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Working Paper

Institutions and the location decisions of highly skilled migrants to Europe

Working Papers in Economics and Finance, No. 2013-03

Provided in Cooperation with:

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Suggested Citation: Nowotny, Klaus (2013) : Institutions and the location decisions of highly skilled migrants to Europe, Working Papers in Economics and Finance, No. 2013-03, University of Salzburg, Department of Social Sciences and Economics, Salzburg

This Version is available at:

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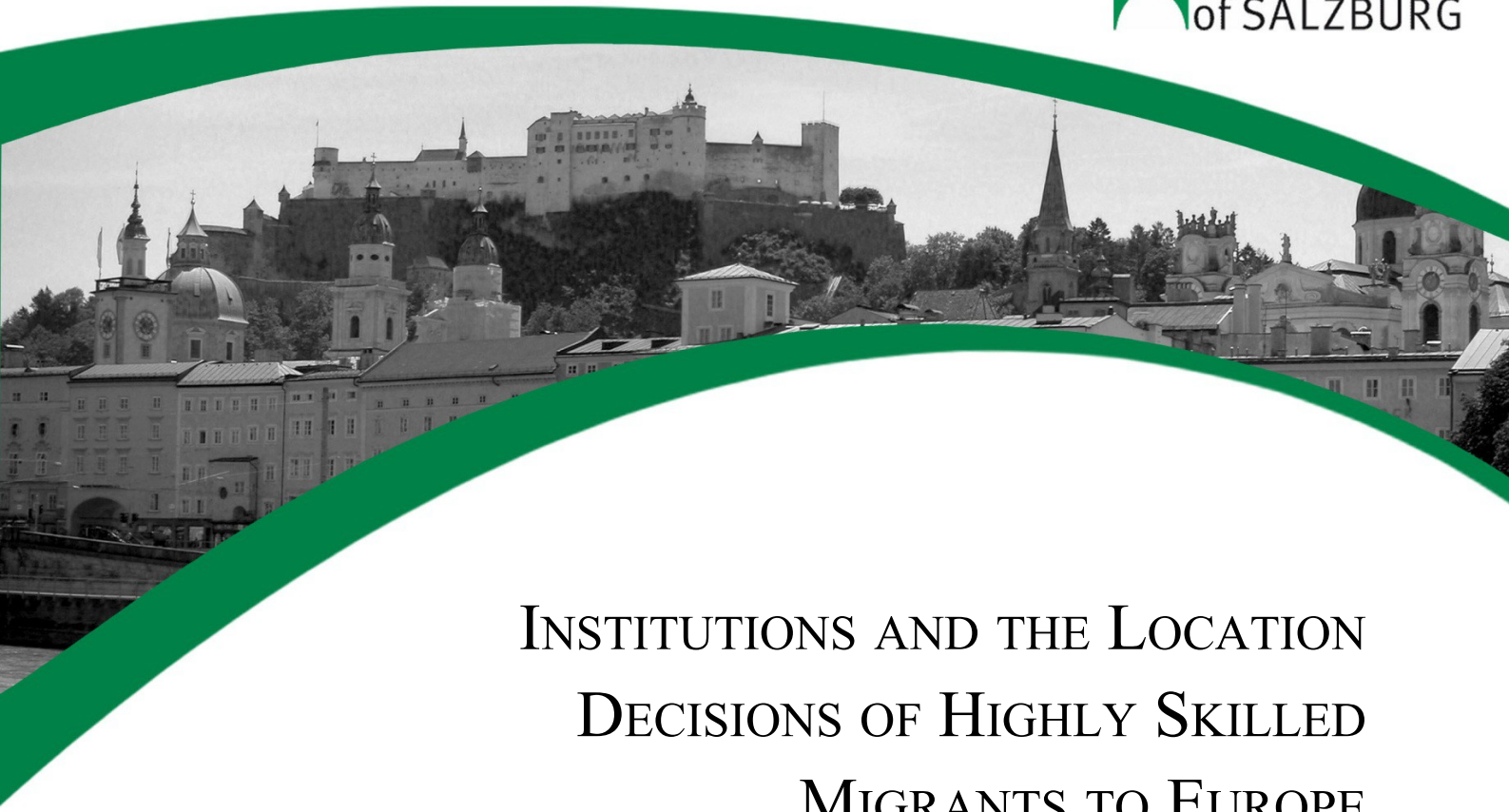
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INSTITUTIONS AND THE LOCATION
DECISIONS OF HIGHLY SKILLED
MIGRANTS TO EUROPE

KLAUS NOWOTNY

WORKING PAPER No. 2013-03

WORKING PAPERS IN
ECONOMICS AND FINANCE

Institutions and the Location Decisions of Highly Skilled Migrants to Europe

Klaus Nowotny*

This version: August 9, 2013

Abstract

The economic literature provides ample evidence that immigration of highly skilled workers is beneficial for the host economy. Yet, when compared to countries such as the USA or Canada, Europe receives a lower share of migrants with tertiary education, raising concerns that the EU does not attract enough highly skilled migrants. There is, however, considerable heterogeneity in the share of highly-skilled migrants across EU-15 countries which is even more pronounced at the regional level. This paper uses this heterogeneity to investigate the economic, labor market and institutional factors that make regions and countries attractive for highly skilled migrants vis-à-vis low-skill migrants. Controlling for a variety of regional characteristics, the regressions show both similarities and differences in the determinants of location choice between high- and low-skilled migrants and possible directions for migration policy.

JEL classification numbers: F22, R23, C35

Keywords: highly-skilled migration, regional location decisions, institutions, migration policy

1 Introduction

The economic literature provides ample evidence that migration of highly skilled workers is beneficial for the host economy: highly skilled migrants can contribute to enhance technology adaption and adoption by innovation or knowledge spillovers (Hunt and Gauthier-Loiselle, 2008; Kerr, 2007), their skills are more likely to be complementary to those of natives relative to low-skill migrants (Fujita and Weber, 2004; Alesina and La Ferrara, 2005; Ottaviano and Peri, 2006; Niebuhr, 2006), they are more often entrepreneurially-minded (Saxenian, 2000) and can also provide information which increases trade and FDI flows between sending and receiving countries (Docquier and Lodigiani, 2010).

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Furthermore, highly skilled migrants rely less on public services and tend to be net contributors to the welfare system (Razin et al., 2011). Given this evidence, it is not surprising that the focus of migration policy in many countries has shifted toward the skill composition of migrants, contributing to an increasing international competition for highly skilled labor.

Highly skilled migrants are also vital for the competitiveness of European economies (Huber et al., 2010), especially in the face of aging societies and increasing pressures on welfare systems. Yet when compared to countries such as the USA or Canada, Europe receives a lower share of migrants with tertiary education, raising concerns that the EU does not attract enough highly skilled migrants: according to the OECD's Database on Immigration in OECD Countries (DIOC), the (unweighted) average share of highly skilled among the foreign-born is only 20 % in the OECD EU countries, compared to 26 % in Australia and the USA, 31 % in New Zealand and 38 % in Canada (Huber et al., 2010, p. 32). Focusing on the foreign-born age 25–64, the (unweighted) average of the share of highly skilled across 19 EU OECD countries is only 25 %, compared to 35 % in the USA, 36 % in Australia, 38 % in New Zealand and 46 % in Canada (OECD, 2007a, p. 133). This holds true even after controlling for differences in the sending country structure between the EU and the non-EU OECD countries.

However, there is considerable heterogeneity across EU countries: the share of highly skilled among the foreign-born ranges from less than 15 % in Austria, Italy and Germany to more than 35% in Denmark, Sweden, the UK and Ireland (Huber et al., 2010). The heterogeneity is even more pronounced at the regional level, where the share of highly skilled among the foreign-born ranges from as low as 5 % in some to more than 50 % in other regions according to data from the European Union Labour Force Survey (EU-LFS) for 2006/2007.

The paper uses this heterogeneity across EU countries and regions to analyze the economic, labor market and institutional factors that make regions and countries attractive for highly skilled migrants and favor the immigration of the highly skilled. The paper contributes to both the literature on the impact of institutions on migration, where it extends previous approaches by differentiating migrants by skill levels, as well as to the literature on the determinants of highly-skilled migration.

The paper also adds to the literature by using a special evaluation of the EU-LFS provided by Eurostat which contains detailed information on migrants' country of birth, length of stay in the host country and educational attainment. This unique data set allows an analysis for (almost) all EU-15 countries, while previous approaches (see, for example, Geis et al., 2008, 2011) focused only on selected European countries due to limited data availability.

2 Literature

The empirical literature on the determinants of migration is manifold. But while early works (see, for example, Sjaastad, 1962; Todaro, 1969) focused mainly on economic determinants such as wages, unemployment rates or migration costs, more recent contributions increasingly focus on the impact of institutional factors: for example, following Borjas' (1999) paper on the "welfare magnet hypothesis", various papers analyzed the impact of the generosity of the welfare

system. The evidence provided by the empirical literature is, however, far from being conclusive. While Borjas (1999) concludes that welfare-receiving immigrants in the U.S. show a higher degree of clustering, Levine and Zimmerman (1999) find no support for the welfare magnet hypothesis in their analysis of moves within the US. In addition, there are only few studies for the EU or single European countries. In their analysis of migration flows to 22 OECD countries, Pedersen et al. (2008) find only weak results for their welfare generosity proxy (public social expenditure as a percentage of GDP) which are even negative in some regressions. On the other hand, results by Åslund (2005) or Damm (2009) point to welfare seeking behavior by immigrants to Sweden and Denmark.¹

Geis et al. (2008) analyzed the effect of welfare variables and institutional determinants of target country choice but find mixed effects for their proxies for welfare generosity in a study covering France, Germany, the UK and the US. The authors estimate a negative effect of pension replacement rates on country choice, which can—according to the authors—be attributed to a higher “implicit tax rate” associated with more generous pension systems. On the other hand, they find positive effects on migrants’ choice of a host country for the quality of health care and educational systems as well as the unemployment replacement rate. Similar results were found by Nowotny (2011) for 13 of the EU-15 countries. With respect to the institutional variables, Geis et al. (2008) found positive effects of employment protection or union coverage on migrants’ location choices, but also pointed to insider-outsider problems if unemployment was large.

While there already are some studies analyzing the effect of institutions on migration decisions, the number of contributions that consider the effect of institutions on the skill composition of migration is limited. Belot and Hatton (2012) investigate the selection by skill among migrants to 21 OECD countries using an extended Roy model; in an additional regression they also control for a limited set of institutional variables capturing two aspects of migration policy. Their dummy variables for low restrictions on the migration of professionals and having a points system that favors highly-skilled immigration have a positive effect on skill selection. Geis et al. (2008) also investigate differences between skill groups, but only differentiate between unskilled and skilled migrants but do not consider the highly skilled as defined in this paper (see next section) as a separate group. Additionally, they focus on a limited set of institutional variables and do not include aspects of migration policy in their analysis. Geis et al. (2011), on the other hand, differentiate between low-, medium and highly skilled, but provide only descriptive evidence.

This paper therefore contributes to the existing literature which captures the effect of individual institutional variables on the skill structure of migration by considering a broader range of institutional, welfare and migration policy variables; in addition, it is—to the author’s best knowledge—the first study of this kind for a larger set of European Union countries. Furthermore, the empirical analysis allows for a detailed investigation of possible differences in determinants of location decisions across skill groups.

¹However, because the generosity of the welfare system hardly varies within European countries, effects are hard to identify in single-country studies because of low (or missing) variation in the explanatory variables.

3 Data and empirical strategy

3.1 Migration data

Since most datasets that distinguish between high- and low-skill migrants are not available on a place-to-place basis (such as the DIOC) or at the regional level (such as the data used by Docquier and Marfouk, 2006), this paper uses a special evaluation of the 2007 EU-LFS to estimate the determinants of highly-skilled migrants' location choice at the regional level. The EU-LFS is a periodical survey conducted among private households in the EU. While EU-LFS data disseminated by Eurostat usually contain only aggregated information on the sending countries, the special evaluation available to the author provides detailed information on migrants' country of birth as well as the region of residence at the NUTS-2 level. Furthermore, the data distinguish between migrants who moved during the last 10 years before the survey (i. e., during the 1998-2007 period) and migrants who moved more than ten years ago. It also includes information on the skill level based on the UNESCO's International Standard Classification of Education (ISCED).² For the empirical analysis we consider all individuals born outside their country of residence as migrants, and distinguish between low-skilled (ISCED 0-2 equivalent level of education), medium-skilled (ISCED 3-4) and highly skilled migrants (ISCED levels 5 or 6).

The empirical analysis will model the location decisions of migrants to the EU-15 countries at the regional (NUTS-2) level and therefore focuses on all individuals born outside the EU-15 while migrants from within the EU-15 are not considered.³ We furthermore focus only on those who migrated during the last 10 years. Those who migrated more than 10 years ago are used to calculate migration networks (see section 3.4).

The EU-LFS data have two drawbacks: first, the data only provide information about those who have been living in the respective member country at the time of the interview, so there is no information about repeat and return migration which would be important for the calculation of migrant networks (see below). Second, the EU-LFS does not contain information on country of birth for Germany and Ireland. For the German data, information on nationality is therefore used to identify migrants instead of country of birth. Although it is an imperfect measure of migrant status because migrants who have attained German citizenship through naturalization can no longer be identified as migrants, the error will be rather small because the focus of the empirical analysis is on more recent migrants and immigrants usually have to be German residents for several years before they can apply for the citizenship. It will, however, affect the calculations of migrant networks. In the Irish data, information on both country of birth and nationality is missing. Ireland must therefore be excluded

²Of course, the level of formal education is not the only aspect of a migrant's skill level; motivation, informal education and on-the-job experience also constitute important components of an individual's "skill" but are, unfortunately, unobserved. This paper therefore assumes that the highest completed level of education is representative for (or at least highly correlated with) the skill level.

³In principle, data on migrants in the new member states that joined the European Union in 2004 and 2007 are included in the LFS. But given the low number of migrants in these countries they are less reliable and the new member states are therefore not used as receiving countries in the analysis.

Educational attainment	Number of observations			
	Unweighted		Weighted	
	<i>N</i>	%	<i>N</i>	%
N. A.	713	2.26	164,000	1.71
Low skilled (ISCED 0–2)	11,139	40.98	3,750,400	39.10
Medium skilled (ISCED 3–4)	10,315	37.95	3,839,700	40.03
Highly skilled (ISCED 5–6)	5,016	18.45	1,838,500	19.17
Total	27,183	100.00	9,592,700	100.00

Table 1: Number of migrants by skill levels. N. A.: not available. Weighted numbers based on weights provided in EU-LFS and rounded to the nearest hundred. Source: EU-LFS 2007 for EU-15 countries except Ireland.

as a receiving country. The empirical analysis therefore considers only regions in 14 of the EU-15 countries as receiving countries.

The number of observations in each skill category is shown in table 1. The table shows both the (unweighted) number of observations in the sample as well as the (weighted) number of migrants in the population using the weights provided in the EU-LFS. For the empirical analysis 11,139 observations for low-skilled and 5,016 observations for highly skilled migrants can be used. According to the weighted population projections, about 19.2 % of the 9.6m migrants from 160 countries who moved to the 14 EU-15 countries considered between 1998 and 2007 are highly skilled, while the number of low- and medium-skilled immigrants is more than twice as high. The EU-LFS data thus confirm the figures mentioned in the introduction that highlighted a share of highly skilled among the foreign-born in the EU of about 20 %.

3.2 Empirical specification

To motivate the empirical specification consider the location choice of migrant i who intends to migrate to the EU-15 and faces R alternative regions with choice-specific attributes X_{ir} . Assuming that the utility function is linear in the attributes of the regions, i 's utility of moving to region s is a linear function of the choice-specific characteristics X_{is} as well as an unknown utility component ε_{is} which is treated as random:

$$u_{is} = \beta' X_{is} + \varepsilon_{is} \quad (1)$$

The utilities are, of course, not observed, but assuming that migrants maximize their individual utility we can use the information that the individual chose to migrate to region s if and only if $u_{is} > u_{ir} \forall r \in R \neq s$ to predict the final outcome in terms of probability.

Under the assumption that the errors ε_{is} are i. i. d. extreme value, the probability that migrant i chose region s can then be estimated by the well-known conditional logit model (McFadden, 1974):

$$Pr(y_{is} = 1|X_i) = \frac{\exp(\beta' X_{is})}{\sum_{r=1}^R \exp(\beta' X_{ir})} \quad (2)$$

with log-likelihood function

$$LL(\beta) = \sum_{i=1}^N \sum_{s=1}^R y_{is} \ln Pr(y_{is} = 1|X_i)$$

where $y_{is} = 1$ if migrant i chose region s and zero otherwise.

A prominent feature of the conditional logit approach is that all variables z which do not vary across alternatives (such as individual or sending country characteristics) cancel out in equation (2):

$$\begin{aligned}
 P_{ks} &= \frac{\exp(\beta' X_{is} + \gamma z_i)}{\sum_{r=1}^R \exp(\beta' X_{ir} + \gamma z_i)} = \frac{\exp(\gamma z_i) \exp(\beta' X_{is})}{\exp(\gamma z_i) \sum_{r=1}^R \exp(\beta' X_{ir})} \\
 &= \frac{\exp(\beta' X_{is})}{\sum_{r=1}^R \exp(\beta' X_{ir})}
 \end{aligned}$$

This allows estimation without sending country data based on receiving region characteristics alone, which not only reduces the amount of data required (cf. Ortega and Peri, 2009), but also controls for any unobserved and unobservable individual or sending country characteristics which could lead to omitted variable bias in a cross-section regression. Related applications of the conditional logit model in the empirical literature on the determinants of location decisions include Bartel (1989), Bauer et al. (2000, 2002, 2005), Gottlieb and Joseph (2006), Jaeger (2007), Geis et al. (2008) or Christiadi and Cushing (2008), to name just a few.

But the approach also has some drawbacks. The most well known is the fact that the relative probabilities of two regions s and t should depend only on the characteristics of the two regions, a property known as “independence from irrelevant alternatives” (IIA). While IIA has some advantages if satisfied (for example it allows the consistent estimation of parameters on a subset of R) its validity in empirical applications can often be questioned.

Whether IIA holds can be tested by comparing the parameters of the unrestricted model (including all alternative regions) to the parameters of a restricted model where some alternatives are excluded (Hausman and McFadden, 1984). A significant test statistic provides evidence against IIA. However, the test does not offer guidelines which subset of alternatives should be excluded from R . Given that location decisions will be modeled at the NUTS-2 level and that there are 200 alternative regions in R , there are also 200 possible tests that can be performed if only one alternative is excluded at a time, 19,900 possible tests where two alternatives are excluded, 1,313,400 tests where three alternative regions are excluded in the restricted model, etc.; given the large number of possible tests that could be conducted, it is highly likely to find at least one restricted model that indicates a violation of IIA (cf. Christiadi and Cushing, 2008).

Although there are alternatives to the conditional logit that do not exhibit the IIA property—most notably the nested logit and the random parameters logit models, (see Train, 2009, chs. 4 and 6 for a discussion)—the conditional logit is a good starting point for the empirical analysis if the model is not too parsimoniously specified (see Dahlberg and Eklöf, 2003; Christiadi and Cushing, 2008; Train, 2009), so the empirical analysis will be performed using a conditional logit model.

3.3 Institutional variables

The main explanatory variables of interest in the empirical analysis should capture different aspects of migration, welfare and tax policy which can be expected

Variable	Mean	S. D.	Min.	Max.
Avg. tax and SSC rate (in %)	32.40	8.20	20.54	46.94
Net income ratio (in %)	95.21	2.41	91.23	100.00
Unemp. replacement rate (in %)	60.36	14.30	36.00	87.00
Pension replacement rate (in %)	76.45	18.67	41.10	110.10
MIPEX II Overall score	60.43	14.05	39.00	88.00
MIPEX II Labor Market Access	65.00	20.66	40.00	100.00
MIPEX II Family Reunion	59.79	17.55	34.00	92.00
MIPEX II Long Term Residence	63.07	8.94	48.00	76.00
MIPEX II Political Participation	60.43	21.68	14.00	93.00
MIPEX II Access to Nationality	47.07	16.54	22.00	71.00
MIPEX II Anti-discrimination	66.57	18.41	33.00	94.00
Region size (in 1,000 km ²)	15.73	21.53	0.16	165.30
Population (in 1,000)	1915.93	1660.31	26.92	11598.87
Unemployment rate (in %)	6.82	3.10	2.10	17.40
Avg. income p.a. (in € 1,000)	35.50	9.84	16.36	130.45
Bed-places (per 1,000 inhab.)	86.62	93.73	6.91	564.44
Capital (=1)	0.07	0.26	0.00	1.00
Major airport (=1)	0.16	0.36	0.00	1.00
Heating degree days	2471.42	837.42	649.23	6164.04
Network (in %)	6.12	9.97	0.00	100.00
Distance (in 1,000 km)	4.60	3.59	0.06	18.98
Common border (= 1)	0.04	0.19	0.00	1.00
Common official language (= 1)	0.35	0.48	0.00	1.00
Colony after 1945 (= 1)	0.13	0.34	0.00	1.00

Table 2: Summary statistics for independent variables. Sources: EU Labour Force Survey, Eurostat, Mayer and Zignano (2011), Melitz and Toubal (2012), Niessen et al. (2007), OECD, own calculations.

to affect the location decisions of highly skilled migrants. Because these variables hardly vary within the 14 EU countries considered, they are measured at the national level.⁴

To capture the effect of the generosity of the welfare system on location choice, the paper includes the net replacement rate during the initial phase of unemployment (following any waiting period, for single individuals without kids) at the average wage for 2007 from the OECD Benefits and Wages Statistics as well as the pension net replacement rate (for men, at average wage) published by the OECD (2007b). Although migrants are usually not eligible for unemployment benefits right after arriving in the host country, a positive effect of the net replacement rate can be expected if migrants expect to become (temporarily) unemployed at some point in the future. For the pension replacement rate, a positive effect can be expected as well. The unemployment and pension replacement rates differ widely across the 14 EU countries considered, with levels ranging from 36 % to 87 % and 41.1 % to 110.1 % (see table 2).

Because welfare provisions must be financed by taxes and social security contributions, variables capturing aspects of the taxation system should also be considered to control for the costs of living in a more generous welfare system; the regression therefore includes the average personal income tax and employee social security contribution (SSC) rate as a percentage of gross wage earnings measured at the average income from the OECD Tax Database (2007 figures). The combined income tax and SSC rate is chosen because it directly affects net

⁴As shown above, variables specific to the source countries (such as institutional variables, unemployment rates, wage levels, or sending country fixed effects) cannot be considered in the conditional logit model, since variables which have the same value for all choices cancel out in the logit formula unless they are interacted with alternative-specific variables (see page 6). The same holds true for individual characteristics like age, gender or educational attainment.

income and is therefore one of the most important aspect of the tax system for work-related migration; a negative effect on location choice can be expected. Also included in the regression is the net income ratio which measures the progressivity of the income tax system. Define $t(\cdot)$ as the function of the combined tax and SSC rates and \bar{y} as average income; then, the net income ratio at 133 % and 100 % of the average wage is (see Schratzenstaller and Wagener, 2009):

$$NIR(1, 1.33) = \frac{1 - t(1.33\bar{y})}{1 - t(\bar{y})}.$$

Values of $NIR < 100$ indicate a progressive income tax system, and progression is higher the lower the net income ratio.

The progressivity of the income tax system can also be seen as a proxy for the returns to skill, and different effects can be expected for high- and low-skilled migrants: while a higher progressivity will decrease the attractiveness of a country for highly skilled migrants because it—*ceteris paribus*—implies lower returns to skill, it can make a country more attractive for low-skilled migrants because they can profit from a lower tax rate on low incomes if progression is approximately linear. Low-skill migrants can also profit from tax progression if the higher taxes on high-income workers are used to finance public services or transfers to low-income households.

As table 2 shows, the combined tax and SSC rates evaluated at the average income range from 20.5 % to 46.9 % in the 14 EU countries considered according to the OECD data, with an average rate of 32.4 %. As the summary statistics for the net income ratio shows, almost all countries apply progressive income tax schedules (at least in the 100 % to 133 % average income range). The countries with the lowest progressivity in the sample are Luxembourg ($NIR = 100.0$) and the UK ($NIR = 98.5$), while Denmark ($NIR = 91.2$) and Sweden ($NIR = 91.7$) are the most progressive when comparing the net income rates at 100 % and 133 % of average income.

Finally, the regressions also include data from the British Council’s “Migrant Integration Policy Index” (MIPEX II) project, which provides comparable indices on different aspects of migration and integration policy for the EU and some other countries based on 140 policy indicators (see Niessen et al., 2007, for a detailed description of the data and methodology). MIPEX supplies indices in six policy areas: labor market access, family reunion, long-term residence, political participation, access to nationality and anti-discrimination. Within each area, policy indicators are grouped into four dimensions which cover different aspects of the policy area,⁵ and the area index is constructed by taking the average over all four dimensions. Each index ranges from 0 to 100, with 0 representing “critically unfavorable” circumstances and 100 representing “best practice” examples.⁶ In addition, a composite index of migration policy is defined as the average score over all six policy areas. While the MIPEX project

⁵For example, the labor market access index covers the dimensions eligibility (“Are migrants excluded from taking some jobs?”), labor market integration (“What is the state doing to help migrants adjust to the demands of the labor market?”), security of employment (“Can migrants easily lose their work permit?”) and associated rights (“What rights do migrants have as workers?”), see Niessen et al. (2007).

⁶What constitutes a “best practice” example is defined on the basis of European Commission directives, Council of Europe conventions, European Commission presidency conclusions, etc., see Niessen et al. (2007).

provides comprehensive and comparable data about migration and integration policy, it must be noted that the indices only represent the legal framework, which might be different from the actual situation in the host country.

The country with the highest overall score (and the only country to achieve a “best practice” rating of 100 in any policy area) is Sweden (88 points), followed by Portugal (79) and Belgium (69). The EU member states with the lowest overall ratings among the 14 countries considered are Greece (40 points) and Austria (39). A better value of the index will increase the attractiveness of a country as target location, so that a positive coefficient can be expected. But it is reasonable to assume that some of the areas will have different effects on high- and low-skilled migrants. For example, highly skilled migrants may care more about labor market access, while low-skilled migrants may care more about family reunion.

3.4 Control variables

The choice of control variables follows other studies on the topic (for example Bartel, 1989; Davies et al., 2001; Geis et al., 2008; Nowotny, 2011) and includes both region specific variables as well as variables specific to a given pair of sending and receiving countries.

Among the region specific attributes included in X_i is the area of the region (measured in 100,000 km²) because all else equal, larger regions can be expected to attract a larger number of migrants. In addition, the population (in millions) enters the regression. To control for differences in economic opportunities, the unemployment rate (in %) as well as the average annual income per employed person (in € 1,000) are included. A negative effect of the unemployment rate and a positive effect of average annual income on the probability of choosing a specific region can be expected. Data for population and unemployment (in 2007) as well as average annual income per employee (in 2007) are taken from Eurostat.

To proxy for the costs of migration (or the costs of visiting relatives at home), the distance (in 1,000 km, measured as the crow flies) between the capital of the migrants’ home country and the largest city in the region of residence and its squared value are also included as a dummy variable for the national capitals; the capitals can be expected to receive a *ceteris paribus* higher share of migrants because they are usually the cultural, political and administrative centers of a target country. Distance can be expected to have a negative (but possibly nonlinear) effect on location choice.

Furthermore, a dummy variable is included for regions with a major airport with at least 10 m passengers (dis-)embarking per year (= 1, zero otherwise) based on passenger data provided by Eurostat for 2007. Major (international) airports increase a region’s accessibility and can therefore be assumed to contribute to the attractiveness of a region. In addition, the regression also controls for the number of bed-places in tourist accommodation establishments per inhabitant (2007 data; source: Eurostat). The variable can capture two possible effects: first, regions that are attractive to tourists can be assumed to have natural or cultural amenities which raise the attractiveness of a region. Second, a large number of tourists can increase the costs of living, thereby decreasing the attractiveness of a region for migrants. Whether the first or the second effect dominates cannot be said a priori and will therefore be left to the empirical

analysis. To capture the effect of climatic conditions the regression will also control for the number of heating-degree days (Eurostat, 2007 data). Although usually used as a measure of energy consumption, the number of heating-degree days will generally be higher the colder the climate in a region.

Because an extensive literature shows that migrant networks play an important role in the location decision (see, for example, Bartel, 1989; Munshi, 2003; Åslund, 2005; Bauer et al., 2005; Damm, 2009, or Beine and Salomone, 2013, for a recent contribution), the regression controls for the influence of networks by including the share of migrants born in the same country of origin who have been living in this region for more than 10 years. This share is calculated from the EU-LFS data at hand, which includes information on time since migration (see section 3.1). For a migrant from sending country j , the network size in region s is defined as:

$$Network = \frac{m_{js}^{10+}}{\sum_{r=1}^R m_{jr}^{10+}}$$

where m_{jr}^{10+} is the number of migrants from sending country j who have been living in region r for more than 10 years (see also Nowotny, 2011; Nowotny and Pennerstorfer, 2012). Because the positive network effect can decrease with network size (see Heitmueller, 2006; Portnov, 1999; Bauer et al., 2002), the squared network size will also enter the regression.

Among the country-pair specific control variables is a dummy measuring whether a migrant's home and host country share a common official language (1, zero otherwise) from Melitz and Toubal (2012). According to their data, 7.5 % of all sending-receiving country pairs in the sample share a common official language, and a positive effect can be expected. Also included is a neighborhood dummy assuming the value 1 if the host and home countries share a common border (zero otherwise). Again, a positive effect can be expected because a common border facilitates not only legal, but also illegal immigration and can ceteris paribus lead to higher migration between two countries. Colonial ties can also affect the location choice of migrants, and a dummy variable is included which captures whether two countries were in a colonial relationship after 1945 (= 1, zero otherwise; source: Mayer and Zignano, 2011). According to the data, a colonial relationship after 1945 can be found for 3.6 % of all sending-receiving country pairs in the sample, most of them with France or the UK as the former colonial power.

4 Empirical analysis

Some of the institutional and control variables will not only affect the location choice of highly skilled migrants, but also the location choice of low-skill migrants. If a regional characteristic attracts both migrant groups, it will be of interest to test whether the effect is stronger for high- or low-skill migrants. The conditional logit model is therefore estimated using both high- and low-skilled migrants in a single regression including interaction terms for all explanatory variables with a dummy variable for highly skilled migrants. If the interaction

terms are statistically significant we can conclude that there are differences in choices between highly skilled and low-skill migrants.⁷

The results of the conditional logit regression are shown in table 3. The first specification includes only the composite MIPEX index, while the second specification includes all six policy area indices. Both specifications use the full set of control variables from section 3.4. For each specification, the column on the left shows the estimated coefficients, while the column on the right gives the estimated interaction terms of the explanatory variables with a dummy for highly skilled migrants.

Both specifications lend support to the hypothesis that a higher income tax and SSC rate decreases the attractiveness of a region. The interaction terms are negative but not statistically significant; the effect of the average personal income tax and social security contribution rate is the same for high- and low-skill migrants. A less progressive income tax system (a higher value of the net income ratio) on the other hand increases the attractiveness of a region or country. In the second specification that includes the full set of MIPEX indices the interaction term of highly skilled migrants with the net income ratio is significantly positive, indicating that highly skilled migrants care more about the progressivity of the income tax system. This result is not surprising; all else equal, a more progressive income tax system implies lower returns-to-skill.

The design of the income tax system therefore affects the location decisions of both high- and low-skill migrants: the higher the tax and SSC rate and the higher the progressivity of the income tax, the lower the attractiveness of a region. But since highly skilled migrants can expect to earn higher incomes in the target country the progressivity of the tax system affects them more than low-skill migrants. A less progressive tax system will be attractive to both groups of migrants, but relatively more attractive to the highly skilled.

The effects of the two variables used to proxy for the generosity of the welfare system also differ between high- and low-skill migrants once migration policy is controlled for in detail. The unemployment replacement rate has a significantly positive overall effect on location choice in both specifications, but once all MIPEX indices are included, the interaction term for highly skilled migrants becomes significantly negative. While low-skill migrants prefer to move to countries with more generous unemployment insurance, the highly skilled may care more about its implicit tax price. The pension net replacement rate on the other hand has a positive effect on the location decisions of both groups if the MIPEX composite index is used. When the index is split into its individual policy areas, the coefficient turns negative for low-skill migrants while the interaction term becomes significantly positive for the highly skilled, and the coefficient and interaction term seem to cancel each other out. The regression suggests that low-skill migrants care about short-term support in the target country if unemployed, but not about long-term support in the form of pensions. Highly skilled migrants' location choice on the other hand is less dependent on the welfare system, and may be more determined by the implicit tax price of welfare provisions.

The design of migration policy also affects location decisions. The coefficient of the MIPEX composite index is significantly positive; a higher score on the

⁷The regressions were also performed separately for high- and low-skilled migrants, which leads to the same qualitative results. The results are available from the author upon request.

Specification	Base 1		Base 2	
	Coef.	Int.	Coef.	Int.
Avg. tax and SSC rate (in %)	-0.041*** (0.005)	-0.003 (0.009)	-0.019*** (0.005)	-0.005 (0.009)
Net income ratio (in %)	0.039*** (0.012)	0.023 (0.022)	0.037** (0.015)	0.062** (0.026)
Unempl. replacement rate (in %)	0.004** (0.002)	0.000 (0.003)	0.010** (0.004)	-0.037*** (0.008)
Pension replacement rate (in %)	0.006*** (0.001)	0.003 (0.002)	-0.012*** (0.002)	0.012*** (0.004)
MIPEX II Overall Score	0.014*** (0.002)	-0.004 (0.004)		
MIPEX II Labor Market Access			0.017*** (0.004)	0.025*** (0.009)
MIPEX II Family Reunion			0.003 (0.005)	-0.026*** (0.009)
MIPEX II Long Term Residence			0.031*** (0.007)	-0.053*** (0.012)
MIPEX II Political Participation			-0.003 (0.004)	0.021*** (0.006)
MIPEX II Access to Nationality			-0.008** (0.004)	0.030*** (0.007)
MIPEX II Anti-discrimination			-0.029*** (0.003)	-0.007 (0.005)
Region size (in 100,000 km ²)	0.147*** (0.011)	-0.512** (0.229)	0.172*** (0.013)	-0.400* (0.228)
Population (in millions)	0.382*** (0.130)	-0.006 (0.017)	0.011 (0.128)	0.022 (0.022)
Network (in %)	0.172*** (0.013)	-0.035* (0.019)	0.172*** (0.014)	-0.035* (0.019)
Network ²	-0.002*** (0.000)	-0.000 (0.001)	-0.003*** (0.000)	-0.000 (0.001)
Unemployment rate (in %)	-0.080*** (0.009)	0.097*** (0.015)	-0.073*** (0.009)	0.061*** (0.016)
Avg. income p.a. (in € 1,000)	0.013*** (0.002)	0.004 (0.003)	0.015*** (0.002)	0.001 (0.002)
Bed-places (per inh.)	-1.951*** (0.222)	-0.500 (0.457)	-1.173*** (0.220)	-0.482 (0.434)
Major airport (=1)	0.512*** (0.055)	0.328*** (0.087)	0.219*** (0.057)	0.305*** (0.091)
Distance (in 1,000 km)	-1.031*** (0.062)	0.908*** (0.126)	-0.924*** (0.060)	0.458*** (0.120)
Distance ²	0.046*** (0.005)	-0.045*** (0.008)	0.037*** (0.005)	-0.021*** (0.007)
Capital (=1)	-0.546*** (0.087)	0.371*** (0.133)	-0.305*** (0.090)	0.316** (0.145)
Common border (= 1)	-0.178 (0.118)	0.148 (0.241)	0.451*** (0.112)	-0.490** (0.221)
Common off. language (= 1)	1.691*** (0.078)	0.239* (0.138)	1.480*** (0.080)	0.138 (0.136)
Colony after 1945 (= 1)	-1.029*** (0.095)	1.575*** (0.172)	0.104 (0.113)	1.085*** (0.179)
Heating degree days	-0.000*** (0.000)	0.000*** (0.000)	-0.000*** (0.000)	0.000*** (0.000)
Observations	16,155		16,155	

Table 3: Conditional logit regressions of location choice for high- and low-skill migrants, estimated coefficients (Coef.) and interaction terms (Int.) for highly skilled migrants. Standard errors in parentheses. ***significant at 1 %, **significant at 5 % and *significant at 10 % level. Sources: EU Labour Force Survey, Eurostat, Mayer and Zignano (2011), Melitz and Toubal (2012), Niessen et al. (2007), OECD, own calculations.

Migrant Integration Policy Index contributes to the attractiveness of a country and its regions. But if the index is divided into its six components, there are some differences in the effect of different policy areas on the location choice of the two skill groups.

More favorable conditions concerning labor market access, for example, have a positive impact on the attractiveness of a region for both groups of migrants, but the effect is significantly stronger for highly skilled migrants than for low-skill migrants. In contrast, highly skilled migrants appear to pay less attention to policies governing family reunion and long-term residence, as indicated by the significantly negative interaction term. Highly skilled migrants may for example be concerned about statistical discrimination if more generous policies for family reunion and long-term residence favor the immigration of low-skill workers, while their own partners—which are more likely to be highly skilled as well—would benefit more from less strict labor market access than family reunion regulations. The interaction terms of highly skilled migrants with political participation and access to nationality, on the other hand, are significantly positive while the overall coefficients are insignificant or negative. Highly skilled migrants are therefore more attracted by countries which offer favorable conditions concerning political participation and access to nationality than low-skill migrants. Finally, stricter anti-discrimination regulations have a negative effect on both groups, with no significant differences between high- and low-skill migrants. This finding could be explained by anti-discrimination laws being stricter in countries where discrimination against migrants is more widespread. To sum up, the analysis of the migration policy indices shows that highly skilled migrants care more about labor market access, political participation and access to nationality than low-skill migrants. Countries that offer such policies should attract a higher share of highly skilled migrants. For low-skill migrants on the other hand, the most attractive factors are labor market access (albeit to a smaller extent than for the highly skilled) and long-term residence.

Most of the effects found for the control variables show the expected signs: after controlling for region size and population, a region is more attractive the larger the size of the migrant network, although the effect is smaller for the highly skilled. On the other hand, the unemployment rate seems to affect only low-skill migrants, as the interaction term for highly skilled migrants is significantly positive. No significant differences between the groups can be found for the positive coefficient of the average annual income per employed person and the negative coefficient of the number of bed-places in tourist accommodation establishments. The variable was included to proxy either for (natural) amenities or for the costs of living, and obviously the latter effect dominates the former so that the overall effect is negative.

Regions that are easily accessible by plane are also more attractive, but the effect is stronger for the highly skilled. The negative effect of distance, on the other hand, is significantly smaller for highly skilled migrants, supporting the hypothesis that the highly skilled find it easier to cover the costs of migration. Capital regions are less attractive for the low-skilled while the significantly positive interaction term indicates that the highly skilled are not less inclined to move to capital regions than to other regions. The negative effect for the low-skilled can be explained by the sectoral composition of capital regions, which tend to have a higher share of services and lower shares of agriculture and indus-

try than other regions. Since these sectors employ a higher share of low-skilled workers, capital regions will be less attractive to low-skill migrants.

A common border between the sending and receiving countries has a significantly positive effect for low-skill migrants in the second specification, which may again be related to the costs of moving abroad. On the other hand, a past colonial relationship raises the attractiveness of a region or country only for the highly skilled, while the coefficient of common official language does not differ significantly between the skill groups. Finally, the number of heating degree days, which was used as a proxy for climatic conditions, has a significantly negative impact on location choice, but the effect is smaller for highly skilled migrants.

5 Robustness

To assess the robustness of the results the regressions were estimated again for specific subgroups of the variables. First, the model was estimated separately for male and female migrants. In the literature on household or family migration decisions (see Mincer, 1978, or Rabe, 2011, for a recent paper), female migrants are often considered as “tied movers” who move for the sake of their partner and not for their own sake. There may, however, be differences between high- and low-skilled female migrants.

All in all, the results of the regressions by gender (table 4) are in line with the results for the full sample in table 3. However, comparing the results for women to the results for men, there are some instances where the behavior of female migrants differs from the behavior of male migrants. For example, the average tax rate does not affect the location decisions of female migrants, so that the negative effect in table 3 derives mainly from the choices of male migrants. On the other hand, the progressivity of the income tax system affects high- and low-skill female migrants alike, while among male migrants only the highly skilled prefer countries with a less progressive income tax rate. Male and female migrants therefore prefer different tax systems: while female migrants of both skill groups prefer countries with lower progressivity irrespective of the tax rate, male migrants prefer countries with lower income tax rates, and only the highly skilled attach additional importance to the progressivity of the tax system.

In contrast, the effects of the unemployment and pension replacement rates do not differ substantially between men and women. The coefficients are about the same size, although strictly speaking the size of the estimated parameters cannot be compared across groups unless one assumes that there is no unobserved heterogeneity which may lead to differences in scaling.

Looking at the effects of migration policy we can identify some more differences between the sexes: on the one hand, female migrants prefer countries with more favorable conditions concerning labor market access, irrespective of their skill level. On the other hand, only the interaction term is statistically significant for male migrants, indicating that only the highly skilled are concerned about labor market access. Differences can also be observed for the MIPEX Family Reunion index: countries with less strict family reunion regulations are less attractive for highly skilled male migrants, while there is no effect on female migrants or low-skill men. The other effects are relatively similar for men

Specification	Female migrants		Male migrants		Age 30-54	
	Coef.	Int.	Coef.	Int.	Coef.	Int.
Avg. tax and SSC rate (in %)	-0.002 (0.007)	-0.011 (0.012)	-0.038*** (0.008)	0.001 (0.014)	-0.031*** (0.007)	0.011 (0.012)
Net income ratio (in %)	0.073*** (0.021)	-0.007 (0.033)	-0.006 (0.022)	0.142*** (0.040)	0.001 (0.023)	0.077** (0.034)
Unempl. replacement rate (in %)	0.011** (0.006)	-0.038*** (0.010)	0.008 (0.006)	-0.036*** (0.013)	0.001 (0.006)	-0.027*** (0.010)
Pension replacement rate (in %)	-0.010*** (0.003)	0.012** (0.005)	-0.014*** (0.004)	0.012** (0.006)	-0.010*** (0.004)	0.012** (0.005)
MIPEX II Labor Market Access	0.025*** (0.006)	0.014 (0.010)	0.008 (0.006)	0.039*** (0.014)	0.013** (0.006)	0.028*** (0.011)
MIPEX II Family Reunion	-0.002 (0.007)	-0.015 (0.012)	0.008 (0.008)	-0.042*** (0.015)	0.015* (0.008)	-0.038*** (0.012)
MIPEX II Long Term Residence	0.036*** (0.009)	-0.061*** (0.015)	0.026** (0.010)	-0.046** (0.019)	0.026*** (0.010)	-0.037** (0.015)
MIPEX II Political Participation	-0.004 (0.005)	0.018** (0.008)	-0.001 (0.006)	0.026*** (0.010)	0.005 (0.006)	0.015* (0.008)
MIPEX II Access to Nationality	-0.010* (0.005)	0.026*** (0.009)	-0.007 (0.006)	0.036*** (0.011)	-0.012** (0.006)	0.026*** (0.009)
MIPEX II Anti-discrimination	-0.029*** (0.004)	0.001 (0.006)	-0.028*** (0.005)	-0.019** (0.008)	-0.036*** (0.004)	0.006 (0.006)
Region size (in 100,000 km ²)	0.167*** (0.017)	-0.159 (0.301)	0.177*** (0.021)	-0.732** (0.345)	0.175*** (0.019)	-0.264 (0.284)
Population (in millions)	0.018 (0.174)	0.059** (0.028)	0.000 (0.188)	-0.031 (0.035)	-0.115 (0.183)	0.030 (0.027)
Network (in %)	0.177*** (0.014)	-0.066*** (0.022)	0.165*** (0.024)	0.006 (0.032)	0.160*** (0.020)	-0.032 (0.025)
Network ²	-0.003*** (0.000)	0.001 (0.001)	-0.002*** (0.001)	-0.001 (0.001)	-0.002*** (0.001)	0.000 (0.001)
Unemployment rate (in %)	-0.055*** (0.013)	0.031 (0.021)	-0.096*** (0.012)	0.099*** (0.024)	-0.084*** (0.013)	0.080*** (0.020)
Avg. income p.a. (in € 1,000)	0.014*** (0.002)	0.001 (0.003)	0.016*** (0.002)	-0.000 (0.004)	0.019*** (0.002)	-0.007** (0.003)
Bed-places (per inh.)	-1.233*** (0.300)	0.007 (0.543)	-1.160*** (0.323)	-1.063 (0.712)	-1.147*** (0.310)	0.145 (0.533)
Major airport (=1)	0.225*** (0.078)	0.278** (0.121)	0.217*** (0.084)	0.336** (0.137)	0.223*** (0.082)	0.224* (0.120)
Distance (in 1,000 km)	-0.874*** (0.090)	0.507*** (0.156)	-0.986*** (0.077)	0.455*** (0.173)	-0.838*** (0.085)	0.411*** (0.148)
Distance ²	0.036*** (0.007)	-0.025** (0.010)	0.037*** (0.007)	-0.019* (0.011)	0.030*** (0.007)	-0.015 (0.010)
Capital (=1)	-0.197 (0.122)	0.216 (0.184)	-0.445*** (0.134)	0.462** (0.234)	-0.320** (0.127)	0.407** (0.181)
Common border (= 1)	0.611*** (0.152)	-0.369 (0.253)	0.267 (0.166)	-0.636 (0.399)	0.673*** (0.175)	-0.393 (0.306)
Common off. language (= 1)	1.516*** (0.110)	0.329* (0.184)	1.458*** (0.118)	-0.030 (0.188)	1.598*** (0.118)	0.054 (0.180)
Colony after 1945 (= 1)	0.427*** (0.154)	0.986*** (0.264)	-0.250 (0.166)	1.344*** (0.250)	0.255 (0.165)	0.729*** (0.247)
Heating degree days	-0.000*** (0.000)	0.000 (0.000)	-0.000*** (0.000)	0.000*** (0.000)	-0.001*** (0.000)	0.000*** (0.000)
Observations	7,147		9,008		9,000	

Table 4: Conditional logit regressions of location choice for high- and low-skill migrants by gender and for age group 30–54 years, estimated (Coef.) and interaction terms (Int.) for highly skilled migrants. Standard errors in parentheses. ***significant at 1 %, **significant at 5 % and *significant at 10 % level. Sources: EU Labour Force Survey, Eurostat, Mayer and Zignano (2011), Melitz and Toubal (2012), Niessen et al. (2007), OECD, own calculations.

and women, although stricter anti-discrimination regulations have a stronger negative effect on the location choice of highly skilled male migrants.

Most of the effects of the control variables are rather similar for female and male migrants. Among the most notable exceptions are the effect of migrant networks (which is significantly smaller for highly skilled female migrants), the unemployment rate (which affects high- and low-skill female migrants alike but has a smaller negative effect for highly skilled men), the capital dummy (which has no effect on female migrants but significantly reduces the attractiveness of a region for low-skill men) and past colonial relationships (which increase the attractiveness of a country for all female migrants but only for the highly skilled among the male migrants).

To sum up, although there are some similarities between the sexes the differences in the regression results could be interpreted as evidence against women being “tied movers”: if all women in the sample were tied movers who migrate to the same regions as men, there should be no differences in the determinants of location choice: modeling female migrants’ location decisions would then be equivalent to modeling their partners’ location decisions, and we would find the same regional and country characteristics that are affecting men’s location choice to also affect women’s location choice. Since this is not the case, it can at least be concluded that not all female migrants in our sample are tied movers.

As a second robustness test, the model was estimated for migrants between 30 and 54 years of age to control for educational migration of the younger and retiree migration of the older cohorts and to focus on migrants in prime working age. The comparison of the results in the last two columns of table 4 to the second specification in table 3 reveals that the main regression results do not change considerably when focusing on migrants in prime working age, and the results for the tax and welfare system variables are also mostly in line with those for male migrants. Although there are some differences with respect to the statistical significance of the parameters, the signs never differ from those in table 3 where the coefficients are statistically significant in both models. It can therefore be concluded that our main regression already captures the most important effects that drive the attractiveness of regions and countries for working-age migrants.

To sum up, although there are some differences between subgroups and between the subgroup regressions and the pooled regression of section 4, the results of this section show that the empirical approach produces consistent results.

6 Conclusions

This paper uses the heterogeneity across EU countries and regions to analyze the economic, labor market and institutional factors that make regions and countries attractive for highly skilled migrants vis-à-vis low-skill migrants. The analysis reveals some similarities, but also differences between the skill groups: for example, networks increase the attractiveness of a region for both groups, but the effect is smaller for highly skilled migrants. A higher unemployment rate on the other hand decreases the attractiveness of a region only for low-skill migrants and capital regions are less attractive for the low-skilled, but not for the highly skilled. In general, distance has a smaller negative effect for highly

skilled migrants, and regions in neighboring countries are more attractive for the low-skilled but not for the highly skilled. Accessibility is however more important for the highly skilled than for the low-skilled. All else equal, a past colonial relationship increases the attractiveness of the former colonial power only for highly skilled migrants.

While most of the above variables can not (or only to a limited extent) be influenced by policy makers, the analysis of the welfare and tax system variables as well as different aspects of migration policy reveals some scope for interventions that could help improve the skill structure of immigration: for example, the empirical analysis shows that compared to low-skill migrants highly skilled migrants prefer countries with more favorable regulations concerning access to the labor market, political participation and access to nationality. More favorable rules for family reunion make a country less attractive for the highly skilled, probably because they are afraid of statistical discrimination if such policies attract a disproportionately large number of low-skill immigrants. On the other hand, the highly skilled set a lower value on the generosity of the welfare system than low-skill migrants and may be more concerned about the implicit tax price of welfare provisions. The progressivity of the income tax system also has a stronger effect on the highly skilled, reflecting the impact of the design of the tax system on returns-to-skill.

Countries aiming at increasing the share of highly skilled immigrants should therefore focus on increasing the returns-to-skill by lowering the progressivity of the income tax system and on facilitating labor market access, especially for migrants with tertiary education. This applies in particular to countries which currently still admit a large portion of foreigners under family reunion regulations. They could profit from a switch to a more labor-market oriented migration system which favors highly skilled migrants if they want to improve the skill structure of immigrants, for example via a system that awards points for educational attainment. Facilitating political participation of migrants could also improve the skill structure of migration, as it reflects a society that is more open to immigrants. Countries could also increase the skill structure of immigration by providing more favorable conditions for gaining access to nationality, for example by allowing migrants to hold dual nationalities.⁸

Concerning the welfare system, the results show that highly skilled migrants are rather repelled than attracted by more generous welfare provisions, possibly because they are concerned about the implicit tax price of welfare payments. It must be noted however that the results for the low-skilled are not clear cut: although the results for unemployment benefits support the “welfare magnet” hypothesis, the results for pension payments do not. Whether the welfare system should be more or less generous to attract more highly skilled migrants relative to low-skill migrants therefore remains an open question that should be addressed by future research.

⁸Whether naturalizing citizens or children born in the country to migrants can have dual nationality and the conditions under which dual nationality is granted is one of the policy dimensions used to generate the Access to Nationality area index, see Niessen et al. (2007, p. 190).

References

- ÅSLUND, O. (2005): “Now and forever? Initial and subsequent location choices of immigrants,” *Regional Science and Urban Economics*, 35, 141–165.
- ALESINA, A. AND E. LA FERRARA (2005): “Ethnic diversity and economic performance,” *Journal of Economic Literature*, 43, 762–800.
- BARTEL, A. P. (1989): “Where do the new U.S. immigrants live?” *Journal of Labor Economics*, 7, 371–391.
- BAUER, T., G. S. EPSTEIN, AND I. N. GANG (2000): “What are migration networks?” IZA Discussion Paper 200, Institute for the Study of Labour (IZA), Bonn.
- (2002): “Herd effects of migration networks? The location choice of Mexican immigrants in the U.S.” IZA Discussion Paper 551, Institute for the Study of Labour (IZA), Bonn.
- (2005): “Enclaves, language and the location choice of migrants,” *Journal of Population Economics*, 18, 649–662.
- BEINE, M. AND S. SALOMONE (2013): “Network effects of international migration: education vs. gender,” *Scandinavian Journal of Economics*, 115, 354–380.
- BELOT, M. V. K. AND T. J. HATTON (2012): “Immigrant selection in the OECD,” *Scandinavian Journal of Economics*, 114, 1105–1128.
- BORJAS, G. J. (1999): “Immigration and welfare magnets,” *Journal of Labor Economics*, 17, 607–637.
- CHRISTIADI AND B. CUSHING (2008): “The joint choice of an individual’s occupation and destination,” *Journal of Regional Science*, 48, 893–919.
- DAHLBERG, M. AND M. EKLÖF (2003): “Relaxing the IIA assumption in locational choice models: a comparison between conditional logit, mixed logit, and multinomial probit models,” Working Paper 2003:9, Department of Economics, Uppsala University, Uppsala.
- DAMM, A. P. (2009): “Determinants of recent immigrants’ location choices: quasi-experimental evidence,” *Journal of Population Economics*, 22, 145–174.
- DAVIES, P. S., M. J. GREENWOOD, AND H. LI (2001): “A conditional logit approach to U.S. state-to-state migration,” *Journal of Regional Science*, 41, 337–360.
- DOCQUIER, F. AND E. LODIGIANI (2010): “Skilled migration and business networks,” *Open Economies Review*, 21, 565–588.
- DOCQUIER, F. AND A. MARFOUK (2006): “International migration by educational attainment, 1990–2000,” in *International Migration, Remittances & the Brain Drain*, ed. by c. Özden and M. Schiff, New York: Palgrave Macmillan, chap. 5, 151–199.

- FUJITA, M. AND S. WEBER (2004): “Strategic immigration policies and welfare in heterogeneous countries,” *Nota di Lavoro* 2.04, Fondazione Eni Enrico Mattei, Milan.
- GEIS, W., S. UEBELMESSER, AND M. WERDING (2008): “How do migrants choose their destination country? An analysis of institutional determinants,” CESifo Working Paper 2506, CESifo, Munich.
- (2011): “Why go to France or Germany if you could as well go to the UK or the US? Selective features of immigration to the EU ‘Big Three’ and the United States,” *Journal of Common Market Studies*, 49, 767–796.
- GOTTLIEB, P. D. AND G. JOSEPH (2006): “College-to-work migration of technology graduates and holders of doctorates within the United States,” *Journal of Regional Science*, 46, 627–659.
- HAUSMAN, J. AND D. MCFADDEN (1984): “Specification tests for the multinomial logit model,” *Econometrica*, 52, 1219–1240.
- HEITMUELLER, A. (2006): “Coordination failures in network migration,” *The Manchester School*, 74, 701–710.
- HUBER, P., M. LANDESMANN, C. ROBINSON, AND R. STEHRER (2010): “Migration, skills and productivity,” wiiw Research Report 365, Vienna Institute for International Economic Studies (wiiw), Vienna.
- HUNT, J. AND M. GAUTHIER-LOISELLE (2008): “How much does immigration boost innovation?” NBER Working Paper 14312, National Bureau of Economic Research, Cambridge, MA.
- JAEGER, D. A. (2007): “Green Cards and the location choices of immigrants in the United States,” *Research in Labor Economics*, 27, 131–183.
- KERR, W. R. (2007): “The ethnic composition of US inventors,” HBS Working Paper 08-006, Harvard Business School, Boston, MA.
- LEVINE, P. B. AND D. J. ZIMMERMAN (1999): “An empirical analysis of the welfare magnet debate using the NLSY,” *Journal of Population Economics*, 12, 391–409.
- MAYER, T. AND S. ZIGNANO (2011): “Notes on CEPII’s distances measures: the GeoDist database,” CEPII Working Paper 2011-25, Centre d’Etudes Prospectives et d’Informations Internationales, Paris.
- MCFADDEN, D. (1974): “Conditional Logit Analysis of Qualitative Choice Behavior,” in *Frontiers in Econometrics*, ed. by P. Zarembka, New York: Academic Press, chap. 4, 105–142.
- MELITZ, J. AND F. TOUBAL (2012): “Native language, spoken language, translation and trade,” CEPII Working Paper 2012-17, Centre d’Etudes Prospectives et d’Informations Internationales, Paris.
- MINCER, J. (1978): “Family migration decisions,” *Journal of Political Economy*, 86, 749–773.

- MUNSHI, K. (2003): “Networks in the modern economy: Mexican migrants in the U.S. labor market,” *The Quarterly Journal of Economics*, 118, 549–599.
- NIEBUHR, A. (2006): “Migration and innovation: does cultural diversity matter for regional R&D activity?” IAB Discussion Paper 14/2006, Institute for Employment Research (IAB), Nuremberg.
- NIESSEN, J., T. HUDDLESTON, AND L. CITRON (2007): *Migrant Integration Policy Index*, Brussels: British Council and Migration Policy Group.
- NOWOTNY, K. (2011): “Wohlfahrtssysteme, Besteuerung und die Ansiedlungsentscheidung von MigrantInnen in der Europäischen Union,” in *Gesundheits- und Sozialpolitik im Diskurs*, ed. by J. Nussbaumer, G. Pruckner, R. Sausgruber, and H. Winner, Vienna, New York: Springer.
- NOWOTNY, K. AND D. PENNERSTORFER (2012): “Ethnic networks and the location choice of migrants in Europe,” Working Papers in Economics and Finance 2012-07, University of Salzburg, Salzburg.
- OECD (2007a): *International Migration Outlook – SOPEMI 2007*, Paris: Organisation for Economic Co-operation and Development.
- (2007b): *Pensions at a Glance*, Paris: Organisation for Economic Co-operation and Development.
- ORTEGA, F. AND G. PERI (2009): “The causes and effects of international migrations: evidence from OECD countries 1980–2005,” NBER Working Paper 14833, National Bureau of Economic Research, Cambridge, MA.
- OTTAVIANO, G. AND G. PERI (2006): “The economic value of cultural diversity: evidence from US cities,” *Journal of Economic Geography*, 6, 9–44.
- PEDERSEN, P. J., M. PYTLIKOVA, AND N. SMITH (2008): “Selection and network effects—Migration flows into OECD countries 1990–2000,” *European Economic Review*, 52, 1160–1186.
- PORTNOV, B. A. (1999): “The effect of regional inequalities on migration: a comparative analysis of Israel and Japan,” *International Migration*, 37, 587–615.
- RABE, B. (2011): “Dual-earner migration. Earnings gains, employment and self-selection,” *Journal of Population Economics*, 24, 477–497.
- RAZIN, A., E. SADKA, AND B. SUWANKIRI (2011): *Migration and the welfare state*, Cambridge, MA: MIT Press.
- SAXENIAN, A. (2000): “Silicon Valley’s new immigrant entrepreneurs,” Center for Comparative Immigration Studies Working Paper 15, University of California, San Diego.
- SCHRATZENSTALLER, M. AND A. WAGENER (2009): “The Austrian income tax tariff, 1955–2006,” *Empirica*, 36, 309–330.
- SJAASTAD, L. A. (1962): “The costs and returns of human migration,” *Journal of Political Economy*, 70, 80–93.

- TODARO, M. J. (1969): "A model of labor migration and unemployment in less developed countries," *American Economic Review*, 59, 138–148.
- TRAIN, K. E. (2009): *Discrete Choice Methods with Simulation*, New York: Cambridge University Press, second ed.

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