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Abstract

We analyse determinants of duration of stay of cross-border commuters and migrants. Theory suggests that relative deprivation affects only intended duration of stay of migrants, but not of cross-border commuters. This is corroborated by econometric evidence. Also, return migrants and commuters are positively selected on education, networks are insignificant determinants of duration of stay while distance and education are more important for commuters' duration of stay. These results are robust over different estimation methods and apply both when measuring deprivation relative to friends and family and relative to the population residing in a region.

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1 Introduction

One of the outstanding stylised facts concerning international migration is the high share of migrants that return to their country of origin after spending some time abroad. Bratsberg et al (2007); Bijwaard (2004); Jensen and Pedersen (2007); Dustmann (1996); Böhning (1987); Glytsos (1988) and OECD (2008) all find that between 30% to over 60% of the migrants return home in the long run. These high rates of return migration raise a number of policy issues. From the point of view of the receiving country permanent migrants differ from temporary migrants with respect to the acquisition of host country specific human capital, integration into social systems, savings and labour force participation (Dustmann, 2000, 2008), thus posing different policy challenges. From the sending country perspective temporary migrants represent a pool of human and financial capital, but could also cause new social problems when returning (Dustmann, 1996).

Given the importance of the phenomenon a growing literature focuses on the determinants of return migration intentions (e.g. Dustmann, 1996; Güngör and Tansel, 2005) as well as of the duration of stay of migrants (e.g. Gundel and Peters, 2008; Sander, 2007). This literature has analysed the impact of education (e.g. Borjas and Bratsberg, 1996; Hunt, 2004) as well as networks (e.g. Bauer and Gang, 2002) on the decision to return. It has, however, ignored the possibility of cross-border commuting as an alternative to migration, although, as will be shown below, return motives may differ substantially between cross-border commuters and migrants and this distinction may have important policy implications.[1] Furthermore the potential role of relative deprivation has also been little analysed in this literature. With respect to this variable Stark and Taylor (1991) make a theoretical argument that it may

have an impact on the decision to return. However, again, to the best of our knowledge, this hypothesis has never been tested with return migration data.

This paper contributes to filling these gaps in the literature by incorporating the possibility of cross-border commuting in a theoretical model of return migration and empirically analysing the determinants of duration of stay for potential commuters and migrants. Our model predicts that relative deprivation reduces the duration of stay abroad for migrants, but not for commuters, networks abroad may have a different impact on the duration of stay of commuters and migrants if they affect the preference of consumption at home and that education has an ambiguous effect depending on relative returns to education at home and abroad.

We empirically analyse the determinants of the intended duration of stay of potential migrants as well as commuters at the example of one of the most densely populated border regions between the new EU member states and the EU15 (the Vienna-Bratislava region). Since migration and commuting flows in this region are still heavily regulated and realised migration levels are low, we use data taken from two waves of a large scale household survey on the willingness to migrate and commute conducted among residents of the new member states in this region.

As suggested by the theoretical model we find a strong relationship between relative deprivation and intended duration of stay abroad for potential migrants, but not for commuters. In addition return migrants and commuters are positively selected on education variables from among those potentially mobile, networks remain insignificant determinants for both migrants and cross-border commuters and distance and human capital are more important determinants for the duration of stay of commuters.

2 Previous Literature and Theory

The starting point of our analysis is a contribution by Dustmann and Weiss (2007). They suggest four reasons why migrants may want to engage in return migration: First an improved labour market situation in the home country, which reverses (expected lifetime) income differentials between the home and foreign country, may lead emigrants to return. Second, even in the face of higher income abroad, return migration may occur if migrants enjoy consuming at home more than abroad.[2] Third, if the foreign currency's purchasing power at home is higher than that of the home currency (i.e. exchange rates deviate from purchasing power parities) migrants may want to return to consume at cheaper prices at home. Finally, if returns to human capital acquired abroad are higher at home than abroad migrants will return once (expected lifetime) earnings at home (net of migration costs) exceed earnings abroad.

These reasons, however, apply only to cross-border migrants. The determinants of duration of stay among cross-border commuters may differ from those of cross-border migrants. To highlight these differences we extend the model of return migration by Dustmann and Weiss (2007) to incorporate cross-border commuting. In this perfect foresight model, risk neutral individuals have a finite working life (lasting from $t = 0$ to $t = 1$), derive utilty from consumption abroad (c^a) and at home (c^d), but have higher utility from consuming at home. To incorporate commuting we allow individuals to seperately choose duration of residence (h^R) and the duration of work (h^W) abroad and focus on two possible configurations of h^R and h^W. The first is one of commuting (with $h^R = 0$ and $1 \geq h^W \geq 0$) and the second is one of migration (with $1 \geq h^R = h^W \geq 0$).

Abstracting from discounting and ignoring incentives to postpone commuting and/or migration,[3] lifetime utility of individuals is given by

$$U = h^R u(c^a) + (1 - h^R)\xi u(c^d) \tag{1}$$

with $u(\cdot)$ a function, which, in accordance with Dustmann and Weiss (2007), we assume to be of the form $u(c^i) = c^{1-\alpha}/(1-\alpha)$ (with $0 < \alpha < 1$) and $\xi > 1$ the individuals' preference for consumption at home.

When working at home wages are given by $w^d = w_0^d + \gamma h^W + \kappa h^W$, with $\kappa > 0$ a parameter measuring the returns to experience abroad in the home country and $\gamma > 0$ measuring (excpected) domestic wage growth. When working abroad by contrast wages are fixed (at $w^a > w_0^d$). Thus the (expected lifetime) income earned is given by $Y = h^W w^a + (1 - h^W)(w_0^d + (\gamma + \kappa)h^W)$. Normalising prices abroad to one, denoting $p < 1$ relative prices at home, assuming per period costs of commuting (k^c) and abstracting from migration costs, the budget constraint of the individual can be written as:

$$h^W w^a + (1 - h^W)(w_0^d + (\gamma + \kappa)h^W) = h^R c^a + (1 - h^R)pc^d + k^c(h^W - h^R). \tag{2}$$

As shown by Dustmann and Weiss (2007), optimisation of equation (1) subject to (2) can proceed in two steps. First, given h^R and h^W, optimal consumption can be chosen. Under the assumptions on $u(\cdot)$ this implies that $u'(c^a) = \xi u'(c^d)/p$, $c^a = \chi c^d$ with $\chi = [\xi/p]^{-1/\alpha}$, $p > \chi$ and $u(c^a) = \xi\chi u(c^d)/p$. Inserting these results in equations (1) and (2) and rearranging we get:

$$U = \frac{\xi}{p} u(c^d)[\chi h^R + (1 - h^R)p] \tag{3}$$

and

$$c^d = \frac{h^W w^a + (1 - h^W)(w_0^d + (\gamma + \kappa)h^W) - k^c(h^W - h^R)}{h^R\chi + (1 - h^R)p} \tag{4}$$

Inserting (4) into (3) and focusing attention on the cases of interest stated above we maximize (3) subject to the constraints $0 \leq h^R$ and $h^R \leq h^W$. The first order conditions to the optimization problem are given by[4]:

$$\frac{\xi(1-\alpha)}{p}u'(c^d)[w^a - w^d + (\gamma+\kappa) - 2(\gamma+\kappa)h^W - k^c] + \lambda_1 = 0 \qquad (5)$$

and

$$\frac{\xi}{p}u'(c^d)[(1-\alpha)k^c - \alpha(p-\chi)c^d] - \lambda_1 \leq 0 \qquad (6)$$

and $\frac{\partial L}{\partial \lambda_1}\lambda_1 = 0$, $\lambda_1 \geq 0$ and $\frac{\partial L}{\partial h^R}h^R = 0$, $h^R \geq 0$ with λ_1 the Langrangian multiplier on the constraint $h^R - h^W \geq 0$.

Equation (6) holds with strict inequality when $\frac{\alpha(p-\chi)}{(1-\alpha)}c^d > k^c$. In this case $h^R = 0$ and $\lambda_1 = 0$ such that h^R can differ from h^W. Thus when k^c is small enough individuals will choose to commute across borders. The optimal time spent working abroad (h^{W*}) is then given by equation (5) which, after rearranging, becomes:

$$h^{W*} = \frac{1}{2}\left[\frac{w^a - w_0^d - k^c}{(\gamma+\kappa)} + 1\right] \qquad (7)$$

and has an interior solution if $\gamma + \kappa > k^c - (w^a - w_0^d) > -(\gamma+\kappa)$. For commuters thus the optimal duration of migration is independent of p and ξ (since they can always consume at home), decreasing in κ, γ, k^c and w_0^d but increasing in w^a.

By contrast if $\frac{\alpha(p-\chi)}{(1-\alpha)}c^d \leq k^c$ it follows that $\lambda_1 = \frac{\xi}{(1-\alpha)p}u'(c^d)[(1-\alpha)(k^c) + \alpha(\chi-p)c^d] > 0$ thus $h^R = h^W$ and the individual will migrate. The optimal duration of working and residing abroad, is then given by

$$h^{R*} = \frac{1}{2}\left[\frac{w^a - w_0^d}{(\gamma+\kappa)} - \frac{\alpha(p-\chi)c^d(h^{R^*})}{(1-\alpha)(\gamma+\kappa)} + 1\right]. \qquad (8)$$

This will have an interior solution if $\gamma+\kappa > \frac{\alpha(\chi-p)c^d(h^R)}{(1-\alpha)} - (w^a - w_0^d) > -(\gamma+\kappa)$.[5]

Substituting equation (3) into (8) and noting that in this case $h^R = h^W$ equation (8) implicitly defines h^{R*} by a quadratic function. In the appendix we show that this has at most one positive real root. Furthermore, equation (8) shows that migrants - in contrast to commuters - face an additional trade-off when deciding on their optimal duration of stay. This arises because any variable by which consumption possibilities at home can be increased through a longer duration of stay abroad (such as higher wages, relative prices or returns to experience abroad as well as increased wage growth at home) has two countervailing efffects on the duration of stay: an income and a substitution effect. The substitution effect (by increasing opportunity costs of returning home) works to keep migrants abroad longer and the income effect (by increasing consumption possibilities at home) creates incentives to return earlier.[6] In the appendix we show that this leads to an ambiguous effect of wages, prices and returns to experience abroad as well as wage growth at home (w^a, p, κ, γ) on the duration of residence abroad (h^R), but that h^R is decreasing in preferences for consumtion at home (ξ) and wages at home (w_0^d) and independent of commuting costs (k^c).

In sum, our model suggests that the duration of stay for migrants is decreasing in preferences for consumption at home (ξ) and the income level in the home country (w_0^d) and that the impact of all other variables depends on the relative strengths of income and substitution effects for migrants. For commuters, by contrast, the duration of stay decreases with returns to experience abroad (κ), income growth at home (γ), and commuting costs (k^c) and increases in income earned abroad (w^a), but is unaffected by preferences for consumption at home (ξ) and relative price levels (p).

3 Data and Method

We use individual level data of the Austrian Labour Market Monitoring project to test these hypotheses. These data were collected in two waves of face-to-face interviews conducted among residents of the regions of the new EU member states bordering on Austria[7] and are particularly well suited for our purposes: They focus on ex-ante intentions of potential migrants and commuters (which minimises problems of selectivity of migrants and censoring of spells often encountered in the empirical analysis of actual return migration data) and provide two different measures of relative deprivation (which allows us to assess the robustness of our results with respect to measurement of this concept). The data also provide evidence on the willingness to migrate and commute in one of the border regions of the EU where, on account of the large differences in wages and economic development between the "new" EU members and Austria, as well as the low distances between the most densely populated parts of the region (i.e. the cities of Vienna, Bratislava and Brno), migration potentials can be expected to be particularly high.

3.1 Dependent Variable and Method

We focus on the active aged (15 to 64 year olds) and include only those willing to migrate and commute. The willingness to migrate or commute is defined from a question in which respondents were asked "would it be conceivable for you to work abroad?". Respondents who answered this question affirmatively and stated a preference for daily and weekly commuting are encoded as "potential commuters" and those who preferred "living and working abroad" or "monthly commuting" as "potential migrants". Setting these restrictions and excluding respondents with missing information on dependent and explanatory variables, our sample consists of 1517 persons (table 1). The intended

duration of stay abroad, which is defined from a question in which individuals were also asked for how long they would like to work abroad with the choices being : "for at most 1 year", "1 to 2 years", "3-5 years", "6 to 10 years" and "as long as possible" is longer for potential commuters than for potential migrants. Among the potential commuters the share of those wanting to stay for as long as possible was over 50% while it was only 44% for potential migrants. Similarly, the share of commuters planning to stay for at most 1 year is substantially smaller than that of migrants.

TABLE 1: AROUND HERE

We use intended duration of stay to form two dependent variables. The first one is return probability. This takes on the value 0 if a respondent stated that she would like to stay for as long as possible and 1 else. This variable will be used in a logit analysis. The second variable is the duration of stay as shown in table 1. Since this variable is measured in intervals of differing length we estimate an interval-censored duration model (see: Prentice and Gloeckler, 1978; Sueyoshi, 1995; Haapanen and Tervo, 2006).

We thus utilize a parametric duration model, where the (instantaneous) hazard rate for return migration, conditional on a set of explanatory variables (x_i) is given by $h(t|x_i) = h_0(t)e^{x_i\beta}$, with $h_0(t)$ a given baseline hazard function and β a vector of coefficients to be estimated. Since our data provides only information on whether an individual intends to return in a particular interval $(a, b]$ (where the intervalls are 0 to 1, 1 to 2, 2 to 5, 5 to 10 and more than 10 years) we adjust the likelihood function to account for the fact that the contribution of individual i to the overall likelihood is given by $P(t_i > a) - P(t_i > b) = S(t_{ai}, x_i, \beta) - S(t_{bi}, x_i, \beta)$ with $P(t_i > \tau)$, $(\tau \in \{a, b\})$ the probabiliy of the individual returning after time τ respectively and $S(\cdot)$ the

survival function corresponding to the hazard function $h(t|x_i)$ and estimate the model by maximum likelihood.

TABLE 2: AROUND HERE

3.2 Independent Variables

As some of the variables suggested by our model (preferences for consumption at home, returns to experience abroad at home, wage levels abroad, wage levels and expected wage growth at home, and commuting costs) cannot be observed directly in data on migration intentions we draw on various strands of migration theory to derive variables which impact on these parameters. In particular we focus on relative deprivation because Stark and Taylor (1991) argue that deprived migrants may be more willing to return since they may want to use income earned abroad to increase their social status back home. Socially deprived individuals should thus have a particularly high preference for consuming at home. This would lead to socially deprived cross-border migrants having a higher propensity to return. For commuters, who consume at home even when working abroad, by contrast, deprivation should have no impact on duration of stay.

We construct two deprivation indices used in the literature. The first is based on a set of questions where respondents were asked to evaluate their personal living conditions on an eleven point scale (with 1 representing the best and 11 the worst conceivable living conditions) and subsequently (on the same scale) the conditions of life of their friends and acquaintances. We follow Kakwani (1984) and Yitzhaki (1982) by calculating the difference between the individual's subjective evaluation of her status and that of her friends and acquaintances. This measure assumes that the relevant reference group for relative deprivation of an individual are friends and family. It is scaled

so as to take on a minimum value of 0 (indicating better living conditions than those of the peers by the maximum possible), and a maximum of 20 (indicating maximal deprivation). A value of 10 indicates that a person is neither privileged nor deprived relative to friends and family.

For the second measure we follow Stark and Taylor (1991) and assume that the population in the respondents' district of residence is the relevant reference group for measuring relative deprivation. This index is calculated as the product of the average level of satisfaction with living conditions for all individuals with a higher score of satisfaction than the respondent living in the same region as the respondent and the share of people with a higher score residing in the same region.(See Stark and Yitzhaki (1988) for a derivation).

Following the empirical literature on deprivation and migration (e.g., Stark and Taylor, 1991; Quinn, 2006), which finds substantial non-linearities in migration intentions with respect to relative deprivation, we include both indicators together with their square, where, based on the results of our model, we expect the linear term to reduce the duration of stay and the squared term to have an oppositely signed impact for potential migrants, only.

In addition, persons with networks abroad (which we proxy by a dummy variable which measures whether the respondents have family members or friends residing abroad) may also have a higher preference for consumption abroad, which will make them less willing to return. At the same time, however, networks may also have a positive impact on the earnings capacity abroad. This may lead to an ambiguous effect on duration of stay for migrants (on account of countervailing income and substitution effects), but an unambiguously positive effect for potential commuters. Thus if networks abroad impact only on earnings capacity abroad this should increase the intended duration of stay for potential commuters but may have ambiguous effects on the intended duration of stay of migrants. If networks abroad, how-

ever, impact only on preferences for comsuming abroad, they should have a positive effect on the duration of stay of migrants only. Similar arguments apply to foreign language knowledge (which we control for by a dummy variable which takes the value of 1 if the respondent knows a foreign language), since this too may make consumption abroad more enjoyable and may impact positively on earnings capacity abroad.

Equations (7) and (8), however, also suggest that the willingness to return is influenced by wage levels at home (w_0^d), expected wage developments at home (γ), commuting costs (k^c) and foreign wage levels (w^a). We measure expected wage developments at home (γ) by indicator variables taking on values of one if a respondent expects wages at home to stagnate or decline, respectively (with expected wage increases as the base category). As proxies for costs of commuting (k^c) we include measures of distance travelled as well as marital status (single) and the presence of children in the household (kids) since persons with a family are likely to have higher (psychological) costs of mobility. We thus expect singles to have longer and persons with kids to have shorter intended durations of stay. For distance, since we do not know the exact place of intended migration and commuting, the road distance between the municipality of residence of the interviewee to the nearest EU-15 border crossing in kilometres is included. This measures the minimum distance to a potential workplace in the EU-15.

Furthermore, since we lack information on individual income levels of respondents, we include variables usually included in a mincerian wage equation, age, age squared and eductaional attainment (which may can be compulsory, vocational, secondary or tertiary), to control for earnings capacity at home and abroad. With respect to these varaiables the literature suggests that the coefficients on these variables measure differences in returns to experience abroad by education or age groups (i.e. differences in κ by education or age

as suggested by Dustmann and Weiss, 2007), or diffences in returns to education between the sending and recieving countries. Here Borjas and Bratsberg (1996) show that highly educated workers have a longer duration of stay if returns to education are larger abroad than at home (i.e., if $w^a - w_0^d$ increases with education), while the opposite applies if returns to education are higher at home than abroad. Finally, differences in duration of stay across education or age groups may also occur if mobility costs vary due to skill or age group specific migration or commuting costs. Here Hunt (2004) and Brücker and Trübswetter (2007) present evidence that more highly qualified workers are likely to have lower costs of relocating their place of residence.

Aside from these model variables we also include a dummy for previous mobility and account for regionally different changes in the macro-economic environment and national differences in response behaviour by a familly of indicator variables for interviews conducted during the second wave in 2006/07 interacted with the country of residence of the respondent. The individual level of satisfaction with living conditions (measured on an 11 point scale) as well as its square and a dummy for females are also included as proxies for any components of the income at home that are not already captured by the education and age variables. Finally, a set of dummy variables measuring whether a respondent expects to find a better job abroad than at home and whether she expects to be employed according to her qualification rather than below is included to control for any distortions that could result from the respondents self-assessment with respect to finding adequate employment abroad.

Table 2 presents summary statistics for these variables separated by respondents that intend to return and respondents that intend to stay abroad for as long as possible along with results of a test for differences in means of these two groups. These descriptive results are in line with our theoretical expectations. Respondents intending to stay abroad for as long as possible

have significantly more kids, live closer to the border, have less often been mobile previously, are often less qualified and have a significantly higher value of relative deprivation (for both measures used). Furthermore, they have more negative expectations of wage growth at home and more often expect to find a workplace according to their qualifications or a better job than respondents who intend to return.

4 Results

Table 3 presents results of the interval censored regression on the duration of stay variable, using a Weibull baseline hazard[8] for the subsample of commuters and migrants seperately. Turning first to relative deprivation, results indicate that deprived potential migrants have a significantly shorter expected duration of stay (or equivalently a higher return hazard), while both the deprivation variable as well as its square are insignificant for commuters. This applies to both measures of relative deprivation used and confirms our original hypotheses that relative deprivation has an impact on return plans of migrants, only. There is, however, a significant non-linearity in the impact of relative deprivation on the return hazard of migrants. The return hazard initially increases with increasing deprivation, but starts reducing again for the most strongly deprived. Our point estimates imply that the turning points are at values of deprivation of 11.46 (for deprivation relative to friends and family) and 5.68 (for deprivation relative to the region of residence). Both these values suggest that return migration hazards decline with deprivation once it exceeds the mean by around one standard deviation.[9]

TABLE 3: AROUND HERE

Networks abroad, by contrast, have a very small and insignificant negative impact on the duration of stay for migrants and are positive but insignificant

for commuters. An interpretation of these results consistent with our model is that neither earnings capacity abroad nor preferences for consumption at home are strongly affected by the presence of networks. Foreign language knowledge by contrast increases the intended duration of stay of both migrants and commuters, with the effect only slightly stronger for migrants than for commuters. This suggests that the main reason for the positive impact of foreign language on the duration of stay for migrants and commuters is the increased earnings capacity abroad.

In addition the human capital variables suggest a positive selection on education of both return migrants and commuters. Both potential migrants and commuters with completed tertiary education have a significantly shorter expected duration of stay abroad (or higher return hazard) than the less qualified. The estimated coefficients suggest a strong impact of this variable. Return hazards of tertiary educated commuters are more than 80% higher than those of commuters with compulsory education. Depending on specification this difference is between 55% and 65% for migrants. This finding is consistent with the results of a substantial part of the empirical literature on return migration (e.g. Sander, 2007; Bauer and Gang, 2002; Dustmann, 2003; Borjas and Bratsberg, 1996). The higher impact of the education variable for cross border commuters, however, suggests that potential return commuters are even more strongly selected than potential return migrants. An explanation for this consistent with our model would be that differences in mobility costs across skill groups have an additional impact on the selection process among return commuters. One possibility could for instance be that highly qualified commuters attach a particularly high (negative) value to time spent commuting, due to higher opportunity costs. With respect to age and age squared we find that older respondents have a shorter duration of stay only when they are migrants.

For future wage expectations we find that - as predicted by our model - both potential commuters and migrants have significantly longer expected durations of stay if they have less positive expectations of future wage development in their home region. For migrants this effect is significant both for persons that expect wages to stagnate and decline. The point estimates suggest that the return hazard is by 26% (for potential migrants expecting wages at home to stagnate) and 44% (for migrants expecting wages to decline) lower than for migrants that expect wages at home to grow. For commuters significance applies only to those that expect wages to decline and coefficients are slightly smaller (40%) than for migrants. This accords well with our hypothesis that higher (expected) wage growth at home reduces planned duration of stay (or equivalently increases return hazards), but also suggests that this effect is slightly stronger for migrants than for commuters.

Similarly, distance has the expected negative effect on both the duration of migration and commuting, which is, however, much larger for commuters. The coefficients on the dummy variables for being married and having children, which we included to account for psychological mobility costs, by contrast, remain insignificant throughout. Persons who reside further away from the border are thus more likely to intend to move back but individual differences in indirect return costs induced by family structure play only a small role in shaping return intentions.

Finally, with respect to the other control variables we find that the individual level of well being as well as its square are significant for migrants only when using the deprivation measure based on family and friends, while it remains insignificant for potential commuters in both specifications, that women do not intend to stay significantly shorter than males both when planning to commute and migrate, that previous mobility reduces the intended duration of stay for migrants only and that individuals expecting to find better jobs

or jobs matching their qualifications abroad intend to stay longer only when planning to migrate. In addition the wave-country interactions are also often significant and indicate substantial variation in the planned duration of stay across countries and time periods, that are consistent with macroeconomic developments. In particular respondents from the Slovak border regions, where unemloyment rates reduced substantially in the time period considered here, have a significantly higher return hazard (shorter duration of stay) in the second wave.

5 Robustness

In order to check whether these results are robust to changes in methodology, we also ran logit regressions on a dummy variable measuring whether the respondents intended to return or stay abroad for as long as possible. Table 4 shows the marginal effects of this analysis. This change in specification does not affect the sign and significance of most of the variables included.[10] The only deviations from previous results are that foreign language knowledge and individual well being are now insignificant. This, however, can probably be attributed to the lower variance provided by the dependent variable in this specification, relative to that used in the previous section.

TABLE 4: AROUND HERE

Furthermore, we were also concerned that focusing only on those that intend to move may induce a selection problem (associated with the choice of commuting and migration being endogenous to return intentions) into the analysis. Therefore we also implemented a Heckman-type two-step selection model based on multinomial choice suggested by Bourguignon et al, (2007). In the first step we estimate a multinomial selection equation, which models individual choices between staying, commuting and migrating. In the second

step we then estimate a linear regression on the duration of stay (differentiating between commuters and migrants) and include the log odds ratios for different choices derived from first step regressions. The model we estimate is thus given by the following two equations:

$$durstay_i = \begin{cases} \beta_1 X_{1i} + \mu_{1i} & if \quad I_i = 1 \\ \beta_2 X_{2i} + \mu_{2i} & if \quad I_i = 2 \end{cases} \tag{9}$$

and

$$I_i = \begin{cases} 0 & if \qquad \gamma_0 Z_i + \xi_{1i} < 0 \\ 1 & if \quad 0 < \gamma_1 Z_i + \xi_{2i} < u_1 \\ 2 & if \quad u_1 < \gamma_2 Z_i + \xi_{3i} < u_2 \end{cases} \tag{10}$$

where I_i is a variable which takes on the value 0 if the respondent i is unwilling to migrate and commute, 1 if the respondent intends to migrate and 2 if he/she inteds to commute, $durstay_i$ is the duration of stay (now encoded with the middle value of the respective interval), X_i and Z_i are two sets of explanatory variables and ξ_{ji} and μ_i are two random variables with $\xi_{ji} \sim N(0,1)$, $\mu_i \sim N(0,\sigma_i)$, $0 < u_1 < u_2$ and $corr(\mu_i, \xi_i) = \rho_j$. γ_j and β are the parameters to be estimated. In this model we cannot account for interval censoring and thus implicity assume continuity of the dependent variable. Furthermore, the dependent variable is the duration of stay (and not the return hazard as above). Thus signs of the parameter estimates should change relative to the previous section.

In the selection equation we include dummy variables for education, networks abroad, gender, presence of kids, deprivation and being single as well as the age, distance and the wave-country interactions. Furthermore, to identify the first step equations, we also include indicator variables which take on the value of 1 if a person knows German, English or another language respectively.

Huber and Nowotny (2008) show that these variables have a significant impact on the probability of an individual being willing to migrate and that, on account of the analysed countries bordering primarily on German speaking EU15 countries, command of the English language increases the likelihood of being willing to migrate, but not of being willing to commute.

TABLE 5: AROUND HERE

Table 5 displays the results of the first stage multinomial regressions. All but the variables identifying knowledge of languages other than English and German are significant in at least one equation and all variables have the expected sign, both when considering the probability to migrate (relative to that of staying) as well as the probability to commute. For the language variable, however, we see that knowledge of English increases the probability of being willing to migrate but not of being willing to commute. Furthermore, having kids, marital status and having completed a secondary education are significant determinants of the willingness to migrate only, while distance has a significant impact on the wilingness to commute only.

TABLE 6: AROUND HERE

The results for the second stage equation (Table 6) replicate our previous findings. Again deprivation as well as its square have a significant and oppositely signed impact on the duration of stay for migrants, but not for commuters. Wage expectations, the education variable, as well as distance and the control variables found significant in the previous analysis are also significant. The only difference is that the indicator variable measuring foreign language knowledge has a significant impact on duration of stay for commuters only. This may be due to contolling for English and German language knowledge in the first stage regressions. In addition results also indicate that the selection terms (labelled by $m0$, $m1$ and $m2$) remain insignificant throughout, which

implies that selection does not seem to be a major issue driving the results in the previous analysis.

6 Conclusion

This paper analyses the intended duration of stay among potential migrants and commuters in the Slovak, Hungarian and Czech border regions to Austria. Extending a model originally formulated by Dustmann and Weiss (2007) we show that since cross-border commuters can consume at home while working abroad their return intentions will differ substantially from those of cross border migrants. In particular we hypothesize that socially deprived migrants should have a shorter expected duration of stay, but deprivation should have no effect on duration of stay of commuters. Education as well as networks abroad could either impact positively or negatively on duration of stay abroad depeding on selectivity, and on whether networks impact on the preference for consumption at home or the earnings capacity abroad.

Our empirical analysis confirms that deprived cross-border migrants intend to stay abroad for a shorter time period, while relative deprivation has no significant impact on return hazards of potential commuters. Furthermore, return migrants and commuters are positively selected from among those mobile in terms of education while network variables measuring the effects of friends and family abroad are insignificant. In addition, distance and education play a more important role for commuters' duration of stay and most other variables are less important for potential commuters than migrants. These results are robust over a number of estimation methods and apply both when measuring deprivation relative to friends and family as well as when measuring it relative to the population residing in the region.

From a policy perspective this suggests that border regions, where cross-border commuting is a viable alternative to migration, may experience quite different patterns of return mobility than regions that are not within commuting distance from borders. In particular the positive selection of both return migrants and commuters suggests that they are likely to recieve disprortionately more less qualified permanent migrants and commuters, which may make policies to improve the qualification structure of migrants particularly rewarding in these regions.

Notes

[1]An example of this is the debate on freedom of movement of labour in EU-enlargements. Here policy makers in border regions often argued that their concern was less with migration than with cross-border commuting. Economic analysis provided only little guidance on the justification of this concern.

[2]Here temporary stays abroad serve to accumulate financial resources for later consumption at home. Similar arguments apply to investment at home (see: Djajic and Ross, 1988; Yang, 2006).

[3]The assumtion that emigration occurs at $t = 0$ is of no relevance for subsequent results since, as will become apparent below, later migration (commuting) will always lead to income loss in our model (either from forgone wage increases from experience abroad or due to wage convergence between the home and foreing country).

[4]The Langrangian to this problem is $L = \frac{\xi}{p} u(c^d)[\chi h^R + (1 - h^R)p] - \lambda_1(h^R - h^W)$.

[5]The model has only two types of optima, which are also those of interest to us (i.e. $h^R = 0$ and $1 \geq h^W \geq 0$ or $1 \geq h^R = h^W \geq 0$). Furthemore inserting h^{W*} into the condition $[\alpha(p - \chi)]c^d/(1 - \alpha) > k^c$ it follows that individuals will prefer commuting to migrating if $\left[w^d + (w^a - w_0^d - k^c + \gamma + \kappa)^2/4(\gamma + \kappa)\right] [\alpha(p - \chi)/(1 - \alpha)p] > k^c$.

[6]This has first been argued by Bauer and Gang (2002) with respect to network migration.

[7]These interviews were conducted in November 2004/February 2005 and November 2006/February 2007 in the southern parts of the Czech Republic (South Moravia, Vysocina, South Bohemia), western Slovakia (Bratislava, Trnava) and West-Hungary (Györ-Moson-Sopron, Vas, Zala). Detailed data descriptions are provided in Hudler-Seitzberger and Bittner (2005) and Huber and Nowotny (2008).

[8]We use this distribution, since results suggest negative duration dependence.

[9]In practice the relevance of this decline is minor. About 10% of our sample have values of deprivation exceeding the turning point.

[10]Regression coeffecients are reported in table A1 in the Appendix.

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7 Appendix

Equation 8 in the main part of the paper implicitly defines the duration of stay abroad when migrating. In this appendix we show that there is at most one positive solution to this equation and derive the partial derivatives of h^{R*} with respect to ξ, w_0^d, p, γ, κ and w^a.

Starting first with the solution for h^{R^*}, we substitute equation (3) into (8) and note that in this case $h^R = h^W$. This gives:

$$2h^{R^*} = \frac{w^a - w_0^d}{(\gamma+\kappa)} + \frac{\alpha(\chi-p)[h^R w^a + (1-h^R)(w^d + (\gamma+\kappa)h^R)]}{(1-\alpha)(\gamma+\kappa)[h^R\chi + (1-h^R)p]} + 1 \tag{11}$$

After some rearranging it can be shown that this implicitly defines h^{R^*} by a quadratic such that $ah^{R^{*2}} + bh^{R^*} + c = 0$ with $a = (2-\alpha)(\gamma+\kappa)(\chi-p) < 0$, $b = 2(1-\alpha)(\gamma+\kappa)p + \alpha(p-\chi)(w^a - w_0^d + \gamma + \kappa) > 0$ and $c = (w_0^d - \gamma - \kappa - w^a)(1-\alpha)p + \alpha(p-\chi)w_0^d$ where $c > 0$ if $(w^a - w_0^d + \gamma + \kappa)(1-\alpha)p < \alpha(p-\chi)w_0^d$.

Thus by the quadratic equation if $(w^a - w_0^d + \gamma + \kappa)(1-\alpha)p > \alpha(p-\chi)w_0^d$ then h^{R^*} has two negative roots, which implies h^{R^*}=0 by the non-negativity constraint on h^{R*}. By contrast if $(w^a - w_0^d + \gamma + \kappa)(1-\alpha)p < \alpha(p-\chi)w_0^d$ the quadratic has one positive and one negative root, with the positive root defining h^{R^*}.

Next moving to the derivatives; we can reformulate equation (8) as

$$z = (2h^{R*} - 1)(1-\alpha)(\gamma+\kappa) - (w^a - w_0^d)(1-\alpha) + \alpha(p-\chi)c^d(h^{R*}) = 0 \tag{12}$$

remembering that $\chi = [\xi/p]^{-1/\alpha}$ and noticing from equation (3) that: $\frac{\partial c^d}{\partial \gamma} = \frac{\partial c^d}{\partial \kappa} = \frac{h^R(1-h^R)}{[h^R\chi+(1-h^R)p]} > 0$, $\frac{\partial c^d}{\partial \xi} = \frac{h^{R^*}c^d\chi}{\xi\alpha[h^R\chi+(1-h^R)p]} > 0$, $\frac{\partial c^d}{\partial p} = \frac{c^d[h^R\chi/(\alpha p)+(1-h^R)]}{[h^R\chi+(1-h^R)p]} > 0$, $\frac{\partial c^d}{\partial w^a} = \frac{h^{R*}}{[h^R\chi+(1-h^R)p]} > 0$, $\frac{\partial c^d}{\partial w_0^d} = \frac{1-h^{R*}}{[h^R\chi+(1-h^R)p]} > 0$ and $\frac{\partial c^d}{\partial h^R} = \frac{(p-\chi)c^d}{(1-\alpha)[h^R\chi+(1-h^R)p]} > 0$ the derivatives of (12) are given by:

$$\frac{\partial z}{\partial h^{R*}} = 2(1-\alpha) + \alpha(p-\chi)\frac{\partial c^d}{\partial h^{R*}} > 0, \tag{13}$$

$$\frac{\partial z}{\partial w_0^d} = (1-\alpha) + \alpha(p-\chi)\frac{\partial c^d}{\partial w_0^d} > 0, \tag{14}$$

$$\frac{\partial z}{\partial \xi} = \frac{\chi c^d}{\alpha \xi} + \alpha(p-\chi)\frac{\partial c^d}{\partial w_0^d} > 0, \tag{15}$$

which are all unambiguously positive, while

$$\frac{\partial z}{\partial p} = c^d(\alpha - \frac{\chi}{p}) + \alpha(p-\chi)\frac{\partial c^d}{\partial p} \tag{16}$$

$$\frac{\partial z}{\partial \kappa} = (2h^{R*} - 1)(1-\alpha) + \alpha(p-\chi)\frac{\partial c^d}{\partial \kappa}, \tag{17}$$

$$\frac{\partial z}{\partial \gamma} = (2h^{R*} - 1)(1-\alpha) + \alpha(p-\chi)\frac{\partial c^d}{\partial \gamma}, \tag{18}$$

$$\frac{\partial z}{\partial w^a} = -(1-\alpha) + \alpha(p-\chi)\frac{\partial c^d}{\partial w^a}, \tag{19}$$

are ambiguously signed. One can thus use the implict function theorem to show that $\frac{\partial h^{R*}}{\partial w_0^d} < 0$ and $\frac{\partial h^{R*}}{\partial \xi} < 0$, while the signs of all other derivatives can are ambiguous.

Table 1: Intended duration of stay of Commuters and Migrants

		Commuter	Migrant	Total
Absolute	Less than 1 year	33	120	153
	1-2 years	114	165	279
	3-5 years	115	169	284
	5-10 years	38	56	94
	As long as possible	310	397	707
In %	Less than 1 year	5.4	13.2	10.1
	1-2 years	18.7	18.2	18.4
	3-5 years	18.9	18.6	18.7
	5-10 years	6.2	6.2	6.2
	As long as possible	50.8	43.8	46.6
Total Obsevations		610	907	1517

Source: LAMO database.

Table 2: Descriptive Statistics for Independent Variables

	Total		No return Intenions		Return Intentions	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Derprivation w.r.t. friends and familly	10.48	1.67	10.61 ***	1.84	10.37	1.50
Deprivation w.r.t. residents in region	3.63	1.68	3.72 **	1.70	3.56	1.67
Network abroad	0.63	0.48	0.60	0.49	0.64	0.48
Foreign language knowledge	0.93	0.25	0.93	0.25	0.93	0.25
Compulsory educ.	0.12	0.32	0.14 ***	0.35	0.10	0.30
Vocational educ.	0.27	0.44	0.30 ***	0.46	0.23	0.42
Secondary educ.	0.39	0.49	0.39	0.49	0.39	0.49
Tertiary educ.	0.23	0.42	0.16 ***	0.37	0.28	0.45
Age	31.61	11.11	31.89	11.18	31.37	11.06
Wages will increase	0.47	0.50	0.40 ***	0.49	0.53	0.50
Wages will stagnate	0.40	0.49	0.43 **	0.50	0.38	0.48
Wages will decline	0.13	0.34	0.17 ***	0.38	0.10	0.48
Distance	46.65	28.59	42.23 ***	27.25	50.50	29.19
Single	0.61	0.49	0.62	0.49	0.61	0.49
Kids	0.38	0.49	0.42 ***	0.49	0.35	0.48
Individual Well-being	5.54	1.90	5.77 ***	2.02	5.33	1.77
Female	0.41	0.49	0.42	0.49	0.41	0.49
Previous Mobility	0.20	0.40	0.17 ***	0.37	0.23	0.42
Expect better job than at home	0.41	0.49	0.48 ***	0.50	0.35	0.48
Expect employment acc. to qual.	0.39	0.49	0.42 *	0.49	0.37	0.48
Czech Republic	0.43	0.50	0.38	0.49	0.47	0.50
Slovak Republic	0.31	0.46	0.30	0.46	0.31	0.46
Hungary	0.26	0.44	0.31 ***	0.46	0.21	0.41
1st wave	0.46	0.50	0.45	0.50	0.47	0.50
Obsevations	1517		707		810	

Source: LAMO database. Stars indicate significance level of t-test of difference between means of individuals with and without return intentions. *** significant at 1%, ** significant at 5%, * significant at 10% level.

Table 3: Intervall Censured Duration Analysis Results

	Deprivation w.r.t. friends & familly				Deprivation w.r.t. residents in region			
	Migrants		Commuters		Migrants		Commuters	
	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err
Deprivation	0.596 **	0.247	0.140	0.245	0.433 **	0.168	-0.080	0.196
Deprivation squared	-0.026 **	0.012	-0.005	0.011	-0.038 *	0.020	0.032	0.025
Foreign language	-0.606 **	0.277	-0.512 **	0.232	-0.580 **	0.265	-0.532 **	0.234
Network abroad	-0.030	0.106	0.056	0.142	-0.042	0.106	0.084	0.143
Compulsory educ.	Reference Group							
Vocational educ.	0.118	0.195	0.293	0.288	0.104	0.192	0.283	0.287
Secondary educ.	0.199	0.176	0.429	0.280	0.221	0.174	0.412	0.278
Tertiary educ.	0.575 ***	0.208	0.815 ***	0.300	0.633 ***	0.206	0.826 ***	0.298
Age	-0.086 **	0.037	-0.073	0.047	-0.093 **	0.037	-0.066	0.047
Age squared	0.001 **	0.000	0.001	0.001	0.001 **	0.000	0.001	0.001
Wages will increase	Reference Group							
Wages will stagnate	-0.264 **	0.107	-0.077	0.140	-0.286 ***	0.108	-0.098	0.140
Wages will decline	-0.441 **	0.191	-0.409 *	0.214	-0.498 **	0.195	-0.451 **	0.215
Distance	0.005 ***	0.002	0.012 ***	0.002	0.006 ***	0.002	0.012 ***	0.002
Single	-0.097	0.120	-0.044	0.156	-0.130	0.135	-0.008	0.172
Kids	-0.144	0.133	-0.074	0.173	-0.085	0.119	-0.005	0.160
Individual Well-being	0.278 **	0.130	0.037	0.159	-0.053	0.181	-0.050	0.228
Individual Well-being squared	-0.031 **	0.012	-0.007	0.014	-0.013	0.014	-0.008	0.016
Female	-0.022	0.100	0.053	0.130	-0.062	0.100	0.052	0.131
Previous Mobility	0.358 ***	0.117	-0.019	0.179	0.354 ***	0.117	-0.017	0.178
Expect better job than at home	-0.430 ***	0.103	-0.141	0.138	-0.452 ***	0.103	-0.136	0.138
Expect employment acc. to qual.	-0.333 ***	0.109	0.081	0.136	-0.338 ***	0.109	0.091	0.135
Czech Republic	0.395 ***	0.145	0.464 **	0.209	0.429 ***	0.143	0.447 **	0.213
Slovak Republic	0.284 *	0.153	0.068	0.202	0.394 **	0.158	0.156	0.209
Hungary	-0.084	0.262	-0.035	0.252	0.116	0.277	0.162	0.280
2nd Wave x Czech Republic	Reference Group							
2nd Wave x Slovak Republic	-0.750 ***	0.221	-0.772 *	0.424	-0.835 ***	0.228	-0.760 *	0.418
2nd Wave x Hungary	-0.193	0.310	-0.328	0.310	-0.174	0.312	-0.359	0.311
Constant	-3.446 ***	1.478	-2.250	1.519	0.067	0.794	-1.362	0.946
ln(p)	-0.367 ***	0.028	-0.210 ***	0.041	-0.364 ***	0.037	-0.209 ***	0.041
Log Likelihood	-1289.263		-836.788		-1288.455		-834.921	
Obsevations	907		610		907		610	

Note: Dependent variable: duration of stay. Source: LAMO database. ***significant at 1%, significant at 5%, * significant at 10% level.
Coeff=Coefficient Std.Err. = Standard Error of Estimate

Table 4: Logit Results (Marginal Effects)

	Deprivation w.r.t. friends & familly				Deprivation w.r.t. residents in region			
	Migrants		Commuters		Migrants		Commuters	
	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err
Deprivation	0.207 ***	0.080	0.051	0.079	0.149 **	0.061	-0.038	0.074
Deprivation squared	-0.009 **	0.004	-0.002	0.004	-0.014 *	0.007	0.014	0.010
Foreign language	-0.252 **	0.078	-0.105	0.070	-0.228 **	0.081	-0.112	0.071
Network abroad	-0.029	0.039	0.024	0.047	-0.031	0.039	0.035	0.048
Compulsory educ.	Reference Group							
Vocational educ.	0.047	0.067	0.080	0.084	0.040	0.068	0.077	0.086
Secondary educ.	0.078	0.060	0.131	0.083	0.082	0.059	0.137	0.085
Tertiary educ.	0.220 ***	0.065	0.252 ***	0.084	0.236 ***	0.064	0.261 ***	0.085
Age	-0.025 *	0.013	-0.021	0.016	-0.026 *	0.013	-0.021	0.016
Age squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Wages will increase	Reference Group							
Wages will stagnate	-0.082 **	0.040	-0.031	0.050	-0.090 **	0.040	-0.036	0.050
Wages will decline	-0.153 **	0.064	-0.121 *	0.067	-0.166 **	0.065	-0.136 *	0.067
Distance	0.002 ***	0.001	0.004 ***	0.001	0.002 ***	0.001	0.004 ***	0.001
Single	-0.068	0.052	-0.058	0.056	-0.040	0.044	-0.006	0.051
Kids	-0.038	0.044	-0.020	0.050	-0.064	0.052	-0.036	0.057
Individual Well-being	0.078	0.049	0.017	0.055	-0.025	0.069	-0.021	0.091
Individual Well-being squared	-0.009 **	0.004	-0.002	0.005	-0.004	0.005	-0.003	0.006
Female	-0.004	0.037	0.010	0.045	-0.016	0.037	0.009	0.045
Previous Mobility	0.122 **	0.043	0.007	0.062	0.121 ***	0.044	0.008	0.062
Expect better job than at home	-0.139 ***	0.038	-0.046	0.047	-0.143 ***	0.038	-0.043	0.048
Expect employment acc. to qual.	-0.112 ***	0.040	0.022	0.047	-0.111 ***	0.040	0.026	0.047
Czech Republic	0.141 ***	0.052	0.177 **	0.079	0.149 ***	0.052	0.184 **	0.082
Slovak Republic	0.122 **	0.056	0.023 **	0.071	0.157 ***	0.057	0.053	0.073
Hungary	-0.047	0.089	-0.012	0.080	0.035	0.093	0.077	0.095
2nd Wave x Czech Republic	Reference Group							
2nd Wave x Slovak Republic	-0.239 ***	0.079	-0.241 *	0.112	-0.269 ***	0.079	-0.258 **	0.108
2nd Wave x Hungary	-0.032	0.109	-0.134	0.107	-0.039	0.111	-0.164	0.108

Note: Table reports marginal effects (see Table A1 in appendix) for regression results) Dependent variable: return intention. Source: LAMO database. ***significant at 1%, significant at 5%, * significant at 10% level. Coeff=Coefficient Std. Err. = Standard Error of Estimate

Table 5: Multinomial Regression Results

	Deprivation w.r.t. friends & familly				Deprivation w.r.t. residents in region			
	Commuting		Migration		Commuting		Migration	
	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err
German	0.404 ***	0.040	0.336 ***	0.034	0.419 ***	0.040	0.355 ***	0.035
English	-0.024	0.045	0.334 ***	0.037	-0.006	0.045	0.361 ***	0.038
Other language	-0.101	0.110	0.060	0.098	-0.120	0.111	0.033	0.099
Network	0.959 ***	0.089	0.922 ***	0.081	0.980 ***	0.090	0.943 ***	0.082
Deprivation	0.119 ***	0.027	0.106 ***	0.025	0.177 ***	0.028	0.186 ***	0.025
Distance	-0.009 ***	0.002	0.002	0.001	-0.008 ***	0.002	0.002	0.001
Age	-0.043 ***	0.004	-0.064 ***	0.005	-0.043 ***	0.004	-0.063 ***	0.005
Female	-0.639 ***	0.089	-0.419 ***	0.080	-0.645 ***	0.089	-0.431 ***	0.080
Single	0.134	0.110	0.733 ***	0.103	0.132	0.110	0.713 ***	0.103
Kids	0.026	0.098	-0.424 ***	0.091	0.028	0.098	-0.435 ***	0.091
Vocational educ.	0.096	0.168	-0.088	0.150	0.093	0.168	-0.103	0.150
Secondary educ.	-0.245	0.168	-0.372 ***	0.141	-0.229	0.168	-0.378 ***	0.141
Tertiary educ.	-0.241	0.191	-0.134	0.160	-0.180	0.191	-0.088	0.161
CZ	-0.470 ***	0.148	-0.365 ***	0.113	-0.459 ***	0.148	-0.359 ***	0.113
SK	1.860 ***	0.141	-1.240 ***	0.183	-2.574 ***	0.252	-1.311 ***	0.184
HU	1.333 ***	0.172	0.567 **	0.234	0.306	0.217	0.551 **	0.235
2nd Wave XSK	-2.513	0.251	1.258 ***	0.135	1.914 ***	0.141	1.322 ***	0.136
2nd Wave XHU	0.331	0.217	0.535 ***	0.198	1.420 ***	0.173	0.638 ***	0.199
Constant	-1.300 ***	0.306	-1.265 ***	0.275	-1.978 ***	0.327	-2.001 ***	0.295
Nobs	8446				8446.000			
Log Likelyhood	-4050.931				-4023.824			

Note: Table shows coefficients of a multinomial logit regression. Dependent variable:willingness to stay, commute or migrate. Source: LAMO database. ***significant at 1%, significant at 5%, * significant at 10% level. Coeff=Coefficient; Std. Err. = standard Error of the estimate

Table 6: Multinomial Selection Model Results

	Deprivation w.r.t. friends & familly				Deprivation w.r.t. residents in region			
	Migrants		Commuters		Migrants		Commuters	
	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err
Deprivation	-0.493 ***	0.186	-0.132	0.198	-0.305 **	0.152	0.063	0.188
Deprivation squared	0.019 **	0.008	0.006	0.009	0.027 *	0.015	-0.031	0.023
Foreign language	0.376	0.291	0.533 ***	0.209	0.337	0.290	0.555 ***	0.208
Network abroad	-0.076	0.137	0.007	0.179	-0.096	0.136	-0.011	0.176
Compulsory educ.	Reference group							
Vocational educ.	-0.150	0.187	-0.148	0.211	-0.157	0.187	-0.155	0.210
Secondary educ.	-0.216	0.166	-0.230	0.206	-0.240	0.166	-0.257	0.204
Tertiary educ.	-0.531 **	0.206	-0.476 **	0.230	-0.581 ***	0.208	-0.502 **	0.229
Age	0.091 **	0.036	0.055	0.040	0.101 ***	0.036	0.055	0.039
Age squared	-0.001 **	0.000	-0.001 *	0.000	-0.001 **	0.000	-0.001 *	0.000
Wages will increase	Reference group							
Wages will stagnate	0.265 **	0.104	0.112	0.122	0.272 **	0.105	0.123	0.121
Wages will decline	0.398 **	0.175	0.320 *	0.169	0.428 **	0.176	0.351 **	0.169
Distance	-0.004 *	0.002	-0.008 ***	0.002	-0.004 *	0.002	-0.008 ***	0.002
Single	0.122	0.152	0.083	0.162	0.113	0.150	0.048	0.158
Kids	0.102	0.123	-0.174	0.135	0.098	0.124	-0.214	0.136
Individual Well-being	-0.197 **	0.116	-0.127	0.137	-0.033	0.174	0.002	0.218
Individual Well-being squared	0.024 **	0.010	0.012	0.012	0.015	0.012	0.011	0.015
Female	0.067	0.108	-0.062	0.137	0.103	0.107	-0.063	0.136
Previous Mobility	-0.363 ***	0.119	-0.016	0.149	-0.362 ***	0.119	-0.030	0.148
Expect better job than at home	0.510 ***	0.101	0.269 **	0.116	0.504 ***	0.102	0.260 **	0.116
Expect employment acc. to qual.	0.406 ***	0.105	-0.029	0.115	0.396 ***	0.105	-0.032	0.115
Czech Republic	-0.364 **	0.148	-0.419 *	0.215	-0.371 **	0.148	-0.437 **	0.213
Slovak Republic	-0.540 **	0.212	-0.189	0.260	-0.666 ***	0.215	-0.262	0.262
Hungary	-0.089	0.275	-0.066	0.268	-0.240	0.286	-0.315	0.298
2nd Wave x Czech Republic	Reference group							
2nd Wave x Slovak Republic	1.160 ***	0.289	0.690 *	0.404	1.275 ***	0.292	0.743 *	0.403
2nd Wave x Hungary	0.240	0.297	0.270	0.288	0.237	0.297	0.361	0.287
m0	-0.402	0.379	0.273	0.485	-0.16	0.369	0.362	0.472
m1	-1.328	0.882	-0.324	0.315	-1.47	0.974	-0.307	0.311
m2	-0.139	0.232	1.344	0.901	-0.11	0.219	1.481	0.963
Constant	4.425 ***	1.220	5.073 ***	1.516	1.576 **	0.79	4.195 ***	1.083
R-squared	0.173		0.111		0.169		0.118	
Obsevations	907		610		907		610	

Note: Dependent variable: duration of stay. Source: LAMO database. ***significant at 1%, significant at 5%, * significant at 10% level.
Coeff=Coefficient Std. Err. = Standard Error of Estimate

Table A1: Logit Regression Results

	Deprivation w.r.t. friends & familly				Deprivation w.r.t. residents in region			
	Migrants		Commuters		Migrants		Commuters	
	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err	Coeff	Std.Err
Deprivation	0.845 ***	0.325	0.206	0.316	0.608 **	0.247	-0.154	0.297
Deprivation squared	-0.038 **	0.015	-0.008	0.014	-0.055 *	0.030	0.056	0.038
Foreign language	-1.216 **	0.496	-0.425	0.288	-1.072 **	0.480	-0.453	0.291
Network abroad	-0.119	0.159	0.095	0.188	-0.127	0.160	0.140	0.191
Compulsory educ.	Reference Group							
Vocational educ.	0.193	0.280	0.322	0.338	0.164	0.281	0.307	0.345
Secondary educ.	0.319	0.247	0.526	0.339	0.337	0.246	0.552	0.347
Tertiary educ.	0.955 ***	0.309	1.051 ***	0.384	1.030 ***	0.311	1.095 ***	0.392
Age	-0.101 *	0.054	-0.086	0.063	-0.105 *	0.054	-0.083	0.062
Age squared	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Wages will increase	Reference Group							
Wages will stagnate	-0.332 **	0.161	-0.123	0.200	-0.364 **	0.161	-0.143	0.201
Wages will decline	-0.615 **	0.259	-0.491 *	0.279	-0.669 **	0.267	-0.554 *	0.283
Distance	0.008 ***	0.003	0.016 ***	0.003	0.009 ***	0.003	0.016 ***	0.003
Single	-0.153	0.178	-0.081	0.201	-0.265	0.218	-0.144	0.227
Kids	-0.279	0.217	-0.232	0.226	-0.163	0.179	-0.026	0.202
Individual Well-being	0.319	0.197	0.069	0.220	-0.101	0.280	-0.083	0.366
Individual Well-being squared	-0.037 **	0.018	-0.010	0.019	-0.016	0.021	-0.010	0.025
Female	-0.015	0.150	0.042	0.181	-0.064	0.150	0.036	0.181
Previous Mobility	0.511 **	0.190	0.028	0.249	0.509 ***	0.192	0.033	0.247
Expect better job than at home	-0.456 ***	0.162	0.086	0.189	-0.452 ***	0.161	0.102	0.190
Expect employment acc. to qual.	-0.568 ***	0.156	-0.184	0.191	-0.582 ***	0.157	-0.171	0.191
Czech Republic	0.579 ***	0.217	0.715 **	0.328	0.614 ***	0.217	0.743 **	0.340
Slovak Republic	0.507 **	0.238	0.091 **	0.283	0.656 ***	0.249	0.211	0.292
Hungary	-0.190	0.359	-0.049	0.320	0.144	0.387	0.307	0.382
2nd Wave x Czech Republic	Reference Group							
2nd Wave x Slovak Republic	-0.978 ***	0.341	-1.041 *	0.563	-1.108 ***	0.350	-1.131 **	0.563
2nd Wave x Hungary	-0.131	0.438	-0.545	0.444	-0.157	0.446	-0.671	0.459
Constant	-1.946	1.963	-0.466	2.055	2.684 **	1.187	1.005	1.335
Log Likelihood	-556.504		-392.705		-555.954		-390.238	
Obsevations	907		610		907		610	

Note: Dependent variable: return intention. Source: LAMO database. ***significant at 1%, significant at 5%, * significant at 10% level.
Coeff=Coefficient Std. Err. = Standard Error of Estimate

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