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Skill Diffusion by Temporary Migration? Returns to Western European Work Experience in Central and East European Countries



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Anna lara

**Skill Diffusion by
Temporary Migration?
Returns to Western
European Work
Experience in Central and
East European Countries**

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Summary

This paper contributes to the debate on the effects of migration by providing evidence on the returns to working experience from western Europe in eastern European labour markets. In particular, using the 2003 Youth Central and Eastern Eurobarometer dataset, we test the hypothesis that there are differential returns to foreign as opposed to domestic work experience.

Our analysis combines the Mincer wage equation framework and the Roy model of migration. The latter suggests that migration responds to net expected benefits. Hence, return migration is endogenous with respect to differential returns to foreign working experience. To allow for selectivity on observable or unobservable characteristics, we estimate an endogenous switching model in two steps. This procedure combines probit estimates of propensities to work and to acquire foreign work experience respectively, and OLS estimates of earnings equations for stayers and movers, with the inclusion of nonselection hazards obtained in the first step. The expected wage increase is the difference between post-return migrants' wages and wages under similar conditions in the absence of migration. For any individual, only one of these measures can be observed. We impute the respective counterfactuals from the separate wage regressions.

Our analysis shows that movers and stayers are rewarded for different human capital characteristics. We find an average earnings premium for foreign work experience of around 30%. This can be seen as partial evidence for international skill diffusion: temporary migrants may upgrade their skills by learning on the job in countries with higher technological development, and subsequently bring human capital to their source country, thus adding to know-how diffusion and the catching-up of their economy. We perform additional empirical analyses to support this interpretation: we show that the premium found for return migration does not primarily reward the language proficiencies of returning migrants, and we further provide indicative evidence that no earnings premium is obtained for work-related stays abroad in other central and eastern European transition countries.

Keywords: *central and eastern Europe, return migration, wage premium, skill diffusion*

JEL classificaiton: *J31, J61, O15*

Skill diffusion by temporary migration? Returns to western European work experience in central and east European countries^{*}

1 Introduction

Migration has become a highly debated issue both in sending and in receiving countries. Typically, the former are less developed, while the latter are mature industrialized economies. Among these, most EU member states have adopted a restrictive regime towards immigration, even – albeit temporarily – against labour movement from the new EU members. Decreasing public support for immigration in many destination countries on the one hand, concerns of an exodus of the better skilled from source countries on the other, and finally, growing migratory pressure created by individual desires, are together heightening the urgency for an assessment of various immigration policy instruments. The present research contributes to this debate by providing evidence on the returns to work experience acquired in western Europe in the labour markets of central and eastern European countries (CEECs). The focus is therefore on the temporary or return migration of labour in an east to west European context, adopting a source country perspective.

Empirical evidence shows that return migration has been a constitutive part of international migratory flows throughout the 20th century (Constant and Massey, 2002). In western Europe specifically, return migration from central Europe grew in the 1990s (International Organization for Migration, 2005). Nevertheless, only recently has academic interest in migration become dedicated to the possibility of the return of migrants. Existing work has focused on the decision to remigrate. Borjas and Bratsberg (1996) were among the first to study the determinants of return migration both theoretically and empirically. Extending the standard Roy model¹ framework of mobility decisions to allow for reversibility, they showed that return migration accentuates the selectivity of international mobility: the permanent stayers in the host country are ‘the best of the best’ or ‘the worst of the worst’ in the presence of positive or negative selection respectively. Dustmann and Kirchkamp (2002) furthered analytical thinking on return migration by modelling the simultaneous choice of migration duration and after-return employment status. Concerning the economic performance of migrants on returning to their original country, economic analysis has so far focused on the labour market re-integration and entrepreneurial activities of the returning migrants (Lucas, 2005). Among other things, empirical work has documented the higher

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¹ Roy (1951) provided a general framework for the study of self-selection in labour mobility based on the costs and benefits of a potential move. We will elaborate on the Roy model in more detail in section 2.1.

probability of self-employment among returning migrants relative to the non-migrating population. Moreover, it has been hypothesized that acquiring work experience abroad may offer the opportunity to the migrant to accumulate savings that he or she would then use to overcome capital constraints upon return.²

From a partial equilibrium perspective, the post-return differential earnings of returning migrant workers may be significant to the migrants' home economy. In this context, we argue that a work stay in a more advanced economy (as is characteristic of economic migration) may equip the individual with either advanced technological knowledge or specific cultural knowledge that is likely to contribute to the competitiveness of the firm employing that person, so that the migrant may receive differential rewards back in the home economy. In this sense, temporary migration may contribute to international knowledge diffusion and increased international economic integration (via tightening international ties).

In spite of the significance of such potentials for knowledge diffusion, we know of no more than three studies of temporary migrants' post-return earnings performance, each looking at a single country. Co et al. (2000) study the differential earnings of Hungarian workers with recent foreign work experience, using pooled household panel data of 1993 and 1994. In a maximum likelihood estimation framework, they account for selection both in labour force participation and in moving abroad. Their analysis reveals positive returns to women's foreign work experience from member countries of the Organisation for Economic Co-operation and Development (OECD) but no such gains for women who returned from non-OECD countries or for men. They also find evidence for the positive selection of working men in foreign work experience and for the negative selection of women. Barrett and O'Connell (2001) investigate the differential earnings of temporary migrants returning to Ireland, using survey data of college graduates of 1992. Information in this survey on reasons for emigration and return allows them to distinguish, among other things, between human capital investment-oriented and consumption-, i.e. adventure-oriented temporary migration. Estimating OLS wage regressions, they find a wage premium for men returning from labour market-related moves of 15%, but no premium either for women or for men returning from consumption-oriented stays abroad. Their attempt to account for selectivity in migration by the standard Heckman correction procedure does not provide significant results. Finally, de Coulon and Piracha (2005) study the wage premium of returning migrants to Albania with survey data of 1998. They provide maximum likelihood estimates of the earnings functions of migrants and stayers respectively, conditional on the decision to migrate. In addition, they look at the observed and counterfactual wage distributions for migrants and stayers, using semiparametric techniques. Their analysis provides evidence of negative selection among Albanian

² For an overview of theory explanations of return migration, see Constant and Massey (2002).

temporary migrants and of significant differences in migrants' and non-migrants' earnings functions. In particular, according to their results, stayers are rather rewarded for education and age (experience), whereas migrants' average remuneration actually draws upon better career positions and a higher self-employment premium.

Our research provides evidence of the returns to work experience of young temporary migrants obtained in any of the countries of the EU-15 plus Norway, Switzerland and Iceland upon return to the 12 pre-2004 EU candidate countries, based on data from the 2003.1 Candidate Countries Eurobarometer of March/April 2003. We contribute to the understanding of the labour market effects of temporary migration by providing the first multi-country study on premia for work experience abroad. This is beneficial because migration has proven to have strong country-specific characteristics that prohibit the formulation of general conclusions from single-country studies (Krieger, 2004). The findings of the above studies on east to west European migration may be particularly nongeneric, as Co et al. looked at a country in the first years of transition, since when wage determination in Hungary has undergone substantial adjustments, while the migration patterns of Albania may be far from representative of eastern European countries, in particular due to the scale of Albanian temporary migration involving around one third of the labour force, as well as due to negative selectivity (de Coulon and Piracha, 2005). With our broad coverage of source and destination countries, we are able to account for country-specific effects as far as cross-section data permit. We investigate the premium to return migration from western Europe for young males from CEECs, applying the endogenous switching regression methodology that allows for the consideration of selection effects concerning both the choice to work or not and the choice to journey abroad or not to do so. We find empirical evidence of characteristic differences in the earnings patterns of movers and stayers among eastern European young men and, specifically, that the former are able to claim around 30% higher earnings than the latter. Our results on the selection effects in journeying or not journeying abroad, however, are ambiguous.

Concerning the type of temporary work-related stays in western Europe covered by our data, we can, unfortunately, only speculate. Prior to EU accession, citizens of the CEECs were not allowed to assume legal work in the member states of the European Economic Area (EEA) except within specific arrangements. However, such arrangements offered a variety of facilities for temporary employment. In the 1990s, most EEA member states granted specific temporary work and training opportunities to EU accession countries' nationals within bilateral labour agreements, with the purpose of, among other things, enhancing labour mobility and economic integration (Bobeva and Garson, 2004). Such agreements covered seasonal employment (in areas with large temporary fluctuations of labour demand, such as agriculture, catering, and construction), project-based employment (via a work assignment to a company), guest worker schemes (offering skilled

professional training opportunities), and traineeship and apprenticeship programmes (Bobeva and Garson, 2004; OECD, 2004, Annex 1a). In the case of Hungary, Hárs (2003) presented a unique evaluation of a dataset on individuals who participated in bilateral programmes with Germany, Austria and Switzerland in 2001. She found that 40% of the 1877 participants of traineeship, frontier and seasonal worker schemes in these countries aged 24 and younger were trainees. Moreover, she did not find support for the claim that the work performed by temporary migrants abroad was typically below their skill level or domestic work status. The relative importance of various bilateral work programmes varies by destination country.³ Nevertheless, the above findings illustrate the availability of opportunities for skill enhancement that were open to young nationals of the then EU accession countries in western Europe. In addition to work schemes specified in bilateral agreements, legal opportunities for temporary work abroad were provided by sector-based work schemes that were not restricted to citizens of specific countries (Bobeva and Garson, 2004). Such schemes were set up also for highly skilled migrants in specific sectors (e.g. for information and communication technology workers in Germany). Assuming that temporary work abroad at higher qualification levels typically covers longer work stays unless it is part of a trainee programme, we consider it less likely that individuals aged 24 and under have participated in sector-based schemes for the higher-skilled abroad. A further possibility to work abroad that is more likely to provide for skill enhancement is the right granted to foreign students to take employment during their studies abroad, as for example in the Netherlands and France (OECD, 1998). Finally, western European work-related stays reported in our sample may relate to illegal labour. This type of activity can again be expected to have a rather low skill content. Based on these considerations, we conclude that in 2003 various opportunities existed for young eastern European citizens to undertake work abroad. A part of such opportunities appears less suited to provide for the acquisition or enhancement of specific or particularly high skills. Nonetheless, work experience abroad may typically sufficiently enhance the human capital of a returning migrant to obtain a higher wage back home. This is what we empirically investigate in the present analysis. Unfortunately, our data do not allow for the differentiation of our econometric assessment by destination countries and their policies towards temporary foreign employment.

This paper is structured as follows. In the next section, we outline the analytical framework and discuss the methodology adopted. In section 3, we describe the dataset and present summary statistics. Section 4 offers the estimation results. Section 5 concludes.

³ For example, Kaczmarczyk and Okólski (2005) reported that 76% of Polish nationals working abroad in the late 1990s were seasonal workers in Germany, while in Hárs' sample of Hungarians in Germany, Austria and Switzerland, considerably less – 58% – were seasonal workers.

2 Analytical and methodological framework

2.1 Analytical framework

We aim to empirically assess the returns to work experience made in more developed countries by nationals of eastern European countries. To this end, we perform an endogenous switching regression analysis of standard wage equations accounting for individual and job characteristics as developed by Mincer.

More formally, we assume that individuals work equal hours that are normalized to one so that their earnings from work equal the hourly wage, W . Workers are remunerated for their human capital, which can be broken down into the individual's education, sector-specific knowledge, work experience, and an individual component that is observable by the employer but not by the researcher. Work experience specifically is valued for its training-on-the-job effect. Denoting work experience (i.e. training) by T , a vector of other variables (including a constant) by \mathbf{X} , and the unobserved component by ξ , in a standard log-linear specification, individual wages are described by

$$w_i = \mathbf{X}_i \boldsymbol{\alpha} + \psi T_i + \nu \xi_i, \quad (2.1)$$

where $w = \ln(W)$. The coefficients reflect how the employer values the human capital components of the individual.

Human capital from on-the-job training can be acquired in the home country of the worker, H , or a foreign country, F . Country F is technologically more advanced. A worker from H who receives training abroad has the opportunity to learn about specific technologies. A potential employer in H may be particularly interested in hiring such a worker because the latter's imported knowledge could add to the competitiveness of the former's firm. Therefore, the employer will remunerate work experience acquired in F higher than domestic experience. However, work experience from F may also be regarded as less valuable than domestic experience, particularly if country H lacks the conditions for the adaptation of the skills practised in F , i.e. if production technologies are incompatibly different in the two countries. In addition to specific work experience, a work stay abroad may help the migrant develop further qualities γ that are observable to, and appreciated by, the domestic employer but that are unobservable from standard survey data.⁴

With the above distinction between domestic and foreign work experience, the equation describing wages in country H is

$$w^H = \mathbf{X}_i^H \boldsymbol{\alpha}^H + \psi^H T_i^H + \phi^H T_i^F + \nu^H \xi_i + \gamma_i, \quad (2.2)$$

⁴ An example of such qualities is assertiveness that may be better developed by those who have to establish living conditions in a new environment than by those who remain in their usual everyday routines.

where ψ and ϕ describe the valuation of domestic and foreign job-specific human capital acquired on the job respectively.⁵ For non-migrant workers, $T_i^F = 0$ and $\gamma_i = 0$.

Consider a worker equipped with certain human capital characteristics including work experience T_0^H acquired in his native country in $t = 0$. For the next period, the worker may or may not emigrate. If he goes abroad, he obtains a salary amounting to

$$w_{i1}^F = \mathbf{X}_i^F \boldsymbol{\alpha}^F + \phi^F T_{i0}^H + \nu^F \xi_i. \quad (2.3a)$$

If he does not, his earnings are described by

$$w_{i1}^H = \mathbf{X}_i^H \boldsymbol{\alpha}^H + \psi^H T_{i0}^H + \nu^H \xi_i. \quad (2.3b)$$

Work abroad is possible for one period only. In this period, the migrant worker has acquired additional experience T_1^F . If he remained in H , in the same period he would have acquired further domestic experience T_1^H . In $t = 2$, a returning migrant worker can expect a salary of

$$w_{i2}^{H,M} = \mathbf{X}_i^H \boldsymbol{\alpha}^H + \psi^H T_{i0}^H + \phi^H T_{i1}^F + \nu^H \xi_i + \gamma_i, \quad (2.4a)$$

while one who stays in H obtains

$$w_{i2}^{H,S} = \mathbf{X}_i^H \boldsymbol{\alpha}^H + \psi^H (T_{i0}^H + T_{i1}^H) + \nu^H \xi_i. \quad (2.4b)$$

Indicating migrant workers by $m = 1$ and those who stay in H by $m = 0$, we can collapse these equations into

$$w_{i2}^H = \mathbf{X}_i^H \boldsymbol{\alpha}^H + \psi^H (T_{i0}^H + T_{i1}^H) + m_i [(\phi^H - \psi^H) T_{i1}^F + \gamma_i] + \nu^H \xi_i. \quad (2.5)$$

In sum, with the above assumptions, work stays abroad provide additional qualities to migrant workers that are expected to allow for differential remuneration as compared to non-migrant workers' skills. Part of these qualities is unobservable. We expect that the differential remuneration of the qualities acquired abroad is positive, reflecting the transfer of superior knowledge from the technologically more advanced foreign country into the home country, if the latter has the necessary capacities to adapt this knowledge.

If stayers and movers do not differ by their unobserved characteristics ξ , and if no unobserved skills γ are to be developed abroad, differential returns from foreign work experience described by the term $(\phi^H - \psi^H)$ in the above equation can be estimated in a simple OLS equation, accounting for migrants by a dummy variable interacted with work experience in $t = 1$. However, if $\gamma \neq 0$, or if a worker's status regarding his foreign work experience is correlated with his unobserved human capital component ξ , the former is no longer exogenous and requires special consideration.

⁵ We will refer to these skills as unobserved, noting that they are observed by the employer.

Economic thinking of migration as laid down by Roy (1951) states that migration decisions are taken in response to the net expected benefit from the move: the individual will move if total gains net of the cost of the move are positive, and he/she will decline the opportunity otherwise. In this sense, in our application⁶ potential migrants have expected benefits from wage increments that consist of two components: first, the differential income wage earned during the stay abroad (typically higher in EU member states than in the then accession countries), and second, the differential returns to their foreign work experience and skills developed abroad. The former is the difference between (2.3a) and (2.3b):

$$w_{i1}^F - w_{i1}^H = dw_{i1} = (\mathbf{X}_i^F \boldsymbol{\alpha}^F - \mathbf{X}_i^H \boldsymbol{\alpha}^H) + (\phi^F - \psi^H) T_{i0} + (v^F - v^H) \xi_i, \quad (2.6)$$

and the latter is the difference between (2.4a) and (2.4b), noting that T_{i1}^H and T_{i1}^F differ only in the location but not in the length of period:

$$w_{i2}^{H,M} - w_{i2}^{H,S} = (\phi^H - \psi^H) T_{i1} + \gamma_i. \quad (2.7)$$

With differences in the length of the work stay abroad relative to the time span in which the returns from the investment can be enjoyed accounted for by weights a and $(1 - a)$, and denoting the cost of return migration by C_i ,⁷ combining (2.6) and (2.7) and including an individual shift term η results in the following decision rule for assuming a temporary work assignment abroad:

$$\begin{aligned} P(m_i = 1) &= 1 \text{ if } \pi_i = a(w_{i1}^F - w_{i1}^H) + (1-a)(w_{i2}^{H,M} - w_{i2}^{H,S}) - C_i + \eta_i \\ &= a[(\mathbf{X}_i^F \boldsymbol{\alpha}^F - \mathbf{X}_i^H \boldsymbol{\alpha}^H) + (\phi^F - \psi^H)T_{i0} + (v^F - v^H)\xi_i] + (1-a)[(\phi^H - \psi^H)T_{i1} + \gamma_i] - C_i + \eta_i > 0, \\ \text{and } P(m_i = 1) &= 0 \text{ if } \pi_i \leq 0. \end{aligned} \quad (2.8)$$

The propensity to emigrate depends on the following observed characteristics: first, it increases with sector-specific wage differentials in the host as against the source country. We can expect these to be positive in any pair of countries in the context of east to west emigration. Second, it depends on the differential valuation of domestically acquired human capital abroad, which may be positive or negative depending on the profession; third, it increases in the valuation of foreign work experience as compared to experience from the same spell spent working at home, upon return; and finally, it decreases in the total cost of the temporary move abroad, C_i . The fact that typically only a small fraction of a country's population chooses to emigrate reflects high related costs, be they of monetary, psychological, or social nature.⁸

⁶ In the present inquiry we disregard permanent emigration, implying that the below assertions hold conditional on negative net expected benefits from permanent emigration (see footnote 13). We further disregard uncertainty as concerns the future realizations of variables relevant to the decision to migrate.

⁷ In the context of temporary migration, migration costs arise both with leaving the home country and with returning. Monetary and psychic costs may arise with the search for a job, establishing and re-establishing professional and private networks, housing relocation, and the like.

⁸ As said, we disregard emigration. In terms of (2.8), we can think of C^E to be exorbitantly high for permanent settlement abroad. This is the case, for example, if legal restrictions prevent permanent settlement and work abroad. At the time of the CCEB 2003.1, this applied to permanent work immigration from the EU applicant countries to the EU-15 members.

The propensity to migrate is positively related to both the unobserved human capital component ξ and the unobserved skill enhancement γ_i . One may also think of the shift term η as correlated with unobserved earnings determinants, if it includes an unobserved characteristic that enhances earnings capacities and lowers the individual cost of emigration at the same time. Ability is an example of such a characteristic. These terms render the propensity to emigrate $P(m)$ endogenous with respect to the earnings equation.

2.2 Methodology

Foreign work experience may offer the opportunity of skill-upgrading to the migrant. Within the given regulatory constraints, participation in foreign work experience is based on a voluntary decision and may result in a better labour market position upon return. With these features, a work stay abroad is comparable to an active labour market policy programme.

The policy evaluation literature displays interest in two types of effects on programme participation: the impact of the programme on an average (random) individual from a sample of both participants and non-participants, known as average treatment effect (ATE), and its impact on an average person from those who participate, known as the effect of the treatment on the treated (ATE₁, where the subscript denotes treatment).⁹ Formally, with the outcomes of interest such as earnings from work with and without treatment w_1 and w_0 respectively, a participation index m with values 1 or 0, and an array of conditioning variables \mathbf{X} , $ATE = E(w_1 - w_0 | \mathbf{X})$ and $ATE_1 = E(w_1 - w_0 | \mathbf{X}, m = 1)$. The difference between the two effects is the person-specific gain, i.e. the difference of the average individual stochastic term ε with and without treatment, conditional on participation and a set of control variables. Formally, $ATE - ATE_1 = E(\varepsilon_1 - \varepsilon_0 | \mathbf{X}, m = 1)$. ATE and ATE₁ will be equal only if programme participation and treatment outcomes are independent of each other. This is, however, not the case if people make their choice based on their net expected benefit, i.e. self-select into participation. Self-selection, be it based on observed or unobservable factors, results in differing sizes of impacts on the treated and on the total population respectively.

A difficulty in establishing both ATE and ATE₁ is that components of both effects are counterfactuals: in the post-programme period, one can observe w_1 but not w_0 for the participants, or w_0 but not w_1 for the non-participants. Unless participation and outcomes are independent of each other, the estimation of these effects calls for specific techniques and identifying assumptions, depending on the type of selection. In particular, differing

⁹ For textbook discussions of the estimation of treatment effects, see Heckman et al. (1999) and Wooldridge (2001: 603ff.).

estimators are suited to the analysis of selection on observables and unobservables respectively.¹⁰

Turning to our analysis of returning migrants' earnings, using the policy evaluation terminology, the effect of treatment of the treated, ATE_1 , is the wage premium to labour market experience for those who have been abroad, while ATE is the wage premium to a random individual from the full sample. The observed outcomes are the earnings $w_2^{H,M} = E(w_{1,t} | m = 1)$ for movers and $w_2^{H,S} = E(w_{0,t} | m = 0)$ for the stayers in the post-programme period t . If temporary migration does respond to the net expected benefit as outlined in section 1, ATE and ATE_1 will differ, and selectivity needs to be accounted for specifically.

In the evaluation framework, comparisons of treated and untreated individuals require some identifying assumption, i.e. a restriction on the differences between the two groups or before and after treatment outcomes respectively. Estimators available for cross-section datasets rely on the assumption that, before treatment, outcomes for the treated and untreated are the same (conditional on observed characteristics), i.e. $E(w_0 | \mathbf{X}, m = 0) = E(w_0 | \mathbf{X}, m = 1)$. In our application, this identifying assumption rules out systematic differences between movers and stayers arising from unobserved human capital characteristics that existed before the move. This requires $v^F - v^H = 0$ such that ξ drops from the selection equation (2.8).¹¹

If there are neither *ex ante* nor *ex post* differences between stayers' and movers' unobserved characteristics and no selection effects respectively, the premium to foreign work experience can be established as the mean difference of the two groups' earnings conditional on the other human capital characteristics. If selection is non-random, however, the following two cases can be distinguished, each calling for a specific estimation methodology. First, selection can be based on observed earnings determinants. As an example, individuals with certain occupations may be more likely to opt for a work stay abroad, if these occupations offer higher differential returns abroad as compared to the home country. With such selection assumptions, ATE_1 can be estimated with instrumental variable (IV) or matching methods. This framework allows for unobserved gains from participation, but such gains must not impact on the participation decision. In our case, this implies either $\gamma = 0$, or $\gamma \neq 0$ but not as among the arguments of the index function π . Second, unobserved gains are available from the treatment, and they are anticipated in the decision to participate, as described by equation (2.6). In this case, ATE_1 cannot be consistently estimated with IV because

¹⁰ See the methodology discussion of econometric evaluation estimators of Heckman et al. (1999: 1941ff.).

¹¹ Note that, provided that this assumption is appropriate, our treatment effect estimates do not suffer from bias due to unobserved characteristics in the wage equation: such characteristics drop out of the index function π , so that movers and stayers respectively do not systematically differ on these lines, while the treatment effect, as a difference of treatment to no treatment earnings, is not affected anyway. Concerning the other components of the error term in the migration selection equation, expected unobserved gains from the move γ are accounted for by our methodology applied, while unobserved characteristics η do not play a role in the earnings function.

instruments for the individual's participation propensity will be correlated with the unobserved component of the post-treatment outcome. Instead, ATE_1 can be obtained from earnings functions corrected for sample selection.

In our analysis of stayers' and movers' earnings, a further aspect needs consideration: we cannot observe the wages of those who are not working. Disregarding this part of the sample may therefore result in biased estimates, in particular if unobserved determinants of labour force participation and earnings are correlated. Typically, sample selection bias due to labour force participation is a matter of concern in the analysis of female labour supply. Our sample is restricted to males, but the non-participation rate is very high, around two thirds (see section 3.1), mainly because of unfinished education. Hence, there is double selection in our data: in addition to selection into the respective regime (stayers or movers), the earnings of the individuals can be observed only if they sufficiently exceed the reservation wage. Unbiased estimates of earnings can be obtained from such data by controlling for selection bias with the inverse Mills ratio defined by the observable determinants of participation in the respective group, as shown by Heckman (1979). In our empirical application, we jointly correct for selection in migration and non-migration respectively as well as in labour force participation, correcting for double selection based on Heckman's procedure along the lines of Heitmueller (2006). We do not see any reason for ordering the two decisions in time, therefore we opt against ordered estimation methods and use a methodology that regards the two decisions as simultaneous and even allows for interdependencies between them.

Our empirical analysis is placed in the most general framework that allows for unobserved gains from a work stay abroad to have an impact both on post-return earnings and on the decision to move. In particular, we estimate an endogenous switching model, i.e. separate earnings functions for movers and stayers that include correction terms for selection into the respective regime, as well as labour force participation, as described above.¹² The selection equations relating to the two decisions are estimated using probit, considering three cases: first, two independent probit equations describing independent decisions; second, seemingly unrelated probit accounting for unobserved individual characteristics that may impact on both the labour force participation and the migration decision in a similar way (such as the number of children on which we do not have information); and third, bivariate probit that models the work and foreign experience status as two dimensions of the same decision process. We then include the selection correction terms for active work status and the respective mover/stayer status into earnings functions estimated separately for the movers and stayers by OLS, and we apply a Hausman test to investigate the equality of the obtained results. In the separate probits, the non-selection

¹² An exemplary discussion and application of this methodology is provided in Heitmueller's (2006) analysis of the public-private sector wage gap in Scotland. Regarding returns to foreign work experience, this methodology is also applied by Co et al. (2000) and (among other techniques) by de Coulon and Piracha (2005).

hazards related to labour force participation λ_{L1} , to being a stayer λ_{M0} , and to being a mover λ_{M1} respectively are calculated as follows (Heitmueller, 2006):

$$\lambda_{iL1} = \phi(\mathbf{F}_i \boldsymbol{\mu}) / \Phi(\mathbf{F}_i \boldsymbol{\mu}), \quad (2.9a)$$

$$\lambda_{iM0} = -\phi(\mathbf{G}_i \boldsymbol{\delta}) / (1 - \Phi(\mathbf{G}_i \boldsymbol{\delta})), \quad (2.9b)$$

and

$$\lambda_{iM1} = \phi(\mathbf{G}_i \boldsymbol{\delta}) / \Phi(\mathbf{G}_i \boldsymbol{\delta}), \quad (2.9c)$$

where ϕ and Φ denote the standard normal density and distribution functions, while \mathbf{F}_i and \mathbf{G}_i represent the vectors of covariates from the participation and mover/stayer probits, and $\boldsymbol{\mu}$ and $\boldsymbol{\delta}$ are the estimated coefficients from these functions respectively.

The seemingly unrelated and the bivariate probit specifications provide for specific correction terms for labour force participation for each of the two earnings equations, since the decisions to work and to move are jointly modelled. Denoting the bivariate standard distribution function with Φ_2 , with the correlation coefficient between the standard errors of the two equations ρ , and with $n = (1 - \rho^2)^{-0.5}$, for the stayers' earnings equation, the two correction terms are

$$\lambda_{iL1,0} = \phi(\mathbf{F}_i \boldsymbol{\mu}) \Phi[-n(\mathbf{G}_i \boldsymbol{\delta} - \rho \mathbf{F}_i \boldsymbol{\mu})] / \Phi_2(-\mathbf{G}_i \boldsymbol{\delta}, \mathbf{F}_i \boldsymbol{\mu}, -\rho) \quad (2.10a)$$

and

$$\lambda_{iM0,1} = -\phi(\mathbf{G}_i \boldsymbol{\delta}) \Phi[n(\mathbf{F}_i \boldsymbol{\mu} - \rho \mathbf{G}_i \boldsymbol{\delta})] / \Phi_2(-\mathbf{G}_i \boldsymbol{\delta}, \mathbf{F}_i \boldsymbol{\mu}, -\rho), \quad (2.10b)$$

while for the movers' earnings equation, these terms are

$$\lambda_{iL1,1} = \phi(\mathbf{F}_i \boldsymbol{\mu}) \Phi[n(\mathbf{G}_i \boldsymbol{\delta} - \rho \mathbf{F}_i \boldsymbol{\mu})] / \Phi_2(\mathbf{G}_i \boldsymbol{\delta}, \mathbf{F}_i \boldsymbol{\mu}, \rho) \quad (2.10c)$$

and

$$\lambda_{iM1,1} = \phi(\mathbf{G}_i \boldsymbol{\delta}) \Phi[n(\mathbf{F}_i \boldsymbol{\mu} - \rho \mathbf{G}_i \boldsymbol{\delta})] / \Phi_2(\mathbf{G}_i \boldsymbol{\delta}, \mathbf{F}_i \boldsymbol{\mu}, \rho). \quad (2.10d)$$

For comparison, we also present joint OLS estimates of stayers' and movers' wages, including a dummy variable for the latter that provides the mean difference estimator of returns to foreign experience. Note, however, that this estimator is consistent and unbiased only if there are no systematic differences in stayers' and movers' characteristics, whether observed or unobserved. We further report predictions of movers' and earners' earnings for both de facto movers and de facto stayers from the earnings equations in the various specifications. The variables included in the selection and earnings equations respectively are explained in the next section.

3 The data

3.1 Dataset and variables

Our empirical research makes use of the 2003.1 wave of the (then) Candidate Countries Eurobarometer. This survey is a special issue of the CCEB that covers citizens¹³ aged 15 to 24. The CCEB and its EU member state counterpart, the Eurobarometer (EB), are regular surveys of public opinion on important topics of European citizenship released by the European Commission. They are typically conducted twice a year by national institutes of the EU member states and candidate countries respectively.¹⁴ Some collections cover special topics. One such round was the CCEB 2003.1, where the situation of the youth was examined. EB data have been widely used for political economy topics. In the context of migration, Krieger (2004), for example, draws upon EB data to account for the migration potential from eastern Europe, based on statements of the willingness to emigrate. The rich dataset of the CCEB 2003.1 enables novel analysis. In particular, a consistent set of source country socio-economic micro data including information on work-related stays abroad and covering a broad range of host countries has not to our knowledge been used as yet. The multiplicity of source and destination countries considered may offer a broader picture on the topic than the existing single-country studies.

The CCEB 2003.1 was collected in March and April 2003 in the ten EU applicant countries that became EU members in 2004, as well as in Romania, Bulgaria, and Turkey. On average, approx. 800 interviews were conducted in each of these countries, except for Cyprus and Malta with half as many interviewees, and Bulgaria, where around 1000 persons were interviewed. The total size of the multi-country sample is 9754.¹⁵ We restrict the analysis to the subsample of males, since women's labour market behaviour is likely to be governed by different patterns. In addition, a separate analysis of the subsample of females would be impeded by the low number of cases with active labour market status and foreign work-related experience.¹⁶ The subsample of males includes 4876 individuals. From these, we discard Turkey because of the lack of working returned migrants and an additional 565 cases because of missing data. The summary statistics and probit estimation results described in section 4.2 are based on a final sample containing information on 3831 individuals. From these, another 45 observations (three of which are of movers) are lost in the earnings regressions because of missing data on regressors.

¹³ In Estonia, permanent residents were considered instead. Another irregularity relates to the case of Cyprus where only the Republic was covered.

¹⁴ For the eastern EU applicant countries, surveys called Eastern European Eurobarometer were conducted in 1992 to 1997. After a four-year break, the series was re-launched in 2000, under the new label Candidate Countries Eurobarometer.

¹⁵ The interviews were selected using a multi-stage random probability sampling procedure. The national surveys are representative with respect to NUTS 2 area coverage, region types, the distribution of population and nationalities respectively, and settlement types.

¹⁶ The dataset offers only 37 records of females with foreign work-related experience that contain all variables needed.

We distinguish between working and non-working individuals based on information on their basic activities and their main source of regular income. A person is considered working if he pursues a regular job, casual work, or black-market activities. Related to income, the individuals were asked how much they personally obtain on average per month. Additionally, information is provided on the source of this income. We define income from work as income stemming from any of the above activities. Income is provided in euros (as well as in national currencies). A distinction between net and gross terms is unfortunately not made, but the lack of precision of the question suggests at least that employees are likely to have reported net revenues. The measure, however, may be ambiguous for the self-employed. Information on the hours worked per month is lacking, and so we need to proxy wages with earnings. We can, however, control for regular or part-time work assignments. There is one minor source of measurement error in our dependent variable. If an individual has repeated, regular work spells abroad, he may report the average of his domestic and foreign income as regular income, which is then considered as the domestic income in our analysis. In the case of such an individual, we find his regular income high because of a post-return premium, while the average may be determined by the additional earnings from abroad instead. However, we consider it unlikely that our dataset is substantially spoiled by this type of measurement error.

Our foreign work experience variable is positive if the individual has been in Switzerland, Liechtenstein, Norway, or any of the 15 EU member states designated as such as of 2003, for work- or business-related reasons in the past two years. The data do not distinguish genuine work assignments abroad from occasional business trips. As our aim is to establish evidence on west to east transfer of human capital, we do not believe that this broad definition poses a severe problem. We also, however, explored the magnitude of the divergence between a narrow and broad definition of the foreign work experience indicator. In the standard CCEB surveys of 2001 to 2003 where questions on the countries visited are put differently, around 3.3% of those surveyed reported to have worked in any of the above countries.¹⁷ In comparison, in our original dataset, 2.8% reported work- or business-related travels to these countries. Moreover, participation in business meetings, conferences, fairs, and other professional encounters abroad will also offer ample opportunity to acquire new standards, meet new technologies, and adapt one's skills and attitudes, and will thus also add to the transfer of knowledge from western to eastern Europe.¹⁸ Therefore, the ambiguity finally relates to the amount of time spent abroad, i.e. the length or frequency of the stays. The fact that our data records travels and stays abroad only in the two years prior to the survey is unlikely to sizeably blur the picture. If differential human capital acquired during a

¹⁷ Unfortunately, the standard CCEB data have shortcomings that impede their evaluation with regard to earnings premia to returning migrants. In particular, they typically do not report individual earnings but household income instead.

¹⁸ For simplicity, we refer to any of these cases as 'return migration'. The heterogeneity of the cases covered should be borne in mind.

work stay abroad has not produced positive returns within two years upon return, it may in fact deteriorate rather than become effective later.

By the dependent variables of the two selection equations, our final sample is composed as follows: 2451 individuals, i.e. 64% are non-working, of which 50% (2%) reported work-related stays abroad. From the working subsample of 1380 (36% of the total), 95, i.e. 7%, reported such stays abroad. The considerably lower share of those with foreign work experience among the non-working is not surprising given that the majority reported that they were outside the labour force because of continued education.

In addition to labour market status, foreign work experience status, and income, our analysis makes use of information on the individual's personal status (single or couple), age, potential work experience, education level (for which we distinguish three categories), occupation (one of four categories or unspecified), full- or part-time work, legal or undeclared activity, employment at a public employer, the type of the individual's settlement (three types), and his country of residence. In an extension of our analysis, we consider the language proficiency of the individuals surveyed, distinguishing languages of European countries that the interviewee has visited in the past two years from languages where no such visit has taken place. Precise definitions of the variables are given in Table A.1 in the appendix.

3.2 Summary statistics

Summary statistics of the data are provided in Table 1. According to the categories distinguished above, our sample has the following features: typically, against those who are not in the labour market,¹⁹ those working are older (21.2 years on average against 18.4 years), are more likely to live with a partner (in the two groups, 11% and 2% reported such circumstances respectively), have finished school a longer time ago (4.7 years against 3.8), are better educated (two thirds have finished secondary education, while two thirds of the non-working have finished only primary education), and have a slight tendency to be concentrated in large towns (31% against 29% of the non-working, but also with weaker presence in smaller towns – 33% against 36% of the non-working). These differences reflect that most of the non-working have not yet finished their education. There are also country differences in labour force participation: comparatively higher levels are typical of the Czech and the Slovak Republics, Hungary, Latvia, Malta, and Slovenia, while labour force participation is below average in Bulgaria, Lithuania, and Poland.

More than 50% of the working individuals with western European work-related experience are nationals of Estonia, Bulgaria, Latvia, or Hungary (see Table A.2 in the appendix).

¹⁹ For the sake of simpler expression, we also include the unemployed in this category.

Among the destination countries, most important are the large EU-15 member states – Germany, France, Italy, and the UK – and neighbouring countries, such as Austria for Hungarians and Slovenians, Greece for Bulgarians, Finland for Estonians, and Sweden for citizens of the Baltic countries. Some of the individuals with western European work experience have been to several destination countries.²⁰

Comparing those with foreign work-related stays in the last two years with those who have not had such stays, the former are more likely to live with a partner, be better educated, and have finished school longer ago than the latter. On average they are 22.1 years old (stayers: 19.3 years) and finished school 5.1 years ago (stayers: 4.1 years). Moreover, 17% live with a partner (stayers: 5%), and 75% have secondary and 8% have tertiary education (stayers: 46% and 3% respectively). These differences between the two groups are parallel to those between the working and non-working: this suggests that the two state variables may describe outcomes of a joint decision. According to type of settlement, there are no significant differences between the movers and stayers: roughly one third originate from rural areas, small towns, and large towns respectively. In addition, there are fewer country differences between these groups than in the case of labour force participation: movers are slightly concentrated in Estonia and Lithuania, while they are less represented in Cyprus and the Czech Republic.

Finally, looking at differences between movers and stayers conditional on labour force participation, the former earn substantially more than the latter: the average monthly work income of the movers amounts to 157% of the stayers' earnings, EUR 345 against EUR 219.²¹ Furthermore, the former are more likely to live with a partner (22% against 11%), they are less frequently occupying part-time jobs (33% against 47%), and they possess a better education (73% have secondary education and 8% have tertiary education, against 65% and 5% of the stayers respectively). Concerning their occupation, managers and the self-employed are over-represented among the movers: 10% and 8% are in these respective occupations against 5% and 4% of the stayers. We find no significant country-specific differences between these two groups.

²⁰ Note that the above figures do not give a fully accurate picture on the destination countries of foreign work experience since we have included cases that cover multiple stays for various purposes in western European countries. These cases unambiguously relate to western European work-related experience, but the data do not allow us to match the purpose and the country of the stay.

²¹ The income figures provided in Table 1 may appear very low. Note, however, that these are averages of young people's earnings in transition countries, many of whom hold part-time jobs, and some of whom are labour market entrants.

Table 1

Data summary

Variable	(a) L=0		(b) L=1		(b) - (a)	(c) M=0		(d) M=1		(d) - (c)	(e) L=1,M=0		(f) L=1,M=1		(f) - (e)
	mean	st.dev.	mean	st.dev.	mean diff.	mean	st.dev.	mean	st.dev.	mean diff.	mean	st.dev.	mean	st.dev.	mean diff.
income, €			223.31	(262.16)							219.14	(256.91)	345.41	(331.19)	126.27 ***
age	18.44	(0.05)	21.17	(0.07)	2.72 ***	19.32	(0.05)	22.10	(0.18)	2.78 ***	21.11	(0.07)	22.38	(0.21)	1.26 ***
couple	0.03	(0.16)	0.12	(0.32)	0.09 ***	0.05	(0.23)	0.17	(0.38)	0.12 ***	0.11	(0.32)	0.22	(0.41)	0.10 ***
experience	3.81	(2.32)	4.71	(2.45)	0.90 ***	4.10	(2.39)	5.08	(2.58)	0.99 ***	4.69	(2.47)	4.81	(2.25)	0.11 ***
education: primary	0.61	(0.49)	0.30	(0.46)	-0.31 ***	0.51	(0.50)	0.18	(0.38)	-0.33 ***	0.30	(0.46)	0.18	(0.39)	-0.12 ***
education: secondary	0.37	(0.48)	0.65	(0.48)	0.28 ***	0.46	(0.50)	0.74	(0.44)	0.29 ***	0.65	(0.48)	0.73	(0.45)	0.09 **
education: tertiary	0.02	(0.14)	0.05	(0.22)	0.03 ***	0.03	(0.17)	0.08	(0.27)	0.05 ***	0.05	(0.22)	0.09	(0.28)	0.04 *
temporary job											0.47	(0.50)	0.33	(0.47)	-0.14 ***
black market activity											0.07	(0.26)	0.09	(0.28)	0.01
public employer											0.25	(0.43)	0.18	(0.39)	-0.06
occupation: manual											0.34	(0.47)	0.39	(0.49)	0.05
occupation: white collar											0.10	(0.29)	0.13	(0.34)	0.03 **
occupation: manager											0.05	(0.22)	0.11	(0.31)	0.06 **
occupation: self employed											0.04	(0.19)	0.09	(0.28)	0.05 **
occupation: unspecified											0.48	(0.50)	0.29	(0.46)	-0.18
settlement: rural	0.34	(0.47)	0.35	(0.48)	0.01	0.35	(0.48)	0.32	(0.47)	-0.02	0.36	(0.48)	0.35	(0.48)	0.00
settlement: small town	0.36	(0.48)	0.33	(0.47)	-0.03 **	0.35	(0.48)	0.36	(0.48)	0.01	0.33	(0.47)	0.32	(0.47)	-0.01
settlement: large town	0.29	(0.46)	0.32	(0.46)	0.02 *	0.30	(0.46)	0.32	(0.47)	0.02	0.31	(0.46)	0.32	(0.47)	0.01
Bulgaria	0.13	(0.34)	0.11	(0.32)	-0.02 **	0.13	(0.33)	0.12	(0.32)	-0.01	0.11	(0.32)	0.14	(0.35)	0.03
Cyprus	0.05	(0.21)	0.04	(0.20)	-0.01 *	0.05	(0.21)	0.02	(0.14)	-0.03 **	0.04	(0.20)	0.03	(0.18)	-0.01
Czech R.	0.05	(0.22)	0.06	(0.24)	0.01 *	0.06	(0.23)	0.02	(0.14)	-0.04 ***	0.07	(0.25)	0.02	(0.15)	-0.05
Estonia	0.10	(0.30)	0.09	(0.29)	-0.01	0.09	(0.29)	0.17	(0.38)	0.08 ***	0.09	(0.28)	0.18	(0.39)	0.09
Hungary	0.09	(0.29)	0.11	(0.31)	0.02 *	0.10	(0.30)	0.08	(0.28)	-0.02	0.12	(0.32)	0.10	(0.30)	-0.02
Latvia	0.08	(0.27)	0.11	(0.31)	0.03 ***	0.09	(0.29)	0.06	(0.24)	-0.03	0.11	(0.31)	0.08	(0.27)	-0.04
Lithuania	0.12	(0.32)	0.07	(0.26)	-0.04 ***	0.10	(0.30)	0.14	(0.35)	0.04 *	0.06	(0.24)	0.11	(0.31)	0.04
Malta	0.04	(0.19)	0.06	(0.23)	0.02 ***	0.04	(0.20)	0.06	(0.23)	0.01	0.06	(0.23)	0.08	(0.27)	0.02
Poland	0.11	(0.32)	0.05	(0.23)	-0.06 ***	0.09	(0.29)	0.09	(0.29)	0.00	0.05	(0.23)	0.06	(0.25)	0.01
Romania	0.07	(0.25)	0.07	(0.26)	0.01 **	0.07	(0.25)	0.06	(0.23)	-0.01	0.07	(0.25)	0.04	(0.20)	-0.03
Slovakia	0.08	(0.28)	0.11	(0.31)	0.02 ***	0.09	(0.29)	0.08	(0.28)	-0.01	0.11	(0.31)	0.08	(0.27)	-0.03
Slovenia	0.08	(0.27)	0.11	(0.31)	0.03 ***	0.09	(0.28)	0.10	(0.31)	0.02	0.11	(0.32)	0.09	(0.28)	-0.03
observations	2451		1380			3686		145			1245		93		

***, **, * denote significance at 1%, 5%, 10% resp. (one-sided test of equal means).

4 Estimation results

4.1 Specifications of the estimating equations

We assess the potential earnings differentials of young eastern Europeans with and without western European work-related experience in an endogenous switching regression framework, as explained in section 2.2. This model implies the estimation of a reduced-form probit describing the propensity to seek such experience as a first step. From the results, correction terms for the non-selection hazard – the inverse Mills ratio – can be recovered. These are then used in the OLS estimation of separate earnings functions for stayers and movers respectively. In addition to selection into the mover/stayer status, we account for selection into the labour force. The high inactivity rate in our sample relating to unfinished education in particular suggests the presence of such a selection effect. As for the specification of the selection probits, three cases are distinguished: first, two separate probit equations for labour force participation and foreign work experience respectively; second, seemingly unrelated probit equations; and third, the modelling of the respective decisions as outcomes of a bivariate probit model.²² We then estimate the earnings equations in several versions distinguished according to the way the sample selection is corrected for: a first pair of equations is estimated without selection parameters; a second is run with correction for labour force participation from the univariate probit regression. Three pairs of earnings regressions are then provided with correction terms for both work and mover/stayer status, calculated from the univariate probit, the seemingly unrelated probit, and the bivariate probit respectively.²³ We present estimation results for the selection probit equations in Table 2 and for the earnings equations in Table 3 (for stayers) and Table 4 (for movers) respectively. The latter also includes the results of a Hausman test of the equality of the coefficients (we have excluded the country dummies and selection terms from the test). For comparison, OLS estimation results with a dummy variable for foreign work experience are shown in Table 6. Finally, stayers' and movers' earnings for the respective two groups as predicted from the specifications are reported in Table 7.

As mentioned before, the sample is restricted to young males. All regressions contain dummies for the respective source country. Dummies for education levels and the type of settlement are used both for the selection and for the earnings equations. The first reflect opportunity costs of forgone leisure, while both sets of dummies describe the availability of

²² Note that both the seemingly unrelated probit and the bivariate probit allow for non-zero correlation of the error terms of the two probits estimated. In the case of the latter, the two probits are estimated with the same set of regressors, while in the former, one variable in each equation is excluded from the other. In our application, the seemingly unrelated probits are estimated with the same regressors as the independent probits, with the decisive difference that error correlation is accounted for.

²³ In the tables presenting the regression results, specifications (1) contain no selection parameters; specifications (2) include correction terms for labour force participation from the univariate probit; specifications (3) to (5) respectively contain correction terms for selection into working and the mover/stayer status from the univariate probit, seemingly unrelated probit and bivariate probit regressions respectively.

job opportunities both domestically and abroad. These effects should be relevant both for the selection and for the earnings equations. Marital status²⁴ is assumed to play a role in both participation decisions: we expect males living with a partner to face greater familial responsibility and therefore to be more likely to work. The expected effect of living with a spouse or partner on the willingness to go abroad is unclear, though: one could expect such males to pursue higher professional aspirations and seize training opportunities abroad, but such people may also be expected to be less mobile than singles. Based on these considerations, we include a marital status dummy in both selection equations.

We further use potential work experience in the labour force participation equation: we expect the time passed since the finishing of education to play a role for labour force participation and to capture difficulties of labour market entry in particular. In contrast, time passed since leaving school should not necessarily matter in decisions to take the opportunity of a work-related stay abroad: although labour market entry difficulties also prevail in western Europe, anecdotal evidence suggests that in these countries a number of job training opportunities for young people without substantial work experience are relatively easily available to foreigners, such as traineeships. Instead, we include age in the foreign work experience probit. Younger people should be more likely to participate in work-related stays abroad, because of the lower cost of their relocation. On the other hand, one may also expect a reverse effect that reflects increasing independence, given that the individuals in our sample are aged 24 or under. The inclusion of age among the regressors in the first probit but not in the second, and of potential experience in the latter but not in the first, provides for the distinction between the seemingly unrelated and bivariate probits. Note that a seemingly unrelated probit model of the two decisions with the same set of variables in both equations results in a bivariate probit.

In addition to the education and settlement type-related dummy variables as stated above, our earnings equations contain dummies for part-time work, activity in the black economy, and employment in the public sector. In addition, we control for four types of professions: manual and white-collar workers, manager, and self-employed person respectively. For a number of individuals reported to be working, there is no information on the occupation: 'unspecified occupation' is our (presumably heterogenous) omitted category. Although no identification requirement prohibits the inclusion of a variable in both a selection equation and the earnings equation (because identification is provided for by functional form assumptions), we have not included potential experience in the reported earnings regressions, because it proved insignificant.

Note that in our OLS regressions we employ categorical explanatory variables in a semi-logarithmic model. The relative change in the dependent variable in levels related to the

²⁴ In our analysis, we make no distinction between marriage and the non-marital cohabitation of couples.

factor represented by the dummy variable can be recovered as the exponential of the coefficient minus one (Halvorsen and Palmquist, 1980). The discussion of our results is based on this transformation. In Table 5, we present the transformed coefficients of the earnings functions for stayers and movers summarized in Tables 3 and 4.

The CCEB contains information on conversation-level language skills of the interviewees. As an extension of our analysis, we have re-estimated the earnings functions with control variables for the proficiency of any western European language, distinguishing languages related to a visit in a respective country in the past two years from languages of other western European countries. Accounting for the knowledge of western European languages allows us to investigate specifically whether employers' valuation of foreign work experience is driven by the linguistic proficiency of the potential employee, which may also be acquired domestically to some extent. Among the language skills matched by a stay in a respective country, we cannot distinguish whether such skills were acquired during a work-related or other type of stay. The acquisition of language skills may suffer from endogeneity with respect to the decision to participate in a stay abroad. We do not specifically address this potential source of bias. Results for the earnings functions with the same selection correction terms as used for the base model are given in Tables A.3 and A.4 in the appendix.

To investigate our interpretation that higher pay for individuals with western European work-related experience in the EU accession countries is due to the diffusion of skills practised in the economies of the EEA of 2003 that facilitate the catch-up and economic integration of the eastern European economies with the former, we have re-run our estimation procedure with foreign work experience made in eastern, instead of western, European countries. Individuals who take up work abroad in eastern Europe also show mobility and mental flexibility. However, we expect that the potential for knowledge diffusion among former members of the Council for Mutual Economic Assistance is substantially below the potentialities in the west to east European perspective. This analysis should exclude individuals with western European work experience. Indeed, there are 23 such observations among those with and 70 among those without eastern European work experience. However, excluding these leaves us with 46 observations with positive migration and labour force participation status, which has proven insufficient for strong results. Therefore, we provide estimation results for the participation probits with respect to labour force participation and work experience in a different eastern European country as well as earnings functions for stayers and movers in Tables A.5 to A.7 in the appendix, based on data that also contain individuals with western European work experience, which is, however, not specifically accounted for. The mean difference estimator of the earnings with and without eastern European work-related experience is summarized in column C of Table 6. We also provide the mean difference estimator of the

earnings function on the subsample of which individuals with western European work-related experience are removed (Table 6, column D).

In addition to the regressions reported in the appendix, we have run further specifications to check for the robustness of our findings. We do not report the respective results in detail. In qualitative terms, they do not alter the discussed findings. Among other things, we have repeated the regressions, leaving out the observations with primary education only. We have further applied country-demeaned income, calculating separate means according to country for movers and stayers respectively. Further, we have investigated the relevance of the individual's attitude towards foreigners in both the selection and the earnings equations: assuming that xenophobia is exogenous to foreign work-related experience, one could well argue that more xenophobic individuals are less likely to head for a work stay in western Europe, i.e. that they have higher related cost. In addition, xenophobia could be motivated by fear from competition and thus reflect the individual's labour market position and unobserved ability respectively. We have not found, however, that attitudes towards foreigners have explanatory power in either of our equations.

4.2 Estimation results: selection equations

The results of the separate probit estimations and the seemingly unrelated probit are very similar. The error terms of the two choice equations are significantly but weakly correlated with each other, with a correlation coefficient of 0.15. The bivariate probit estimation provides somewhat different results. Here, a correlation coefficient between the error terms of the choice equations of 0.10 is found. Both sets of results provide suggestive evidence of a common component in the error terms that impacts on the decisions to work and to go abroad respectively. Based on the log likelihood statistic, the bivariate probit appears to be the best specification. The improvement of the statistic in comparison with the separate probits is, however, modest. Note that the bivariate probit has a broader set of variables, while the other two specifications are supported by a deliberate choice of regressors.

The estimation results of the univariate probits on labour force participation include the following: first, young males living with a partner are more likely to work than singles. The effect is much stronger if the choices of work and mover/stayer status are assumed to be two separate decisions. Marital status has the strongest effect on labour force participation from the individual's personal characteristics: it increases the probability by 0.85 standard deviations. Comparing two individuals with average characteristics, the person having a spouse or partner is 33 percentage points more likely to be working than the person having no such relationship.²⁵ We find work experience to influence the probability of labour force

²⁵ Above, we describe our results in terms of percentage changes in probability for convenience. In our summary tables, we have not reported the results in such terms, though.

participation of young male eastern Europeans as expected. This effect is not very strong, though. For an average individual, one more year of potential work experience increases the likelihood to work by 6 percentage points. Labour force participation increases in education levels. An average young man having only primary school education is 28 percentage points less likely to work than a similar man with secondary education, while tertiary education increases this probability by 10 percentage points. Compared with small towns, young males in rural areas are slightly more likely to be working. Everything else being equal, the difference in the probability to work is 3 percentage points. We do not find systematic differences in labour force participation between small and large towns. Among the countries considered, some are found to have specifically particularly low labour force participation rates among the young males, in particular Cyprus, Latvia, Poland, and Romania.

Turning to the results on the probability of departure abroad for work-related reasons, our univariate probit regressions provide the following results. It is not the younger but the older young men who are more likely to go to western Europe for professional reasons. One year more of age increases the respective probability in the case of a young man with otherwise average characteristics by 0.75 percentage points. This is not as low as it may appear, keeping in mind that the share of people with foreign work-related experience in the sample is below 4%.

The better educated are more likely to participate in western European work-related stays. There are no significant differences between those with secondary and those with tertiary-level education, but those lacking such degrees are significantly less likely to go abroad. From the first probit equation, we find that having no secondary or better education reduces the probability of an average individual to go abroad by 1.3 percentage points. The seemingly unrelated probit regression provides a somewhat stronger effect. The propensity to go for work abroad is not found to vary according to type of settlement. Across countries, higher probabilities are predicted for Lithuanian, Maltese, and Polish young men and, in the case of the seemingly unrelated probit, for Estonians.

The results for the bivariate probit differ from those discussed above in the following respects. Looking first at labour force participation, for marriage or cohabitation, a considerably weaker but still highly significant effect is estimated. While experience is significant only quadratically, we find that the likelihood of labour force participation strongly increases with age. Note that age is not among the regressors in the other two probit equations on labour force participation. Another important difference against the results discussed previously is that people are found to be less likely to work if they possess tertiary-level education. The results for the migration probit do not differ substantially from those discussed for the univariate specifications discussed above.

Table 2

Probit estimation results: selection equations

Dependent variables: working; western Eur. work experience	Separate probit estimations				Seemingly unrelated probit				Bivariate probit			
	P(l=1)		P(m=1)		P(l=1)		P(m=1)		P(l=1)		P(m=1)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
couple	0.8506 ***	(0.0973)	0.1585	(0.1285)	0.8495 ***	(0.0973)	0.1958	(0.1292)	0.3850 ***	(0.1050)	0.1345	(0.1291)
age			0.1470 ***	(0.0198)			0.1310 ***	(0.0212)	0.3327 ***	(0.0155)	0.1809 ***	(0.0230)
experience	0.1808 ***	(0.0343)			0.1796 ***	(0.0344)			-0.0111	(0.0370)	-0.0223	(0.0648)
experience squared	-0.0143 ***	(0.0033)			-0.0142 ***	(0.0033)			-0.0149 ***	(0.0034)	-0.0026	(0.0058)
education: primary	-0.7806 ***	(0.0514)	-0.2626 **	(0.1149)	-0.7802 ***	(0.0514)	-0.3234 ***	(0.1158)	0.0336	(0.0632)	-0.2080 *	(0.1181)
education: tertiary	0.2660 **	(0.1298)	-0.1004	(0.1763)	0.2654 **	(0.1299)	-0.0768	(0.1762)	-0.3917 ***	(0.1492)	-0.2078	(0.1874)
settlement: rural	0.0924 *	(0.0529)	-0.0416	(0.0967)	0.0919 *	(0.0529)	-0.0359	(0.0968)	0.0480	(0.0560)	-0.0389	(0.0967)
settlement: large town	0.0825	(0.0561)	-0.1177	(0.1006)	0.0818	(0.0561)	-0.1102	(0.1007)	0.0954	(0.0592)	-0.0922	(0.1010)
Bulgaria	0.3542 ***	(0.1037)	-0.0918	(0.1763)	0.3527 ***	(0.1036)	-0.0902	(0.1761)	0.3069 ***	(0.1119)	-0.0927	(0.1758)
Cyprus	0.1124	(0.1331)	-0.3085	(0.2861)	0.1110	(0.1331)	-0.3717	(0.2844)	0.7447 ***	(0.1422)	-0.2941	(0.2871)
Czech Republic	0.8506 ***	(0.1205)	-0.2722	(0.2886)	0.8487 ***	(0.1204)	-0.2739	(0.2882)	0.9927 ***	(0.1321)	-0.2731	(0.2895)
Estonia	0.5187 ***	(0.1094)	0.4005 **	(0.1735)	0.5190 ***	(0.1093)	0.3959 **	(0.1737)	0.7030 ***	(0.1161)	0.4231 **	(0.1742)
Hungary	0.6264 ***	(0.1066)	-0.1149	(0.1924)	0.6243 ***	(0.1065)	-0.1160	(0.1921)	0.6991 ***	(0.1144)	-0.0980	(0.1931)
Latvia	0.6675 ***	(0.1087)	-0.2030	(0.2025)	0.6668 ***	(0.1086)	-0.2121	(0.2027)	0.8639 ***	(0.1141)	-0.1806	(0.2040)
Lithuania	0.153	(0.1111)	0.1670	(0.1792)	0.1517	(0.1110)	0.1623	(0.1797)	0.2088 *	(0.1205)	0.1782	(0.1796)
Malta	0.6653 ***	(0.1393)	0.1491	(0.2289)	0.6645 ***	(0.1393)	0.1324	(0.2268)	0.9788 ***	(0.1363)	0.1706	(0.2287)
Romania	0.1416	(0.1176)	-0.2731	(0.2146)	0.1394	(0.1175)	-0.2829	(0.2140)	0.5592 ***	(0.1322)	-0.2147	(0.2141)
Slovakia	0.6282 ***	(0.1073)	-0.1079	(0.1952)	0.6264 ***	(0.1071)	-0.1023	(0.1949)	0.7213 ***	(0.1169)	-0.0930	(0.1963)
Slovenia	0.6241 ***	(0.1102)	-0.0955 ***	(0.1897)	0.6207 ***	(0.1101)	-0.0777	(0.1889)	0.8280 ***	(0.1172)	0.0035	(0.1913)
constant	-0.9897 ***	(0.1194)	-4.6634 ***	(0.4652)	-0.9871 ***	(0.1192)	-4.3277 ***	(0.4929)	-7.1742 ***	(0.3179)	-5.2314 ***	(0.5230)
observations	3831		3831		3831		3831		3831		3831	
log likelihood	-2197.07		-533.90		-2727.27		-2727.27		-2455.35		-2455.35	
rho	--		--		0.1481***		0.1481***		0.1091*		0.1091*	

***, **, * denote significance at 1%, 5%, 10%. Robust standard errors in parentheses. All variables except age, experience and experience squared are binary. Omitted categories are: Completed secondary education, single, living in small town, country: Poland.

In Table A.5 in the appendix, we also provide the selection equations for eastern European foreign work experience. The differences found for the probability of labour force participation from the seemingly unrelated and bivariate probit are negligible compared to the base model with western European experience. Three noteworthy differences in the probability of foreign work-related stays in eastern compared to western Europe are as follows. First, we do not find education levels to matter for the latter. Second, compared to individuals from Poland, foreign work experience in other eastern European countries is significantly higher among Latvians, Lithuanians, and Slovaks – as well as among Romanians according to the bilateral probit estimation results – and lower in Cyprus, while similar country effects are not found for western European work-related experience. The higher propensity of eastern European work experience abroad among the nationals of the aforementioned countries certainly relates to the ethnic minorities in these countries (Russians in the Baltic countries, Hungarians in Romania and Slovakia). Finally, the estimations for eastern European work abroad show stronger correlation in the error terms of the equations for labour force participation and foreign work experience.

4.3 Estimation results: earnings of stayers and movers

Our model described in section 2.1 formulates differential returns to foreign work experience to materialize in the coefficient to the dummy variable indicating such experience. Empirically, we may allow for interactions of this dummy with other determinants of the earnings function, to account for the possibility that foreign work experience is mediated by the individual's other characteristics. The endogenous switching model allows for this possibility in the most generous way, since different earnings functions are estimated for stayers and movers. Our empirical application does in fact yield different earnings equations for stayers and movers. Below, we describe these in turn. The earnings premia expressed as ratios as compared to the case characterized by the omitted dummies are summarized in Table 5.

According to our estimation results for stayers, those occupying part-time jobs earn 26-28% less than those working full time. Unrecorded economic activity yields a premium of around 23%. In the specification without corrections for selection, we find a premium of 9% for activities in the public sector. This result is not, however, confirmed by the selectivity-corrected specifications. Compared to those with secondary-level education, those lacking such a degree earn substantially less, while those with higher education obtain considerably more. The different specifications yield somewhat different coefficients. The curtailment to be accepted by the least educated is highest in the equation without correction, amounting to 44% compared to those with secondary education. The other equations produce coefficients that imply a reduction of 22% or 30%. Similarly, the returns to occupations differ across specifications. There is, however, a consistent order of such returns as compared to the observations where an occupation has not been specified:

manual and white-collar workers obtain differential returns that are comparable in size but are lower than those of the other professional groups considered. The returns to self-employment are estimated to be highest, in particular higher than those obtained by holders of managerial positions. For the self-employed, we find earnings premia as compared to the omitted category of 'unspecified' occupation that are 10 to 60 percentage points higher than those of manual workers. In the case of the self-employed, one may suspect that earnings have been overstated in the survey. The differences between managers' and manual workers' earnings appear rather low – in fact, the specification with selection correction terms from the bivariate probit estimation yields lower returns to the former than to the latter – but these may be explained by the short professional careers of the individuals, especially those in positions requiring higher education. In addition, these results may also reflect that young eastern Europeans tend to be found in leading positions of young firms or not-for-profit organizations that cannot offer very high rewards for their activity. While people living in rural areas are not found to incur lower pay compared to those in small towns, young males living in large cities earn 17-27% more than the former, depending on the specification. The country dummies reflect common sense about the income levels of the countries surveyed: earnings are highest in Cyprus, Malta, Slovenia, and Hungary, and lowest in Bulgaria and Romania. Average salaries of Cypriots are around three to four times higher than those of Polish nationals.

A decisive feature of our methodology is the consideration of selection effects. In this regard, our specifications provide ambiguous results. We find a negative coefficient for the non-selection hazard relating to labour force participation in all specifications of stayers' earnings (see Table 3). The coefficient to the inverse Mills ratio is the standard deviation of the error term multiplied by the correlation coefficient of the error terms between the selection and the earnings regression: its sign allows us to read off the type of selection. It can thus be seen in our sample that those with less favourable earnings capabilities as stayers are more likely to choose to work. This result is intuitive in that many of the non-working in our sample are pursuing their education. Looking at the decision to stay, results are sensitive to the specification of the probit equations from which the non-selection hazards are obtained. The significant error correlation of the two probit equations supports specification (4) or (5) in Table 3. The correction terms as described in equation (2.10b) account for non-selection into non-migration: a positive coefficient implies negative correlation between the error terms relating to the propensity to stay and to stayers' earnings. Hence, specification (4) suggests that those who are more likely to stay receive lower stayers' earnings than a random individual from the sample.

As for the movers, part-time workers earn 36% less than those occupying full-time jobs. In contrast to stayers, we do not find a premium for either black-market activities or employment in the public sector. All specifications reveal a strong negative impact of a lack of secondary or higher education of 40-50% on earnings. The predicted coefficients are

Table 3

OLS estimation results: stayers' earnings, various selection correction terms

Dependent variable: log income, €	(1)		(2)		(3)		(4)		(5)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
part-time job	-0.3220 ***	(0.0680)	-0.3277 ***	(0.0671)	-0.3040 ***	(0.0670)	-0.3055 ***	(0.0672)	-0.3000 ***	(0.0642)
black economy	0.2070 **	(0.0971)	0.2099 **	(0.0962)	0.2034 **	(0.0938)	0.2036 **	(0.0941)	0.2200 **	(0.0914)
public employer	0.0881 *	(0.0470)	0.0735	(0.0472)	0.0725	(0.0469)	0.0726	(0.0469)	0.0650	(0.0454)
education: primary	-0.5744 ***	(0.0530)	-0.2473 ***	(0.0748)	-0.2608 ***	(0.0744)	-0.2539 ***	(0.0744)	-0.3535 ***	(0.0556)
education: tertiary	0.2624 ***	(0.0880)	0.1946 **	(0.0900)	0.2015 **	(0.0908)	0.1961 **	(0.0910)	0.2400 **	(0.0966)
occupation: manual	0.8535 ***	(0.0674)	0.8205 ***	(0.0672)	0.7783 ***	(0.0664)	0.7823 ***	(0.0665)	0.5666 ***	(0.0725)
occupation: white collar	0.8456 ***	(0.0832)	0.8070 ***	(0.0825)	0.7403 ***	(0.0830)	0.7481 ***	(0.0829)	0.5097 ***	(0.0905)
occupation: manager	0.9534 ***	(0.0832)	0.9346 ***	(0.0843)	0.8161 ***	(0.0849)	0.8214 ***	(0.0850)	0.6232 ***	(0.0910)
occupation: self employed	1.0862 ***	(0.1333)	1.0334 ***	(0.1267)	0.9494 ***	(0.1293)	0.9575 ***	(0.1290)	0.7455 ***	(0.1280)
settlement: rural	0.0220	(0.0499)	-0.0096	(0.0498)	0.0387	(0.0502)	0.0389	(0.0504)	-0.0063	(0.0488)
settlement: large town	0.1906 ***	(0.0520)	0.1607 ***	(0.0520)	0.2387 ***	(0.0539)	0.2374 ***	(0.0541)	0.1577 ***	(0.0524)
Bulgaria	-0.6144 ***	(0.1064)	-0.7769 ***	(0.1047)	-0.6450 ***	(0.1046)	-0.6150 ***	(0.1052)	-0.7677 ***	(0.1075)
Cyprus	1.4514 ***	(0.1252)	1.4222 ***	(0.1218)	1.6199 ***	(0.1227)	1.6898 ***	(0.1254)	1.2599 ***	(0.1411)
Czech R.	0.0358	(0.1364)	-0.2853 **	(0.1416)	0.0330	(0.1523)	0.0972	(0.1552)	-0.3447 **	(0.1562)
Estonia	0.0489	(0.1265)	-0.1563	(0.1278)	-0.1808	(0.1260)	-0.1829	(0.1255)	-0.1058	(0.1251)
Hungary	0.3240 ***	(0.1104)	0.0848	(0.1120)	0.3077 ***	(0.1176)	0.3540 ***	(0.1194)	0.0605	(0.1200)
Latvia	0.0154	(0.1166)	-0.2536 **	(0.1202)	0.0186	(0.1279)	0.0767	(0.1305)	-0.3336 **	(0.1378)
Lithuania	-0.0929	(0.1201)	-0.1816	(0.1191)	-0.2103 *	(0.1178)	-0.2135 *	(0.1176)	-0.1077	(0.1196)
Malta	1.3018 ***	(0.1194)	1.0645 ***	(0.1210)	1.2235 ***	(0.1179)	1.2622 ***	(0.1184)	1.0177 ***	(0.1172)
Romania	-1.0996 ***	(0.1411)	-1.1622 ***	(0.1370)	-0.9630 ***	(0.1381)	-0.9167 ***	(0.1395)	-1.2255 ***	(0.1443)
Slovakia	-0.1761	(0.1118)	-0.4119 ***	(0.1138)	-0.1976 *	(0.1178)	-0.1522	(0.1193)	-0.4397 ***	(0.1211)
Slovenia	1.0493 ***	(0.1146)	0.8170 ***	(0.1148)	0.9942 ***	(0.1170)	1.0264 ***	(0.1177)	0.7352 ***	(0.1225)
constant	4.4615 ***	(0.1185)	5.1407 ***	(0.1610)	4.3727 ***	(0.2160)	4.2623 ***	(0.2214)	5.5051 ***	(0.2544)
lambda - L=1			-0.5949 ***	(0.1027)	-0.2281 *	(0.1262)	-0.2224 *	(0.1222)		
lambda - M=0					-2.1721 ***	(0.3947)	2.3352 ***	(0.3916)		
lambda 1 - L=1, M=0									-0.7729 ***	(0.1201)
lambda 2 - L=1, M=0									-0.7056	(0.5428)
observations	1242		1242		1242		1242		1242	
R ²	0.64		0.65		0.66		0.66		0.67	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland.

Table 4

OLS estimation results: movers' earnings, various selection correction terms

Dependent variable:	(1)		(2)		(3)		(4)		(5)	
log income, EUR	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
part-time job	-0.4485 **	(0.1911)	-0.4501 **	(0.1930)	-0.4423 **	(0.1906)	-0.4415 **	(0.1909)	-0.4357 **	(0.2001)
black economy	-0.0353	(0.1979)	-0.0356	(0.1994)	-0.0361	(0.1853)	-0.0362	(0.1850)	-0.0330	(0.1902)
public employer	-0.1555	(0.1752)	-0.1554	(0.1764)	-0.2117	(0.1790)	-0.2107	(0.1784)	-0.1977	(0.1825)
education: primary	-0.6617 **	(0.2626)	-0.6758 **	(0.3152)	-0.6192 *	(0.3309)	-0.6033 *	(0.3347)	-0.5261 *	(0.3289)
education: tertiary	0.4050 *	(0.2207)	0.4053 *	(0.2229)	0.3732	(0.2234)	0.3714	(0.2235)	0.3708	(0.2150)
occupation: manual	0.3645 *	(0.2036)	0.3627 *	(0.2032)	0.3297	(0.1995)	0.3306	(0.2001)	0.3423	(0.2201)
occupation: white collar	0.7154 **	(0.2812)	0.7147 **	(0.2840)	0.6433 **	(0.2824)	0.6428 **	(0.2832)	0.6632 **	(0.2937)
occupation: manager	0.5038 *	(0.2824)	0.5065 *	(0.2918)	0.4566	(0.2924)	0.4556	(0.2929)	0.4470	(0.3044)
occupation: self employed	0.8079 ***	(0.2085)	0.8085 ***	(0.2113)	0.7537 ***	(0.2178)	0.7534 ***	(0.2182)	0.7571 ***	(0.2386)
settlement: rural	0.2946	(0.1771)	0.2948	(0.1780)	0.2929	(0.1758)	0.2962 *	(0.1758)	0.2988 *	(0.1790)
settlement: large town	0.1255	(0.1529)	0.1242	(0.1564)	0.1866	(0.1483)	0.1920	(0.1487)	0.1888	(0.1545)
Bulgaria	-1.1844 ***	(0.4226)	-1.1736 ***	(0.4288)	-1.1245 **	(0.4379)	-1.1078 **	(0.4405)	-1.1818 **	(0.5244)
Cyprus	0.3922	(0.5450)	0.3917	(0.5497)	0.6155	(0.5383)	0.6597	(0.5468)	0.6147	(0.7631)
Czech R.	-1.1071 **	(0.5370)	-1.0925 *	(0.5624)	-0.8261	(0.5715)	-0.7834	(0.5771)	-0.9193	(0.8927)
Estonia	-0.3628	(0.3963)	-0.3477	(0.4461)	-0.3814	(0.4522)	-0.3804	(0.4551)	-0.4645	(0.4430)
Hungary	-0.0601	(0.5049)	-0.0512	(0.5176)	0.08	(0.5465)	0.1044	(0.5532)	0.032	(0.6617)
Latvia	-0.071	(0.4129)	-0.0555	(0.4628)	0.128	(0.4855)	0.1591	(0.4896)	0.0451	(0.7147)
Lithuania	-0.2249	(0.4062)	-0.2182	(0.4110)	-0.2699	(0.4152)	-0.2704	(0.4153)	-0.2953	(0.4246)
Malta	0.9194 *	(0.4703)	0.9318 *	(0.4975)	1.0144 ***	(0.4876)	1.0356 ***	(0.4897)	0.9442	(0.5855)
Romania	-1.4293 ***	(0.4176)	-1.4263 ***	(0.4199)	-1.2851 ***	(0.4519)	-1.2616 ***	(0.4562)	-1.3063 **	(0.6453)
Slovakia	-0.5772	(0.4092)	-0.5664	(0.4263)	-0.4069	(0.4434)	-0.385	(0.4481)	-0.4793	(0.6387)
Slovenia	0.5235	(0.4560)	0.5345	(0.4723)	0.6979	(0.4828)	0.7171	(0.4867)	0.606	(0.5597)
constant	5.4384 ***	(0.4429)	5.4113 ***	(0.5493)	5.9609 ***	(0.6873)	5.9935 ***	(0.7213)	6.0629 ***	(0.8999)
lambda - L=1			0.0262	(0.3372)	0.2172	(0.3632)	0.2531	(0.3727)		
lambda - M=1					-0.4037	(0.2621)	-0.4515	(0.2958)		
lambda 1 - M=1, L=1									0.0684	(0.8023)
lambda 2 - L=1, M=1									-0.3837	(0.8025)
observations	93		93		93		93		93	
R ²	0.73		0.73		0.74		0.74		0.73	
Hausman Chi ²	19.82		21.28		21.28		21.37		15.98	
Pr>Chi ²	0.0478		0.0306		0.0305		0.0298		0.1417	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland. Hausman test - H0: The difference between the coefficients of the stayers' and the movers' equation is not systematic (country dummies, the constant, and selection correction terms not included).

Table 5

Interpretation of the coefficients

	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
			stayers					movers		
part-time job	-0.28	-0.28	-0.26	-0.26	-0.26	-0.36	-0.36	-0.36	-0.36	-0.35
black economy	0.23	0.23	0.23	0.23	0.25	-0.03	-0.03	-0.04	-0.04	-0.03
public employer	0.09	0.08	0.08	0.08	0.07	-0.14	-0.14	-0.19	-0.19	-0.18
education: primary	-0.44	-0.22	-0.23	-0.22	-0.30	-0.48	-0.49	-0.46	-0.45	-0.41
education: tertiary	0.30	0.21	0.22	0.22	0.27	0.50	0.50	0.45	0.45	0.45
occupation: manual	1.35	1.27	1.18	1.19	0.76	0.44	0.44	0.39	0.39	0.41
occupation: white collar	1.33	1.24	1.10	1.11	0.66	1.05	1.04	0.90	0.90	0.94
occupation: manager	1.59	1.55	1.26	1.27	0.86	0.65	0.66	0.58	0.58	0.56
occupation: self employed	1.96	1.81	1.58	1.61	1.11	1.24	1.24	1.12	1.12	1.13
settlement: rural	0.02	-0.01	0.04	0.04	-0.01	0.34	0.34	0.34	0.34	0.35
settlement: large town	0.21	0.17	0.27	0.27	0.17	0.13	0.13	0.21	0.21	0.21
Bulgaria	-0.46	-0.54	-0.48	-0.46	-0.54	-0.69	-0.69	-0.68	-0.67	-0.69
Cyprus	3.27	3.15	4.05	4.42	2.53	0.48	0.48	0.85	0.93	0.85
Czech R.	0.04	-0.25	0.03	0.10	-0.29	-0.67	-0.66	-0.56	-0.54	-0.60
Estonia	0.05	-0.14	-0.17	-0.17	-0.10	-0.30	-0.29	-0.32	-0.32	-0.37
Hungary	0.38	0.09	0.36	0.42	0.06	-0.06	-0.05	0.08	0.11	0.03
Latvia	0.02	-0.22	0.02	0.08	-0.28	-0.07	-0.05	0.14	0.17	0.05
Lithuania	-0.09	-0.17	-0.19	-0.19	-0.10	-0.20	-0.20	-0.24	-0.24	-0.26
Malta	2.68	1.90	2.40	2.53	1.77	1.51	1.54	1.76	1.82	1.57
Romania	-0.67	-0.69	-0.62	-0.60	-0.71	-0.76	-0.76	-0.72	-0.72	-0.73
Slovakia	-0.16	-0.34	-0.18	-0.14	-0.36	-0.44	-0.43	-0.33	-0.32	-0.38
Slovenia	1.86	1.26	1.70	1.79	1.09	0.69	0.71	1.01	1.05	0.83
constant	86.62	170.84	79.26	70.97	245.94	230.07	223.92	387.96	400.82	429.62

The figure for the constant - the exponential of the estimated coefficient - indicates the estimated income of a person with characteristics described by the omitted categories in €. The figures for the dummy variables indicate the ratio of income against the omitted category. Italics relate to significant coefficients at 10 per cent or less.

higher in the specifications that do not account for selection into the mover status. Similarly, these specifications predict an earnings premium of 50% for those who hold a tertiary-level degree, a result that is not confirmed once selection into foreign work experience is controlled for. On the ordering of returns to the four occupations distinguished, the specifications bear similar results: the self-employed are predicted to earn most, more than twice as much as those from the 'unspecified' category, followed by the white-collar workers, who obtain 90-100% more. Managers and manual workers are predicted to obtain earnings that are around 60% and 44% higher respectively, but these latter results are again insignificant in the specifications controlling for selection in foreign experience. Interestingly, the regressions with correction terms from the probits with error correlation predict that young males with foreign experience living in rural areas earn 35% more than those located in small towns. For large towns, no such effect is found. Young people from Malta are found to have the highest earnings, while the lowest income prevails in Bulgaria and Romania. The country dummy for the Czech Republic is, consistently across specifications, also around one standard deviation below the average of all countries. Finally, there is no specification that provides significant selection correction terms for either labour force participation or work-related stay in western Europe. Apparently, those individuals who have chosen this experience do just as well upon return than any random individual.

From comparing the equations for movers' and stayers' earnings respectively, the following insights emerge. For stayers, part-time work is less unfavourably paid than for movers, compared to the respective full-time work schedule. Certainly, this may be because of differences in the average hours worked by stayers and movers respectively. On the other hand, the results may reflect situations where better jobs that are specifically targeted at those with foreign experience demand full-time presence, while temporary jobs chosen by movers do not offer possibilities to make use of the specific skills acquired abroad. As for the returns to black-market activities, the estimated premium of around 25% for stayers appears reasonable, if we regard respective jobs as probably not being the most prestigious and well-paid, and considering saved deductions for taxes and social security contributions. The insignificant coefficients in the movers' equation may reflect that the pay in formal jobs for those with work-related foreign experience outperforms the black-market pay of similar individuals enough to counterbalance the tax advantage of the latter, assuming that specific qualities acquired abroad are more likely to be demanded and rewarded in formal labour markets. Looking at education levels, the estimated difference in pay between those with and without a secondary degree is considerably higher for movers. On the other hand, additional rewards for a tertiary degree are robustly found in stayers' but not in movers' earnings. This can be interpreted such that professions requiring only primary education do not offer much opportunity for the acquisition of skills abroad that are valuable in domestic labour markets. Moreover, higher education is not rewarded per se among movers: this may reflect that, among movers, careers with higher salaries are also

available only to those with secondary education. It could also be the case that earnings premia for foreign work experience become effective later in the careers of the highly educated, bearing in mind that such individuals in our sample must be at the beginning of their professional development. Finally, while stayers obtain higher earnings in large cities, among movers it is, in contrast, those in rural areas who obtain additional rewards. Since movers' proven international mobility may also translate into domestic mobility, this finding may reflect the differential compensation that movers with specific qualities expect to receive in such areas in order to stay there.

We have checked for the equality of the coefficients except those for the country dummies, the selection correction terms, and the constant in the stayers' and movers' equation by means of a Hausman test. The results are reported in the bottom rows of Table 4. Based on this test, the equality of the earnings premia related to the human capital and job characteristics that we tested for can be rejected in all specifications but the one with the selection correction terms obtained from the bivariate probit equations.

The equations for stayers' and movers' earnings with control variables for EU language skills are presented in Tables A.3 and A.4 in the appendix respectively. The additional control variables leave most results qualitatively unchanged, including the results of the Hausman test on the equality of the main coefficients in the two equations. From the language dummies, we find that stayers obtain an earnings premium of 22-32% for language skills that relate to destination countries of recent visits, whereas there is no significant premium to proficiency in other western European languages. For movers, we do not find a premium for proficiency in either type of language.²⁶ That is, the knowledge of western European countries' languages is indeed an asset in eastern Europe, but according to our results, it is not specifically for these skills that individuals with western European work experience are better paid. This finding is also supported by the results of the mean difference estimator presented in column B of Table 6, which similarly shows a premium for western European work experience of around 22%.²⁷ As a further difference against the estimations without the language dummies, there is no specification that reveals a premium for tertiary education for movers, and neither is the curtailment for a lack of secondary education robust across specifications.

²⁶ Note that there is also variation in the 'EU language, visited' variable among the movers: some of the individuals reported a work-related stay in a western European country but have not indicated a conversation-level proficiency of the language of the respective country. Some of these individuals are likely to have performed unskilled labour without specific linguistic requirements, while others may have worked in an international environment or may have reported travels to business gatherings that required the knowledge of English or French instead of the official language of the destination country.

²⁷ The estimation results without language dummies presented in column B imply an earnings premium of 29% for those with western European work experience.

Table 6

OLS estimation results: stayers' and movers' earnings, mean difference estimator

dependent variable:	(A)		(B)		(C)		(D)	
log income in euros	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
migrant	0.2476 ***	(0.0695)	0.2018 ***	(0.0708)	0.2004 **	(0.0892)	0.1248	(0.0973)
language, visited			0.2202 **	(0.0895)				
language, other			0.0444	(0.0478)				
part-time job	-0.3229 ***	(0.0633)	-0.3318 ***	(0.0639)	-0.3312 ***	(0.0633)	-0.3322 ***	(0.0673)
black economy	0.1653 *	(0.0898)	0.1770 *	(0.0908)	0.1669 *	(0.0891)	0.2075 **	(0.0959)
public employer	0.0574	(0.0451)	0.0579	(0.0454)	0.0452	(0.0449)	0.0696	(0.0472)
education: primary	-0.2824 ***	(0.0720)	-0.2577 ***	(0.0733)	-0.2833 ***	(0.0721)	-0.2461 ***	(0.0747)
education: tertiary	0.2168 ***	(0.0819)	0.2048 **	(0.0818)	0.2209 ***	(0.0830)	0.1928 **	(0.0904)
occupation: manual	0.7915 ***	(0.0632)	0.7975 ***	(0.0635)	0.7871 ***	(0.0633)	0.8168 ***	(0.0673)
occupation: white collar	0.8064 ***	(0.0789)	0.8020 ***	(0.0787)	0.8091 ***	(0.0790)	0.8074 ***	(0.0824)
occupation: manager	0.8833 ***	(0.0797)	0.8831 ***	(0.0792)	0.8858 ***	(0.0798)	0.9344 ***	(0.0845)
occupation: self-employed	1.0113 ***	(0.1136)	1.0015 ***	(0.1112)	1.0214 ***	(0.1130)	1.0276 ***	(0.1268)
location: rural area	0.0043	(0.0480)	0.0074	(0.0479)	0.0029	(0.0479)	-0.0049	(0.0496)
location: large town	0.1544 ***	(0.0490)	0.1443 ***	(0.0498)	0.1535 ***	(0.0493)	0.1630 ***	(0.0521)
Bulgaria	-0.8214 ***	(0.1026)	-0.8032 ***	(0.1030)	-0.8242 ***	(0.1041)	-0.7747 ***	(0.1044)
Cyprus	1.3477 ***	(0.1200)	1.3435 ***	(0.1197)	1.3470 ***	(0.1209)	1.4288 ***	(0.1217)
Czech Republic	-0.3190 **	(0.1392)	-0.3463 *	(0.1401)	-0.3354 **	(0.1401)	-0.2928 **	(0.1420)
Estonia	-0.1975	(0.1221)	-0.2113 *	(0.1232)	-0.1888	(0.1233)	-0.1575	(0.1279)
Hungary	0.0703	(0.1094)	0.0523	(0.1094)	0.0563	(0.1108)	0.0807	(0.1120)
Latvia	-0.2615 **	(0.1173)	-0.2701 **	(0.1169)	-0.2817 **	(0.1190)	-0.2636 **	(0.1206)
Lithuania	-0.1796	(0.1148)	-0.1732	(0.1147)	-0.1959 *	(0.1180)	-0.1880	(0.1196)
Malta	1.0461 ***	(0.1183)	1.0134 ***	(0.1210)	1.0478 ***	(0.1194)	1.0729 ***	(0.1208)
Romania	-1.1943 ***	(0.1326)	-1.1828 ***	(0.1342)	-1.2136 ***	(0.1338)	-1.1767 ***	(0.1366)
Slovakia	-0.4426 ***	(0.1106)	-0.4619 ***	(0.1109)	-0.4678 ***	(0.1121)	-0.4294 ***	(0.1143)
Slovenia	0.7639 ***	(0.1113)	0.7384 ***	(0.1126)	0.7595 ***	(0.1133)	0.8089 ***	(0.1153)
constant	5.1564 ***	(0.1530)	5.1530 ***	(0.1533)	5.1928 ***	(0.1548)	5.1522 ***	(0.1616)
lambda (L)	-0.5526 ***	(0.0970)	-0.5856 ***	(0.0980)	-0.5655 ***	(0.0973)	-0.5961 ***	(0.1021)
observations	1,335		1,328		1,335		1,242	
R ²	0.65		0.69		0.65		0.65	

Specifications: (A) western European working experience; (B) western European working experience, language skills considered; (C) eastern European working experience; (D) eastern European working experience, western experience dropped. ***, **, * denote significance at 1%, 5%, 10% resp. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories: no foreign work experience, full time job, employment in formal economy, employer in private sector, completed secondary education, occupation unspecified, country: Poland

Looking at foreign work-related experience acquired in eastern European countries, the stayers' equation is broadly similar to the equation estimated for non-movers to western Europe: indeed, most of the observations are identical, and the selection correction terms do not change very much. For the movers, we obtain fewer significant coefficients. In particular, we do not find a penalty for the lack of secondary education in all specifications, and none of the specifications yield a premium for tertiary education. Interestingly, among those with eastern work-related experience abroad, we find positive selection into an active work status in most specifications. Most importantly, however, the Hausman test does not allow us to reject the equality of the tested coefficients. Finally, while the mean difference estimator still shows a premium to eastern European work-related experience, the significance of the respective coefficient vanishes once we exclude the observations with western European experience from the sample (Table 6, columns C and D). We interpret these results as indicative evidence that it is indeed the superior skills acquired in the more advanced economies, or the cultural knowledge to facilitate the economic ties with these economies, that is valued by employers in eastern Europe, and not just proven flexibility.

Table 7

**Predicted stayers' and movers' earnings and returns to foreign experience,
by foreign work experience status, from various earnings equation specifications,
in EUR**

Earnings equation		mean diff.	(1)	(2)	(3)	(4)	(5)
W _S	m=0 subsample	192.91	193.73	194.59	195.78	195.78	196.33
	m=1 subsample	258.41	256.17	263.38	271.96	271.76	266.24
	difference	65.51	62.43 ***	68.79 ***	76.18 ***	75.98 ***	69.91 ***
W _M	m=0 subsample	247.11	240.43	240.50	237.28	237.37	237.56
	m=1 subsample	331.02	313.22	313.23	314.91	314.89	314.40
	difference	83.91	72.79 ***	72.73 ***	77.63 ***	77.52 ***	76.84 ***
W _M - W _S	m=0 subsample	54.20 ***	46.70 ***	45.91 ***	41.50 ***	41.59 ***	41.23 ***
	m=1 subsample	72.61 ***	57.06 ***	49.85 ***	42.95 ***	43.13 ***	48.16 ***
	difference	18.41 ***	10.36	3.94	1.46	1.54	6.93
W _M : W _S	m=0 subsample	1.28	1.38	1.38	1.33	1.34	1.35
	m=1 subsample	1.28	1.40	1.36	1.32	1.32	1.30
	difference	0.00	0.02	-0.02	-0.01	-0.02	-0.05

*** denotes significance at 1% (one-sided test of equal means).

Earnings predicted from the various specifications, both of the stayers' and of the movers' equations, are presented in Table 7 according to these two categories (in euros). All specifications predict higher earnings for movers by around 70 to 75 euros (depending on the specification) or around one third of an average young stayer's salary, both if they choose to move as they did and if they had not decided to do so. Moreover, on average, participation in a work-related stay abroad results in better salaries of 30% both for the de

facto movers and for the stayers. These findings allow us to conclude the following: first, those who go abroad are equipped with considerably better earnings capabilities than those who do not. This is consistent with the finding of a negative truncation effect in the earnings equation of the stayers. Second, in the present comparative static framework, a returnee from a western European work-related stay from either of the factual movers' or stayers' group can expect a higher salary with this experience. We interpret this as evidence for the transfer of specific skills acquired in the west to the eastern European economies. Nonetheless, we do not find evidence of differences in the extent of the premium to a foreign work stay.

5 Conclusion

In the present study, we have investigated earnings differences between young males from central and eastern Europe with and without western European work-related experience respectively, using the Central and Eastern Youth Eurobarometer dataset of spring 2003 in an endogenous switching regression framework that generously allows for differences in the earnings functions of the two groups considered as well as for the consideration of selection into such experience, be it on observables or unobservables. We have found a premium to western European work experience of around one third of a stayer's earnings. In addition, our estimations highlighted specific differences in the rewards for various human capital characteristics of stayers and movers respectively. Among other things, the less educated of the movers fare significantly worse than the stayers, compared with the better educated in the respective group. Moreover, our findings include evidence that, among the individuals surveyed, the decisions to work and to go abroad respectively have at least a common (unobserved) determining factor or are taken simultaneously. Our results provide inconclusive evidence of selection in going abroad to work or not: while stayers are found to have worse stayers' earnings than movers, our estimations are unable to reveal significant differences in movers' earnings of both groups or in the gains from moving between the two groups, and selection effects are not found to be significant in the movers' earnings equation.

Irrespective of the existence of such effects, the increased earnings capability of those with western European work-related experience in central and eastern European labour markets is evident and stable across specifications. Since potential endogeneity of selection is taken into account as far as the data permit, we can safely interpret this as evidence of substantial skills transmission from western to eastern Europe via international labour mobility. Nevertheless, further research is needed to elaborate on this result. In particular, remaining ambiguities in our findings on selection effects and predicted earnings differentials need to be looked at. It would be especially desirable to study the earnings premium on foreign work-related experience with data that allow us to control for the type

of work pursued abroad, in order to obtain insights into the type of internationally transferable skills for which returning migrants are rewarded.

Our analysis suggests that temporary work migration is beneficial to the economies of the source countries. However, it also contains unfortunate implications. In particular, we have found that the propensity to participate in western European work-related experience is comparatively lower among those with low education levels. With the result of substantial earnings premia to such experience, temporary migration appears to improve the labour market situation of those who are in a relatively advantageous position already, instead of being equally accessible to the more disadvantaged.

Our findings suggest²⁸ that return migration, which has become possible after the fall of the Iron Curtain, is providing a mechanism to foster the catch-up of the eastern European economies. From a policy perspective, our results support the call for the extension of opportunities for temporary work migration to the western economies, e.g. by exchange programmes or training schemes, in order to enhance such positive effects. From a longer-term perspective, this is relevant for the countries of the western Balkans, since all old EU members will have to grant free labour mobility to the citizens of the accession countries no later than seven years after their EU entry. On the other hand, the eastern European source countries can similarly adopt appropriate measures to foster the return of their nationals working abroad who could otherwise become permanent émigrés. This will be even more important when the restrictions to labour mobility within the enlarged EU expire. Although initial experiences of labour mobility in the enlarged EU do not yet allow us to investigate the conditions under which east to west European labour migration is temporary or permanent, experiences with the southern European enlargement are positive: allowing for unrestricted labour mobility has in fact encouraged return migration to the source countries in the Mediterranean. We can optimistically speculate that, with free labour mobility in the enlarged EU, increased temporary moves will further contribute to the catch-up of the eastern European economies and to the spread of more advanced techniques and standards.

²⁸ As an alternative explanation of our results, a work-related stay abroad may be used by the individuals concerned to signal higher ability that is otherwise unobservable to the employer. Empirically, we have no means to identify whether the earnings premium to individuals with foreign work-related experience is due to the possession of superior skills acquired abroad or to the role of foreign work experience as a signalling device.

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Appendix

Table A.1

Definition of the variables

Income	The CCEB 2003.1 contains information on the individual's regular monthly income (in euros) and its source. Our income variable uses the income level contained in the survey if the main source is a regular job, casual work, or black-market activity, or if information on the main source is missing but the individual's occupation suggests regular work (i.e. any of the following categories: manual worker, white-collar worker, manager, self-employed – while the categories left out of consideration include unemployed, looking after the home, student, retired, and other). In the regression analyses, we employ the logarithm of the income variable.
Foreign work-related experience	The CCEB 2003.1 asks the individuals whether a visit to any of a list of countries has taken place in the past two years. Next, the individual is asked for the purpose(s) of the visit(s). Our foreign work experience variable is positive if the individual has been in Switzerland, Liechtenstein, Norway, or any of the 15 EU member states designated as such as of 2003 for work or business-related reasons in the past two years.
Labour market status	We assign a value of one to the dummy variable indicating active labour market status if the individual reports income from work (see above), or if a working occupation (see above) is reported.
Couple	The CCEB 2003.1 distinguishes between the following family statuses: married, living as married, single, divorced, separated, and widowed. We assign a value of one to a dummy variable related to individuals living with their partner in the case of either of the first two categories, and zero otherwise.
Age	We construct the age variable using the information from the CCEB 2003.1 on the individual's year of birth.
Potential work experience	The CCEB 2003.1 contains the number of years passed since the individual has finished education. From these figures, we construct potential work experience.
Education levels	The CCEB 2003.1 offers detailed information on the individual's education level, adjusted to national education systems and degrees. We summarize these levels into three categories: primary education (i.e. elementary school), secondary education (up to completed high school), and tertiary education (completed post-secondary education), and create respective dummy variables.
Occupation	The CCEB 2003.1 considers 18 types of occupations of the individuals who are working. We group these into four categories: manual worker, white-collar worker, manager, and self-employed worker.
Part-time employment	The CCEB 2003.1 distinguishes between full and part-time or occasional work. Our part-time employment dummy reflects the latter two with a value of one.
Black-economy activity	The CCEB 2003.1 asked for the main source of the individual's income. Our black-economy dummy is positive if the individual has indicated black-economy activities.

Table A.1 (continued)

Definition of the variables

Public employment	The CCEB 2003.1 contains information on whether the individual has received his pay from a public authority. This is reflected by our public employment dummy with a value of one.
Settlement	The survey distinguishes three types of settlement: rural area, small town, large town. We use these categories.
Country	The CCEB 2003.1 contains information on the country of residence of the individual. We create dummies to distinguish the 12 EU accession countries (as of 2003).
Language proficiency	The individuals were asked about their conversation-level proficiency for a list of languages. Among these, we distinguish the official languages of those western European countries that the interviewee has visited for any reason in the past two years (language, visited) and of those where no such visit has taken place (language, other). Note that both indicators disregard the knowledge of any language that does not relate to the western European countries investigated.

Table A.2

Visits to western Europe: source and destination countries

From/to:	BE	DK	GE	GR	ES	FR	IE	IT	LU	NL	AT	PT	SF	SE	UK	CH	LI	NW	sum
BG	2	0	4	5	0	0	0	1	0	0	1	0	0	0	2	0	0	0	13
CY	0	1	0	3	0	1	0	2	0	2	0	0	0	1	1	0	0	0	3
CZ	0	0	2	0	0	1	0	1	0	2	0	0	0	1	1	1	0	0	2
EE	1	3	6	0	0	1	0	0	1	2	0	0	13	4	0	0	0	0	17
HU	1	1	6	1	1	1	1	2	1	2	8	1	0	0	1	2	0	0	9
LV	1	1	4	0	1	1	2	0	0	2	0	1	2	2	1	0	0	2	7
LT	1	1	5	0	0	2	0	1	0	1	1	0	0	3	1	0	0	0	10
MT	2	1	2	1	2	2	1	5	2	2	1	1	2	1	2	1	0	1	7
PL	0	1	5	0	1	1	0	3	0	1	0	0	0	1	0	0	0	0	6
RO	0	0	2	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	4
SK	0	0	5	0	0	1	0	1	0	0	5	0	0	0	1	0	0	0	7
SI	1	0	3	0	1	2	0	4	0	1	6	0	0	0	1	1	0	0	8
sum	9	9	44	10	6	13	4	21	4	15	22	3	17	13	11	6	0	3	93

Note: Abbreviations: AT – Austria, BE – Belgium, BG – Bulgaria, CY – Cyprus, CZ – Czech Republic, DK – Denmark, EE – Estonia, ES – Spain, FR – France, GR – Greece, HU – Hungary, IE – Ireland, IT – Italy, LT – Latvia, LU – Luxemburg, LV – Lithuania, MT – Malta, NL – The Netherlands, PL – Poland, PT – Portugal, RO – Romania, SE – Sweden, SF – Finland, SK – Slovakia, SI – Slovenia, UK – United Kingdom, CH – Switzerland, LI – Liechtenstein, NW – Norway.

Table A.3

OLS estimation results: stayers' earnings, various selection correction terms, language skills considered

Dependent variable: log income, €	(1)		(2)		(3)		(4)		(5)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
language, visited	0.1985 *	(0.1024)	0.2213 **	(0.1019)	0.2359 **	(0.1015)	0.2383 **	(0.1015)	0.2753 ***	(0.1016)
language, other	0.0389	(0.0499)	0.0543	(0.0493)	0.0719	(0.0486)	0.0731	(0.0484)	0.0923 **	(0.0470)
part-time job	-0.3304 ***	(0.0686)	-0.3369 ***	(0.0677)	-0.3115 ***	(0.0676)	-0.3089 ***	(0.0675)	-0.3059 ***	(0.0645)
black economy	0.2159 **	(0.0982)	0.2185 **	(0.0973)	0.2134 **	(0.0948)	0.2162 **	(0.0944)	0.2355 **	(0.0921)
public employer	0.0898 *	(0.0474)	0.0762	(0.0475)	0.0768	(0.0471)	0.0758	(0.0470)	0.0703	(0.0456)
education: primary	-0.5717 ***	(0.0533)	-0.2246 ***	(0.0759)	-0.2371 ***	(0.0756)	-0.2114 ***	(0.0748)	-0.3392 ***	(0.0560)
education: tertiary	0.2522 ***	(0.0882)	0.1801	(0.0899)	0.1858 ***	(0.0909)	0.1826 ***	(0.0911)	0.2149 **	(0.0977)
occupation: manual	0.8604 ***	(0.0675)	0.8292 ***	(0.0674)	0.7908 ***	(0.0666)	0.7850 ***	(0.0666)	0.5757 ***	(0.0724)
occupation: white collar	0.8366 ***	(0.0833)	0.7989 ***	(0.0823)	0.7327 ***	(0.0827)	0.7261 ***	(0.0827)	0.4950 ***	(0.0906)
occupation: manager	0.9490 ***	(0.0823)	0.9318 ***	(0.0835)	0.8135 ***	(0.0844)	0.8014 ***	(0.0846)	0.6042 ***	(0.0909)
occupation: self employed	1.0779 ***	(0.1304)	1.0222 ***	(0.1237)	0.9391 ***	(0.1261)	0.9292 ***	(0.1263)	0.7268 ***	(0.1245)
settlement: rural	0.0282	(0.0500)	-0.0049	(0.0497)	0.0448	(0.0501)	0.0499	(0.0500)	0.0028	(0.0486)
settlement: large town	0.1835 ***	(0.0530)	0.1487 ***	(0.0529)	0.2254 ***	(0.0548)	0.2350 ***	(0.0549)	0.1421 ***	(0.0528)
Bulgaria	-0.5887 ***	(0.1082)	-0.7546 ***	(0.1058)	-0.6152 ***	(0.1051)	-0.5842 ***	(0.1055)	-0.7277 ***	(0.1083)
Cyprus	1.4474 ***	(0.1258)	1.4127 ***	(0.1223)	1.6089 ***	(0.1229)	1.6795 ***	(0.1255)	1.2363 ***	(0.1404)
Czech R.	0.0276	(0.1367)	-0.3107 **	(0.1424)	0.0135	(0.1528)	0.0787	(0.1556)	-0.3659 **	(0.1566)
Estonia	0.0448	(0.1279)	-0.1728	(0.1295)	-0.1989	(0.1278)	-0.2011	(0.1272)	-0.1237	(0.1266)
Hungary	0.3177 ***	(0.1102)	0.0643	(0.1120)	0.2903 **	(0.1173)	0.3373 ***	(0.1190)	0.0429	(0.1190)
Latvia	0.0209	(0.1167)	-0.2636 **	(0.1202)	0.0117	(0.1275)	0.0707	(0.1300)	-0.3417 **	(0.1370)
Lithuania	-0.0804	(0.1205)	-0.1728	(0.1193)	-0.2008 *	(0.1181)	-0.2037 *	(0.1178)	-0.0876	(0.1196)
Malta	1.2815 ***	(0.1222)	1.0229 ***	(0.1248)	1.1766 ***	(0.1219)	1.2154 ***	(0.1224)	0.9643 ***	(0.1198)
Romania	-1.0888 ***	(0.1440)	-1.1495 ***	(0.1393)	-0.9491 ***	(0.1394)	-0.9019 ***	(0.1406)	-1.2067 ***	(0.1447)
Slovakia	-0.1835	(0.1121)	-0.4346 ***	(0.1145)	-0.2191 *	(0.1184)	-0.1732	(0.1198)	-0.4632 ***	(0.1212)
Slovenia	1.0352 ***	(0.1157)	0.7852 ***	(0.1165)	0.9596 ***	(0.1187)	0.9919 ***	(0.1194)	0.6929 ***	(0.1231)
constant	4.4277 ***	(0.1209)	5.1337 ***	(0.1610)	4.3413 ***	(0.2132)	4.2280 ***	(0.2183)	5.4694 ***	(0.2541)
lambda - L=1			-0.6282 ***	(0.1034)	-0.2563	(0.1269)	-0.2501 **	(0.1228)		
lambda - M=0					-2.2042 ***	(0.3926)	2.3713 ***	(0.3891)		
lambda 1 - L=1, M=0									-0.8023 ***	(0.1206)
lambda 2 - L=1, M=0									-0.7358	(0.5412)
observations	1235		1235		1235		1235		1235	
R ²	0.64		0.65		0.66		0.66		0.67	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland.

Table A.4

OLS estimation results: movers' earnings, various selection correction terms, language skills considered

Dependent variable: log income, €	(1)		(2)		(3)		(4)		(5)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
language, visited	0.2139	(0.2205)	0.2125	(0.2158)	0.2174	(0.2175)	0.2159	(0.2168)	0.2298	(0.2273)
language, other	-0.0710	(0.1959)	-0.0723	(0.1916)	-0.0604	(0.1964)	-0.0619	(0.1958)	-0.0527	(0.2065)
part-time job	-0.4755 **	(0.1914)	-0.4763 **	(0.1920)	-0.4669 **	(0.1904)	-0.4656 **	(0.1908)	-0.4666 **	(0.2024)
black economy	0.0266	(0.2146)	0.0259	(0.2148)	0.0282	(0.2078)	0.0274	(0.2070)	0.0333	(0.2163)
public employer	-0.2068	(0.1757)	-0.2067	(0.1766)	-0.2599	(0.1819)	-0.2591	(0.1811)	-0.2519	(0.1855)
education: primary	-0.5731 **	(0.2692)	-0.5797 *	(0.3195)	-0.5245	(0.3349)	-0.5145	(0.3389)	-0.4292	(0.3375)
education: tertiary	0.3843	(0.2481)	0.3845	(0.2498)	0.3537	(0.2503)	0.3517	(0.2508)	0.3601	(0.2441)
occupation: manual	0.3349	(0.2058)	0.3341	(0.2053)	0.3035	(0.2001)	0.3040	(0.2005)	0.3219	(0.2180)
occupation: white collar	0.7242 ***	(0.2668)	0.7235 ***	(0.2677)	0.6576 **	(0.2641)	0.6555 **	(0.2643)	0.6849 **	(0.2756)
occupation: manager	0.5517 *	(0.2827)	0.5528 ***	(0.2929)	0.5042 *	(0.2951)	0.5033 ***	(0.2959)	0.5023 ***	(0.3053)
occupation: self employed	0.8093 ***	(0.2058)	0.8095 ***	(0.2088)	0.7574 ***	(0.2131)	0.7570 ***	(0.2133)	0.7736 ***	(0.2340)
settlement: rural	0.2602	(0.1754)	0.2603	(0.1759)	0.2589	(0.1740)	0.2625	(0.1736)	0.2662	(0.1762)
settlement: large town	0.1417	(0.1515)	0.1412	(0.1550)	0.1993	(0.1462)	0.2062	(0.1460)	0.2058	(0.1493)
Bulgaria	-1.2311 ***	(0.4093)	-1.2267 ***	(0.4201)	-1.1765 ***	(0.4322)	-1.1618 ***	(0.4349)	-1.1735 ***	(0.4829)
Cyprus	0.3511	(0.5252)	0.3505	(0.5290)	0.5679	(0.5192)	0.6096	(0.5282)	0.6486	(0.7140)
Czech R.	-1.2132 **	(0.5194)	-1.2064 **	(0.5490)	-0.9534 *	(0.5648)	-0.9132	(0.5707)	-0.9210	(0.8401)
Estonia	-0.3274	(0.3717)	-0.3208	(0.4339)	-0.3539	(0.4406)	-0.3543	(0.4436)	-0.4025	(0.4067)
Hungary	-0.0466	(0.4956)	-0.0429	(0.5098)	0.0835	(0.5400)	0.1057	(0.5467)	0.1108	(0.6170)
Latvia	-0.1057	(0.4028)	-0.0991	(0.4621)	0.0780	(0.4897)	0.1064	(0.4941)	0.1008	(0.6543)
Lithuania	-0.2214	(0.3903)	-0.2185	(0.4006)	-0.2679	(0.4033)	-0.2689	(0.4033)	-0.2760	(0.4002)
Malta	0.9169 **	(0.4409)	0.9224 *	(0.4734)	1.0003 **	(0.4672)	1.0197 **	(0.4698)	1.0047 *	(0.5260)
Romania	-1.4879 ***	(0.4035)	-1.4871 ***	(0.4077)	-1.3473 ***	(0.4383)	-1.3257 ***	(0.4435)	-1.2882 **	(0.5968)
Slovakia	-0.5991	(0.4008)	-0.5946	(0.4231)	-0.4402	(0.4447)	-0.4204	(0.4498)	-0.4236	(0.5928)
Slovenia	0.5403	(0.4322)	0.5451	(0.4519)	0.7001	(0.4673)	0.7176	(0.4715)	0.6771	(0.5074)
constant	5.4434 ***	(0.4586)	5.4327 ***	(0.5841)	5.9496 ***	(0.7021)	5.9857 ***	(0.7362)	6.1251 ***	(0.9272)
lambda - L=1			0.0118	(0.3418)	0.1909	(0.3630)	0.2076	(0.4043)		
lambda - M=1					-0.3855	(0.2600)	-0.4172	(0.2837)		
lambda 1 - M=1, L=1									0.1983	(0.7795)
lambda 2 - L=1, M=1									-0.4897	(0.7806)
observations	93		93		93		93		93	
R ²	0.74		0.74		0.75		0.75		0.74	
Hausman Chi ²	22.60		24.19		24.84		24.94		19.06	
Pr>Chi ²	0.0468		0.0294		0.0242		0.0235		0.1212	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland. Hausman test - H0: The difference between the coefficients of the stayers' and the movers' equation is not systematic (country dummies, the constant, and selection correction terms not included).

Table A.5

Probit estimation results: selection equations, eastern European work experience

Dependent variables: working; eastern Eur. work experience	Separate probit estimations				Seemingly unrelated probit				Bivariate probit			
	P(l=1)		P(m=1)		P(l=1)		P(m=1)		P(l=1)		P(m=1)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
couple	0.8506 ***	(0.0973)	0.0400	(0.1472)	0.8495 ***	(0.0972)	0.0870	(0.1465)	0.3859 ***	(0.1049)	0.0327	(0.1462)
age			0.1364 ***	(0.0205)			0.1184 ***	(0.0205)	0.3325 ***	(0.0155)	0.1523 ***	(0.0254)
experience	0.1808 ***	(0.0343)			0.1787 ***	(0.0343)			-0.0109	(0.0370)	0.0460	(0.0819)
experience squared	-0.0143 ***	(0.0033)			-0.0141 ***	(0.0033)			-0.0149 ***	(0.0034)	-0.0066	(0.0071)
education: primary	-0.7806 ***	(0.0514)	0.0023	(0.1208)	-0.7805 ***	(0.0513)	-0.0542	(0.1201)	0.0335	(0.0631)	0.0359	(0.1248)
education: tertiary	0.2660 **	(0.1298)	-0.1674	(0.2195)	0.2648 **	(0.1296)	-0.1451	(0.2196)	-0.3968 ***	(0.1484)	-0.1814	(0.2363)
settlement: rural	0.0924 *	(0.0529)	-0.0637	(0.1048)	0.0924 *	(0.0529)	-0.0594	(0.1047)	0.0481	(0.0560)	-0.0639	(0.1047)
settlement: large town	0.0825	(0.0561)	-0.1798	(0.1093)	0.0825	(0.0561)	-0.1714	(0.1091)	0.0947	(0.0592)	-0.1634	(0.1090)
Bulgaria	0.3542 ***	(0.1037)	0.0793	(0.2298)	0.3528 ***	(0.1036)	0.0854	(0.2294)	0.3047 ***	(0.1119)	0.0704	(0.2290)
Cyprus	0.1124	(0.1331)			0.1112	(0.1330)	-5.0553 ***	(0.1862)	0.7431 ***	(0.1421)	-5.0333 ***	(0.1869)
Czech Republic	0.8506 ***	(0.1205)	0.0987	(0.3063)	0.8484 ***	(0.1204)	0.0967	(0.3050)	0.9899 ***	(0.1320)	0.0854	(0.3053)
Estonia	0.5187	(0.1094)	0.3988	(0.2356)	0.5174	(0.1091)	0.3963	(0.2358)	0.6994 ***	(0.1159)	0.4083 *	(0.2357)
Hungary	0.6264 ***	(0.1066)	0.2231	(0.2340)	0.6249 ***	(0.1064)	0.2231	(0.2336)	0.6978 ***	(0.1143)	0.2365	(0.2347)
Latvia	0.6675 ***	(0.1087)	0.5013 **	(0.2265)	0.6668 ***	(0.1086)	0.4880 **	(0.2266)	0.8634 ***	(0.1139)	0.4940 **	(0.2267)
Lithuania	0.1530	(0.1111)	0.6922 ***	(0.2166)	0.1492	(0.1111)	0.6821 ***	(0.2165)	0.2037 *	(0.1205)	0.6805 ***	(0.2159)
Malta	0.6653 ***	(0.1393)	-0.3742	(0.4118)	0.6651 ***	(0.1392)	-0.3985	(0.4116)	0.9787 ***	(0.1362)	-0.4046	(0.4122)
Romania	0.1416	(0.1176)	0.3804	(0.2336)	0.1402	(0.1176)	0.3656	(0.2335)	0.5573 ***	(0.1322)	0.4105 *	(0.2349)
Slovakia	0.6282 ***	(0.1073)	0.6808 ***	(0.2123)	0.6279 ***	(0.1071)	0.6858	(0.2121)	0.7201 ***	(0.1168)	0.6793 ***	(0.2122)
Slovenia	0.6241 ***	(0.1102)	-0.5244	(0.3189)	0.6226 ***	(0.1101)	-0.4962	(0.3188)	0.8271 ***	(0.1171)	-0.4606	(0.3230)
constant	-0.9897 ***	(0.1194)	-4.8911 ***	(0.4971)	-0.9845 ***	(0.1192)	-4.5143 ***	(0.4972)	-7.1697 ***	(0.3173)	-5.2688 ***	(0.5661)
observations	3831		3658		3831				3831			
log likelihood	-2197.07		-451.93		-2645.16				-2374.46			
rho	--		--		0.1656 ***				0.1510 **			

***, **, * denote significance at 1%, 5%, 10%. Robust standard errors in parentheses. All variables except age, experience and experience squared are binary. Omitted categories are: Completed secondary education, single, living in small town, country: Poland.

Table A.6

OLS estimation results: stayers' earnings, various selection correction terms, eastern European work experience

Dependent variable:	(1)		(2)		(3)		(4)		(5)	
log income, €	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
part-time job	-0.3481 ***	(0.0680)	-0.3501 ***	(0.0666)	-0.3379 ***	(0.0668)	-0.3344 ***	(0.0662)	-0.3183 ***	(0.0640)
black economy	0.1517	(0.0949)	0.1572 *	(0.0935)	0.1810 *	(0.0923)	0.1686 *	(0.0916)	0.1804 **	(0.0884)
public employer	0.0568	(0.0465)	0.0460	(0.0465)	0.0191	(0.0478)	0.0317	(0.0464)	0.0392	(0.0449)
education: primary	-0.6115 ***	(0.0526)	-0.2537 ***	(0.0739)	-0.2918 ***	(0.0755)	-0.2886 ***	(0.0735)	-0.3551 ***	(0.0534)
education: tertiary	0.2835 ***	(0.0859)	0.2123 **	(0.0862)	0.2672 ***	(0.0913)	0.2672 ***	(0.0871)	0.2328 **	(0.0933)
occupation: manual	0.8019 ***	(0.0670)	0.7749 ***	(0.0662)	0.7388 ***	(0.0657)	0.7189 ***	(0.0652)	0.5352 ***	(0.0706)
occupation: white collar	0.8018 ***	(0.0817)	0.7688 ***	(0.0801)	0.7211 ***	(0.0822)	0.6962 ***	(0.0803)	0.4819 ***	(0.0884)
occupation: manager	0.8834 ***	(0.0825)	0.8671 ***	(0.0824)	0.7788 ***	(0.0838)	0.7582 ***	(0.0834)	0.5516 ***	(0.0887)
occupation: self employed	1.0473 ***	(0.1243)	0.9918 ***	(0.1169)	0.9000 ***	(0.1219)	0.8893 ***	(0.1184)	0.7054 ***	(0.1192)
settlement: rural	0.0181	(0.0496)	-0.0129	(0.0491)	0.0148	(0.0515)	0.0333	(0.0497)	0.0102	(0.0485)
settlement: large town	0.1709 ***	(0.0512)	0.1464 ***	(0.0507)	0.2402 ***	(0.0548)	0.2514 ***	(0.0542)	0.1735 ***	(0.0538)
Bulgaria	-0.6557 ***	(0.1063)	-0.8362 ***	(0.1050)	-0.8059 ***	(0.1041)	-0.8039 ***	(0.1034)	-0.7840 ***	(0.1026)
Cyprus	1.3755 ***	(0.1242)	1.3464 ***	(0.1210)			1.6058 ***	(0.1283)	1.2905 ***	(0.1357)
Czech R.	-0.0096	(0.1361)	-0.3580 **	(0.1413)	-0.2271	(0.1427)	-0.2066	(0.1418)	-0.2925 **	(0.1357)
Estonia	0.0419	(0.1219)	-0.1963	(0.1246)	-0.2211 *	(0.1245)	-0.2392 *	(0.1239)	-0.1581	(0.1191)
Hungary	0.2653 **	(0.1097)	0.0064	(0.1114)	0.0518	(0.1114)	0.0509	(0.1106)	0.0647	(0.1061)
Latvia	-0.0124	(0.1172)	-0.3094 **	(0.1211)	-0.3665 ***	(0.1221)	-0.3855 ***	(0.1218)	-0.2839 **	(0.1175)
Lithuania	-0.0654	(0.1232)	-0.1724	(0.1222)	-0.4647 ***	(0.1383)	-0.5412 ***	(0.1430)	-0.1393	(0.1471)
Malta	1.2705 ***	(0.1173)	1.0072 ***	(0.1193)	1.2194 ***	(0.1228)	1.2659 ***	(0.1240)	1.0422 ***	(0.1223)
Romania	-1.1747 ***	(0.1406)	-1.2363 ***	(0.1362)	-1.3186 ***	(0.1368)	-1.3505 ***	(0.1370)	-1.2338 ***	(0.1375)
Slovakia	-0.2463 **	(0.1117)	-0.4992 ***	(0.1132)	-0.6837 ***	(0.1219)	-0.7457 ***	(0.1239)	-0.4591 ***	(0.1254)
Slovenia	0.9867 ***	(0.1134)	0.7361 ***	(0.1138)	0.9387 ***	(0.1178)	0.9716 ***	(0.1186)	0.7450 ***	(0.1226)
constant	4.5784 ***	(0.1195)	5.3052 ***	(0.1575)	4.8231 ***	(0.1823)	4.7779 ***	(0.1806)	5.3295 ***	(0.1863)
lambda - L=1			-0.6461 ***	(0.1002)	-0.3822 ***	(0.1140)	-0.4010 ***	(0.1077)		
lambda - M=0					-2.5226 ***	(0.4730)	2.7641 ***	(0.4738)		
lambda 1 - L=1, M=0									-0.6590 ***	(0.0938)
lambda 2 - L=1, M=0									0.1846	(0.5562)
observations	1266		1266		1210		1266		1266	
R ²	0.65		0.66		0.65		0.67		0.68	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland.

Table A.7

OLS estimation results: movers' earnings, various selection correction terms, eastern European work experience

Dependent variable: log income, €	(1)		(2)		(3)		(4)		(5)	
	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)	coeff.	(s.e.)
part-time job	-0.1863	(0.1864)	-0.2360	(0.1687)	-0.2339	(0.1711)	-0.2341	(0.1701)	-0.1823	(0.1888)
black economy	0.2470	(0.2516)	0.2616	(0.2419)	0.1953	(0.2711)	0.1881	(0.2689)	0.2108	(0.2946)
public employer	0.1158	(0.1886)	0.2461	(0.1966)	0.2720	(0.1976)	0.2795	(0.1979)	0.1230	(0.1993)
education: primary	-0.0805	(0.2398)	-0.8740	(0.3596)	-0.8488	(0.3584)	-0.8949	(0.3618)	-0.0326	(0.2716)
education: tertiary	0.1101	(0.3252)	0.0379	(0.3430)	0.1290	(0.3666)	0.1457	(0.3683)	0.1586	(0.4433)
occupation: manual	0.9514	(0.2423)	1.0315	(0.2358)	0.9615	(0.2622)	0.9615	(0.2614)	0.9089	(0.2873)
occupation: white collar	1.2115	(0.4006)	1.2859	(0.3800)	1.2075	(0.4157)	1.2102	(0.4156)	1.1656	(0.4397)
occupation: manager	1.3735	(0.3670)	1.4669	(0.3739)	1.3568	(0.4111)	1.3525	(0.4081)	1.3126	(0.4436)
occupation: self employed	1.3659	(0.5135)	1.5105	(0.4419)	1.4483	(0.4463)	1.4566	(0.4432)	1.3168	(0.5498)
settlement: rural	0.0614	(0.2227)	0.1936	(0.2340)	0.2008	(0.2343)	0.2069	(0.2344)	0.0542	(0.2155)
settlement: large town	0.3763	(0.2290)	0.6320	(0.2616)	0.6810	(0.2818)	0.6986	(0.2854)	0.4015	(0.3049)
Bulgaria	-0.8903	(0.6873)	-0.2328	(0.6641)	-0.1896	(0.6160)	-0.1492	(0.6042)	-0.8835	(0.6865)
Czech R.	-0.8200	(0.9154)	0.1959	(0.8949)	0.3998	(0.8994)	0.5016	(0.9017)	-0.7561	(0.9980)
Estonia	-0.4414	(0.7504)	0.2050	(0.7342)	0.1667	(0.7033)	0.2008	(0.6896)	-0.4704	(0.7622)
Hungary	0.7125	(0.7298)	1.3960	(0.7231)	1.4236	(0.6969)	1.4664	(0.6886)	0.7226	(0.7355)
Latvia	-0.0486	(0.6985)	0.7290	(0.6819)	0.6530	(0.6363)	0.6866	(0.6250)	-0.1017	(0.7014)
Lithuania	-0.3789	(0.6782)	-0.0053	(0.6302)	-0.1608	(0.5885)	-0.1791	(0.5813)	-0.4595	(0.7613)
Malta	2.8121	(0.7214)	3.5881	(0.7068)	3.7830	(0.6947)	3.8582	(0.7000)	2.8965	(0.9651)
Romania	-0.8616	(0.8110)	-0.4129	(0.7554)	-0.4284	(0.7195)	-0.4080	(0.7071)	-0.8727	(0.8282)
Slovakia	-0.1223	(0.7191)	0.5238	(0.7203)	0.4366	(0.6983)	0.4571	(0.6925)	-0.1714	(0.7440)
Slovenia	0.6184	(0.7549)	1.7112	(0.8433)	1.9339	(0.8700)	1.9454	(0.8536)	0.6815	(0.8660)
constant	4.3612	(0.6878)	2.6606	(0.9259)	3.4764	(1.2822)	3.3809	(1.3816)	4.8145	(1.5834)
lambda - L=1			1.3003	(0.4906)	1.3644	(0.4932)	1.5627	(0.5540)		
lambda - M=1					-0.4156	(0.4632)	-0.3268	(0.5217)		
lambda 1 - M=1, L=1									-0.0393	(0.5464)
lambda 2 - L=1, M=1									-0.2097	(0.8344)
observations	69		69		69		69		69	
R ²	0.66		0.69		0.70		0.70		0.66	
Hausman Chi ²	14.68		13.25		12.36		13.18		13.96	
Pr>Chi ²	0.1976		0.2775		0.3372		0.2819		0.2352	

***, **, * denote significance at 1%, 5%, 10% respectively. Robust standard errors in parentheses. All explanatory variables are binary. Omitted categories are: full-time job, formal employment, employer in private sector, completed secondary education, occupation unspecified, living in small town, country: Poland. Hausman test - H0: The difference between the coefficients of the stayers' and the movers' equation is not systematic (country dummies, the constant, and selection correction terms not included).

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