Chapter 3

The Role of Welfare in Locational Choices

In this study, we first of all investigated the role of welfare states in intra-European migration decisions between 25 countries over a six-year period (2003-2008). Second, distinguishing between three welfare programs (unemployment, family and old-age benefits) we tested whether social expenditure on each of these arrangements particularly influenced locational choices of individuals within the age groups covered by the respective welfare policy. Findings from a conditional logit model show a positive impact of spending on family benefits on the locational choices of young adults moving together with children, and of spending on old-age benefits on the locational choices of individuals close to or above retirement age. In contrast, a negative impact of unemployment spending was found on locational choices in general, and those of working-age adults in particular. Our results highlight the importance of further disentangling the often-used general spending measure when studying the link between welfare and migration.

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3.1 Introduction

The welfare state is increasingly mentioned as a determinant of migrants' locational choices (Ramos & Suriñach, 2017). Central to literature on the role of the welfare state in migration decisions is the 'welfare magnet hypothesis': the expectation that migrants are attracted by generous welfare state arrangements (Borjas, 1999). With the freedom of movement and migrant rights currently figuring high on the political agenda throughout Europe, investigating a potential link between migration and the welfare state is particularly relevant in this context. However, the few studies that have tested the welfare magnet hypothesis in Europe reported mixed results (De Giorgi & Pellizzari, 2009; Giulietti et al., 2013; Pedersen et al., 2008; Skupnik, 2014; Warin & Svaton, 2008). Inconsistent findings of previous studies may follow from two defining properties of their approach. First, most previous research did not distinguish between migration *towards* Europe and mobility *within* Europe. This is unfortunate, as different migration policies regulate these two forms of migration, and in turn shape migrants' opportunities to access welfare state arrangements. In this study we therefore specifically focused on intra-European migration. Within the European Union, mobility of EU-citizens (as well as that of third country nationals who are long-term residents) is facilitated (EMN, 2004). Meanwhile, large differences can be observed between European countries in the total amount of money spent on welfare, as well as the welfare domains they prioritize. By focusing on the role of the welfare state in locational choices of intra-European migrants we have a natural laboratory to disentangle the true effect of welfare rather than capturing migration (entry) policies (Razin & Wahba, 2011).

Second, previous studies on the link between the generosity of the welfare state and international migration mainly looked at the correlation between the number of migrants moving to a country and the amount of money spent on the welfare state by the government in that country (Giulietti et al., 2013; Pedersen et al., 2008). Yet the welfare magnet hypothesis originally not only addressed selection across alternative destinations, but also within immigration flows (Skupnik, 2014). This suggests that destinations with more generous welfare

states particularly attract migrants benefitting from welfare state arrangements and discourage those who would be net contributors. Some scholars therefore reasoned that generous welfare states will particularly attract migrants with lower levels of education, as they would be most likely to benefit from a generous welfare state (e.g., Brücker et al., 2002). Despite this acknowledgment of individual differences in balancing the potential welfare benefit when migrating, so far, the role of the individual life stage has been largely overlooked. This is unfortunate, because the relationship between welfare and the individual does change over the life course: people are generally a net burden on the state while they are in state-financed education, but net-contributors while they are working, and once again a burden when they are retired or require expensive medical services (Legrain, 2008). Furthermore, in European welfare states, access to specific welfare state arrangements is partly tied to life course characteristics. In this study we therefore contribute to the literature by investigating the role of welfare generosity in locational choices of migrants in different stages of their lives.

We reason that if generous welfare state arrangements especially attract migrants who are most likely to access them after arrival, the impact of government spending in different welfare domains should affect migration decisions differently across the life course. To test this hypothesis, we used bilateral migration flow data from the Integrated Modelling of European Migration (IMEM) database, available for the years 2003-2008. We enriched the migration data with country level indicators retrieved from databases of the Centre d'Etudes Prospectives et d'Informations Internationales (CEPII), Migration Modelling for Statistical Analyses (MIMOSA), Organisation for Economic Co-operation and Development (OECD) and World Bank. Locational choices of individuals who decided to migrate between 25 selected European countries were modelled for the period 2003-2008 using a conditional logit model. Innovatively, we analysed migrants in five age categories representing different life phases. By distinguishing between family, unemployment and old-age benefits, we tested whether the welfare programs had an influence on locational

choices of intra-European migrants, and whether this influence was stronger for migrants in the age groups eligible to receive them.

3.2 Theory

3.2.1 The welfare magnet hypothesis in the context of Europe

In 1999, Borjas published his seminal study in which he hypothesized that immigrants to the United States (US) would cluster in those states where welfare benefits were the highest. His argument was that, since immigrants already accepted the costs of migration, it would cost them little extra to choose the 'right', i.e. the most generous state. In his study, Borjas focused on a specific welfare program: Aid for Families with Dependent Children (AFDC). This way, his work contributed to a longer research tradition studying the impact of welfare benefits on interstate mobility in the US (McKinnish, 2007). A popular approach in this literature has been to look at the migration behaviour of the welfare-prone group, single mothers, and compare it to the migration behaviour of a group that is less likely to receive welfare such as married mothers, women without children, or men. Borjas found that the demographic group most closely linked with the AFDC program, namely female-headed households with children under 18 years of age – was clustered in states with higher AFDC benefits. As this clustering was more pronounced for recent immigrants, Borjas concluded that the theoretical framework was confirmed: immigrants who had just arrived in the US were more sensitive to interstate differences in welfare benefits than natives. The expectation that welfare state arrangements might influence migration decisions became known in the literature as the 'welfare magnet hypothesis'.

Interestingly, the welfare magnet hypothesis has not been put to a test much outside the American context until quite recently. Pedersen, Pytlikova and Smith (2008) presented one of the first studies analysing international migration flows into a broader set of OECD countries. They found that welfare generosity – measured as social expenditure in percentage of the Gross Domestic Product (GDP) – did not exert a significant role in attracting migrants from 129 countries of origin between 1990 and 2000. The authors argued that this finding might be

the result of restrictive migration policies that were in place in many OECD countries. Other scholars specifically looked at migration into the EU. De Giorgi and Pellizzari (2009) investigated immigration of individuals in the working ages from outside the EU into the EU-15 between 1994 and 2001.[16] Their analysis showed that the generosity of welfare did influence migration decisions, albeit the effect was very small. Warin and Svaton (2008) tested the effect of social expenditure on migration flows into the EU-15 over the period 1995-2004. The authors concluded that the labour market outlook in the host country was comparatively more important than welfare provisions. However, as long as its effect was not offset by a high unemployment rate in the host country, the level of social expenditure was found to have a positive impact on migrants' locational choices. Giulietti and colleagues (2013) in their analyses distinguished between EU- and non-EU migrants. Their findings indicated that between 1993 and 2008 EU-migrants did not react to the level of spending on unemployment benefits in 19 European host countries. Skupnik (2014) finally looked at the determinants of changes in the stocks of EU-migrants in the EU-15 over the years 2004-2011, and concluded that welfare state variables did not affect migration flows when controlling for temporary political restrictions to the freedom of movement.

As this brief overview illustrates, studies on the relation between the welfare state and migration for the European context are limited in number, and their empirical findings are mixed. As several studies did not distinguish between migration towards Europe and mobility within Europe, different migration policies regulating these two types of movement likely distort the results (Razin & Wahba, 2011). Furthermore, these studies generally did not focus on the migration behaviour of a specific welfare-prone group, but rather compared the total number of migrants moving to various destinations. In this study we address these gaps in the literature. First, we investigated bilateral migration flows between European countries, thus focusing exclusively on mobility within Europe. As part of the abolishment of borders between European countries, EU-citizens, but also non-EU citizens with a valid residence permit from one of the Schengen countries

[16] EU-15 refers to the 15 member states of the EU prior to EU enlargements since 2004: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, Sweden and the UK.

can move freely within the Schengen area (EPRS, 2015). Our study context in this simulates full freedom of movement and locational choices being not affected by migration restrictions set by law. Second, we tested whether the influence of welfare programs on locational choices is stronger for those migrants most likely to access them. Many European welfare state arrangements are targeted at individuals in specific phases of their lives (e.g., family allowances, unemployment benefits, pension systems). This may lead to differential effects of destination countries' welfare generosity for migration decisions of people in different life stages; yet whether this can indeed be observed to our knowledge is so far unknown. In the current study we therefore contribute to the literature by investigating the role of welfare state arrangements in intra-European migration decisions by life stage.

3.2.2 Hypotheses

The welfare state literature posits that European countries have different spending priorities when it comes to welfare state arrangements across the life cycle (Kuitto, 2011). Thus, a country could have a generous pension system, while at the same time providing little support in case of unemployment. We therefore distinguished three welfare policy areas for which individuals become eligible at various stages of their lives: family benefits, unemployment benefits and old-age benefits, and compared the impact of these attributes on locational choices of migrants in five different age groups (capturing these life stages). We expected social expenditure on each of these arrangements to particularly influence locational choices of individuals within the age groups covered by the respective benefits. Thus, we expected to find a positive impact of: (*H1a*) spending on family benefits on the locational choices of young adults moving together with children; (*H1b*) spending on unemployment benefits on the locational choices of individuals in the working ages; (*H1c*) spending on old-age benefits on the locational choices of individuals close to or above retirement age. At the same time, our second hypothesis is that higher expenditure on welfare state arrangements that could not be accessed by migrants, either due to their life stage or other eligibility criteria, has no or even a negative impact on locational choices (*H2*). After all,

higher social expenditure in these cases implies higher contributions to the welfare state in the destination country without enjoying the associated benefits (Geis et al., 2013; Razin & Wahba, 2015). In this sense *H1c* may be somewhat ambiguous, as old-age benefits like pensions are typically built up over the individual's working life. Individuals who migrate at older ages may therefore not be eligible for this type of benefit in the destination country, or at least partially receive their old-age benefits from the origin country. As such the weakest effects are expected for this age group.

3.2.3 Controls

In the extensive migration literature both economic, geographical, social/historical and demographic factors are found to be important for migration decisions, and are thus taken into account in our study (Ramos & Suriñach, 2017). Income prospects are generally considered as a key driver of migration decisions (e.g., Kennan & Walker, 2011). Unemployment rates form another important economic factor, as the expected income after migration not only depends on the average wage in the destination country, but also on the likelihood of being employed (e.g., Docquier, Peri, & Ruyssen, 2014). Factors that lower the costs of migration, such as geographical and cultural closeness, are also expected to influence locational choices (e.g., Beine et al., 2011). In addition, the size of the population in the destination country is sometimes considered, as a larger population may offer more connections, more opportunities, and more widely available information that may serve to reduce the migration costs (e.g., Davies, Greenwood, & Li, 2001). Migration theories further recognize previous migration flows to the destination country as an important factor in migration decision-making. Already settled migrants may function as 'bridgeheads', reducing the risks and costs of subsequent migration and settlement by providing information and support (e.g., Massey, 1998). Finally, migration policies likely affect the migration decision, as they can constrain people's individual choices (e.g., Mayda, 2010). As we focused on intra-European migration, freedom of movement was ensured between most countries in our sample through regulations of the European Union or Schengen area. However, some countries in our sample joined the EU only in 2004, resulting in a

changed policy context within the period under study. In addition, the 2003 Accession Treaty allowed EU member states to restrict access to the labour market in the host country for migrants from 8 of the 10 countries that joined the EU in 2004 (Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia, referred to as the EU-8) during a seven-year transitional period (European Commission, 2011).[17] Between 2004 and 2011, EU member states opened their labour markets to these workers at different stages. Such transitional restrictions may have directed migration flows towards the countries that immediately allowed free access to the labour market and were therefore included in our study.

3.3 Data and Methods

3.3.1 Analytical approach

According to more economic (rational choice) theories, migrants are expected to select as their destination the country resulting in the highest returns after accounting for migration costs. As such, locational choices can be seen as the outcome of a comparison of a set of alternatives (or 'choice set'), whereby the probabilities of choosing a particular location depend on the attributes of each alternative in a predictable way. Some attributes will make an individual more likely to select an alternative as his or her destination, whereas the opposite may be the case for other attributes. Discrete choice analysis aims to estimate these probabilities from the observed choices and characteristics of the alternatives (Hoffman & Duncan, 1988; McFadden, 2002). In this study we focus on these locational choices, whereby we disaggregate flows in order to be able to answer our research questions. The dependent variable represents the chance that an individual selects a country as his or her destination, and the parameter estimates represent the impact of attributes of countries in the choice set on this chance. This way, the focus of the approach differs from studies using gravity models, which estimate the impact of the attributes on the number of immigrants entering and aim to explain the size of migration flows (Anas, 1983; De Mello-Sampayo,

[17] No such restrictions were in place for two of the new member states, Cyprus and Malta.

2017; Mishra, Wang, Zhu, Moeckel, & Mahapatra, 2013; Ramos & Suriñach, 2017). Conditional logit models have been used before to analyse micro-level migration data (e.g., De Giorgi & Pellizzari, 2009) yet can be used also for country-to-country migration flows (Cushing & Poot, 2004; Davies et al., 2001). Using this type of data, the size of the flows represents the number of individual moves. Characteristics of the countries in the choice set are subsequently used to explain the observed moves, whereby the estimated coefficients provide information about the relative value that individuals place on the various characteristics.

3.3.2 Data

We use bilateral migration flow data from the Integrated Modelling of European Migration database (IMEM). This database contains the posterior distribution of the harmonized migration flows between 31 EU and European Fair Trade Association (EFTA) countries and the rest of the world (the latter discarded here) between 2002 and 2008. The posterior distribution has been created by combining available data on migration, covariate information and expert knowledge within a statistical model.[18] To our knowledge, IMEM is the only database providing complete information on bilateral migration flows covering all European countries together with information on the age of these migrants. The age composition is an important feature of the data, since we aimed to investigate whether different effects can be observed for migrants in different age groups, i.e. life stages. Unfortunately, the IMEM data do not allow further disentangling individuals by nationality or country of birth, and thus cover intra-European moves of both European and non-European citizens. However, for intra-European mobility as studied here, non-EU citizens with permanent residence enjoy similar rights as those with EU citizenship. We therefore expect only limited effects on our findings resulting from this data limitation.

In the analyses, 25 European countries were included: 22 of the 27 countries that were members of the European Union in 2008 (Austria, Belgium, Czech

[18] For the methodology of producing the harmonized flow tables, see Raymer, Wiśniowski, Forster, Smith, & Bijak (2013).

Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, the Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden and the United Kingdom), and 3 non-EU countries within the Schengen area (Iceland, Norway and Switzerland). Bilateral migration flows between these 25 countries were analysed for all years between 2003 and 2008. For the purpose of this study we supplemented the migration data with country level indicators found to be relevant by previous migration research, which were retrieved from databases of the CEPII, MIMOSA, OECD and World Bank. As a result of missing data on at least one of the indicators, the following countries (although members of the European Union or Schengen area in 2008) could not be included in our final analyses: Bulgaria, Cyprus, Liechtenstein, Lithuania, Malta and Romania.

3.3.3 Variables

Within the IMEM migration data we distinguished five age categories representing different stages of the life course: (1) children under 15 years of age, who likely migrated with their family; (2) adolescents and young adults aged 15-25, who were either studying or early in their careers; (3) migrants aged 25-40, who were the most likely to have or start a young family; (4) migrants aged 40-60, for whom work and family life had likely stabilized; (5) migrants above 60 years of age, who were close to or above the legal retirement age.

Like most scholars investigating the relation between the welfare state and migration across Europe, we relied on government spending on social provisions to measure welfare state generosity, due to the availability, (relative) comparability and variation of these data across countries and time. However, we supplemented the aggregated measure of social expenditure with measures of expenditure in three policy areas: family, unemployment and old-age. Data on social expenditure for each of the years under study were obtained from the OECD database (2016) and were expressed as a percentage of the GDP. To account for issues of reverse causality we used lagged terms, capturing social expenditure one year before migration.

In the literature, GDP per capita in each destination is usually treated as an adequate measure of income prospects of potential migrants (e.g., Beine, Bertoli, & Moraga, 2016). In our study, annual information on GDP per capita (in thousands of US dollars) from the World Bank (2017) was included. The unemployment rate in our study captured the percentage of the total labour force in the country of destination that was unemployed in the year prior to migration according to figures of the World Bank (2017). The distance indicator reflected the absolute distance between the capital cities of two countries in hundreds of kilometres. The contiguous variable indicated whether two countries had shared borders (1) or not (0). Both variables came from the GeoDist database of CEPII (Mayer & Zignago, 2011). The language variable indicated the closeness of two different native languages along a continuous index ranging from 0 to 1, where higher values represented greater closeness. The variable was obtained from the Language database of CEPII, and considered whether countries shared a common official language, a common native language and the linguistic proximity of two languages (Melitz & Toubal, 2014). Population size in millions was included as a proxy for the number of locations and for network and creative opportunities available at the destination country (World Bank, 2017). Due to missing values for several origin-destination country pairs, we could not include information on the size of the specific migrant groups in each of the destination countries. Instead, we used the percentage of EU born migrants within the population of the destination country lagged one year as a proxy of the migrant network, retrieved from the MIMOSA database (MIMOSA, 2008). We further included the lagged percentage of all migrants in the total population living in the destination country. The dummy variable restrictions finally indicated whether migrants from a specific origin country had legal access to the labour market of a destination country (0), or that restrictions applied to these migrants the whole year (1) for each of the years under study. In 2003, such restrictions followed from either the origin or the destination country not being a member of the EU yet. From 2004 onwards, restrictions on the labour market resulted from the transitional arrangements introduced in some EU member states to temporarily protect their

labour markets against large influxes of migrants shortly after the EU enlargement.[19]

3.3.4 Identification strategy

In our statistical model, an individual migrating from country *i* faces a choice among *D* alternative European countries. For the purpose of this study, we assumed that the decision to migrate has already been taken, and the only choice to be made concerns the country of destination.[20] The utility of choosing area *d* for this individual is

$$U_{id} = \beta' X_{id} + \varepsilon_{id} \quad (1)$$

where X_{id} is a vector of alternative-specific attributes that will affect individuals' location choices and ε_{id} is the error term. Each parameter in vector ß corresponds to an alternative-specific characteristic, for which the impact on location choices is held constant across alternatives. The individual migrant chooses destination *d* if the utility U_{id} is the highest among all *D* choices. The statistical model for the probability of moving from area *i* to area *d* can be represented as

$$P(\mathrm{d/i}) = P\left(U_{id}\right) = \max(U_{i1}, U_{i2}, \ldots \ldots U_{iD}) \quad (2)$$

Assuming that the random utility components are independent and identically distributed according to a Weibull distribution (McFadden, 1973), the probability of an individual migrant from country *i* choosing destination *d* can be rewritten as

$$P(\mathrm{d/i}) = \frac{e^{\beta' X_{id}}}{\sum_{j=1}^{D} e^{\beta' X_{ij}}} = P(m_{id} = 1) \quad \text{if } i \neq j \quad (3)$$

Note that our conditional logit model requires estimation using *N* x *D* observations, where *N* is the total number of individuals moving from all origins and D the number of alternatives. With 25 origin countries and 24 potential destination choices (excluding the current country of residence), the log-likelihood function is

$$\ln L = \sum_{i=1}^{25} \sum_{j=1}^{25} N_{ij} \ln P(m_{ij} = 1) \quad \text{if } i \neq j \quad (4)$$

[19] Detailed information on the timing of these transitional arrangements is included in the Appendix.
[20] Arguments for this assumption are discussed in section 3.6.

where Nij is the number of people moving from country i to country j and P(mij = 1) is given by (3).

The identification of the conditional logit model comes from comparing the same individual faced with different alternative destinations. In result, only independent variables describing the attributes of the countries (including those origin-destination specific) can directly enter the model. Characteristics that do not vary across alternatives, such as characteristics of the origin country, year of migration, and individual characteristics (like age), fall out of the probability function described in equation (3). To investigate whether the impact of some of the alternative-specific characteristics varies with individual characteristics, one has to include interaction terms between the individual and the country level variables (Christiadi & Cushing, 2007). To test our hypotheses, we therefore estimated interaction effects between the dummy variables indicating the age group of individuals and the social expenditure measures. Comparing the estimated interaction coefficients allowed us to see whether the effects of spending on particular welfare state arrangements on the locational choices of migrants differ between age groups.

3.4 Results

3.4.1 Descriptive statistics

Figure 3-1 describes for each of the 25 countries in the sample the total number of immigrants coming from the remaining 24 countries by year. Between 2003 and 2008, the number of immigrants was highest for the UK, Germany and France. Although the numbers clearly differed between the countries in our sample, bilateral flows were always larger than zero with one exception: the bilateral migration flows between Slovenia and Estonia in 2003.

Table 3-1 displays the descriptive statistics of the country level variables for the years between 2003 and 2008 grouped together. Figure 3-2 portrays the distribution of the levels of social expenditure by country and year. Over the period under study, variation occurred between countries in both the total level of government spending on welfare as a share of the GDP and spending on the

different welfare domains. Of the three welfare domains, differences between European countries were the largest for old-age programs. Table 3-2 presents the correlations between the country level variables. Social expenditure appeared higher in richer countries and those with lower unemployment rates. Total social spending was clearly strongly and positively correlated to social spending on old-age, indicating that old-age benefits made up a large share within all social expenditure. The correlations with total social spending were much weaker for social expenditure on family or unemployment benefits, which both represented a much smaller share of GDP (see Table 3-2).

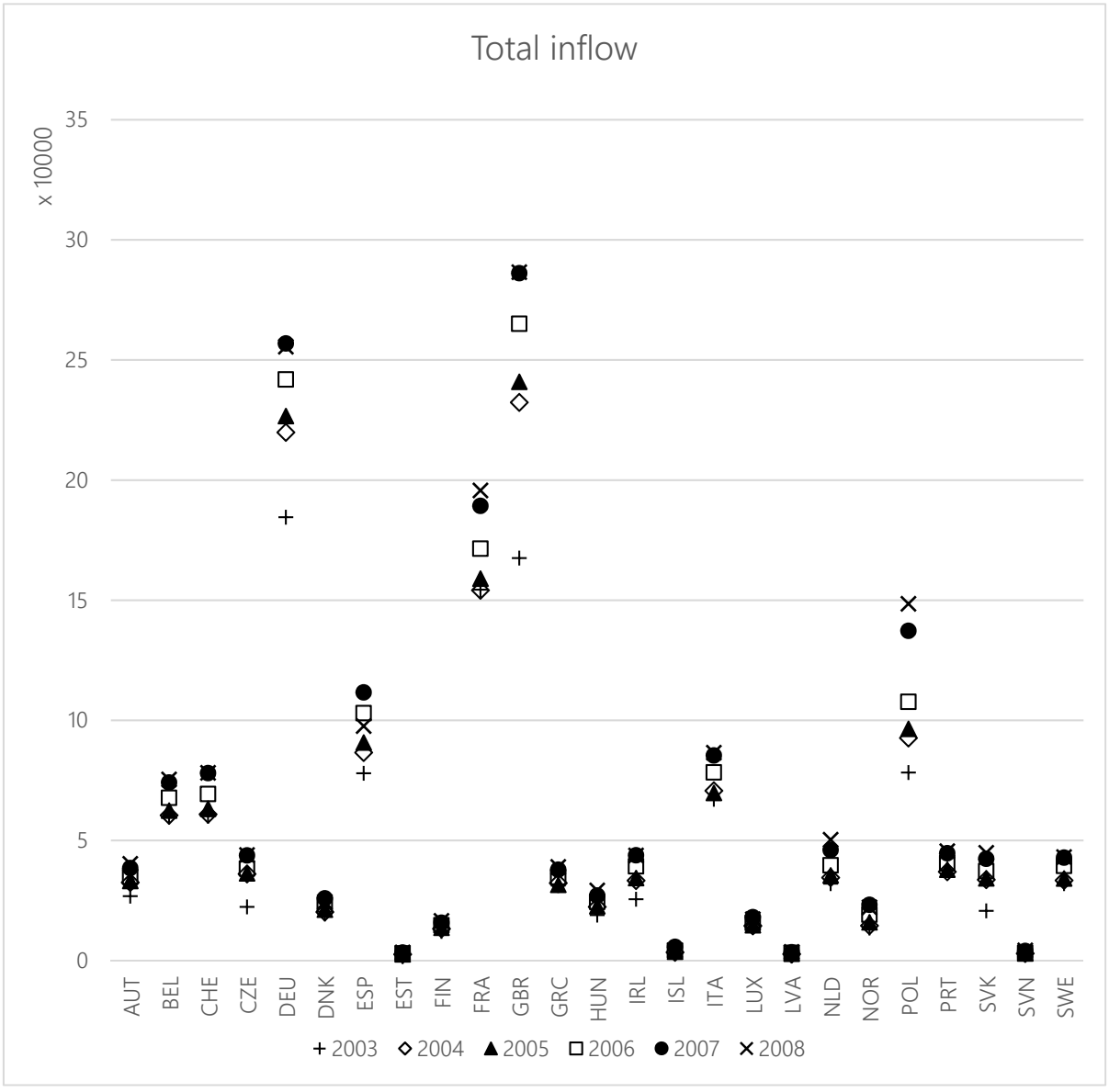

Figure 3-1 Variance in the number of immigrants from the countries in the sample, by country of destination and year

Table 3-1 Descriptive statistics country-level variables, 2003-2008

	Mean	Std. Dev.	Min	Max
Bilateral Migration	2444.08	7526.63	0.00	115065
GDP per capita (t-1) [a]	32.21	19.24	4.03	102.52
Unemployment rate (t-1)	7.36	3.67	2.25	19.90
Population Size [b]	18.86	23.33	0.29	82.53
Distance [c]	1.06	0.64	0.06	2.89
Common Border	0.28	0.45	0.00	1.00
Language Similarity	0.32	0.21	0.09	0.88
Migrant Population (t-1) [d]	10.51	6.71	1.75	34.27
EU Migrant Population (t-1) [d]	4.37	5.38	0.61	27.84
Spending Total (t-1) [e]	20.84	4.25	11.05	28.69
Spending Family (t-1) [e]	2.21	0.82	0.91	3.79
Spending Unemployment (t-1) [e]	0.89	0.70	0.00	3.23
Spending Old-Age (t-1)	7.23	2.23	2.21	11.51

a) In thousands of US dollars
b) In millions
c) In thousands of kilometres
d) As a percentage of the destination country's population
e) As a percentage of GDP

3.4.2 Conditional Logit Models

Migration researchers often have little information about the representativeness of their parameter estimates over time (Davies et al., 2001). To investigate the stability of our parameter estimates, we started by estimating the model for the six consecutive years separately. This way, all parameters were free to vary across time. Results appeared relatively stable over time and no substantive differences were observed in the effects of our main variables of interest. For reasons of simplicity, in this chapter we therefore present results of a pooled model that covers all years under study (2003-2008) even though locational choices are still grouped in the model by the year in which they were made (full details of all models available upon request).

Table 3-2 Correlations between the independent variables, 2003-2008

	1	2	3	4	5	6	7	8	9	10	11	12
1. GDP p.c. (t-1)	—											
2. Unemp. (t-1)	-0.606	—										
3. Pop. Size	-0.079	0.258	—									
4. Distance	0.247	-0.306	-0.123	—								
5. Com. Border	-0.262	0.134	0.167	-0.646	—							
6. Lang. Sim.	0.617	-0.446	0.129	-0.025	0.052	—						
7. % Mig. (t-1)	0.488	-0.336	-0.176	-0.008	-0.158	0.448	—					
8. % EU Mig.(t-1)	0.636	-0.319	-0.175	-0.080	-0.028	0.448	0.807	—				
9. Restrictions	-0.464	0.320	-0.076	-0.419	0.329	-0.353	-0.265	-0.226	—			
10. Spending Tot. (t-1)	0.220	-0.033	0.399	-0.180	-0.022	0.230	-0.112	0.028	-0.054	—		
11. Spending Fam. (t-1)	0.551	-0.450	-0.170	0.039	-0.225	0.229	0.135	0.346	-0.116	0.373	—	
12. Spending Une. (t-1)	0.113	0.080	0.217	0.064	-0.157	0.223	0.043	0.123	-0.215	0.483	0.027	—
13. Spending Old. (t-1)	-0.260	0.298	0.388	-0.302	0.156	-0.205	-0.255	-0.308	0.197	0.718	-0.151	0.125

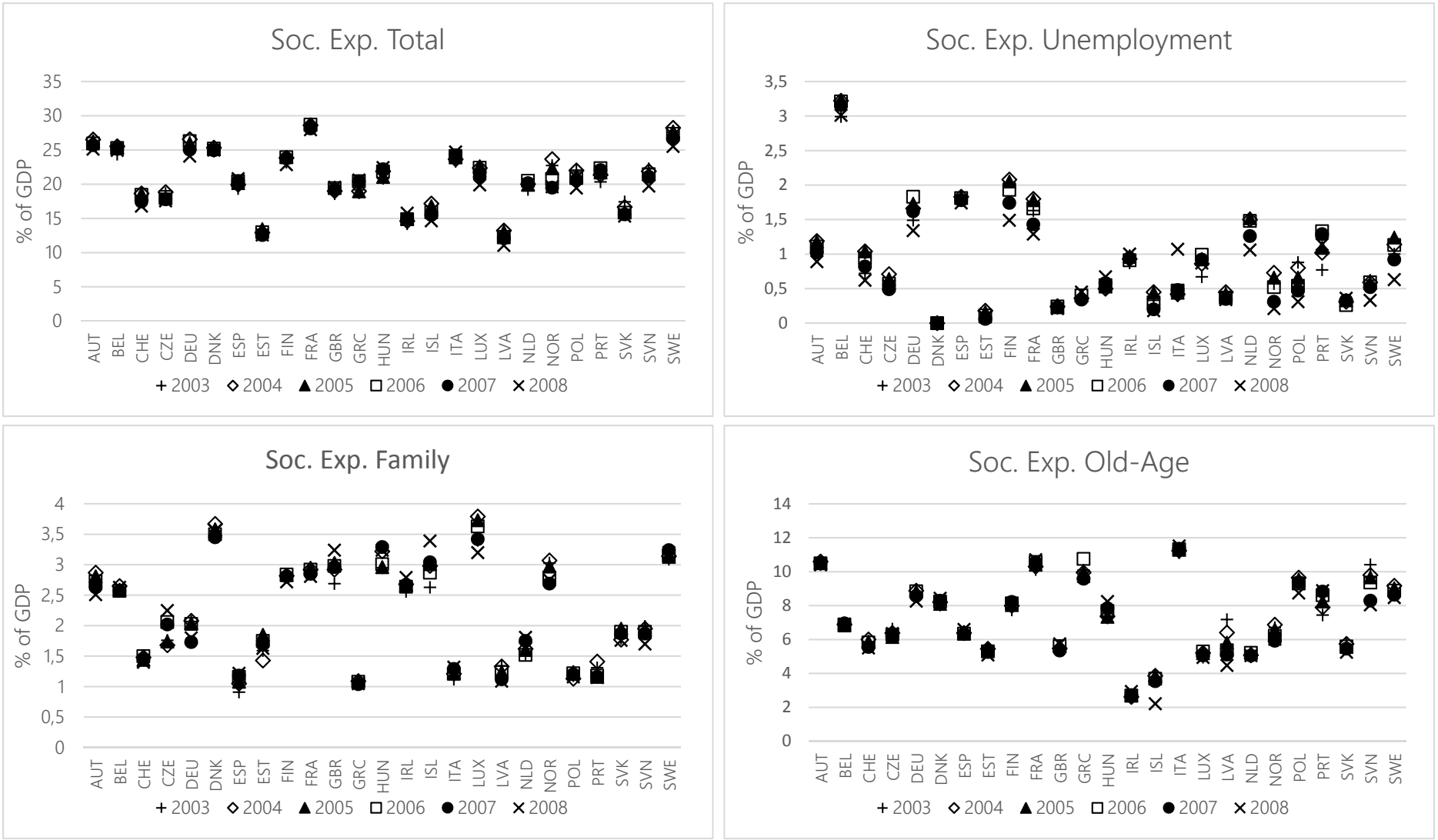

Figure 3-2 Variance in total social expenditure and social expenditure on unemployment, family and old-age benefits: distribution by country and year

Table 3-3 presents the parameter estimates of the first four conditional logit models. In the first model (column 1) we included only the control variables. In line with what we expected, a positive and significant effect was observed for GDP per capita in the destination country, indicating it acted as a pull factor. Furthermore, the effect of the unemployment rate in the destination country one year before migration was negative and significant, indicating a preference of migrants for countries where the unemployment rate was lower. The results indicated that EU migrants were less likely to choose countries with a larger share of migrants in the population, yet controlling for migration stock they were more likely to choose countries with larger shares of EU migrants. As expected, the probability of choosing a certain destination increased when the country was closer to the origin country, when it concerned a neighbouring country and when its language was more similar to that of the origin country. Furthermore, migrants were more likely to select a destination country with a larger population.

Over the years under study, the variable capturing labour market restrictions yielded a positive effect, indicating that more migrants chose a country where restrictions were in place. To explain this rather unexpected result, we looked back at the year-specific analyses where we observed that prior to 2006 migrants were less likely to move to countries where they had limited access to the labour market. During this phase, only three member states (Ireland, UK and Sweden) opened their labour markets for EU-8 workers. From 2006 onwards, EU-8 migrants gradually gained free access to the labour markets in eight more member states (Greece, Spain, Portugal, Finland, Italy, the Netherlands, Luxembourg and France). With the restrictions being abolished in most countries during this latter phase, since 2006 the variable seemed to capture increased migration flows from the new member states into the EU-15 in anticipation of getting access to the labour market over the years under study.

We subsequently included the variable capturing total social expenditure in the destination country a year before migration (column 2, Table 3-3). The coefficient was significant and negative, and seemed to indicate that migrants were less likely to move to countries that spent a larger share within the GDP on the welfare state.

Table 3-3 Conditional logit models (2003-2008): estimated coefficients

	(1)	(2)	(3)	(4)
GDP p.c. (t-1)	0.00337***	0.00837***	0.000980***	0.000281
	(0.0000406)	(0.0000419)	(-0.00018)	(-0.00018)
Unemp. (t-1)	-0.0173***	-0.00838***	-0.0354***	-0.0302***
	(0.000151)	(0.000149)	(-0.00034)	(-0.00036)
Pop. Size	0.0304***	0.0330***	0.0152***	-0.0274***
	(0.0000140)	(0.0000151)	(-0.00132)	(-0.00146)
Distance	-0.776***	-0.796***	-0.795***	-0.794***
	(0.000901)	(0.000893)	(-0.00098)	(-0.00098)
Com. Border	0.458***	0.535***	0.698***	0.698***
	(0.000979)	(0.000996)	(-0.00113)	(-0.00113)
Lang. Sim.	0.574***	0.411***	0.372***	0.376***
	(0.00231)	(0.00238)	(-0.00262)	(-0.00262)
% Mig. (t-1)	-0.0477***	-0.0440***	-0.0250***	-0.00928***
	(0.000137)	(0.000129)	(-0.00196)	(-0.00201)
% EU Mig. (t-1)	0.0283***	0.0170***	0.0378***	0.0208***
	(0.000187)	(0.000184)	(-0.00312)	(-0.00314)
Restrictions	0.126***	0.142***	0.313***	0.324***
	(0.00118)	(0.00118)	(-0.00136)	(-0.00137)
Soc. Exp. Total (t-1)		-0.0488***	0.00898***	
		(0.000113)	(0.00083)	
Soc. Exp. Family (t-1)				0.328***
				(0.00385)
Soc. Exp. Unemp. (t-1)				-0.123***
				(0.00334)
Soc. Exp. Old Age (t-1)				0.00278
				(0.00219)
Destination FE	NO	NO	YES	YES
pseudo R^2	0.1827	0.1861	0.2201	0.2201

*Standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001*
Note: The total size of migration flow size in the sample is 211168704. Restriction equals 1 if in place.

The negative impact of total government spending on locational choices is in contrast with the welfare magnet hypothesis. As the pull effect of GDP per capita on locational choices increased when taking social expenditure into account, higher tax rates in (rich) countries with generous welfare systems may explain this finding. Alternately, our findings could be explained from countries with a more generous welfare state – for example the Scandinavian countries – often having a more regulated labour market, which makes it more difficult for migrants to enter. To capture these potential institutional differences and any other unobserved characteristics at the country level, destination country fixed effects (FE) were included in the model in columns (3). Social expenditure in this model was positively associated with locational choices. The negative coefficient of social expenditure in column (2) thus appears to be due to omitted country-level characteristics that affect the level of expenditure.

In a next step (column 4, Table 3-3), we included more specific measures of social expenditure devoted to family, unemployment and old-age programs. In this model, expenditure on unemployment benefits had a significant negative effect on the locational choices of intra-European migrants. Spending on family programs on the other hand was positively associated with locational choices. No significant impact was found for old-age expenditures.

In the models presented in Table 3-4, we included interaction terms for each of the welfare generosity measures with the five age categories, which were our key variables of interest. The models in Table 3-4 – like those in Table 3-3 columns 3 and 4 – included destination country FE. Table 3-4 presents the estimated coefficients of the social expenditure measures for the different age groups (other effects were similar to those reported in Table 3-3). In column (1), a positive impact of total welfare expenditure on locational choices was found for all but one age group: adults early in their working lives, who are likely the main net contributors to sustain the welfare state. Estimates of the second model (column 2) further indicated that individuals in the early working ages were the least likely to move to countries with higher spending on unemployment benefits, whereas spending in this domain had a positive impact on migration behaviour of the oldest migrants. This finding is net of differences in unemployment levels at destination

countries, which should automatically inflate the share of that type of expenditure over GDP. Estimates of column (3) show that migrants in the younger age categories moved more often towards countries that spent more on social services for families. This is consistent with the first hypothesis, as those migrants are the ones most likely to benefit from this type of welfare policy. Conversely, migrants above 60 years of age were less likely to move to these countries. This in line with the second hypothesis, as higher expenditure on family benefits is likely only associated with a higher tax burden for this age group. Also in line with the hypotheses, the model in column (4) displays a positive impact of social expenditure on old-age benefits on locational choices of migrants in the oldest two age categories, yet a negative impact for the other age groups. Chi-Square tests showed that the coefficients of the interaction terms differed significantly between age groups for each type of welfare spending.

Table 3-4 Conditional logit models (2003-2008): estimated coefficients of social expenditure variables by age group

	(1)	(2)	(3)	(4)
	Soc.Exp. Total (t-1)	Soc.Exp. Unemp (t-1)	Soc.Exp. Fam (t-1)	Soc.Exp. Old (t-1)
Under 15	0.0199***	-0.0444***	0.421***	-0.00562**
	(0.00086)	(0.00335)	(0.00398)	(0.00212)
Age 16-25	0.0172***	-0.114***	0.387***	-0.0158***
	(0.00085)	(0.00328)	(0.00391)	(0.00211)
Age 26-40	-0.00358***	-0.139***	0.361***	-0.0370***
	(0.00083)	(0.00317)	(0.00384)	(0.00209)
Age 41-60	0.0135***	-0.0190***	0.106***	0.0282***
	(0.00085)	(0.00326)	(0.00391)	(0.0021)
Over 60	0.0406***	0.124***	-0.0188***	0.0939***
	(0.00091)	(0.00364)	(0.00425)	(0.00219)
Destination FE	YES	YES	YES	YES
pseudo R^2	0.2204	0.2209	0.2218	0.2209

*Standard errors in parentheses, * p<0.05, ** p<0.01, *** p<0.001*
Note: Each column is a separate model with interactions of specific spending measures and age groups. All controls in Table 3-3 included. The total migration flow size is 211168704.

3.5 Robustness checks

A conditional logit model assumes independence from irrelevant alternatives (IIA), which implies that the probability ratio of individuals choosing between two alternatives should not depend on the availability or attributes of the other alternatives. In our empirical specification, the destination set is limited to 25 European countries. Our analysis could therefore be interpreted as part of a more complex nested structure in which intra-European migration is one part of the decision tree. In these cases one could consider models which do not rest on the restrictive IIA assumption such as nested or mixed logit models. Earlier studies have reported findings from conditional logit models to be qualitatively very similar to models that relax the IIA assumption (Christiadi & Cushing, 2007; Dahlberg & Eklöf, 2003; Train, 2003) and the preferred modelling technique thus depends on the research question (see e.g. Train (2003)). In our study we aim to understand the individuals' average preferences (rather than predicting how the preference for a destination may change depending on the characteristics of other available destination countries), in which violating IIA is less of an issue and as such a conditional logit model is chosen (Train, 2003). However, to validate our findings we follow Hausman and McFadden (1984) who note that if IIA is satisfied, the estimated coefficients should be stable across choice sets. To check for potential violations of IIA, we therefore re-estimated our models 25 times, each time dropping one of the destinations. Overall, coefficients were comparable across these samples, suggesting that the IIA property was not seriously violated in our data. We do, however, find that in a few cases depending on the model specification, the effects of total spending go in the opposite direction than reported before. This may on the one hand indicate potential endogeneity issues. At the same time, it seems more likely that this simply points to the fact that the expenditure measure captures different domains of spending as indicated in our analyses as well as other unobserved characteristics. This could also explain why previous studies find mixed results using a rather generic total spending measure as such. In any case it highlights again that simply taking total expenditure to study welfare system effects for migration choices seems not very meaningful.

3.6 Discussion

With this study, we aimed to investigate the role of welfare generosity in locational choices of migrants moving between European countries in different life stages. Specifically, we expected higher social expenditure on welfare state arrangements to have a positive impact on locational choices for individuals within the age groups covered by the respective programs (*H1*), yet a non-significant or negative impact for individuals who are less likely to access these welfare state arrangements (*H2*). When controlling for unobserved variation by means of destination country fixed effects, a positive impact of total social expenditure on locational choices was found for all age groups except for adults early in their working lives. This finding seems consistent with our theoretical reasoning, as these individuals are most likely to be net contributors to the system. We further estimated the effects of government spending on family, unemployment and old-age benefits separately for migrants in different age groups. Our findings showed that the impact of social spending in specific welfare domains on locational choices varied across age groups and were partly in line with our hypotheses.

Consistent with our expectations, young adults moving together with children appeared to move more often towards countries where the government spent more on family benefits. Migrants in the older age groups on the other hand showed the opposite pattern. Younger migrants furthermore were less likely than migrants above 60 to move towards countries that spent more on welfare support for the elderly. Not only do these younger migrants not have access to this type of welfare yet, higher spending on old-age benefits might also indicate fewer resources devoted to other welfare areas in that country. A positive impact of social expenditure on old-age was found for locational choices of migrants in the oldest age groups. In contrast with our hypotheses, spending on unemployment benefits had a negative effect on locational choices of migrants in the working ages, whereas the effect was positive for migrants outside the working ages. On the one hand, this finding might follow from young adults being less likely to be entitled to generous unemployment benefits due to limited experience on the labour market. Alternatively, although we controlled for unemployment rates in the

destination country, higher spending on unemployment might indicate less stability on the labour market –a factor particularly crucial for migrants at the beginning of their work career. Although the latter is potentially important, we are not able to test this with our approach here. However, future studies could take this further and look more into the signalling effect that spending on unemployment may have for locational choices of these younger migrants in particular.

Following the existing European literature on the welfare magnet hypothesis, in this study we used measures of social expenditure as indicators of welfare generosity. However, as the findings on unemployment benefits indicate, social expenditure not necessarily reflects the generosity of welfare state arrangements, but rather reveals the level of government interference in specific societal domains. Our results may indicate that such government interference is evaluated positively by migrants in the working ages when it comes to the family domain, whereas it is evaluated negatively in the domain of unemployment and old-age. Yet alternatively, rather than an indicator of generous welfare programs, higher government spending might be a reaction to certain societal developments, such as an insecure labour market or an aging population. After all, expenditure on social benefits is highly dependent on the size of the population in need (Caminada, Goudswaard, & Van Vliet, 2010). Higher social expenditure on old-age benefits for instance may indicate a relatively old age structure of the destination country, which could be perceived negatively by migrants in the different age groups, yet in particular by migrants in the working ages. The locational choices of migrants subsequently may be explained by these societal developments rather than by welfare spending as such. Our study clearly showed that using social expenditure measures, as is commonly done in this field of research, it is not possible to fully disentangle these effects. By estimating age-specific relations, we revealed the importance of testing the relation between migration and the welfare state in a more targeted way and paying attention to varying needs and interests of individuals over the life course. Future research should address this issue further using more precise indicators of welfare

generosity, such as social rights (Scruggs, 2007) rather than generic spending measures.

Furthermore, our study did not include the option of staying for a range of theoretical and pragmatic reasons. First, we follow the theoretical reasoning of Borjas (1999), who claims that welfare would attract migrants because the costs of choosing the 'right' country are low once the decision to migrate is made. This reasoning assumes that a person first decides whether to move, and subsequently decides where to move. Second, due to data availability, in our study we were not able to include all possible destination countries that were available to individuals. This means that individuals who did not move to one of the other countries in our sample did not necessarily stay in the origin country, but could have moved to another region of the world. Because of this, it is unclear how the sample of non-migrants should be defined. Finally, Rivero-Fuentes (2005) compared three types of conditional choice models using the same data on internal migration in Mexico. In her study, models treating the probability of out-migration and the choice of destination as two different processes yielded more reliable results than a model assuming that the decision to migrate and the choice of destination are made simultaneously. For these reasons, our sample was restricted to individuals who migrated between the 25 selected European countries. However, one could also argue that the decision regarding whether to move should not be separated from the decision regarding where to move (Davies et al., 2001). Future studies could therefore expand on our work and consider also stayers in the analyses. This could answer complementary research questions but would also call for a different design, data requirements and analytical approach.

Finally, in this study we distinguished migrants in different age groups as an indicator of their opportunities to access family, unemployment and old-age benefits as life stage is a necessary, yet not always sufficient condition for welfare access (Clasen & Clegg, 2006). Family allowances often are a universal benefit available to families with under-aged children, whereas unemployment benefits largely depend on paid contributions. Some old-age benefits, like pensions, further are typically built up in the country of residence over time. Migrants who move in the life stages addressed by these different welfare state arrangements are

therefore not necessarily able to access them in the destination country directly upon arrival. Nevertheless, these migrants are still most likely to benefit from generous arrangements compared to those who do not meet this first categorical requirement.

By distinguishing between three different social domains and estimating effects for individuals in five age categories separately, we showed that the effects of government spending on welfare state arrangements varied for migrants across the life course. This finding may explain the so far diverse findings on the link between welfare spending and migration in previous studies and thus suggest the key missing link in earlier work. Furthermore, a generic measure as welfare spending was found to be rather uninformative because it captures many different aspects of welfare. Only when disentangling this measure in its different parts we are able to understand the true processes behind them and as such our findings help explain why previous studies often found little support for the welfare magnet hypothesis. Finally, we can conclude that the impact of welfare state arrangements on locational choices depends on how migrants are affected by them after settlement. Future studies should elaborate on this insight and investigate which aspects of the welfare state are most relevant to migrants in different phases of life.