1.042*** (0.180)
_cut2	0.644*** (0.177)	_cut2	0.418* (0.175)
Nr. observations	1199	Nr. observations	1199
Log likelihood	-1987.83	Log likelihood	-1886.62



## References

Beine, M., F. Docquier and H. Rapoport, (2001). "Brain drain and human capital formation in developing countries: winners and losers". *UCL Discussion Paper 2006-23*.

Beleva(2009) "Labour mobility within the EU in the context of enlargement and the functioning of the transitional arrangements VC/2007/0293. Country Study: Bulgaria." Presented at "Brain drain and Brain gain" Fondazione Rodolfo DeBenedetti XI European Conference (2009)

Borjas, G., B. Bratsberg (1996): Who leaves? The out-migration of the foreign-born, *Review of Economics and Statistics*, 78 (1): 165-176

Bauer and Gang (2002), Bauer, Th., I.N. Gang (2002): Networks and the Duration of Temporary Migration, *Rutgers University, Department of Economics Working Paper 1998-11*

Constant, A., D. S. Massey (2003): Self-selection, earnings, and out- migration: A longitudinal study of immigrants to Germany, *Journal of Population Economics*, 16 (4):631-53

Constant, A., K. F. Zimmermann (2004): Circular Movements and Time Away From the Host Country, *CEPR Discussion Papers 4228*, C.E.P.R. Discussion Papers

Constant Amelie Zimmermann Klaus F. August 2007 Circular Migration: Counts of Exits and Years Away from the Host Country *IZA DP No. 2999*

Cingolani, P. (2007), Transnational Practices of Romanian Migrants in Italy, rapporto finale per la ricerca Transnational Practices of Migrants in Europe, Strasbourg, European Science Foundation.

Cingolani, P. (con Piperno, F.) (2005), Il prossimo anno a casa. Radicamento, rientro e percorsi translocali: il caso delle reti migratorie Marginea – Torino e Focsani - Roma, working paper CeSPI, Roma.

Co, C., I. Gang, M-S. Yun (2000) Returns to Returning, *Journal of Population Economics*, vol. 13, No. 1, pp.57-79.

De Coulon, A. and M. Piracha (2005), 'Self-selection and the performance of return migrants: the source country perspective', *Journal of Population Economics*, Vol. 18, No. 4, pp. 779-807.

Dustmann, C. (1997) Differences in the Labour Market Behaviour between Permanent and Temporary Migrant Women, *Labour Economics*, 4, 29-46.

Dustmann, C. and O. Kirchkamp (2002), 'The optimal migration duration and activity choice after re-migration', *Journal of Development Economics*, Vol. 67, No. 2, pp. 351-372.

Dustmann, Ch., (2003) Return migration, wage differentials and the optimal migration duration, *European Economic Review* 47, 353 - 69

Dustmann, Christian, "An Economic Analysis of Return Migration," 2004. Unpublished Working Paper.

Dustmann, Ch., Y.Weiss (2007) Return migration: Theory and Empirical Evidence, *working paper, CReAM, CDP 02/07*

Dustmann, Ch., Fadlon, I., Y.Weiss" (2008) "Return Migration and Human Capital Accumulation" October, 2008. Mimeo

Diminescu, D., S. Lazaroiu (2002): Circular migration of Romanians after 1989: migrants behaviour, institutions and policy practices for managing outward mobility, *IOM-Study, Bucharest*

Epstein, G. and Dragos Radu (2008) Returns to Return Migration and Determinants of Subsequent Moves, *mimeo*.

Ferro, A. "A picture of the highly skilled labour migrations from Romania". *UNECSO-CEPES Quarterly Journal HEE Vol. 23 2 2004*

Heckman, J. (1979), 'Sample selection bias as a specification error', *Econometrica*, Vol. 47, No. 1, pp. 153-161.

Heckman, J., R. Lalonde and J. Smith (1999), 'The economics and econometrics of active labour market programmes', in O. Ashenfelter and D. Card (eds), *Handbook of Labor Economics*, Vol. 3A, Elsevier, Amsterdam, pp. 1865-2095.

Iara, Anna, "Skill Diffusion by Temporary Migration? Returns to Western European Working Experience in the EU Accession Countries," 2006. *Global Development Network Working Paper*.

Iara(2009) "Labour mobility within the EU in the context of enlargement and the functioning of the transitional arrangements VC/2007/0293. Country Study: Romania." Presented at "Brain drain and Brain gain" Fondazione Rodolfo DeBenedetti XI European Conference (2009)

Kirdar M. (2007) Labor Market Outcomes, Capital Accumulation, and Return Migration: Evidence from Immigrants in Germany *ERC Working Papers in Economics 07/03 January 2007*

Lacuesta, Aitor, "Emigration and Human Capital: Who Leaves, Who Comes Back, and What Difference Does it Make?," 2006. *Banco De Espana Working Paper No. 0620*.

Lokshin, M. and Sajaia, Z. "Maximum likelihood estimation of endogenous switching regression models" *The Stata Journal* (2004) 4, Number 3, pp. 282–289

Mayr K. and G. Peri (2008), 'Return Migration as a Channel of Brain Gain', *NBER Working Paper No. 14039 and CReAM Discussion Paper Series 00804, University College London*.

Mintchev, V., and V. Boshnakov (2006) "The Profile and Experience of Return Migrants: Empirical Evidence from Bulgaria", *South-East Europe Review for Labour and Social Affairs*, vol.9 (2)

Mintchev, Vesselin; Boshnakov, Venelin. (2006). The economics of Bulgarian emigration – empirical assessment, "*Economic Thought*" 7: 134-61

Miranda, A. and Rabe-Hesketh, S. (2006). Maximum Likelihood Estimation of Endogenous Switching And Sample Selection Models for Binary, Count, And Ordinal Variables *Keele Economics Research Papers KERP 2006/04*

Miranda, A., and S. Rabe-Hesketh. 2006. Maximum likelihood estimation of endogenous switching and sample selection models for binary, ordinal, and count variables. *Manuscript. The Stata Journal (2006) 6, Number 3, pp. 285-308*

OECD (2008) International Migration Outlook – 2008 Edition

Rabe-Hesketh, S., Skrondal, A., and Pickles, A. (2004b). Gllamm manual. U.C. Berkeley Division of Biostatistics *Working Paper Series No. 160*.

Reinhold, S. and K. Thom (2009), "Temporary Migration, Skill Upgrading, and Legal Status: Evidence from Mexican Migrants", MEA DP 182-2009

Stark O., C. Helmenstein and A. Prskawetz (1998), 'Human capital depletion, human capital formation, and migration: a blessing or a 'curse'?' *Economics Letters, 60, 3: 363-7*.

Stark, O., Helmenstein, Ch., Prskawetz, A.( 1997) . "A Brain Gain with a Brain Drain," *Economics Series 45, Institute for Advanced Studies*.

Venturini, A. and Villosio, C. 2008. "Labour-market assimilation of foreign workers in Italy." *Oxford Review of Economic Policy, Vol. 24, No. 3, pp.517–541*.

Venturini, A. Faini, R., Strom, S. and Villosio, C. 2009. "Are Foreign Migrants more Assimilated than Native Ones?" Paper presented at ESPE 2008.

World Bank (2008) Global Economic Prospects 2008. Washington, DC