LIFE (DIS)SATISFACTION AND THE DECISION TO MIGRATE: EVIDENCE FROM CENTRAL AND EASTERN EUROPE

Vladimir Otrachshenko Olga Popova

CERGE-EI

Charles University Center for Economic Research and Graduate Education Academy of Sciences of the Czech Republic Economics Institute

WORKING PAPER SERIES (ISSN 1211-3298) Electronic Version



Working Paper Series (ISSN 1211-3298)

460

Life (Dis)satisfaction and the Decision to Migrate: Evidence from Central and Eastern Europe

Vladimir Otrachshenko Olga Popova

CERGE-EI Prague, April 2012

ISBN 978-80-7343-263-8 (Univerzita Karlova. Centrum pro ekonomický výzkum a doktorské studium) ISBN 978-80-7344-255-2 (Národohospodářský ústav AV ČR, v.v.i.)

Life (Dis)satisfaction and the Decision to Migrate: Evidence from Central and Eastern Europe^{*}

Olga Popova^{‡§} Vladimir Otrachshenko[†]

Abstract

This paper provides the first evidence regarding the impact of life satisfaction on the individual intention to migrate. The impact of individual characteristics and country macroeconomic variables on the decision to migrate is analyzed in one framework. Differently from other studies, we allow for life satisfaction to serve as a mediator between macroeconomic variables and the intention to migrate. Using the Eurobarometer Survey for 27 Central Eastern (CEE) and Western European (non-CEE) countries, we test the predictions of our theoretical model and find that dissatisfied with life, people have a higher intention to migrate. The macroeconomic conditions have an effect on the intention to migrate indirectly through life satisfaction. At all levels of life satisfaction, unemployed, middle-aged individuals with a low or average income from urban areas at all levels of education are found to have higher intentions to migrate from CEE countries than from non-CEE countries.

Keywords: life satisfaction, migration, decision making JEL Classification: I31, J61

[†]Nova School of Business and Economics, Lisbon, Portugal. E-mail: vladotr@fe.unl.pt. Address: Nova School of Business and Economics, Nova University of Lisbon, Campus de Campolide, 1099-032 Lisbon, Portugal.

^{*}This research was supported by the ERSTE Foundation Generations in Dialogue Fellowship for Social Researchers. We thank Alena Bičáková, David Blanchflower, Andrew Clark, Antonieta Cunha e Sá, Jan Kmenta, Luis Catela Nunes, Andreas Ortmann, Andrew Oswald, Alexandre Sidorenko (in alphabetic order), ERSTE Foundation Fellows, and participants at IZA Workshop on Sources of Welfare and Well-Being (Bonn), VII Summer School on International Migration: Challenges and Opportunities for the EU and Its Neighbourhood (Florence), International Conference Market and Happiness: Do Economic Interactions Crowd Out Civic Virtues and Human Capabilities? (Milan), Synergising Political Economy Research in Central and Eastern Europe Workshop (Budapest), Quantitative Economics Doctorate Jamboree (Lisbon) for valuable comments and helpful suggestions. We are grateful to Robin-Eliece Mercury for English editing and to Jan Straka for translating the abstract into the Czech language. All expressed opinions and remaining errors are those of the authors.

[‡]Institute for East and Southeast European Studies (IOS), Regensburg, Germany. E-mail: popova@ios-regensburg.de. Address: IOS Regensburg, Landshuter Str. 4, 93047 Regensburg, Germany

[§]CERGE-EI, Prague, Czech Republic. E-mail: Olga.Popova@cerge-ei.cz. CERGE-EI is a joint workplace of the Center for Economic Research and Graduate Education, Charles University, and the Economics Institute of the Academy of Sciences of the Czech Republic. Address: CERGE-EI, P.O. Box 882, Politických vězňů 7, 11121 Prague, Czech Republic.

Abstrakt

Tento článek přináší první důkazy týkající se dopadu spokojenosti se životem na rozhodnutí jedince přestěhovat se. Dopad osobnostních rysů a makroekonomických veličin na rozhodnutí přestěhovat se je analyzován v jednom rámci. Na rozdíl od jiných studií umožňujeme, aby spokojenosti se životem sloužila jako prostředník mezi makroekonomickými veličinami a úmyslem přestěhovat se. Využíváme průzkum Eurobarometr 27 zemí střední a východní Evropy a západoevropských zemí a testujeme předpovědi našeho teoretického modelu. Zjišťujeme, že lidé nespokojení se životem mají vyšší míru úmyslu přestěhovat se. Makroekonomické podmínky mají na úmysl přestěhovat se nepřímý vliv skrz spokojenost se životem. Na všech úrovních spokojenosti se životem mají nezaměstnaní jedinci středního věku s nízkým nebo středním průměrným příjmem z městských oblastí a všemi úrovněmi vzdělání vyšší míru úmyslu přestěhovat se ze zemí střední a východní Evropy než ze západoevropských zemí.

1 Introduction

It is commonly agreed that migration substantially affects social and economic development of home countries as well as host ones. The factors driving the individual migration decision have been widely explored in the literature. From the economic perspective, there are two types of factors that have an impact on the individual migration decision. The first type is related to the micro level (individual based), for instance, job and educational opportunities, expected income, health quality and/or a better provision of social benefits, and relative deprivation.¹ The second type is attributed to the macro level, political and economic conditions of a country such as war and revolution, fiscal policy, quality of governance, public goods provision, and income inequality.²

However, in empirical applications, it may be difficult to consider all the factors that affect the decision process. As highlighted by Stark [51], an individual may still decide to migrate even in the case of negligible economic differences and earning differentials between home and host countries. Some individual characteristics are observed, such as age, occupation, intentional activities, previous experiences, and non-genetic factors, while others are not, such as tastes and culture, genetics, hidden reasons and motives, for instance, a feeling of deserving a better life, and a feeling of fairness. In this case the life satisfaction measure may be used as a proxy for unobservable factors.³ In fact, many surveys include questions regarding life satisfaction, where individuals evaluate the overall quality of their own life providing the information that can be used.

In the literature, only a few studies have investigated the effects of life satisfaction on individual decisions and activities. Some examples of such studies are Antecol & Cobb-Clark [5], Clark [15], Freeman [27], among others, who use job satisfaction as

¹See Berger & Blomquist [6], De Jong et al. [17], Dustmann [22], Gibson & McKenzie [30], Kennan & Walker [39], Stark & Bloom [53], Stark & Taylor [54], Stark & Wang [55], among others.

²See Alesina & Zhuravskaya [4], Borjas[13], Greenwood [32], Stark [52], Tiebout [57], among others.

³See Lyubomirsky, Sheldon, & Schkade [45] and De Neve, Christakis, Fowler, & Frey [19].

a predictor of future job quits. Also, Lyubomirsky, King, & Diener [44] suggest that satisfied with life, people are likely to be more successful and socially active, while Frey & Stutzer [29] argue that people who are satisfied with life are more likely to decide to get married; and Guven, Senik, & Stichnoth [33] examine the effect of the gap in happiness between spouses on the probability to divorce.

In a seminal paper, Liu [41] emphasizes that both objective and subjective quality of life indicators are likely to influence the individual decision to migrate. The author examines only the role of objective indicators such as living conditions, the development of education, health, and thestate and local governments. However, Liu [41] tests his hypothesis only at the aggregate level and finds a positive effect of a better quality of life on the net migration rates between the states in the US. This finding opens the discussion about the role of subjective quality of life indicators on the migration decision at the individual level.

In this paper, we model the impact of life satisfaction on the individual intention to migrate (hereafter, migration decision). Using the Eurobarometer survey for 27 Central Eastern (CEE) and Western European (non-CEE) countries in the period of 2008, we test the predictions of our theoretical model.⁴ In our analysis, we distinguish three types of leaves: internal, temporary international, and permanent international leaves (hereafter, permanent and temporary migrations). Of particular interest is the impact of life satisfaction on the individual permanent and temporary migration decisions. In order to explain the permanent and temporary migrations, we combine individual and country level variables that may affect the migration decision. Individual variables are socio-economic characteristics such as age, income, and education, while country level variables are unemployment, GDP per capita, inequality, and the quality of governance. Country level variables and socio-economic characteristics are allowed for affecting the individual migration decision not only di-

⁴Central and Eastern European countries in our sample are Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia. Western European countries are Austria, Belgium, Cyprus (Republic), Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Malta, the Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

rectly but also through life satisfaction. That is, differently from other studies, in this paper, life satisfaction serves as a mediator between country-wide economic and political conditions and the individual intention to migrate. The impact of individual characteristics and of country macroeconomic variables on the decision to migrate are analyzed in one framework.

We also take into account that migration decisions and the life satisfaction of people from Central and Eastern Europe (CEE) may differ from the ones in other European countries in the analysis. According to the World Values Survey and previous research, for instance, Blanchflower & Freeman [7], Hayo [36], Guriev & Zhuravskaya [34] and Easterlin [25], people from transition countries, including CEE, report lower levels of life satisfaction. Therefore, it may be the case that life (dis)satisfaction will have a stronger influence on the decision to migrate in Central and Eastern Europe countries than in Western European countries.

The empirical findings confirm the theoretical model of this paper and indicate that dissatisfied with life, people have a higher intention to migrate. The results hold for all types of leaves: internal, temporary international, and permanent international. We find that individual socio-economic variables affect the migration decision directly as well as indirectly through life satisfaction. The macroeconomic conditions have an effect on the intention to migrate indirectly through life satisfaction. We also find differences in migration decisions between the CEE and Western Europe. At all levels of life satisfaction, unemployed, middle-aged individuals with low or average incomes from urban areas at all levels of education are found to have higher intentions to migrate from CEE countries than from non-CEE countries. One may point out other relevant factors, for instance, remittances or social networks, that may affect the intention to migrate. However, we believe that the main findings of this paper will remain the same, underlining the importance of using life satisfaction in the decision making process.

The rest of the paper is organized as follows. The next section briefly reviews the

relevant literature. Then we present our theoretical framework, econometric model, and robustness check, describe data, and discuss the estimation results. The final section concludes.

2 Life Satisfaction and the Migration Decision

The relationship between migration and life satisfaction has not yet been widely examined in the economic literature. Existing studies at the individual level mostly focus on the life satisfaction of actual migrants and their generations. For instance, De Jong, Chamratrithirong, & Tran [18] study the life satisfaction of migrants in Thailand before and after migration and argue that it is typically decreasing after moving to a different place, while Easterlin & Zimmerman [26] argue that migrants from Eastern to Western Germany are relatively less satisfied than the locals living in the Western part. Safi [48] also suggests that immigrants in Europe and their generations are less satisfied than the natives.

At the country level, Blanchflower, Saleheen, & Shadforth [8] and Blanchflower & Shadforth [9] analyze the migration flows from Central and Eastern Europe. The authors find that the higher number of immigrants in the UK is from those CEE countries that have a lower GDP per capita and average life satisfaction. This finding invites us to disentangle the effects of country level variables and life satisfaction on the migration decision in CEE and non-CEE countries.

In labor economics, the use of job satisfaction in relation to labor mobility has received substantial attention. Most studies in this stream of literature argue that job dissatisfaction is a strong predictor of job quit intentions as well as actual quits (see Antecol & Cobb-Clark [5], Bockerman & Ilmakunnas [10], Clark [15], Freeman [27], Shields & Ward [49], Stevens [56], among others).

In a seminal study, Freeman [27] argues that the usefulness of satisfaction data for studying labor mobility is underestimated in the economic literature. The author suggests using individual satisfaction to evaluate the indirect effects of observed variables and as a proxy for unobserved objective factors. For instance, job satisfaction may serve as an indicator of workplace quality or mode of supervision. In line with this suggestion, Clark [15] points out that different job satisfaction domains, for instance, satisfaction with career opportunities, relations with supervisors, use of initiative, reflect unobservable job quality characteristics that can be used to measure the probability of job quits. Using data from BHPS, the author finds that dissatisfaction with pay, working hours, the work itself, job security, and the use of initiative are significant predictors of future actual job quits. Bockerman & Ilmakunnas [10] analyze Finnish data and argue that job dissatisfaction as a proxy for adverse working conditions induces quit intentions and actual job quits. The topic of job satisfaction and quits in different contexts is further explored by Antecol & Cobb-Clark [5] for military personnel, Shields & Ward [49] for nurses, and by Stevens [56] for academics. All these studies underline the role of dissatisfaction in labor mobility and provide a rationale for studying the implications of dissatisfaction and migration intention.

The reliability of subjective data is of a potential concern. However, as summarized by Frey & Stutzer [28] from the economic, sociological, and psychological literature, life satisfaction data are valid, consistent and reliable measures of individual wellbeing. That is, people are able to evaluate their own quality of life without systematic errors. Moreover, life satisfaction is relatively stable over time.⁵

In our paper, the individual intention to migrate, not the actual migration decision, is analyzed. The psychological theories of reasoned action and planned behavior suggest that the individual intention predicts the actual decision and behavior.⁶ As these theories suggest, the better incorporation of individual (e.g., information, abilities, and emotions) and external (e.g., opportunity costs and external barriers for performing a behavior) factors into the model of hypothetical decisions reduces the

⁵See psychological and economic studies on the set point theory of life satisfasction (Clark et al. [16]; Di Tella, Haisken-De New, & MacCulloch [20]; Diener et al. [21]; Lucas et al. [42] and [43], among others).

⁶See Ajzen & Fishbein [3] for an extensive review of the psychological literature on intentions and actual behavior; see Rabinovich & Webley [46] for the psychological factors affecting the realization of intentions into actual behavior.

gap between intended and actual behaviors (see Ajzen & Fishbein [2], Ajzen [1], and Hale & Householder [35]). Data on individual intentions instead of actual labor mobility are also used in some economic studies (see Antecol & Cobb-Clark [5], Kristensen & Westergerd-Nielsen [40], Shields & Ward [49], among others). In the context of migration, empirical evidence in favor of a strong link between the intended and actual decision was provided by Gordon & Molho [31] and Boheim & Taylor [11]. Gordon & Molho [31] conclude that in the UK, a high share of people who intend to migrate actually move within five years. Furthermore, Boheim & Taylor [11] argue that the actual probability to move for potential migrants is three times higher than for those who do not intend to move. Therefore, the analysis of the individual intention to migrate is important for understanding the actual migration decision-making process.

3 Methodology

3.1 The Theoretical Framework

In this section, we present the theoretical framework of the individual decision to migrate. An individual *i* maximizes a lifetime utility $U_i = \{U_{ih}, U_{id}\}$ over two periods. At the beginning of the first period, an individual resides in a home country *h* and decides about his/her consumption c_{1h} in this country, while in the second period, he/she intends either to move to a destination country j = d and decides about his/her consumption $c_{2j} = c_{2d}$ in this country, or to stay in a home country j = h and consume $c_{2j} = c_{2h}$. The individual maximization problem is as follows:

$$\max_{c_{1h}, c_{2j}} U_i = \{ U_{ih}, U_{id} \} \text{ with}$$
$$U_{ih} = u_{1h}(c_{1h} | \mathbf{x_{1ih}}, \mathbf{e_{1h}}) + E[u_{2h}(c_{2h} | \mathbf{x_{2ih}}, \mathbf{e_{2h}})]$$
(1)

$$U_{id} = u_{1h}(c_{1h}|\mathbf{x_{1ih}}, \mathbf{e_{1h}}) + E[u_{2d}(c_{2d}|\mathbf{x_{2id}}, \mathbf{e_{2d}})] - m$$
(2)

subject to the budget constraint

$$c_{1h} + c_{2j} = y_{1h} + E[y_{2j}] - q, (3)$$

where u_{1h} is an individual utility function in the home country h in the first period over the flow of consumption c_{1h} . If an individual decides to stay, then $E[u_{2h}]$ represents an individual expected utility function in the home country h in the second period over the flow of consumption c_{2h} . If an individual decides to move, then $E[u_{2d}]$ represents an individual expected utility function in the destination country d in the second period over the flow of consumption c_{2d} . u_{1h} , $E[u_{2h}]$, and $E[u_{2d}]$ are strictly concave. y_{1h} stands for an individual income during the first period, while $E[y_{2j}]$ stands for an expected individual income during the second period in a country j, j = h if an individual stays in the country h, and j = d if an individual moves to country d. mand q represent constant mental and material costs of migration, respectively.⁷ If an individual decides to stay in his/her home country during the second period, then $E[y_{2h}] = y_{2h}$ and m and q are equal to zero. We assume no discounting between the first and second periods. Also, the relative price level between the home and destination countries is normalized to 1.

Each period the individual utility in a country j, $u_j(\cdot | \mathbf{x_{ij}}, \mathbf{e_j})$, is conditional on individual i characteristics in this country, $\mathbf{x_{ij}}$, such as income, level of education, employment and marital statuses, age, and gender, and on country j characteristics $\mathbf{e_j}$. The country characteristics may include the level of GDP, unemployment, income inequality.

The decision to migrate in the second period is based on a comparison of the indirect utility functions for two scenarios: either to stay in the home country or to move to the destination country. That is, an individual i decides to migrate from the home country h to the destination country d if the lifetime utility after moving to the

⁷In a seminal study Sjaastad [50] distunguishes monetary and non-monetary costs of migration. Monetary costs include direct costs on transportation to a destination country, difference in costs of food and accommodation between home and destination country, and costs of searching for a job. Non-monetary costs include opportunity costs incurred due to migration as well as psychological costs of leaving family, friends, a familiar environment and adapting to the new conditions of a destination country.

destination country d is higher than the one from staying in the home country h:

$$\gamma = Pr(MigrDecision_{ih} = 1 | \mathbf{x_{ih}}, \mathbf{e_h}, \mathbf{x_{id}}, \mathbf{e_d}) =$$

$$= Pr\{U_{id} - U_{ih} > 0 | \mathbf{x_{ih}}, \mathbf{e_h}, \mathbf{x_{id}}, \mathbf{e_d}\} =$$

$$= Pr\{E[u_d(c_d | \mathbf{x_{id}}, \mathbf{e_d})] - m - u_h(c_h | \mathbf{x_{ih}}, \mathbf{e_h}) > 0 | \mathbf{x_{ih}}, \mathbf{e_h}, \mathbf{x_{id}}, \mathbf{e_d}\} =$$

$$= f\{-u_h(c_h | \mathbf{x_{ih}}, \mathbf{e_h}), E[u_d(c_d | \mathbf{x_{id}}, \mathbf{e_d})] - m, \mathbf{x_{ih}}, \mathbf{e_h}, \mathbf{x_{id}}, \mathbf{e_d}\},$$
(4)

where γ is the probability that individual *i* decides to migrate from country *h* to country *d* and takes values between 0 and 1. If $\gamma = 0$, an individual decides to stay in the home country, while if $\gamma = 1$, he/she definitely intends to migrate to the destination country. It is assumed that an individual utility in his/her home country is constant and measurable in each period of time. That is, $u_{1h}(c_{1h}|\mathbf{x_{1ih}}, \mathbf{e_{1h}}) =$ $u_{2h}(c_{2h}|\mathbf{x_{2ih}}, \mathbf{e_{2h}}) = u_h(c_h|\mathbf{x_{ih}}, \mathbf{e_h})$. The utility in the destination country is revealed only after moving to this country.

Given equation 4, we test that the probability of the decision to migrate from country h to country d negatively depends on the utility of living in country h. In the next section, we propose the econometric model to test this hypothesis. Since the expected utility in the destination country, net the mental costs of migration m, $E[u_d(c_d|\mathbf{x_{id}}, \mathbf{e_d})] - m$, is difficult to measure without the loss of generality, we assume that $E[u_d(c_d|\mathbf{x_{id}}, \mathbf{e_d})] - m$ is constant for each destination country.⁸ This assumption may be relaxed in future research, but the intuition behind the suggested theoretical mechanism remains the same.

As suggested by Kahneman, Wakker, & Sarin [37], life satisfaction represents the experienced utility. That is, an individual utility is defined as the hedonic quality of an individual's life, which is derived from instant and past experiences. The main advantage of this approach is that this utility is measurable.

⁸If $E[u_d(c_d|\mathbf{x_{id}}, \mathbf{e_d})] - m$ is not constant, then the difference $E[u_d(c_d|\mathbf{x_{id}}, \mathbf{e_d})] - m - u_h(c_h|\mathbf{x_{ih}}, \mathbf{e_h})$ has to affect the individual decision to migrate positively.

3.2 Econometric Model

In our empirical specification, we follow a two-level hierarchical model with random intercepts. This model can be estimated simultaneously as described by Raudenbush & Bryk [47]. A recent application of this approach on migration has been done by Chi & Voss [14]. However, due to the identification issue of the model, we estimate levels, namely within and between, sequentially. The results of both approaches are similar with only a difference in the efficiency of estimators. This type of analysis allows us to relate and structure the characteristics of individuals and groups in one framework. In our paper, clusters are associated with countries; therefore, random intercepts represent the average country-specific life satisfaction and propensity to migrate.

Figure 1 in the appendix illustrates a two-level regression analysis with random intercepts. As can be seen from this figure, there are two levels, namely, between (country) and within (individual) levels. At the between level in the rectangle, country political and economic variables such as GDP per capita, unemployment, inequality and others are included. At the within level, individual variables appear in the rectangles such as individual socio-economic characteristics and the variable that represents the individual intention to migrate.

The econometric model can be expressed as follows: equations 5a and 5b1-5b3 are attributed to the within level, while equations 6a1-6a2 and 6b1-6b3 represent the between level.

$$Pr(MigrDecision_{i}^{K} = 1) = F(\beta_{0}^{K} + \beta_{1}^{K}LifeSat2_{i} + \beta_{2}^{K}LifeSat3_{i} + \beta_{3}^{K}LifeSat4_{i} + \beta_{4}^{K}Econd_{i} + \boldsymbol{\eta}^{K}\mathbf{x_{i}} + \boldsymbol{\theta}^{K}\mathbf{CD} + \varepsilon_{i}^{K})$$

$$LifeSatJ_{i}^{*} = \mu_{0}^{J} + \boldsymbol{\mu}^{J}\mathbf{x_{i}} + \boldsymbol{\lambda}^{J}\mathbf{CD} + \epsilon_{i}^{J}, \ J = 2, 3, 4$$
(5b1-5b3)

$$\theta^{K} = \gamma_{0}^{K} + \gamma_{1}^{K} \text{Politics} + \gamma_{2}^{K} \text{Economics} + \gamma_{3}^{K} CEE + u^{K}$$
(6a1-6a2)

$$\lambda^{J} = \pi_{0}^{J} + \pi_{1}^{J} \text{Politics} + \pi_{2}^{J} \text{Economics} + \pi_{3}^{J} CEE + \zeta^{J}, \qquad (6b1-6b3)$$

where the subscript i stands for individual. Since all the variables correspond to an 11

individual *i* in his/her home country *h*, we drop the subscript *h* for simplicity. The variable $MigrDecision_i^K$ represents an individual decision to participate in the K^{th} alternative to leave, where $K = \{P, T, I\}$, i.e. permanent international (*P*), temporary international (*T*), and internal leaves (*I*). The intention of a "no leave" is used as a reference category. $LifeSatJ_i$, J = 2, 3, 4, is an individual's self-reported satisfaction with life in the home country. $Econd_i$ is a dummy variable, which is equal to one if the decision to migrate is driven by economic factors such as a higher expected income, better working and housing conditions and zero if the factors are non-economic, for instance, moving closer to family or friends, or expecting a better local environment among other reasons. \mathbf{x}_i includes individual socio-economic characteristics namely age, gender, marital status, children, income, level of education, employment status, and living in an urban area. **CD** are country dummies that account for the average country-specific life satisfaction and the propensity to migrate. **Politics** and **Economics** are the sets of country-level political and economic vari-

ables such as GDP per capita, the unemployment rate, and the Gini coefficient. Also, we introduce a dummy variable, CEE, that is equal to one if country h is in Central and Eastern Europe and zero otherwise. These variables correspond to $\mathbf{e_h}$ from the theoretical model. θ^K and λ^J are mean country-specific intercepts, while $\varepsilon_i^K, \epsilon_i^J, u_0^K$ and ζ_0^J are stochastic disturbances.

The responses to life satisfaction questions are categorically ordered and take values from one to four in a Likert scale. So to evaluate the effects of each level of life satisfaction on individual migration decisions separately, we divide $LifeSat_i$ into four dummy variables and use the lowest level of life satisfaction as a base category in our estimations. $LifeSatJ_i^*$ stands for the true value of $LifeSatJ_i$.

$$LifeSatJ_{ih} = 1, \text{ if } \begin{cases} LifeSat_i = J \\ LifeSatJ_i^* > 0 \end{cases}, \text{ and } 0, \text{ otherwise, } J = 1, ..., 4.$$

To analyze the determinants of the individual migration decision, the within level

equations 5a and 5b1-5b3 are estimated by using the maximum likelihood estimation (MLE). By estimating the equation 5a through a multinomial logit model, we examine the direct impact of life satisfaction and individual socio-economic characteristics on the probability to migrate abroad permanently, temporarily, or within a country against the reference category of no leave. To analyze the determinants of life satisfaction at each level, the equations 5b1-5b3 are estimated by logit.

The estimates of country dummy variables from equation 5a are taken as dependent variables for equations 6a1-6a2. These estimates represent the country fixed effects. We assume that country level political and economic variables affect the decision to migrate abroad permanently and temporary and have no effect on the decisions to migrate internally. Therefore, the mean country-specific intercept of the permanent migration decision, θ^P , and the temporary migration decision, θ^T , are included into the between level, while the intercept of internal migration, θ^I , is not. The values for the dependent variables of equations 6b1-6b3 are the estimates of country dummies from equations 5b1-5b3. The dependent variables of these equations represent the average value of being satisfied in a particular country at the satisfaction levels of 2, 3, and 4, respectively. The equations 6a1-6a2 and 6b1-6b3 are estimated by ordinary least squares and allow us to analyze the effects of political and economic variables directly on the permanent migration decision and on life satisfaction. Since equations 5a and 5b1-5b3 at within (the individual level) and 6a1-6a2 and 6b1-6b3 at between (the macro level) levels are estimated sequentially, we bootstrap the standard errors.

Even though the use of data on the individuals who intend to migrate instead of those who actually migrate helps to circumvent a positive selection bias, the simultaneity bias in the estimates of the effect of life satisfaction on the decision to migrate is still of potential concern. Some third, unobserved, individual characteristics such as restlessness, perfectionism, or ambition, may make people both dissatisfied with life and be prone to migration. However, these concerns of a potential simultaneity bias are common for all cross-sectional studies on satisfaction and quitting behavior, for instance, Antecol & Cobb-Clark [5] and Bockerman & Ilmakunnas [10], among others. To support our results, we check their robustness.

3.3 Robustness Check

The econometric model presented above may be subject to several potential caveats. First, the multinomial logit model assumption of independence of irrelevant alternatives may be unrealistic; therefore, the decisions to migrate abroad permanently, temporarily, or internally may be dependent from each other. Second, the small number of individuals for each type of migration in our sample may produce non-robust estimation results, both at individual and country levels.

In order to respond to these potential concerns, we redefine the intention to migrate into a binary variable, which is equal to one if an individual intends to migrate permanently, temporarily, or internally, and zero otherwise. Thus, those who intend to migrate are treated in the estimation together regardless of the type of potential migration.

Since the life satisfaction variable is categorically ordered and measured in a Likert scale, this variable can be represented as follows:

$$LifeSat_{i} = \begin{cases} 4 & if \ \tau_{3} < LifeSat_{i}^{*} \\ 3 & if \ \tau_{2} < LifeSat_{i}^{*} < \tau_{3} \\ 2 & if \ \tau_{1} < LifeSat_{i}^{*} < \tau_{2} \\ 1 & if \ LifeSat_{i}^{*} < \tau_{1}, \end{cases}$$
(7)

where τ_k represents the threshold of switching from category k-1 to category k, for $k = \overline{1, 4}$, and $LifeSat_i^*$ represents the corresponding unobserved life satisfaction.

In order to obtain the unobserved life satisfaction of individuals, we follow the latent variable approach described by Bollen [12]. The latent variable, $LifeSat^*$, is not observed but is inferred from the responses to the question regarding life satisfaction,

according to the following measurement equation:

$$LifeSat_i^* = \mu \mathbf{x}_i + \lambda \mathbf{C}\mathbf{D} + \Lambda \nu_i, \tag{8}$$

where $LifeSat_i^*$ is a continuous latent life satisfaction variable, $\mathbf{x_i}$ are observed individual socio-economic characteristics, **CD** are country fixed effects, and Λ is factor loading. ν_i is a measurement error that follows a normal distribution N(0, 1). Also, the continuous representation of life satisfaction allows us to avoid the equi-distance problem. That is, the difference between 1 and 2 in life satisfaction may not have the same impact on the intention to migrate as the difference between 3 and 4. Then, we introduce the unobserved continuous life satisfaction into the migration equation as follows:

$$\Pr(MigrDecision_i = 1) = F(\beta_0 + \beta_1 LifeSat_i^* + \beta_2 Econd_i + \eta \mathbf{x_i} + \theta \mathbf{CD} + \varepsilon_i), \quad (9)$$

where ε_i is the stochastic disturbance and follows the logistic distribution. The rest of the coefficients and explanatory variables are interpreted in the same manner as in the previous section. Then, the equations from 7 to 9 are estimated simultaneously with the robust maximum likelihood. After estimating the individual level, we proceed with the country level estimation. This estimation is similar to the one described in the previous section.

4 Data

The primary data source for examining the model described above is the Eurobarometer survey in 2008. This is a cross-sectional survey based on nationally representative samples that include randomly selected respondents from 27 European countries, out of which 10 are Central and Eastern European countries.⁹ There are about 1000

⁹The exact list of countries in our sample is Austria, Belgium, Bulgaria, Cyprus (Republic), the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and the United Kingdom.

respondents per country. The survey contains questions on individual values and attitudes towards life, previous migration experience, and the intentions to migrate in the future, and individual socio-economic characteristics. Since the survey has no question on a respondent's income, we use a proxy for income, namely the judgement regarding the financial situation of the respondent's household. The question that we use is "*How would you judge the financial situation of your household? Very good (4)*, rather good (3), rather bad (2), very bad (1)."

The question on life satisfaction that we use is "On the whole, are you very satisfied (4), fairly satisfied (3), not very satisfied (2) or not at all satisfied (1) with the life you lead?" The sample mean life satisfaction scores are presented in Table 1 in the appendix. The highest mean life satisfaction in our sample is in Denmark, while the lowest is in Bulgaria. People from Central and Eastern Europe report lower levels of life satisfaction than people from Western European countries. This ranking is consistent with the similar ones from other databases, e.g. World Values Survey.

Survey questions about intended migration used in this research are presented in Figure 2 in the appendix. The following three questions are used to construct the variable of interest $MigrDecision_i^K$, namely "Do you intend to move in the next five years?"; "Do you intend to move within country or to another country?"; and "How long do you expect to stay abroad?" As mentioned above, we distinguish three types of leaves: permanent international, temporary international, and internal. If an individual responds that he/she intends to move in the next five years within country, we consider such a response as the intention to migrate internally. If an individual responds that he/she intends to move than a few years but not indefinitely, we consider such a response as the intention to migrate abroad temporarily. Finally, if an individual responds that he/she intends to move in the next five years to another country for the rest of his/her life, we consider such a response as the intention to migrate abroad temporarily. Descriptive statistics for the questions on life satisfaction and intended leaves are presented in Table 2 in the appendix. The number of intended migrants for all types of leaves is about 10 percent of our sample. Thus for some countries, we may have a few intended migrants only. However, it should not change the main conclusions of our paper.

The country level data, namely the real GDP per capita, unemployment rates, and Gini coefficients are coming from the Eurostat database. We also use the Worldwide Governance Indicators (Kaufmann, Kraay, & Mastruzzi [38]). The correlation matrix for the macroeconomic variables is presented in Table 3.

5 Results and Discussion

5.1 Individual Level Effects

In this section, we present and discuss the results for the decisions to migrate permanently and temporarily.¹⁰ To understand the migration decision at each level of life satisfaction, in our estimation, life satisfaction is presented by three dummy variables, where the default group is individuals that indicate the lowest level of life satisfaction.¹¹

Individual level estimation results for the decision to migrate and life satisfaction are obtained by estimating equations 5a and 5b1-5b3 and presented in Tables 4 and 5 in the appendix, respectively. In Table 4, the columns correspond to the particular intention to migrate, namely permanent, temporary, and internal. Given the estimation results from this table, we observe that older, married, with a child, employed and with higher levels of life satisfaction individuals have a lower intention to migrate either permanently or temporarily, while the self-employed individual from an urban

¹⁰Since we study the impact of cross-country differences on the individual migration decision, we do not discuss the decision to migrate internally.

¹¹One may be interested in using life satisfaction as a continuous variable or as a dummy variable. Nevertheless, our findings are robust to any treatment of life satisfaction. The results are available upon request.

area, who mentions the importance of economic conditions more likely intends to migrate permanently or temporarily. In line with our theoretical model, we find that life satisfaction has a negative impact on the individual migration decision and is a strong predictor of this decision. This suggests that life satisfaction may contain some information, for instance, individual tastes, preferences, a self-evaluation of one's own life quality, which is used in the decision making process but difficult to measure. As a result, the benefit of considering life satisfaction as a determinant of individual decisions is that life satisfaction may serve as a measurable proxy for such unobservable characteristics.

In Table 5, the results for within level (individual) for each level of life satisfaction are presented. Life satisfaction is higher for married, with higher income and education, and employed or self-employed individuals and U-shaped in age. These results support the findings from the existing happiness literature.

Since our dependent variable, the intention to migrate, is nominal, it is interesting to compute the average marginal effects for explanatory variables from equation 5a.¹² These effects are presented in Table 6A. The marginal effect on the probability of the intention to migrate permanently for an individual with satisfaction level 2, "not very satisfied", is lower by 0.75% compared to base group individuals with the lowest level of life satisfaction, while for "fairly satisfied" and "very satisfied" individuals, it is lower by 1.64% and 1.74%, respectively. In the case of temporary migration, those individuals who express that they are satisfied with their life are less likely to migrate, 1.70%, 2.11%, and 0.86% for "very satisfied", "fairly satisfied", and "not very satisfied" levels, respectively. The sign of life satisfaction in equation 5a is negative, as expected from our theoretical model. However, since the countries in our sample have different levels of economic development, there may be important cross-country factors that may affect the individual decision to migrate. This issue is explored in the next section.

 $^{^{12}}$ In our explanations, we multiply the calculated marginal effects by 100.

5.2 Country Level Effects

The migration literature has emphasized the influence of economic and political conditions on the individual migration decision.¹³ In this paper, we also examine the relationship between the intention to migrate permanently and temporarily and various country characteristics. Differently from other studies, we also take into account the impact of these macroeconomic variables on the life satisfaction level of individuals. In our case, life satisfaction serves as a mediator between the macroeconomic variables and the intention to migrate. Due to high correlations between macroeconomic variables, we select only the logarithm of real GDP per capita, the unemployment rate and the Gini as explanatory variables for equations 6a1-6a2 and 6b1-6b3 (see Table 3).

In Table 7, the columns labeled as "INTERCEPT PERMANENT" and "INTER-CEPT TEMPORARY" correspond to equations 6a1-6a2 for permanent and temporary migrations. As can be seen from this table, none of the macroeconomic variables are statistically significant.¹⁴ Thus, we do not have enough evidence that the logarithm of real GDP per capita, the unemployment rate, and the Gini affect the intention for permanent migration directly.¹⁵ However, we find that these macroeconomic variables affect life satisfaction at the country level. In particular, the fraction of individuals being "not very satisfied" (satisfaction level 2) decreases if GDP per capita increases and increases if the unemployment rate and the inequality among individuals rise, while the fraction of "very satisfied" individuals in a country increases with higher GDP per capita, lower unemployment, and lower inequality among individuals.

As mentioned above, some macroeconomic variables are highly correlated. In our case, government effectiveness, control of corruption and GDP per capita have

¹³See Alesina & Zhuravskaya [4], Borjas [13], Dustmann, Fabbri, & Preston [23], Dustmann, Hatton, & Preston [24], Greenwood [32], Stark [52], Tiebout [57], among others.

¹⁴We also estimated equation 5a without the life satisfaction variable, but we do not find evidence that macroeconomic variables affect the intention to migrate either.

¹⁵We have also estimated equations 6a1-6a2 with government effectiveness and other economic variables from Table 3. The results are robust to the choice of explanatory variables and available upon request.

a similar effect on life satisfaction and can be used interchangeably. This is especially relevant for explaining the differences in migration intentions between CEE and non-CEE countries since governance conditions in these two regions are substantially different. For instance, according to the Worldwide Governance Indicators (Kaufmann et al.[38]), the gap between government effectiveness and the control of corruption in these two regions is sharp (0.68 vs. 1.40 for government effectiveness and 0.37 vs. 1.51 for the control of corruption). According to Kaufmann et al.[38], the government effectiveness indicator measures the perceptions over the quality of public services provision and policy implementation, while the control of corruption measures the perceptions over the use of public power for private interests and the extent of state capture. All the relationships among country level life satisfaction, macroeconomic and governance variables have an expected sign and underline the importance of improvement of economic and political conditions for individual satisfaction with life. As a result of improvements to economic development and the control of corruption and governance, individuals intend to migrate less.

To check the robustness of our results, we redefine the migration decision variable into a binary variable and treat life satisfaction as a continuous latent variable. The individual level results are presented in Table 8. As can been seen from this table, the results from the modified equations support our previous findings. Also, we have similar findings at the country level for unemployment and the Gini coefficients (see Table 9). However, we find that the logarithm of real GDP per capita affects both the intention to migrate and life satisfaction positively. The significance of the log GDP per capita may be due to the aggregation of dependent variable. Overall, our findings are confirmed underlining the importance of life satisfaction not only as a predictor of intentions to migrate, but also as a mediator between economic and political conditions and these intentions.

5.3 Migration Decisions in CEE and Non-CEE Countries

In this section, we discuss the differences in intentions to migrate permanently and temporarily for Central European (CEE) countries and Western European (non-CEE) countries. Differently from the existing literature, we look not only at the impact of individual characteristics on the individual intention to migrate but also consider them at different levels of life satisfaction. To highlight that life satisfaction and expected income have separate effects on the individual migration decision, we consider those people who had the experience of a long-term migration in the past but still intend to migrate, hereafter movers.¹⁶ The average life satisfaction of these individuals in CEE countries is 2.39, while in non-CEE countries, it is 2.88. Individuals who did not migrate in the past and do not intend to migrate in the future, hereafter stayers, are used as a reference category. The average life satisfaction of stayers in CEE and non-CEE countries is 2.63 and 3.04, respectively.

Comparing the average life satisfaction scores for movers and stayers, we find that movers have lower life satisfaction scores than stayers from the same region. By considering the responses of these individuals regarding the judgement of their households' current financial situation, we find that the average score for the financial situation for movers and stayers are very similar in CEE countries (2.42 vs 2.45). Therefore, we may conclude that movers in CEE countries met their income expectations by migrating, but they are still not satisfied with the quality of their own lives and, as a result, life dissatisfaction may drive them to migrate again. However, this effect is not unequivocal in non-CEE countries. Even though the life satisfaction of movers from non-CEE is lower than the life satisfaction of stayers in this region (2.88 vs. 3.04), their judgement of their own financial situation is slightly different (2.68 for movers and 2.75 for stayers). Therefore, it might be the case that movers in non-CEE countries did not meet their income expectations and were not satisfied with the quality of their own lives. As a result, it is less clear whether the income or the life satisfaction

¹⁶We are grateful to David Blanchflower for this point.

effect dominates in the intention to migrate for individuals from the non-CEE region.

Comparing the average marginal effects for CEE and non-CEE countries in Table 6B, we observe that with an increase in life satisfaction the probability to migrate permanently and temporarily is decreasing more for individuals from non-CEE than from CEE. For instance, the probability of the intention to migrate permanently of "very satisfied" individuals is lower in comparison with the "not at all satisfied" by 2.06% and 1.20% (1.55% and 1.96% in the case of temporary migration) in non-CEE and CEE countries, respectively. In other words, if the life satisfaction of individuals increases by the same amount in both regions, the individuals from CEE intend to migrate more. This result is not surprising given the widely documented differences in social and economic conditions in East European compared to Western countries. Thus, policies designed to regulate migration flows from CEE countries should be interdependent with improvements to well-being in the region.

Also in Table 6B, we compute the average marginal effects for the intention to migrate for each level of income, employment status, education, age, and regional location of CEE and non-CEE individuals. As can be seen from this table, if life satisfaction increases, non-CEE individuals intend to migrate less than CEE individuals for each level of income. For instance, the probability to migrate permanently for "fairly satisfied" individuals with income level 4 is lower by 0.97% and 0.62% (0.74% and 1.02% in the case of temporary migration) in non-CEE and CEE countries, respectively. The intuition behind this result is in different income and employment prospects for people from CEE and non-CEE countries. According to data from the Eurostat, the average net nominal monthly earnings in non-CEE countries are about 1600EUR, while in CEE countries are just 460EUR. At the same time, the average long-term unemployment rate is about 2% of the active population in non-CEE and 3% in CEE countries. Thus, dissatisfied with life, poor individuals from non-CEE countries are likely to look for a job in their home country, while in CEE countries, individuals with similar characteristics are likely to search longer for a higher paid job in their home country and, thus, more likely to migrate for a job abroad.

By disentangling the non-CEE from CEE individuals further, we find that as compared to "not at all satisfied", the "fairly satisfied" and "very satisfied" self-employed individuals from non-CEE countries have a lower intention to migrate permanently than the ones from CEE, by 3.57% and 3.81% and by 2.16% and 2.30% (by 2.36% and 1.82% and by 2.82% and 2.32% in the case of temporary migration), respectively. This difference is likely to be due to the lower quality of institutions in the CEE region. According to the Worldwide Governance Indicators (Kaufmann et al.[38]), CEE countries underperform non-CEE countries in regulatory quality and rule of law, which is measured by the perceptions of regulations that permit and promote private sector development, guarantee property rights, the quality of the police, and the courts (0.99 vs. 1.42 and 0.63 vs. 1.46, respectively). The average life satisfaction of self-employed individuals in CEE countries is 2.78, while in non-CEE countries, it is 3.05. Therefore, the life satisfaction of self-employed individuals may present information about the quality of the business environment in the country where they work.

A similar pattern is observed for the "fairly satisfied" and "very satisfied" employed individuals; the probability to migrate permanently is lower by 1.88% and 2.00% for the non-CEE individuals and by 1.09% and 1.16% for the CEE ones (by 1.98% and 1.57% and by 2.35% and 1.96% in the case of temporary migration). For the "fairly satisfied" and "very satisfied" unemployed individuals, we find that the intention to migrate is lower in non-CEE countries than in CEE, by 1.82% and 1.93% and by 1.06% and 1.13% (by 1.93% and 1.52% and by 2.31% and 1.93% in the case of temporary migration), respectively. These results suggest that individuals have lower intentions to migrate from regions where the unemployment benefits are higher, which are consistent with the findings of previous literature (see Borjas [13]). According to data from the Eurostat, the average monthly unemployment benefit in non-CEE countries is about 370EUR, while in CEE countries, it is about 70EUR only. Thus, the higher intentions of the unemployed to migrate from CEE may reflect their dissatisfaction with the social security system and their higher expectations for finding a job abroad. This point also finds support in the migration intention of individuals with different levels of education. We find that as compared to the "not at all satisfied" from the same region, the "fairly satisfied", non-educated individuals in CEE countries have a lower intention to migrate by 1.36%, while in non-CEE countries this difference is 2.38%. Highly educated individuals at all levels of life satisfaction have lower intentions to migrate than the non-educated although they are still more likely to migrate from CEE countries.

Differences in the quality of the social security system may also be reflected in the migration intentions of individuals at different ages. In Table 6B, we also split the results for the individuals in five age groups: 20, 30, 40, 50, and 60 years old. We find that migration intentions decrease with age for all levels of life satisfaction. As can be seen from the table, in CEE countries, where old-age pension benefits are sufficiently lower, 60-year old "fairly satisfied" individuals intend to migrate less by 0.61%, while in non-CEE countries, "fairly satisfied" individuals of the same age group intend to migrate less by 1.34%. Differences in migration intentions between "fairly satisfied" middle-aged individuals from non-CEE and CEE countries are even higher.

Finally, we compare the average marginal effects of being a "not at all satisfied" individual with a "fairly satisfied" one from urban and rural areas in Table 6B. We observe that the probability of the intention to migrate permanently decreases by 1.27% and 0.89% in CEE countries and by 2.16% and 1.55% in non-CEE countries, respectively. Thus, dissatisfied individuals are likely to migrate more from urban areas in CEE, where they have higher opportunity and better access to information for migrating abroad.

As our results suggest, at all levels of life satisfaction, different groups of individuals from CEE countries have higher intentions to migrate than from non-CEE. The dissatisfaction with the quality of life of different groups may not only increase the individual intention to migrate, but may also reflect additional information regarding the quality of institutions and the business environment, the employment situation, and the development of a social security system in a region.

6 Conclusion

This paper provides the first evidence regarding the impact of life satisfaction on the individual intention to migrate. We develop the theoretical and empirical models for analyzing the individual intention to migrate. The effects of both individual and country level factors on the intention to migrate are evaluated in one framework. The empirical finding of this paper suggests that people dissatisfied with life have a higher intention to migrate. The macroeconomic conditions have an effect on the intention to migrate indirectly through life satisfaction. These empirical findings underline the importance of individual life satisfaction not only as a strong predictor of the individual migration decision, but also as a mediator between economic and political conditions and this decision.

Additionally, we analyze the differences in intentions to migrate permanently and temporarily for the Central European (CEE) countries and the Western European (non-CEE) countries. The impact of individual characteristics such as income and education levels, employment status, the type of residence area, and age on the intention to migrate in CEE and non-CEE countries is examined at different levels of life satisfaction. We find that at all levels of life satisfaction, individuals with similar characteristics have higher intentions to migrate from CEE countries than from non-CEE countries. The low level of life satisfaction of individuals from CEE countries may be associated with the lower quality of institutions and business environment and with the development of the social security system in this region. Improvements in these conditions will result in an increase in individual life satisfaction and, thus, will lower individual migration intentions. Our findings can be generalized for the migration decisions in transition countries. It may also be interesting to implement our model in a more detailed study of internal migration.

References

- [1] Ajzen, I. (1991): "The Theory of Planned Behavior", Organizational Behavior and Human Decision Processes, 50, 179-211.
- [2] Ajzen, I., and M. Fishbein (1975): "Belief, Attitude, Intention, and Behavior: An Introduction to Theory and Research", Reading, MA: Addison-Wesley.
- [3] Ajzen, I., and M. Fishbein (2005): "The Influence of Attitudes on Behavior". In D. Albarracin, B. Johnson, and M. Zanna (Eds.), The Handbook of Attitudes, Mahwah, NJ: Erlbaum, 173-221.
- [4] Alesina, A., and E. Zhuravskaya (2011): "Segregation and the Quality of Government in a Cross-Section of Countries", *American Economic Review*, 101(5), 1872-1911.
- [5] Antecol, H., and D. Cobb-Clark (2009): "Racial Harassment, Job Satisfaction, and Intentions to Remain in the Military", *Journal of Population Economics*, 22, 713-738.
- [6] Berger, M., and G. Blomquist (1992): "Mobility and Destination in Migration Decisions: The Roles of Earnings, Quality of Life, and Housing Prices", *Journal* of Housing Economics, 2(1), 37-59.
- [7] Blanchflower, D., and R. Freeman (1997): "The Attitudinal Legacy of Communist Labor Relations", *Industrial and Labor Relations Review*, 50(3), 438-459.
- [8] Blanchflower, D., J. Saleheen, and C. Shadforth (2007): "The Impact of the Recent Migration from Eastern Europe on the UK Economy", Bank of England External MPC Unit Discussion Paper, No. 17.
- [9] Blanchflower, D., and C. Shadforth (2009): "Fear, Unemployment and Migration", *Economic Journal*, 119, 136-182.
- [10] Bockerman, P., and P. Ilmakunnas (2009): "Job Disamenities, Job Satisfaction, Quit Intentions, and Actual Separations: Putting the Pieces Together", *Indus*trial Relations, 48(1), 73-96.
- [11] Boheim, R., and M. Taylor (2002): "Tied Down or Room to Move? Investigating the Relationships between Housing Tenure, Employment Status and Residential Mobility in Britain", Scottish Journal of Political Economy, 49, 369-392.
- [12] Bollen, K. (1989): "Structural Equations with Latent Variables", John Wiley & Sons, Inc.
- [13] Borjas, G. (1999): "Immigration and Welfare Magnets", Journal of Labor Economics, 17(4), 607-637.
- [14] Chi, G., and P. Voss (2005): "Migration Decision-making: a Hierarchical Regression Approach", Journal of Regional Analysis and Policy, 35(2), 11-22.

- [15] Clark, A. (2001): "What Really Matters in a Job? Hedonic Measurement Using Quit Data", *Labour Economics*, 8, 223-242.
- [16] Clark, A., E. Diener, Y. Georgellis, and R. Lucas (2008): "Lags and Leads in Life Satisfaction: a Test of the Baseline Hypothesis", *Economic Journal*, 118, 222-243.
- [17] De Jong, G., R. Abad, B. Carino, J. Fawcett, and R. Gardner (1983): "International and Internal Migration Decision Making: a Value-Expectancy Based Analytical Framework of Intensions to Move from a Rural Philippine Province", *International Migration Review*, 17(3), 470-484.
- [18] De Jong, G., A. Chamratrithirong, and Q. Tran (2002): "For Better, for Worse: Life Satisfaction Consequences of Migration", *International Migration Review*, 36(3), 838-863.
- [19] De Neve, J., N. Christakis, J. Fowler, and B. Frey (2011): "Genes, Economics, and Happiness", mimeo.
- [20] Di Tella, R., J. Haisken-De New, and R. MacCulloch (2010): "Happiness Adaptation to Income and to Status in an Individual Panel", *Journal of Economic Behavior and Organization*, 76, 834-852.
- [21] Diener, E., E. Suh, R. Lucas, and H. Smith (1999): "Subjective Well-Being: Three Decades of Progress", *Psychological Bulletin*, 125(2), 276-302.
- [22] Dustmann, C. (2003): "Children and Return Migration", Journal of Population Economics, 16, 815-830.
- [23] Dustmann, C., F. Fabbri, and I. Preston (2005): "The Impact of Immigration on the British Labour Market", *Economic Journal*, 115, 324-341.
- [24] Dustmann, C., T. Hatton, and I. Preston (2005): "The Labour Market Effects of Immigration", *Economic Journal*, 115, 297-299.
- [25] Easterlin, R. (2009): "Lost in Transition: Life Satisfaction on the Road to Capitalism", Journal of Economic Behavior and Organization, 71, 130-145.
- [26] Easterlin, R., and A. Zimmermann (2008): "Life Satisfaction and Economic Outcomes in Germany Pre- and Post-Unification", Journal of Economic Behavior and Organization, 68 (3-4), 433-444.
- [27] Freeman, R. (1978): "Job Satisfaction as an Economic Variable", American Economic Review, 68(2), 135-141.
- [28] Frey, B., and A. Stutzer (2002): "What Can Economists Learn from Happiness Research?" Journal of Economic Literature, 40(2), 402-435.
- [29] Frey, B., and A. Stutzer (2006): "Does Marriage Make People Happy, or Do Happy People Get Married?" Journal of Socio-Economics, 35, 326-347.

- [30] Gibson, J., and D. McKenzie (2011): "The Microeconomic Determinants of Emigration and Return Migration of the Best and Brightest: Evidence from the Pacific", *Journal of Development Economics*, 95(1), 18-29.
- [31] Gordon, I., and I. Molho (1995): "Duration Dependence in Migration Behavior: Cumulative Inertia versus Stochastic Change", *Environment and Planning*, 27, 1961-1975.
- [32] Greenwood, M.(1997): "Internal Migration in Developed Countries". In Rosenzweig, M. and O. Stark (eds.) Handbook of Population and Family Economics, Ch.12, Vol. 1B, North Holland.
- [33] Guven, C., C. Senik, and H. Stichnoth (2012): "You Can't Be Happier Than Your Wife. Happiness Gaps and Divorce", Journal of Economic Behavior and Organization, 82(1), 110-130.
- [34] Guriev, S., and E. Zhuravskaya (2009): "(Un)Happiness in Transition", *Journal of Economic Perspectives*, 23(2), 143-168.
- [35] Hale, J. and B. Householder (2002): "The Theory of Reasoned Action." In J. Dillard and M. Pfau (Eds.), The Persuasion Handbook: Developments in Theory and Practice, Newbury Park: CA Sage, 259-286.
- [36] Hayo, B. (2007): "Happiness in Transition: An Empirical Study on Eastern Europe", *Economic Systems*, 31, 204-221.
- [37] Kahneman, D., P. Wakker, and R. Sarin (1997): "Back to Bentham? Explorations of Experienced Utility", *Quarterly Journal of Economics*, 112(2), 375-405.
- [38] Kaufmann, D., A. Kraay, and M. Mastruzzi (2009): "Governance Matters VIII: Governance Indicators for 1996-2008". World Bank Policy Research Working Paper #4978.
- [39] Kennan, J., and J. Walker (2011): "The Effect of Expected Income on Individual Migration Decisions", *Econometrica*, 79(1), 211-251.
- [40] Kristensen, N., and N. Westergerd-Nielsen (2004): "Does Low Job Satisfaction Lead to Job Mobility?" IZA Discussion Paper No. 1026.
- [41] Liu, B. (1975): "Differential Net Migration Rates and the Quality of Life", *Review of Economics and Statistics*, 57(3), 329-337.
- [42] Lucas, R., A. Clark, Y. Georgellis, and E. Diener (2003): "Reexamining Adaptation and the Set Point Model of Happiness: Reactions to Changes in Marital Status", *Journal of Personality and Social Psychology*, 84(3), 527-539.
- [43] Lucas, R., A. Clark, Y. Georgellis, and E. Diener (2004): "Unemployment Alters the Set Point for Life Satisfaction", *Psychological Science*, 15(1), 8-13.

- [44] Lyubomirsky, S., L. King, and E. Diener (2005): "The Benefits of Frequent Positive Affect: Does Happiness Lead to Success?", *Psychological Bulletin*, 131(6), 803-855.
- [45] Lyubomirsky, S., K. Sheldon, and D. Schkade (2005): "Pursuing Happiness: The Architecture of Sustainable Change", *Review of General Psychology*, 9(2), 111-131.
- [46] Rabinovich, A., and P. Webley (2007): "Filling the Gap between Planning and Doing: Psychological Factors Involved in the Successful Implementation of Saving Intention", *Journal of Economic Psychology*, 28(4), 444-461.
- [47] Raudenbush, S. , and A. Bryk (2002): "Hierarchical Linear Models", 2nd ed., Thousand Oaks: Sage.
- [48] Safi, M. (2010): "Immigrants' Life Satisfaction in Europe: Between Assimilation and Discrimination", European Sociological Review, 26(2), 159-176.
- [49] Shields, M., and M. Ward (2001): "Improving Nurse Retention in the National Health Service in England: the Impact of Job Satisfaction on Intentions to Quit", *Journal of Health Economics*, 20, 677-701.
- [50] Sjaastad, L. (1962): "The Costs and Returns of Human Migration", Journal of Political Economy, 70(5), 80-93.
- [51] Stark, O. (2003): "Tales of Migration without Wage Differentials: Individual, Family, and Community Contexts", ZEF Discussion Paper No.73.
- [52] Stark, O. (2006): "Inequality and Migration: A Behavioral Link", Economics Letters, 96, 146-152.
- [53] Stark, O., and D. Bloom (1985): "The New Economics of Labor Migration", American Economic Review, 75(2), 173-178.
- [54] Stark, O., and J. Taylor (1991): "Migration Incentives, Migration Types: the Role of Relative Deprivation", *Economic Journal*, 101, 1163-1178.
- [55] Stark, O., and Y. Wang (2000): "A Theory of Migration as a Response to Relative Deprivation", *German Economic Review*, 1(2), 131-143.
- [56] Stevens, P. (2005): "The Job Satisfaction of English Academics and Their Intentions to Quit Academe", NIESR Discussion Paper No. 262.
- [57] Tiebout, C. (1956): "A Pure Theory of Local Expenditures", Journal of Political Economy, 64 (5), 416–424.

Appendix

A1. Figures



Figure 1: Two-level Modeling of the Decision to Migrate



Source: constructed by the authors. *Notes:* Variables are included into boxes. Arrows originating from variables are hypothesized causal effects. Arrows originating from country economic and political variables correspond to equations 5a and 5b1-5b3 and indicate hypothesized direct effects on the migration decision and life satisfaction, respectively.



Figure 2: Survey Questions about Intended Leaves

Source: the Eurobarometer Survey. *Note:* In our paper, the response "for more than a few years but not indefinitely" is considered as the intention to migrate temporarily. However, since a residence permit could be received after a few years in most countries, this response may also be attributed to permanent international leave. The estimation results are robust to such a modification.

A2. Tables

Country	Mean Life Satisfaction	Std. Dev.
Denmark	3.616	0.580
Netherlands	3.495	0.564
Sweden	3.457	0.556
Luxembourg	3.304	0.695
Finland	3.275	0.570
United Kingdom	3.193	0.692
Ireland	3.173	0.682
Belgium	3.125	0.690
Cyprus (Republic)	3.120	0.740
Slovenia	3.046	0.710
Malta	3.030	0.762
Spain	2.966	0.624
Austria	2.965	0.639
Germany	2.955	0.715
Czech Republic	2.907	0.574
France	2.890	0.730
Poland	2.804	0.668
Estonia	2.796	0.621
Slovakia	2.728	0.721
Lithuania	2.627	0.782
Italy	2.613	0.699
Latvia	2.611	0.730
Greece	2.480	0.751
Romania	2.391	0.745
Portugal	2.361	0.744
Hungary	2.301	0.808
Bulgaria	2.170	0.793

 Table 1: Sample Mean Life Satisfaction Scores

Source: constructed by the authors using the Eurobarometer Survey. *Notes:* Countries are ranked according to the mean life satisfaction score. The countries of Central and Eastern Europe are shaded.

				Lif€	e Satisfaction			
		1 (not at all satisfied)	2 (not very satisfied)	3 (fairly satisfied)	4 (very satisfied)	Total number of respondents	Percent	Cumul.
	0 (permanent international)	19	55	97	42	213	0.86	0.86
IVe	1 (temporary international)	41	145	354	199	739	2.99	3.85
Le_{ϵ}	2 (internal)	65	194	878	420	1,557	6.30	10.15
led	3 (no leave)	1,239	4,412	$12,\!130$	4,425	22,206	89.85	100.00
end	Total number of respondents	1,364	4,806	$13,\!459$	5,086	24,715		
$_{\mathrm{Int}}$	Percent	5.59	19.59	54.47	20.35			
	Cumul.	5.59	25.18	79.65	100.00			

Table 1. The Hamber of Intertaca Beacee og Hije Sattefaction	Table 2:	The	Number	of	Intended	Leaves	by	Life	Satisfaction
--	----------	-----	--------	----	----------	--------	----	------	--------------

Source: constructed by the authors using the Eurobarometer Survey.

 Table 3: The Correlation Matrix for Macroeconomic Variables

	CEE	Log(Real GDP per Capita)	Unemployment Rate	Inflation Rate	Government Effectiveness	Regulatory Quality	Control of Corruption	Gini Coefficient
CEE	1.0000							
Log(Real GDP per Capita)	-0.8487	1.0000						
Unemployment Rate	0.0491	-0.2013	1.0000					
Inflation Rate	0.7088	-0.6932	0.0006	1.0000				
Government Effectiveness	-0.6348	0.8363	-0.3500	-0.5422	1.0000			
Regulatory Quality	-0.5798	0.7657	-0.3242	-0.4183	0.8889	1.0000		
Control of Corruption	-0.6989	0.8641	-0.3230	-0.5906	0.9489	0.8860	1.0000	
Gini Coefficient	0.1501	-0.4152	0.2509	0.5019	-0.5754	-0.4234	-0.4834	1.0000

Source: constructed by the authors using the Eurostat and WGI data from Kaufmann et al. [38].

Multinomial Logit Estimation	PERMAN	IENT	TEMPO	RARY	INTERNAL			
Constant	-0.870	(0.763)	-0.332	(0.479)	0.621 **	(0.288)		
Life Satisfaction $=2$	-0.500	(0.324)	-0.334 *	(0.184)	-0.412 ***	(0.160)		
Life Satisfaction $=3$	-1.380 ***	(0.348)	-0.811 ***	(0.197)	-0.433 ***	(0.153)		
Life Satisfaction $=4$	-1.548 ***	(0.415)	-0.674 ***	(0.226)	-0.575 ***	(0.164)		
Married	-0.428 ***	(0.155)	-0.501 ***	(0.113)	-0.446 ***	(0.066)		
Male	0.210	(0.136)	0.228 **	(0.101)	0.043	(0.051)		
Age	-0.042 ***	(0.006)	-0.072 ***	(0.005)	-0.052 ***	(0.003)		
Child	-0.263	(0.161)	-0.234 **	(0.101)	-0.148 **	(0.061)		
Income	0.101	(0.121)	0.005	(0.067)	0.018	(0.048)		
Urban	0.470 ***	(0.189)	0.582 ***	(0.094)	0.252 ***	(0.055)		
Education 15-19 Years	-0.655	(0.450)	-0.450	(0.316)	-0.403 *	(0.218)		
Education 20 or More Years	-0.676	(0.464)	0.094	(0.316)	-0.219	(0.226)		
Student	-0.648	(0.502)	0.295	(0.364)	-0.510 **	(0.217)		
Econd	0.684 ***	(0.205)	0.426 ***	(0.090)	0.391 ***	(0.063)		
Employed	-0.099	(0.224)	-0.038	(0.129)	-0.158 *	(0.081)		
Self-employed	0.813 ***	(0.263)	0.379 *	(0.201)	-0.037	(0.106)		
Country Dummies	Yes		Yes	3	Yes			
Pseudo R-Squared	0.194	1	0.19	4	0.19	4		
Number of Observations	2471	5	2471	.5	2471	5		

 Table 4: Within Level Results for the Decision to Migrate

Source: authors' calculations. *Notes:* Bootstrapped standard errors clustered at the individual level are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively. Life satisfaction =1 ("not at all satisfied") is used as the base category of life satisfaction; no full-time education is the base category for education level; the unemployed is the base category for employment status. Econd is a dummy equal to one if the intention to migrate abroad is driven by economic factors. For the individuals who intend to migrate internally, Econd stands for the factors in the case of a hypothetical migration abroad.

Logit Estimation	LIFE SATISFACTIO	ON=2	LIFI SATISFAC	E FION=3	LIFE SATISFAC	Ε ΓΙΟΝ=4
Constant	-0.372 (0.228)	-0.980 ***	(0.186)	-3.479 ***	(0.275)
Married	-0.200 *** (0.035)	-0.003	(0.027)	0.438 ***	(0.043)
Male	-0.018 (0.037)	-0.000	(0.028)	-0.079 **	(0.032)
Age	0.041 *** (0.007)	-0.009	(0.006)	-0.051 ***	(0.007)
Age squared/1000	-0.390 *** (0.070)	0.078	(0.054)	0.432 ***	(0.066)
Child	-0.071 (0.048)	-0.050	(0.041)	0.055	(0.045)
Income	-0.970 *** (0.026)	0.458 ***	(0.024)	1.232 ***	(0.031)
Urban	0.041 (0.043)	0.076 ***	(0.028)	-0.089 **	(0.036)
Education 15-19 Years	0.110 (0.109)	0.147 *	(0.087)	-0.147	(0.130)
Education 20 or More Years	-0.120 (0.123)	0.114	(0.092)	0.140	(0.127)
Student	-0.372 ** (0.151)	0.152	(0.119)	0.370 **	(0.166)
Employed	-0.044 (0.051)	0.193 ***	(0.034)	-0.108 **	(0.051)
Self-employed	-0.081 (0.072)	0.154 **	(0.060)	0.040	(0.088)
Country Dummies	Yes		Yes	3	Yes	
Pseudo R-squared	0.186		0.05	2	0.248	8
Number of Observations	24715		2471	5	2471	5

 Table 5: Within Level Results for Life Satisfaction

Source: authors' calculations. *Notes:* Bootstrapped standard errors clustered at the individual level are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively. No full-time education is used as the base category for education level, the unemployed are used as the base category for employment status.

Average Marginal Effects	The Effect on Probability to Migrate PERMANENTLY	The Effect on Probability to Migrate TEMPORARILY	The Effect on Probability to Migrate INTERNALLY	The Effect on Probability of NO LEAVE
Life Satisfaction $=2$	-0.0075 (0.006)	-0.0086 (0.007)	-0.0214 ** (0.010)	0.0374 *** (0.012)
Life Satisfaction $=3$	-0.0164 *** (0.006)	-0.0211 *** (0.007)	-0.0191 * (0.010)	0.0565 *** (0.012)
Life Satisfaction $=4$	-0.0174 *** (0.006)	-0.0170 ** (0.008)	-0.0268 ** (0.011)	0.0612 *** (0.013)
Married	-0.0028 ** (0.001)	-0.0108 *** (0.003)	-0.0212 *** (0.003)	0.0348 *** (0.004)
Male	0.0016 (0.001)	0.0057 *** (0.002)	0.0011 (0.003)	-0.0084 ** (0.004)
Age	-0.0003 *** (0.000)	-0.0016 *** (0.000)	-0.0024 *** (0.000)	0.0043 *** (0.000)
Child	-0.0018 (0.001)	-0.0053 ** (0.002)	-0.0065 * (0.003)	0.0137 *** (0.004)
Income	0.0008 (0.001)	-0.0000 (0.002)	0.0008 (0.002)	-0.0016 (0.003)
Urban	0.0032 *** (0.001)	0.0129 *** (0.002)	0.0104 *** (0.003)	-0.0265 *** (0.004)
Education 15-19 Years	-0.0053 (0.004)	-0.0097 (0.007)	-0.0191 * (0.010)	0.0341 *** (0.012)
Education 20 or More Years	-0.0050 (0.003)	0.0038 (0.008)	-0.0110 (0.009)	0.0122 (0.012)
Student	-0.0042 (0.003)	0.0108 (0.009)	-0.0243 *** (0.008)	0.0178 (0.012)
Econd	0.0050 *** (0.001)	0.0090 *** (0.002)	0.0183 *** (0.003)	-0.0323 *** (0.004)
Employed	-0.0006 (0.002)	-0.0003 (0.003)	-0.0081 ** (0.004)	0.0090 * (0.005)
Self-employed	0.0091 ** (0.004)	0.0107 * (0.006)	-0.0048 (0.006)	-0.0150 * (0.009)
Country Dummies	Yes	Yes	Yes	Yes
Number of Observations	24521	24521	24521	24521

Table 6A: Average Marginal Effects for the Decision to Migrate

Source: authors' calculations. *Notes:* Standard errors calculated by the Delta method are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively. Econd is a dummy equal to one if the intention to migrate abroad is driven by economic factors. For the individuals who intend to migrate internally or do not intend to leave, Econd stands for the factors in the case of a hypothetical migration abroad.

Average Marginal Effects, Logit	LIFE SATISFACTION=2	LIFE SATISFACTION=3	LIFE SATISFACTION=4
Married	-0.0254 *** (0.005)	0.0007 (0.006)	0.0526 *** (0.005)
Male	-0.0022 (0.005)	-0.0001 (0.007)	-0.0095 ** (0.004)
Age	0.0053 *** (0.001)	-0.0020 (0.001)	-0.0062 *** (0.001)
Age squared / 1000	-0.0495 *** (0.009)	0.0180 (0.013)	0.0524 *** (0.008)
Child	-0.0090 (0.006)	-0.0115 (0.009)	0.0067 (0.006)
Income	-0.1230 *** (0.003)	0.1055 *** (0.005)	0.1492 *** (0.004)
Urban	0.0052 (0.005)	0.0177 *** (0.006)	-0.0109 ** (0.004)
Education 15-19 Years	0.0138 (0.014)	0.3400 * (0.020)	-0.0180 (0.016)
Education 20 or More Years	-0.0150 (0.015)	0.0263 (0.021)	0.0172 (0.016)
Student	-0.0440 *** (0.017)	0.0347 (0.027)	0.0474 ** (0.022)
Employed	-0.0056 (0.006)	0.0446 *** (0.008)	-0.0130 ** (0.006)
Self-employed	-0.0102 (0.009)	0.0352 *** (0.014)	0.0049 (0.011)
Country Dummies	Yes	Yes	Yes
Number of Observations	24715	24715	24715

Table 6A (cont.): Average Marginal Effects for Life Satisfaction

Source: authors' calculations. Notes: Standard errors calculated by the Delta method are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively.

obability of NO LEAVE	non-CEE		0) 0.0429 *** (0.014)	0) 0.0626 *** (0.014)	0) 0.0694 *** (0.015)			0.0416 *** (0.013)	10) 0.0423 *** (0.013)	10) 0.0430 *** (0.014)	10) 0.0438 *** (0.014)		09) 0.0601 *** (0.013)	0.0614 *** (0.013)	10) 0.0628 *** (0.014)	11) 0.0644 *** (0.015)		10) 0.0666 *** (0.014)	10) 0.0681 *** (0.014)	(11) 0.0697 *** (0.015)	(11) 0.0714 *** (0.016)			10) 0.0424 *** (0.014)	12) 0.0478 *** (0.016)	$10) 0.0416^{***} (0.013)$		0.0613 *** (0.014)	13) 0.0775 *** (0.016)	10) 0.0612 *** (0.013)		10) 0.0681 *** (0.015)	13) 0.0837 *** (0.017)	10) 0.0675 *** (0.014)	15429
The Effect on Pr	CEE		0.0285 *** (0.01	0.0465 *** (0.01	0.0477 *** (0.01			0.0276 *** (0.00	0.0281 *** (0.0]	0.0287 *** (0.0]	0.0293 *** (0.0]		0.0450 *** (0.00	0.0460 *** (0.00	0.0470 *** (0.0]	0.0481 *** (0.0]		0.0460 *** (0.0]	0.0470 *** (0.01	0.0482 *** (0.0]	0.0494 *** (0.0]			0.0281 *** (0.0]	0.0335 *** (0.0]	0.0276 *** (0.0]		0.0456 *** (0.00	0.0595 *** (0.0]	0.0455 *** (0.0]		0.0468 *** (0.0]	0.0299 *** (0.01	0.0463 *** (0.0]	9286
ability to Migrate VALLY	non-CEE		-0.0266 ** (0.013)	-0.0235 * (0.013)	-0.0332 ** (0.014)			-0.0264 ** (0.013)	-0.0265 ** (0.013)	-0.0266 ** (0.013)	-0.0267 ** (0.013)		-0.0236 * (0.012)	-0.0235 * (0.012)	-0.0235 * (0.013)	-0.0234 * (0.013)		-0.0331 *** (0.013)	-0.0332 ** (0.013)	-0.0332 ** (0.014)	-0.0332 ** (0.014)			-0.0268 ** (0.013)	-0.0230 * (0.012)	-0.0254 ** (0.012)		-0.0238 * (0.013)	-0.0181 (0.012)	-0.0225 *** (0.012)		-0.0336 ** (0.014)	-0.0274 ** (0.013)	-0.0318 ** (0.012)	15357
The Effect on Prob INTER	CEE	n Level	-0.0127 ** (0.006)	-0.0118 * (0.006)	-0.0160 ** (0.006)	income Levels		-0.0125 ** (0.006)	-0.0126 ** (0.006)	-0.0127 ** (0.006)	-0.0129 ** (0.006)		-0.0117 ** (0.006)	-0.0117 ** (0.006)	-0.0118 * (0.006)	-0.0119 * (0.006)		-0.0158 ** (0.006)	-0.0160 ** (0.006)	-0.0161 ** (0.006)	-0.0163 ** (0.007)	Employment Status		-0.0128 ** (0.007)	-0.0111 * (0.006)	-0.0119 ** (0.006)		-0.0119 ** (0.006)	-0.0097 * (0.006)	-0.0111 ** (0.006)		-0.0162 ** (0.006)	-0.0137 ** (0.006)	-0.0151 ** (0.006)	9164
ability to Migrate ARILY	non-CEE	al Effects by Satisfactio	-0.0075 (0.007)	-0.0196 *** (0.007)	-0.0155 ** (0.008)	tts by Satisfaction and I		-0.0077 (0.007)	-0.0076 (0.007)	-0.0075 (0.007)	-0.0074 (0.007)		-0.0200 *** (0.007)	-0.0198 *** (0.007)	-0.0196 *** (0.007)	-0.0194 ** (0.008)		-0.0158 ** (0.008)	-0.0157 ** (0.008)	-0.0155 * (0.008)	-0.0153 * (0.008)	Satisfaction Level and		-0.0074 (0.007)	-0.0089 (0.009)	-0.0077 (0.007)		-0.0193 *** (0.007)	-0.0236 ** (0.010)	-0.0198 *** (0.007)		-0.0152 ** -0,008	-0.0182 * (0.010)	-0.0157 ** (0.008)	15357
The Effect on Prob TEMPOI	CEE	Average Margin	-0.0103 (0.008)	-0.0235 *** (0.008)	-0.0196 ** (0.008)	Average Marginal Effec		-0.0104 (0.007)	-0.0104 (0.008)	-0.0103 (0.008)	-0.0102 (0.008)		-0.0237 *** (0.007)	-0.0236 *** (0.008)	-0.0234 *** (0.008)	-0.0233 *** (0.008)		-0.0198 ** (0.008)	-0.0197 ** (0.008)	-0.0196 ** (0.008)	-0.0194 ** (0.009)	age Marginal Effects by		-0.0102 (0.008)	-0.0122 (0.010)	-0.0104 (0.008)		-0.0231 *** (0.008)	-0.0282 *** (0.010)	-0.0235 *** (0.008)		-0.0193 ** (0.008)	-0.0232 ** (0.011)	-0.0196 ** (0.008)	9164
ability to Migrate ENTLY	non-CEE		-0.0088 (0.007)	-0.0194 *** (0.007)	-0.0206 *** (0.008)			-0.0075 (0.006)	-0.0082 (0.006)	-0.0089 (0.07)	-0.0097 (0.008)		-0.0166 *** (0.006)	-0.0181 *** (0.006)	-0.0198 *** (0.008)	-0.0216 ** (0.009)		-0.0176 *** (0.006)	-0.0192 *** (0.007)	-0.0210 *** (0.008)	-0.0229 ** (0.010)	Avere		-0.0082 (0.007)	-0.0158 (0.013)	-0.0085 (0.007)		-0.0182 *** (0.007)	-0.0357 ** (0.015)	-0.0188 *** (0.007)		-0.0193 *** (0.007)	-0.0381 ** (0.015)	-0.0200 *** (0.008)	15357
The Effect on Prob PERMAN	CEE		-0.0055 (0.004)	-0.0113 *** (0.004)	-0.0120^{***} (0.004)			-0.0047 (0.003)	-0.0052 (0.004)	-0.0057 (0.004)	-0.0062 (0.005)		-0.0097 ** (0.005)	-0.0107 ** (0.004)	-0.0117 *** (0.004)	-0.0129 *** (0.004)		-0.0103 ** (0.003)	-0.0114 *** (0.004)	-0.0125 *** (0.005)	-0.0137 *** (0.006)			-0.0051 (0.004)	-0.0103 (0.008)	-0.0053 (0.004)		-0.0106 *** (0.004)	-0.0216 ** (0.009)	-0.0109 *** (0.004)		-0.0113 *** (0.004)	-0.0230 ** (0.010)	-0.0116 *** (0.004)	9164
	1		Life Satisfaction $=2$	Life Satisfaction =3	Life Satisfaction $=4$		Life Satisfaction =2	at income level $=1$	at income level $=2$	at income level $=3$	at income level =4	Life Satisfaction $=3$	at income level $=1$	at income level $=2$	at income level $=3$	at income level =4	Life Satisfaction =4	at income level $=1$	at income level $=2$	at income level $=3$	at income level $=4$		Life Satisfaction $=2$	unemployed	self-employed	employed	Life Satisfaction =3	unemployed	self-employed	employed	Life Satisfaction =4	unemployed	self-employed	employed	Number of Observations

 Table 6B: Average Marginal Effects for CEE and Non-CEE Countries

Source: authors' calculations. *Notes:* Standard errors calculated by the Delta method are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively.

	The Effect P.	on Prot ERMAN	oability to Mig VENTLY	rate	The Effe	ct on Prol TEMPOI	oability to Mi. RARILY	grate	The Effect on Pro INTER	bability to Mig NALLY	rate	The Effect or	a Probal	bility of N	O LEAVE
	CEE		non-CE	3E	CEE		non-C.	EE	CEE	non-CE	E	CEE		non	-CEE
د. بر ا					Average Marg	inal Effec	ts by Satisfac	tion Level	and Education						
Life Satisfaction =2	10000	(100 0)	00100	(000.0)	000000	1000.07	00000	(100.0)		++ 10000	(0.01.1)	+++ 10000	(010)	7	
Folication 15-10 Vears	-0.0065	(0.003) (0.003)	-0.0106	(0.009)	-0.0099	(0.005)	-0.0070	(0.00.0)	-0.0133 ** $(0.006)-0.0115$ ** (0.007)	-0.02/5 ** /	(0.014) (0.019)	0.0254 ***	(01010)	0.0450 1	** (0.014) ** (0.013)
Education 20 or More	-0.0035	(0.003)	-0.0061	(0.005)	-0.0114	(0.008)	-0.0086	(0.008)	-0.0111 ** (0.006)	-0.0247 ** ((0.012)	0.0261 ***	(0.010)	0.0394 *	** (0.013)
Life Satisfaction $=3$									* *						
No Full Time Education	-0.0136 **	(0.005)	-0.0238 **	(0.009)	-0.0226 ***	(0.008)	-0.0183 **	(0.007)	-0.0123 * (0.006)	-0.0240 *	(0.013)	0.0485 ***	(0.010)	0.0660 *	** (0.015)
Education 15-19 Years	-0.0093 **	(0.004)	-0.0163 **	(0.006)	-0.0205 ***	(0.007)	-0.0174 **	(0.007)	-0.0110 ** (0.005)	-0.0227 *	(0.012)	0.0408 ***	(0.009)	0.0564 *	** (0.013)
Education 20 or More Life Satisfaction =4	-0.0072 **	(0.003)	-0.0133 **	(0.006)	-0.0257 ***	(0.009)	-0.0219 **	(0.00)	-0.0104 * (0.005)	-0.0222 *	(0.012)	0.0432 ***	(0.010)	0.0574 *	** (0.013)
Mo Full Time Education	*** FFLUU	(0.006)	0.0059 **	(0.010.0)	** 00100	10000	4 6710 U	(0000)	12000/ ** 23100	/ ** Fred 0	(0.01.1)	*** 00200	(111)	* 4640 0	** (0.01 <i>e</i>)
Education 15-19 Years	-0.0099 *** ((eoo.o) (0.004)	-0.0173 ***	(010.0) (0.07)	-0.0173 **	(0.007) (0.007)	-0.0141 **	(0.007) (0.007)	-0.0147 *** (0.006)	-0.0312 **	(0.014)	0.0419 ***	(110.0) (0.009)	0.0626 *	** (0.014) ** (0.014)
Education 20 or More	-0.0076 **	(0.003)	-0.0141 **	(0.006)	-0.0216 **	(0.009)	-0.0175 **	(0.009)	-0.0141 ** (0.006)	-0.0312 ** ((0.013)	0.0434 ***	(0.011)	0.0628 *	** (0.014)
					Average Marg.	inal Effect	s by Satisfact	tion Level	and Age Group						
Life Satisfaction $=2$															
age=20	-0.0099	(0.008)	-0.0141	(0.013)	-0.0258	(0.020)	-0.0171	(0.019)	-0.0291 ** (0.014)	-0.0486 *	(0.026)	0.0648 ***	(0.022)	* 8670.0	** (0.025)
age=30	-0.0082	(0.006)	-0.0131	(0.011)	-0.0171	(0.012)	-0.0133	(0.013)	-0.0217 ** (0.010)	-0.0435 **	(0.021)	0.0470 ***	(0.016)	* 6690.0	** (0.022)
age=40	-0.0063	(0.004)	-0.0111	(0.009)	-0.0102	(0.007)	-0.0092	(0.008)	-0.0149 ** (0.007)	-0.0354 **	(0.016)	0.0314 ***	(0.011)	0.0558 *	** (0.018)
age=50	-0.0045	(0.003)	-0.0089	(0.006)	-0.0056	(0.004)	-0.0058	(0.005)	-0.0097 ** (0.004)	-0.0264 **	(0.012)	0.0199 ***	(0.007)	0.0411	** (0.014)
age=60 Tifo Catiefortion -3	-0.0032	(0.002)	-0.0066	(0.005)	-0.0030	(0.002)	-0.0034	(0.002)	-0.0612 ** (0.003)	-0.0184 **	(0.008)	0.0122 ***	(0.004)	0.0284 *	** (0.010)
	- ** FEO O	(200.0)	0.0246 **	(1) 01 (1)	*** 0'U'U'U	(060.0)	0.0504 **	(060.0)	(FLU 0) * L960 0	0.0262	(0.096)	0.1072 ***	(0000)	* 1914	** (0.09E)
age==20	- 0.0160 ***	(0.005) (0.005)	-0.0300 **	(0.019)	-0.0373 ***	(020.0)	-0.0346 ***	(070.0)	(0100) ** 0000- (0100) ** 0000	* 0250 0-	(020.0)	0.01761 ***	(0.016)	0 1095 *	(650.0) **
age	-0.0106 *** 1	(0.004)	-0.000.0- *** 6660.0-	(0.000)	-0.0913 ***	(210.0)	-0.0910 ***	(01000) :	(010.0) -0.02030 -0.007) -0.0140 -0.01	-0.001.3	(0.016)	0.0488 ***	(010.0)	0.0705 *	(270.0) ** (0.018)
02		(10.003)	0.018/ ***	(200.0)	-0.0114 ***	(100.0)	0.0150 ***	(0.005)	(100.0) ** 0000 0-	1 4* 1960.0-	(0.019)	0.0309 ***	(1000)	0.0573 *	(01010) ** (0.014)
age00	-0.0069 ***	(enn-n)	-0.0104 +** 1910.0	(0.005)	-0.0050 ***	(+00.0)	67T0.0-	(cono)	(+00.0) ** 600.0- (+00.0) ** 60.00	7 ** 38100	(210.0)	0.0102 ***	(100.0)	* 10000	(0100) **
age=00 Life Satisfaction =4	T0000-	(200.0)		(enn-n)	Renn-n-	(200.0)	T /000-0-	(enn-n)	(enn.u) ennn.u-	00TO'0-	(onn-n)	coto:o	(1-00-1)	. TECO.O	(ntn:n)
age=20	-0.0228 **	(0.00)	-0.0371 **	(0.015)	-0.0497 **	(0.021)	-0.0382 *	(0.021)	-0.0367 ** (0.015)	-0.0584 ** ((0.027)	0.1092 ***	(0.024)	0.1337 *	** (0.027)
age=30	-0.0180 ***	(0.07)	-0.0318 ***	(0.012)	-0.0373 **	(0.013)	-0.0275 **	(0.014)	-0.0278 *** (0.011)	-0.0545 ** ((0.022)	0.0774 ***	(0.017)	0.1139 *	** (0.024)
age=40	-0.0133 ***	(0.005)	-0.0256 ***	(0.00)	-0.0213 **	(0.07)	-0.0180 **	(0.009)	-0.0193 *** (0.007)	-0.0453 *** ((0.017)	0.0509 ***	(0.011)	* 6880.0	** (0.019)
age=50	-0.0094 ***	(0.003)	-0.0194 ***	(0.007)	-0.0114 **	(0.004)	-0.0109 **	(0.005)	-0.0126 *** (0.004)	-0.0341 ***	(0.013)	0.0319 ***	(0.007)	0.0644 *	** (0.015)
age=60	-0.0064 ***	(0.002)	-0.0141 ***	(0.005)	-0.0059 **	(0.002)	-0.0061 **	(0.003)	-0.0079 *** (0.003)	-0.0238 ***	(0.009)	0.0195 ***	(0.004)	0.0441 *	** (0.010)
۰. و ۰. و ۲. و				Aver	age Marginal J	Effects by	Satisfaction 1	Level and	Type of Community				Ī		
Life Satisfaction =2		10 0001		10 00 01	0000	10 00 01	00000	10 00 01	a ara thin the second	44	1010	4444 es es o	10000	1	Vere Vere
Kural Thha	-0.0044	(0.003)	17.00.0- 17.00.0-	(0.008)	1800.0-	(0.006)	-0.0060	(0.006)	-0.0117 ** (0.006) -0.0133 ** (0.006)	-0.0254 ** /	(0.012)	0.0242 ***	(0.008)	0.0385 *	** (0.013) ** (0.014)
Life Satisfaction -3	10000	(00000)	20000	(200.0)	-	(20000)	00000	(000.0)			(010.0)	00000	(++0.0)		()
Rural	-0.0089 **	(0.003)	-0.0155 **	(0.006)	-0.0179 ***	(0.006)	-0.0151 ***	(0.006)	-0.0113 ** (0.005)	-0.0235 ** ((0.012)	0.0381 ***	(0.008)	0.0541 *	** (0.013)
Urban	-0.0127 ***	(0.005)	-0.0216 ***	(0.08)	-0.0262 ***	(00.0)	-0.0219 ***	(0.008)	-0.0121 * (0.006)	-0.0237 * ((0.013)	0.0511 ***	(0.010)	0.0673 *	** (0.014)
Life Satisfaction $=4$		_		````				~	~		_		_		-
Rural	-0.0094 ***	(0.004)	-0.0164 ***	(0.006)	-0.0151 **	(0.006)	-0.0121 **	(0.006)	-0.0150 *** (0.006)	-0.0323 ** ((0.013)	0.0395 ***	(0.009)	0.0608	** (0.014)
Urban	-0.0135 ***	(0.005)	-0.0230 ***	(0.008)	-0.0218 **	(0.009)	-0.0172 *	(0.009)	-0.0167 ** (0.007)	-0.0340 **	(0.014)	0.0521 ***	(0.011)	0.0742 *	** (0.016)
Number of Observations	9286		15425		9286		1542	6	92266	15429		9286		T	9429

Table 6B (cont.): Average Marginal Effects for CEE and Non-CEE Countries

Source: authors' calculations. *Notes:* Standard errors calculated by the Delta method are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively.

INTERCEPT INTERCEPT LIFE LIFE SATISFACTION=3 SATISFACTION=4	0.017 (1.914) -5.308 *** (1.938)	-0.028 (0.139) 0.751 *** (0.135)	0.101 * (0.056) -0.112 * (0.068)	-0.016 (0.027) $-0.057 $ ** (0.027)	0.060 0.680	27 27
INTERCEPT LIFE SATISFACTION=2	3.444 ** (1.338)	-0.565 *** (0.109)	0.066 (0.059)	0.061 *** (0.020)	0.640	27
INTERCEPT TEMPORARY	-2.416 (2.204)	0.199 (0.167)	-0.037 (0.093)	0.195 (0.029)	-0.060	27
INTERCEPT PERMANENT	-7.385 (15.250)	1.294 (1.328)	-0.708 (0.738)	-0.102 (0.214)	0.135	27
lation		3DP per capita)	ment		. R-squared	of Observations

 Table 7: Between Level Results for Life Satisfaction and the Decision to Migrate

Source: authors' calculations. *Notes:* The dependent variable is a mean country-specific intercept of the decision to migrate permanently or temporarily (life satisfaction) from the within level. Robust bootstrapped standard errors are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively.

Maximum Likelihood Estimation	Intention to	Migrate		Life Satis	faction
			Threshold 1	-1.258 ***	(0.191)
Constant	-0.359	(0.269)	Threshold 2	1.229 ***	(0.194)
			Threshold 3	5.031 ***	(0.210)
Life Satisfaction	-0.282 **	(0.119)			
Married	-0.270 ***	(0.088)	Married	0.837 ***	(0.134)
Male	0.072	(0.052)	Male	-0.192 ***	(0.064)
Age	-0.062 ***	(0.003)	Age	-0.103 ***	(0.020)
			Age squared/1000	0.886 ***	(0.186)
Child	-0.190 ***	(0.059)	Child	0.041	(0.074)
Income	0.883 ***	(0.315)	Income	3.312 ***	(0.454)
Urban	0.319 ***	(0.056)	Urban	-0.148 **	(0.064)
Education 15-19 Years	-0.442 **	(0.179)	Education 15-19 Years	0.052	(0.183)
Education 20 or More Years	-0.043	(0.188)	Education 20 or More Years	0.650 ***	(0.208)
Student	0.173	(0.253)	Student	1.463 ***	(0.306)
Econd	0.423 ***	(0.051)			
Employed	-0.150 **	(0.069)	Employed	0.144 *	(0.083)
Self-employed	0.182 *	(0.108)	Self-employed	0.323 **	(0.132)
Country Dummies	Yes		Country Dummies	Yes	3
Number of Observations	2471	5	Number of Observations	2471	5

 Table 8: Within Level Results for the Robustness Check

Source: authors' calculations. *Notes:* Robust standard errors are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively. The migration intention is a binary variable. Life satisfaction is treated as a continuous latent variable. No full-time education is used as the base category for the education level, the unemployed are used as the base category for employment status.

OLS estimation	INTERCEPT MIGRATION	INTERCEPT LIFE SATISFACTION
Constant	-8.491 *** (2.370)	-10.072 *** (3.395)
Ln(Real GDP per capita)	0.958 * * * (0.178)	1.491 *** (0.243)
Unemployment	-0.108 (0.087)	-0.213 (0.167)
Gini	-0.027 (0.034)	-0.123 ** (0.050)
Adj. R-squared	0.554	0.696
Number of Observations	27	27

Table 9: Between Level Results for the Robustness Check

Source: authors' calculations. *Notes:* The dependent variable is a mean country-specific intercept of the decision to migrate (life satisfaction) from the within level. Robust bootstrapped standard errors are in parentheses. ***, **, * stand for 1, 5, and 10 percent significance levels, respectively.

Working Paper Series ISSN 1211-3298 Registration No. (Ministry of Culture): E 19443

Individual researchers, as well as the on-line and printed versions of the CERGE-EI Working Papers (including their dissemination) were supported from the European Structural Fund (within the Operational Programme Prague Adaptability), the budget of the City of Prague, the Czech Republic's state budget and the following institutional grants:

- Center of Advanced Political Economy Research [Centrum pro pokročilá politickoekonomická studia], No. LC542, (2005-2011);
- Economic Aspects of EU and EMU Entry [Ekonomické aspekty vstupu do Evropské unie a Evropské měnové unie], No. AVOZ70850503, (2005-2011);
- Economic Impact of European Integration on the Czech Republic [Ekonomické dopady evropské integrace na ČR], No. MSM0021620846, (2005-2011);

Specific research support and/or other grants the researchers/publications benefited from are acknowledged at the beginning of the Paper.

(c) Vladimir Otrachshenko and Olga Popova, 2012

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical or photocopying, recording, or otherwise without the prior permission of the publisher.

Published by Charles University in Prague, Center for Economic Research and Graduate Education (CERGE) and Economics Institute ASCR, v. v. i. (EI) CERGE-EI, Politických vězňů 7, 111 21 Prague 1, tel.: +420 224 005 153, Czech Republic. Printed by CERGE-EI, Prague Subscription: CERGE-EI homepage: http://www.cerge-ei.cz

Phone: + 420 224 005 153 Email: office@cerge-ei.cz Web: http://www.cerge-ei.cz

Editor: Michal Kejak Editorial board: Jan Kmenta, Randall Filer, Petr Zemčík

The paper is available online at http://www.cerge-ei.cz/publications/working_papers/.

ISBN 978-80-7343-263-8 (Univerzita Karlova. Centrum pro ekonomický výzkum a doktorské studium) ISBN 978-80-7344-255-2 (Národohospodářský ústav AV ČR, v. v. i.)

CERGE-EI P.O.BOX 882 Politických vězňů 7 111 21 Praha 1 Czech Republic http://www.cerge-ei.cz