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MOBILITY IN AN ENLARGING EUROPEAN UNION: PROJECTIONS OF POTENTIAL FLOWS FROM EU'S EASTERN NEIGHBORS AND CROATIA

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ABSTRACT

Mobility in an enlarging European Union: Projections of potential flows from EU's eastern neighbors and Croatia*

This study evaluates potential migration flows to the European Union from its eastern neighbors and Croatia. We perform out-of-sample forecasts using an adaption of the model of Hatton (1995) to time series cross-sectional data about post-enlargement migration flows following the EU's 2004 enlargement. We consider two baseline policy scenarios, with and without accession of sending countries to the EU. Our results show that migration flows are driven by migration costs and economic conditions, but the largest effects accrue to policy variables. In terms of the predicted flows: (i) we can expect modest migration flows in case of no liberalization of labor markets and only moderately increased migration flows under liberalization; (ii) after an initial increase following liberalization, migration flows will subside to long run steady state; (iii) Ukraine will send the most migrants; and (iv) the largest inflows in absolute terms are predicted for Germany, Italy and Austria, whereas Ireland, Denmark, Finland and again Austria are the main receiving countries relative to their population.

Keywords: Migration, free movement of workers, European Union, Eastern Partnership, EU enlargement, migration potential, out-of-sample forecasting

JEL Classification: F22, C23, C53

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1. Introduction

The 2013 expansion of the European Union (EU) to include Croatia as its 28th Member State marks the latest move in the process of the EU's eastern enlargement.[1] EU expansion is part of a broader process of intensified cooperation with the EU's eastern neighbors. This includes countries that have already obtained candidate status, such as Macedonia, Montenegro and Serbia, as well as countries with which the EU initiated a program of intensified cooperation called Eastern Partnership (EaP) in 2009.[2] The EaP consists of six post-Soviet states, namely Ukraine, Belarus, Moldova, Azerbaijan, Armenia and Georgia, as well as the EU, and is meant to provide an institutionalized forum for the discussion of political and economic topics of joint relevance for all partners. It aims at providing the groundwork for an Association Agreement between the EU and the eastern partners, which should eventually lead to the establishment of a free-trade zone comprising the 27 EU Member States and the six eastern partners. In the long run, this might also result in the future membership of these countries.

The expansion of the European Union and the prospect of extending free mobility to workers from the EU's eastern neighborhood pose the question of the expected scale of its effect on east-west mobility. The size of the potential sending populations and the economic discrepancies indicate the existence of nontrivial migration potential. According to the IMF's World Economic Outlook Database (September 2011), Macedonia, Montenegro and Serbia have a total population of slightly more than 10 million, and the six EaP partner countries exhibit a population of almost 76 million people in 2009 (i.e. around 18 per cent of the EU27 total), of which approximately 46 million live in Ukraine. The average GDP per capita (pc) in purchasing-power-parities (PPP) in these countries amounts to slightly more than 9,260 US-$ in the same year. However, there is quite a large heterogeneity within this country group. At the lower end of the distribution, Moldova displays a GDP pc in PPP of around 2,860 US-$, whereas Croatia forms the upper end with around 17,800 US-$, followed by Belarus with slightly more than 12,700 US-$. For comparison, the average GDP pc in PPP of the EU in 2009 amounts to almost 29,700 US-$, and in the Euro-area to more than 31,800 US-$.

In the past, EU enlargements entailed controversial discussions with respect to the potential consequences of extending the free movement of labor regulation to the new Member States. This was especially the case in the context of the enlargements towards Central and Eastern Europe in 2004 and 2007, respectively. Consequently, existing Member States implemented different policies towards workers from the accession countries (for a synoptic overview see the European Commission (2008), p. 11). Whereas the majority of EU-15-countries fully or partially restricted mobility for a transitional period of some years, Ireland, Sweden and the UK allowed free access for workers from countries of the 2004 enlargement round from the outset. By contrast, only Finland and Sweden fully opened their labor markets for Bulgarian and Romanian nationals. In particular, the enlargement towards the eight

[1] This was preceded by two waves of EU eastern enlargement, the first in 2004 when the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia (along with Cyprus and Malta) and the second in 2007 when Bulgaria and Romania joined the EU.

[2] Iceland and Turkey also obtained candidate status. Albania and Bosnia and Herzegovina are classified as potential candidates.

Central and Eastern European countries (EU-8) in 2004 induced "spectacular migratory movements" (Kaczmarczyk and Okolski, 2008) from East to West, with the different transitional arrangements displaying substantial effects on observable flows.

Against this background, this paper aims at assessing potential migration flows to the EU from the countries with which the EU is intensifying cooperation – recent entrant Croatia, several candidate countries and members of the EaP program – by utilizing the experiences of the enlargement wave of 2004. To this end, we use a well-established model to estimate the determinants of immigration from the accession countries to the EU-15. This model allows distinguishing between short- and long-term factors impinging upon observable migration flows. The long-run coefficients are subsequently used to forecast the immigration potential from EaP-countries under different policy scenarios or transitional arrangements. Since this is a double extrapolation exercise – over time and across space – we have to invoke some identification assumptions that must hold to ensure that the forecasts are valid. Our empirical results suggest that while economic and demographic variables matter, migration flows are mainly driven by policy variables. From the policy perspective, our key results are that the migration potential from the studied sending countries is modest, the liberalization of migrants' access to receiving labor markets increases migration flows, albeit only temporarily, and Ukraine will remain the main source country, whereas Germany, Italy and Austria are expected to receive most of these migrants in absolute terms. Relative to the sending countries' population in 2010, Ireland, Denmark, Finland and again Austria are the main receiving countries,

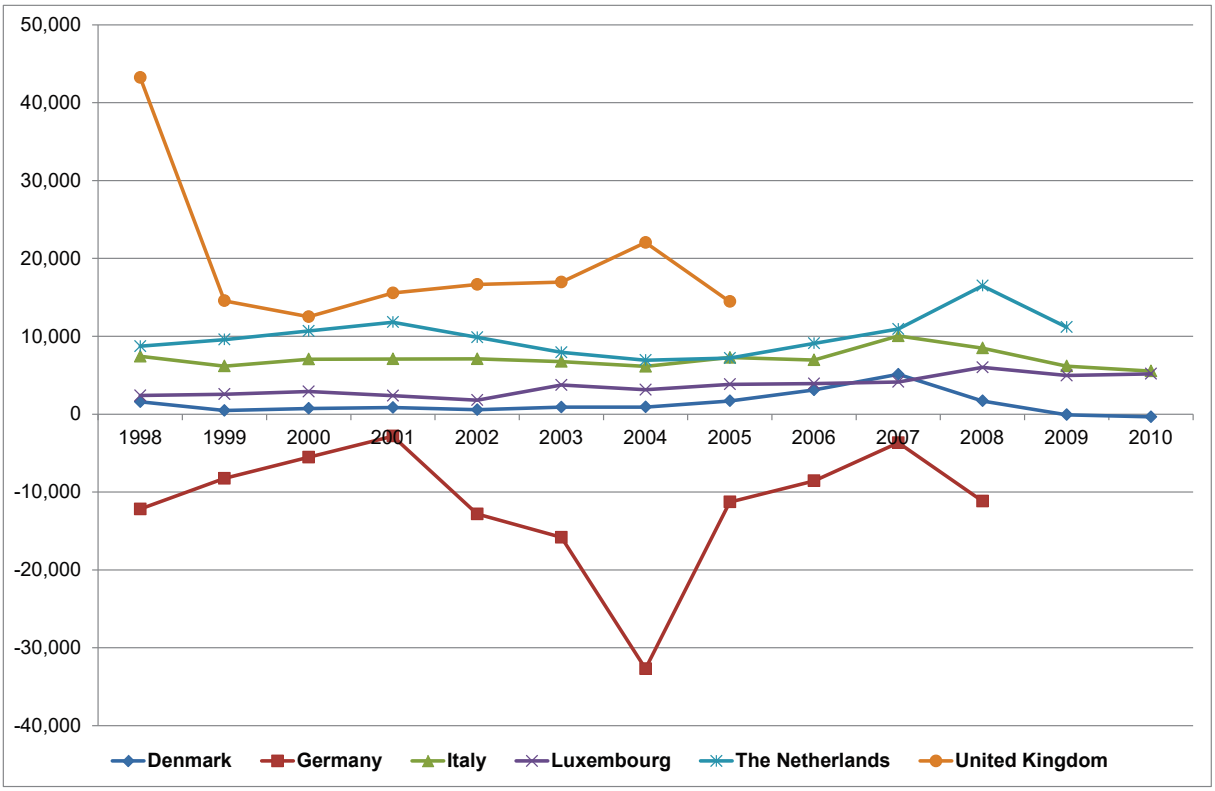
The rest of the paper is organized as follows. In the next section we provide some stylized facts and a brief overview of the literature regarding migration within the EU. Section 3 then describes the theoretical model together with its empirical specification and the utilized data, before estimation results are presented in section 4. In section 5 we provide different forecasting scenarios and section 6 concludes.

2. Migration within the EU – Stylized facts and review of literature

Despite the free movement of workers regulation, migration streams within the EU were rather low between the 1980s and the beginning of the 2000s. Against the background of rather large and persistent regional differentials in wages and employment prospects, one might even argue that within EU migration activities were too low during this period (see Fertig and Schmidt, 2002). Even the enlargements of the EU towards Southern Europe (Greece in 1981 as well as Spain and Portugal in 1986) did not induce any remarkable changes in observed migration flows (see e.g. Bover and Velilla, 2001). To illustrate this for the most recent past, Figure 1 provides intra-EU migration flows for the EU-12 countries[3] (without Greece, due to missing data).

[3] EU-12 encompasses the following countries: Belgium, Denmark, France, Germany, Greece, Ireland, Luxembourg, Netherlands, Portugal, Spain, Italy and the UK.

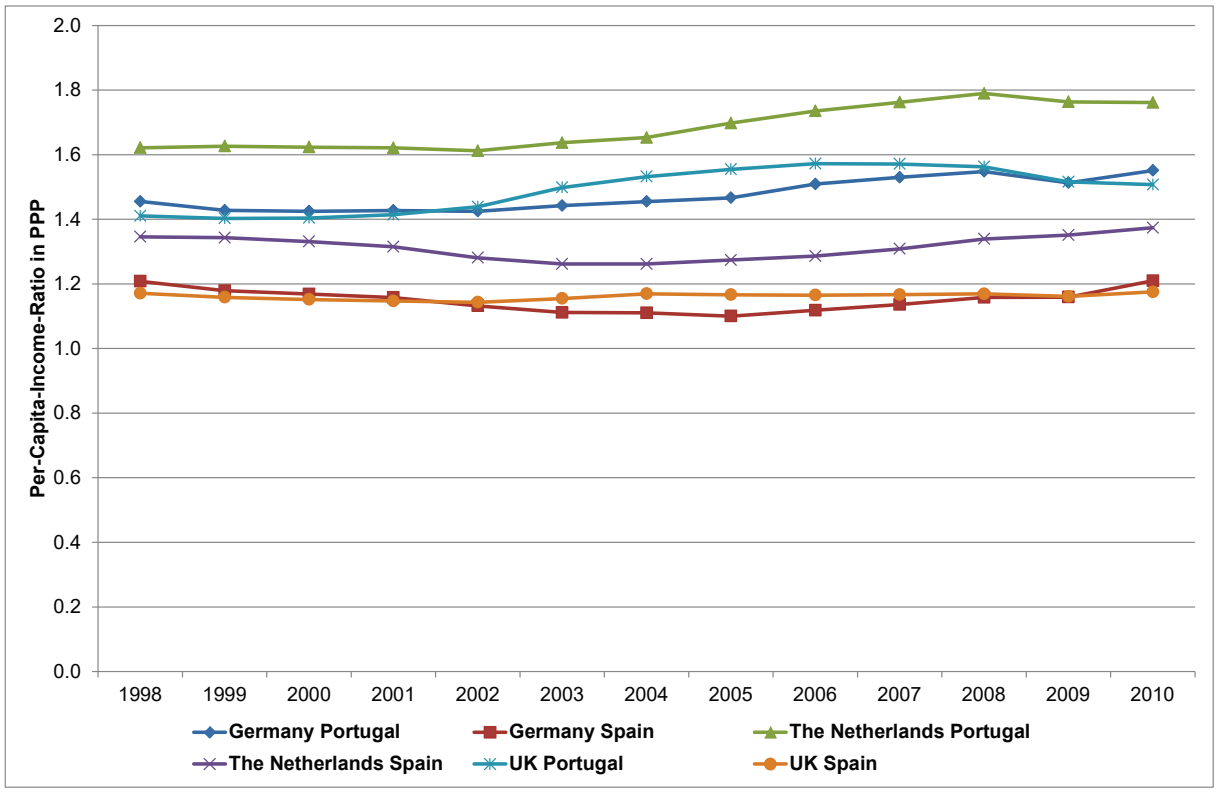
Figure 1: Net-Migration of EU-12 countries to Selected Member States – 1998-2010



Note: Nationals from the EU-12 without Greece. Source: Eurostat database, May 2012; own calculations.

From this figure it becomes transparent that net-migration (i.e. inflows minus outflows) from other core Member States of the EU is negative for the case of Germany throughout all years; that is, emigration of nationals from the EU-11 countries exceeded immigration from these countries in every year. In all Member States, net-migration was positive and varied between a few hundred and more than 40,000 persons per year. However, it was less than 15,000 persons per year in the majority of countries and years. This rather low net-immigration or – in the case of Germany, even substantial net-emigration – stands in stark contrast to the persistent income differentials between the countries of the EU-12, as illustrated in Figure 2.

Figure 2: Ratio of per-capita-income in purchasing power parities for selected countries



Source: World Economic Outlook database of the IMF, September 2011; own calculations.

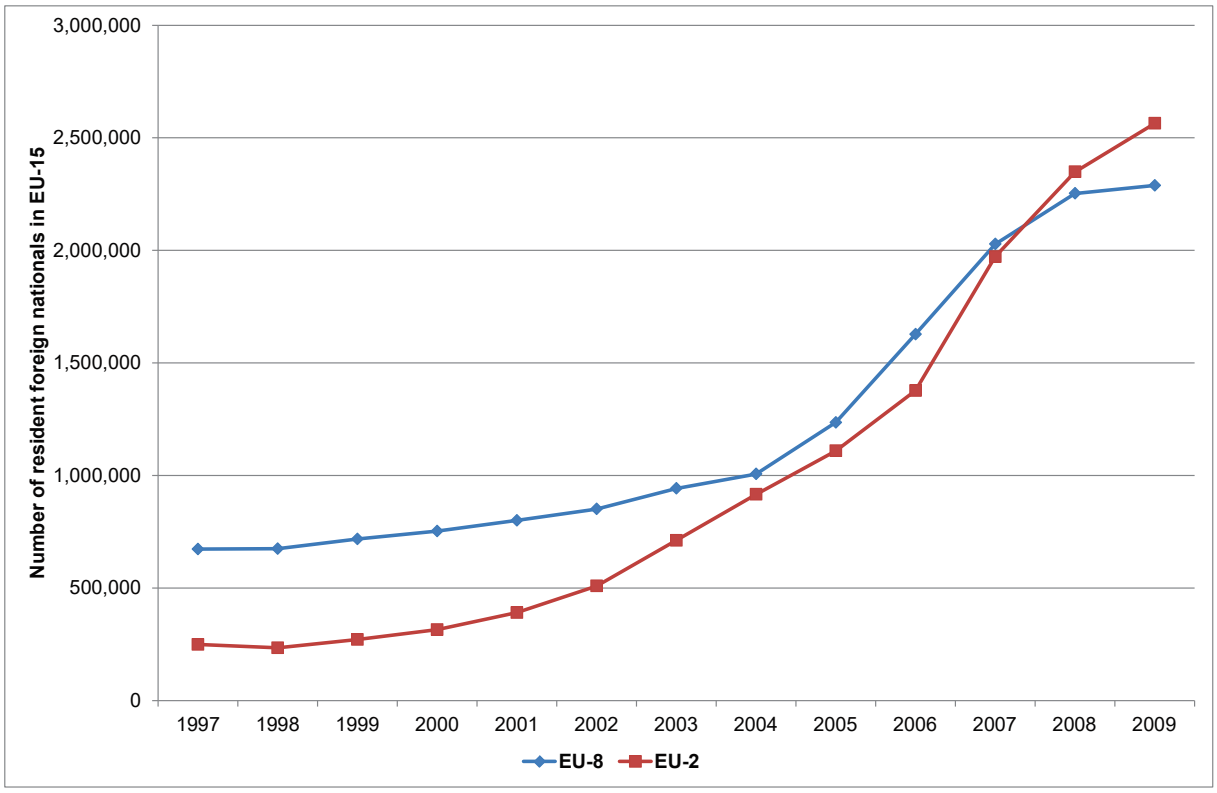
Figure 2 indicates that per-capita-incomes in Germany, the Netherlands and UK are substantially and persistently higher than in Portugal and Spain[4]. Furthermore, we do not even observe some kind of convergence between the considered country pairs. By contrast, the PCI-ratios start to increase after 2004, having been almost constant before. This is especially evident for the case of Portugal. Against this background, the potential average returns of migration within the EU seem to be high and increasing over time, although migration activities remain constantly low. Hence, the (real or perceived) costs of moving to another European Member State seem to be extremely high, despite the free movement of labor regulation.

However, the enlargement of the EU-15 towards the eight Central and Eastern European countries plus Cyprus and Malta in 2004, as well as later in 2007 (Bulgaria and Romania), induced “spectacular migratory movements” (Kaczmarczyk and Okolski, 2008) from East to West within the enlarged EU. In this context, the transitional arrangements with respect to the free movement of labor regulation evidently displayed substantial effects on observable migration flows. According to European Commission (2008, p. 115), the stock of resident foreign nationals from the EU-10 accession countries in the EU-15 countries more than doubled from 924,000 persons in 2003 to 2,016,000 in 2007. Interestingly, the same observation holds for the 2007 accession countries of Bulgaria and Romania. Despite entering the EU as recently as 2007, the number of residents from these two countries in other EU-15 Member States increased from 691,000 in 2003 to 1,331,000 persons in 2006

[4] A very similar picture emerges if we compare Germany, The Netherlands and UK with other Mediterranean countries like Greece or even Italy.

and further to 1,617,000 people in 2007. Hence, the stock of Bulgarian and Romanian nationals in the EU-15 almost doubled even prior to their EU-accession. Figure 3 illustrates this for the 2004 EU-8 accession countries from Central and Eastern Europe, as well as the EU-2 (Bulgaria and Romania) accession countries of 2007.

Figure 3: Stock of foreign residents from EU-8 and EU-2 in EU-15



Source: Holland et al. (2011); own calculations.

It becomes apparent from this figure that the stock of EU-8 nationals residing in the EU-15 continuously increased from 1998 to 2008. However, the slope of this increase became considerably steeper after their accession in 2004, with the stock of immigrants from the EU-8 countries increasing by almost 23 per cent from 2004 to 2005. The growth rate one year later was slightly less than 32 per cent, and between 2006 and 2007 it was around 25 per cent. However, growth rates declined considerably after 2007, which might be the result of the financial and economic crisis in Europe and/or an indication for satiation. By contrast to the pattern for the EU-8 countries, the stock of Bulgarian and Romanian nationals residing in one of the EU-15 Member States displays a remarkable increase before 2007, with average annual growth rates of slightly less than 25 per cent. The post-accession development was very similar to this pattern, with average annual growth rates of around 24 per cent.

As already emphasized by Brücker et al. (2009), post-accession migratory movements not only differ in pure size, but also in their regional distribution with respect to the main destination countries. Table 1 provides the shares of total net-inflows into the EU-15 for each Member State. This table clearly indicates that Germany, the UK and Spain constituted the main destination countries for immigrants from the EU-8 in the pre-accession era. Indeed, after 2004, the UK alone received almost half of all immigrants from the EU-8. Germany was still among the main receiving countries during this period, whereas Spain was replaced by

Ireland. However, this picture is considerably different for the EU-2 countries, as the main destinations for nationals from Bulgaria and Romania used to be Spain and Italy prior to accession, and Italy and Spain thereafter. However, a few EU-15 Member States experienced a substantial increase in net-immigration from these accession countries, with Germany, Austria and the UK displaying the highest rates of increase.

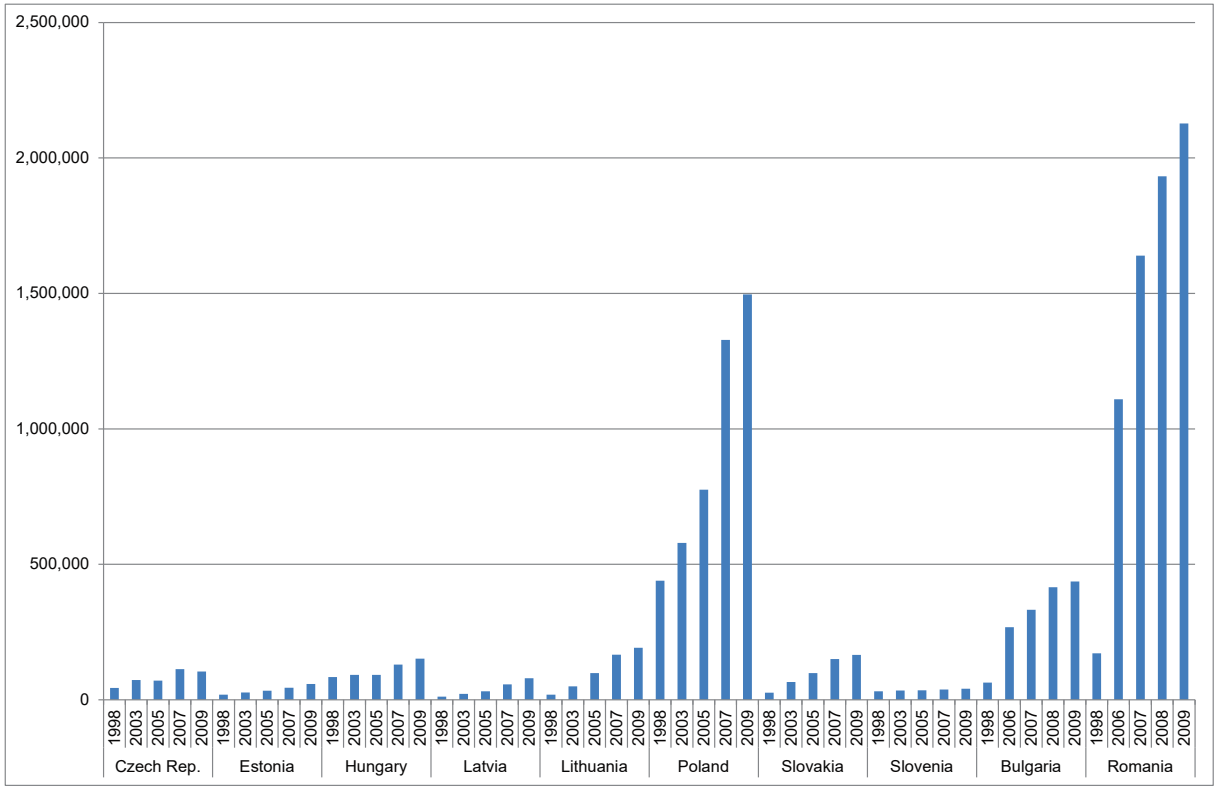
Table 1: Regional distribution of net-inflows to EU-15 in per cent

	Belgium	Denmark	Germany	Ireland	Greece
Net-migration from EU-8 between 1998 and 2003	3.5	0.8	29.5	6.1	5.4
Net-migration from EU-8 between 2004 and 2009	1.3	1.7	13.7	12.1	0.2
Net-migration from EU-2 between 1998 and 2006	1.0	0.1	-0.1	0.4	3.3
Net-migration from EU-8 between 2007 and 2009	1.9	0.7	6.3	0.7	6.0
	Spain	France	Italy	Luxem-bourg	Nether-lands
Net-migration from EU-8 between 1998 and 2003	13.3	0.6	7.2	0.2	1.4
Net-migration from EU-8 between 2004 and 2009	6.5	0.2	5.4	0.5	3.1
Net-migration from EU-2 between 1998 and 2006	57.8	3.6	28.3	0.0	0.3
Net-migration from EU-8 between 2007 and 2009	17.1	1.5	46.5	0.0	1.4
	Austria	Portugal	Finland	Sweden	UK
Net-migration from EU-8 between 1998 and 2003	2.3	0.2	1.4	-0.4	28.5
Net-migration from EU-8 between 2004 and 2009	1.8	0.1	1.1	2.7	49.5
Net-migration from EU-2 between 1998 and 2006	0.8	1.3	0.0	-0.1	3.3
Net-migration from EU-8 between 2007 and 2009	4.9	2.6	0.1	0.8	9.5

Source: Holland et al. (2011); own calculations.

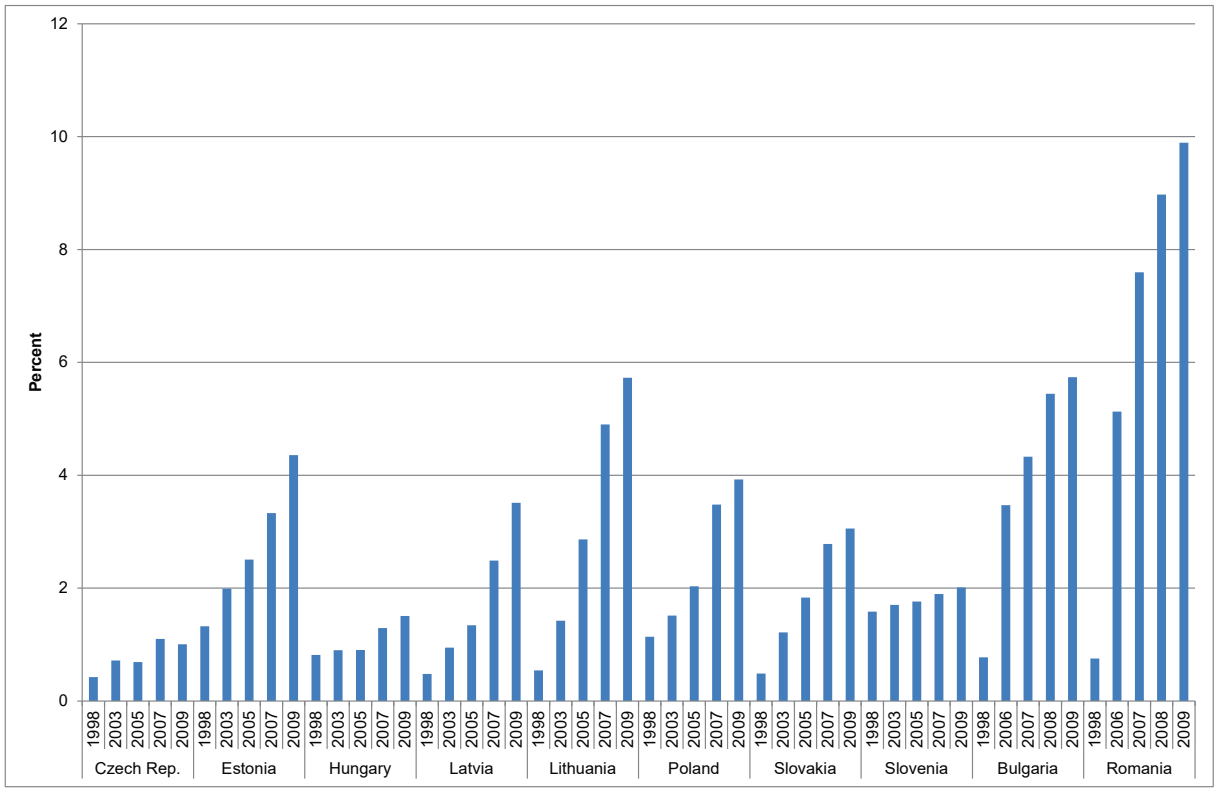
From the sending countries' perspective, Figure 4 demonstrates that Poland, Bulgaria and Romania experienced the largest net-outflow of inhabitants in the direction of the EU-15. In 2009, almost 1.5 million Polish citizens resided in one of the EU-15 Member States, whereas the corresponding numbers for Bulgaria and Romania are slightly less than 0.5 million and more than two million individuals. However, Poland and Romania are also the two countries with the largest populations, with Bulgaria ranked fifth following after the Czech Republic and Hungary. Hence, it is unsurprisingly that a large number of Polish and Romanian nationals live outside their countries. Consequently, it seems to be more sensible to consider the relative outflows, with Figure 5 providing the population share of EU-8- and EU-2-nationals living in one of the EU-15 Member States, thus accounting for the population size in the sending country. The figure indicates that Romanian citizens still display the largest group of non-national residents in the EU-15 among the accession countries, even in relative terms. However, and by contrast to absolute numbers, the Baltic States are now also found in the top group, whereas the share of Polish nationals in the EU-15 is relatively small relative to the population at home.

Figure 4: Absolute number of EU-8- and EU-2-nationals residing in EU-15-countries



Source: Holland et al. (2011); own calculations.

Figure 5: Population share of EU-8- and EU-2-nationals residing in EU-15-countries



Source: Holland et al. (2011); own calculations.

The literature offers some tentative conclusions regarding the economic consequences of these migration flows. Kahanec (2013b) scrutinizes the experiences of the two enlargement

waves by assessing actual migration flows and reviewing their effects on the labor markets of receiving and sending countries. The author concludes that the available evidence does not indicate negative effects on the receiving countries' labor markets or welfare systems. However, sending countries run the risk of skill shortages in certain occupations or sectors, as well as instability of public finances. On the other hand, outmigration might unfold potential benefits through brain circulation.

Hazans and Philips (2010) use labor force survey data for the period 2002 to 2007 and several other surveys to compare the profile of Baltic temporary workers abroad before and after EU accession with that of stayers and return migrants. The authors find significant changes in how ethnicity and citizenship affect workers' mobility. According to the authors' results, in the first two years after 2004, 11 per cent to 13 per cent of migrants from Lithuania and Estonia and 15 per cent of their Latvian counterparts were unemployed in the home country in the previous year, while around 7 per cent were either students or pupils. These proportions exceed those observed among stayers by a factor of three to four, indicating that work abroad has represented an important coping strategy for the Baltic unemployed or potentially unemployed. Furthermore, Hazans and Philips (2010) point out that the two-thirds to three-quarters of all migrants had secondary education and that enlargement changed the skill composition of migrants. In the years prior to 2004, Lithuanian migrants had the same skill distribution as stayers, while Latvian and Estonian migrants were on average more educated than stayers. Post-accession migrants from all three countries were significantly less educated than stayers, with this gap tending to increase over time.

Dustmann and Frattini (2011) point out that different historical and economic developments resulted in different immigration experiences from different countries of origin. While some European countries have been immigration countries since the 1960s, others emerged as immigration countries around two decades ago. Consequently, European countries presently exhibit very dissimilar immigrant populations with respect to the country of origin, ethnicity and education. Labor market integration of immigrants remains a key policy challenge in Europe, as migrants face significant barriers impeding their access to the labor market or social welfare provisions (Constant et al. 2009; Kahanec et al. 2013). Human capital gaps are another limiting factor, with some migrant populations exhibiting educational attainment comparable or even exceeding that of the natives, but other lagging behind (Dustmann and Frattini, 2011; Kahanec, 2013a). While downskilling into jobs below one's educational attainment is a widespread problem, temporary migrants tend to compensate this disadvantage by working longer hours (Kahanec and Shields, 2013).

Kahanec and Zimmermann (2010) provide an encompassing account of the early post-accession period, highlighting: (i) the positive role of east-west mobility for allocative efficiency of EU labor markets; (ii) the lack of evidence on negative labor market effects of migration; and (iii) potential benefits, as well as some policy challenges, of brain circulation for the sending countries.[5]

[5] Migration flows of immigrant populations within receiving countries are studied by e.g. Raymer et al. (2011), who combine census and registration data to study mobility of ethnic groups in the UK.

With respect to the driving forces behind observable international migration flows, the literature suggests a variety of explanations depending on the sample of countries and the time period analyzed. Kim and Cohen (2010) investigate the determinants of international migration flows into 17 Western countries from 230 origin countries during a period ranging from 1950 to 2007. To this end, they regress the logarithm of the number of migrants on a set of demographic, geographic and social explanatory variables. The authors find that demographic and geographic factors are the most important driving forces behind observable inflows. Specifically, the population of origin and destination country, the infant mortality rate of origin and destination, the distance between capitals and the land area of the destination display a significant and substantial impact on immigration activities. Furthermore, a young age structure in the destination was associated with lower inflows, while a young age structure in the origin was associated with higher inflows. By contrast, social and historical determinants proved to be less important. While Borjas (1999) in his seminal article found some welfare magnet effect on migration flows within the US, the ensuing literature finds rather weak magnet effects in international or European contexts (DeGiorgi and Pelizzari, 2009; Pedersen et al., 2008; Giulietti et al., 2013) .

Several papers attempt to predict the migration potential of the accession candidates of the previous enlargement rounds (see e.g. Bauer and Zimmermann, 1999; Fertig, 2001; Fertig and Schmidt, 2001; and Orlowski et al., 2000), with the majority of them deriving a rather modest forecast. Zaiceva (2006) provides an encompassing overview of the literature on migration projections with respect to EU-enlargement.

3. Theoretical model, empirical specification and data

In order to estimate the structural relationship between migration flows and its determinants, we use an adaption of the model of Hatton (1995) to time series cross-sectional data (for a detailed description, see Fertig (2001). The theoretical model is formulated in terms of individual utility maximization following the hypothesis of migration as an investment in human capital (Sjaastad, 1962). Hence, the individual migration probability depends on the difference in expected utility streams in the country of origin and the destination country minus the costs of migration. Utility streams are assumed to depend on expected income, which is the product of the wage rate and employment probability in each country.

In forming their expectations on utility streams, the model assumes that migrants assign the greatest weight to the most recent past, with this weight declining with time. Thus, the migration decision not only depends on the current difference in utility streams, but also on all expected future values. This implies that although the current difference might be negative for some migrants, the net present value of migration might become positive if they were to wait for an additional year.

Furthermore, the model assumes that the employment rates in the destination countries follow a binomial distribution. Hence, the model explicitly accounts for uncertainty in employment prospects, which leads to their greater weight in the destination countries than in the risk-neutral Harris-Todaro model. Finally, in order to estimate the model using aggregate-level migration data, the individual probability concept is approximated by the

aggregate migration rate. This implies the assumption that aggregate migration rates reflect the average migration probabilities of all individuals in a specific country of origin.

Putting these pieces together yields the following reduced-form estimation equation of the model (for more details see Hatton, 1995; Fertig, 2001; and Hatton, 2005)

$$\begin{aligned}(1)\quad \Delta M_t^{h\to d} = {} & \varepsilon_h + \varepsilon_1 \Delta \ln\left({}^{w_d}/_{w_h}\right)_t + \varepsilon_2 \Delta \ln(e_d)_t + \varepsilon_3 \Delta \ln(e_h)_t \\ & + \varepsilon_4 \ln\left({}^{w_d}/_{w_h}\right)_{t-1} + \varepsilon_5 \ln(e_d)_{t-1} + \varepsilon_6 \ln(e_h)_{t-1} \\ & \varepsilon_7 M_{t-1}^{h\to d} + \varepsilon_8 MST_{t-1}^{h\to d} + \varepsilon_9 POP_{t-1}^{h} + \varepsilon_{10} POP_{t-1}^{d}\end{aligned}$$

In this equation, *M* denotes the migration rate from the country of origin *h* to the destination country *d* in year *t*. The wage rate is denoted by *w* and employment rates by *e*. Thus, changes and levels of the economic variables enter the equation separately, providing the possibility to distinguish between short- and long-run determinants of migration flows. Furthermore, the above specification is an extension of the single-destination model in Fertig (2001) to several destination countries. Hence, the model is augmented by the relative wage rate of each single destination country to the rest of the EU-15. This extension should capture the attractiveness of *d* relative to that of other EU-countries, while the same holds for employment rates.

The stock of migrants (*MST*) and the population shares of individuals aged 20-40 living in *h* and *d*, respectively, enter the equation via migration costs. The model also contains country of origin-specific intercepts ε_h, which also enter the equation via the modeling of migration costs. Hence, migration costs are, on the one hand, approximated by the stock of migrants from *h* living in country *d*, which, from a theoretical perspective, captures network and potential crowding effects. On the other hand, migration costs are meant to be captured by the population shares of individuals aged 20-40 (*POP*) living in *h* and *d*, as well as a sending country-specific term. The latter accounts for country-specific relocation costs (e.g. due to distance) together with differences in the psychological costs of leaving one's home country (i.e. unobservable sending country-specific migration cost). The population share of individuals aged 20-40 living in *h* should capture the population group that is typically the least bound to the country due to family ties, and similarly exhibits the highest proficiency in foreign languages as well as the highest expected returns to migration due to a relatively long potential working time in the destination country's labor market. The population share of individuals aged 20-40 living in *d* approximates the need for immigrants due to demographic factors in the destination country, thus capturing the "openness" of country *d* towards immigrants, or its "willingness to welcome" them simply because they are needed.

Finally, we extent the model by two sets of dummy variables covering policy regimes. The first is one for all years in which country *d* allowed workers of country *h* free access to its labor market, and zero otherwise. The second dummy is one for all years in which country *d* restricted the access of workers from country *h* to its labor market partially, and zero otherwise. Hence, full restriction forms the reference category (see Table A.1 in the appendix for a detailed description of these policy dummies).

The model is estimated by OLS with panel-corrected standard errors using time-series cross-section data for migration from the EU-8 to the EU-15 (for details see below), following Beck

and Katz (1995). The authors demonstrate that this estimation method maintains the advantage of OLS parameter estimates that perform very well in the context of time-series cross-section data and simultaneously avoid the production of inaccurate standard errors, like the OLS- or frequently used FGLS-estimator. Finally, by setting all Δ's to zero and solving for *M*, one can derive the long-run steady state relationship for net migration rates. The calculated long-run coefficients are used for the simulations of the expected magnitude of immigration from Croatia and the EaP-countries to the EU-15 under different policy scenarios.

We apply the model to data for migration from the EU-8 to the EU-15 without Luxembourg (EU-14 in what follows) for the period 1999-2009. Within the EU-15, Luxembourg is by far the smallest (in terms of population) and simultaneously also the richest country. Therefore, in order to avoid biased estimation results for the per-capita-income variable, Luxembourg was excluded from the sample of destination countries[6]. Net-immigration to the EU-14 is calculated as the change in the stock of foreign residents from *h* in *d* between *t* and *t-1*. The stock of nationals is taken from Holland et al. (2011), while the explanatory variables stem from the IMF's World Economic Outlook Database (GDP p.c. in PPP) and the statistics database of Eurostat (unemployment and population). The estimation results are summarized in the following section.

4. Estimation results

Table 2 contains the estimation results for three different specifications of our model. In the first specification, we model policy regimes by including the two dummy variables indicating free movement of labor and partial restrictions.[7] In the second specification, we disentangle the free movement dummy by including a separate dummy variable for each year of free movement. This specification is meant to investigate whether the impact of free movement is higher in the first years of opening up borders, or if it reveals any other time pattern. Finally, the third specification takes into account that sending country-specific migration costs might depend on the policy regime. On the one hand, accession to the EU might open up completely new opportunities with respect to leaving the country, thus reducing migration costs. On the other hand, living in an EU Member State might also advance economic prospects at home due to higher economic integration, hence increasing migration costs. In order to account for this, we add a dummy variable for the post accession period and interact it with the sending country-dummies.

In general, our estimation results suggest that economic conditions in the destination countries play an important role in explaining observable migration flows. Both the PCI-ratio between the destination and sending countries as well as employment rates in the EU-8 exhibit a significant impact on net-migration. The higher the PCI-ratio, the higher the observable flows, all other things being equal. The opposite holds for the employment rate in

[6] In quantitative terms this exclusion is negligible since the stock of migrants from the EU-8 living in Luxembourg amounts to merely 0.4 per cent in 2009.

[7] Partial liberalization signifies liberalization of labor market access in specified sectors or occupations, or a combination of them, typically based on job shortages.

the origin countries. By contrast, the employment rate in the EU-14 seems to be of minor importance. Hence, our results suggest that migrants' income opportunities in the destination country compared to the home country have a systematical impact on their decision to leave the country.

Table 2: Estimation results

	Specification 1		Specification 2		Specification 3	
	Coeff.	t-value	Coeff.	t-value	Coeff.	t-value
Czech Republic[a]	0.0086142	0.94	0.0137581	1.61	0.0363270	3.37**
Estonia[a]	0.0195203	1.63	0.0207826	1.68*	0.0170489	1.13
Hungary[a]	0.0058682	0.66	0.0099457	1.11	0.0275268	2.81**
Latvia[a]	0.0136640	1.58	0.0136286	1.50	-0.0032966	-0.31
Lithuania[a]	0.0298836	2.61**	0.0304373	2.54**	0.0058955	0.39
Slovak Republic[a]	0.0120985	1.19	0.0130839	1.27	0.0101911	0.62
Slovenia[a]	0.0121251	1.17	0.0173840	1.74*	0.0415625	3.23**
Czech Republic after accession	-	-	-	-	0.0000516	0.00
Estonia after accession	-	-	-	-	0.0334383	1.65*
Hungary after accession	-	-	-	-	0.0065572	0.57
Latvia after accession	-	-	-	-	0.0456591	2.65**
Lithuania after accession	-	-	-	-	0.0538456	2.18**
Slovak Republic after accession	-	-	-	-	0.0098218	0.68
Slovenia after accession	-	-	-	-	0.0034885	0.19
Lagged net migration rate	-0.8621185	-4.14**	-0.8742497	-4.12**	-0.8961853	-4.21**
Free movement[b]	0.0255262	3.24**	-	-	-	-
First year of free movement	-	-	0.0093630	0.83	0.0060164	0.58
Second year of free movement	-	-	0.0279214	2.44**	0.0271822	2.56**
Third year of free movement	-	-	0.0367123	2.84**	0.0389501	3.13**
Fourth year of free movement	-	-	0.0411250	2.96**	0.0467449	3.47**
Fifth year of free movement	-	-	0.0288150	1.08	0.0326838	1.30
Sixth year of free movement	-	-	0.0257276	1.10	0.0328991	1.50
Post accession	-	-	-	-	-0.0089389	-0.63
Partial restrictions dummy[b]	0.0046229	0.88	0.0057199	1.23	0.0038009	0.69
(Log) Lagged PCI-ratio (in PPP) destination to home country	0.0175044	1.67*	0.0197802	1.91*	0.0313120	2.90**
(Log) Lagged employment rate home country	-0.0497116	-0.58	-0.0892714	-1.07	-0.2786510	-3.11**
(Log) Lagged employment rate destination country	0.0839770*	1.72*	0.0782003	1.62	0.0593511	1.36
(Log) Lagged share of 20-39 years old in destination country	0.1121061	1.32	0.1124977	1.34	0.1133294	1.32
(Log) Lagged share of 20-39 years old in home country	0.0096709	0.03	-0.0434662	-0.15	-0.0674844	-0.12
Delta of (log) PCI-ratio (in PPP) destination to home country	0.1014673	1.3	0.0602686	0.71	0.0743435	0.94
Delta of (log) employment rate home country	0.2344753	1.27	0.2308804	1.26	0.4156827**	2.08**
Delta of (log) employment rate destination country	-0.0339566	-0.19	0.0634800	0.37	0.1889106	1.17
Lagged stock of migrants from home in destination country	0.0000002**	1.98**	0.0000002**	2.12**	0.0000002**	2.29**
Constant	-0.2105243	-0.51	0.0030846	0.01	0.9299053**	2.24**
Number of observations	1,204		1,204		1,204	
R-squared	0.361		0.368		0.380	
(Wald test for) common intercept	rejected		rejected		Rejected	

Reference categories: [a] Poland; [b] full restriction. ** significant at 5 per cent-level, * at 10 per cent-level.

However, estimation results also clearly indicate that the costs of migration are important. The stock of migrants in the destination country exhibits a statistically significant positive impact on net-migration, which suggests that existing migrant networks in the destination countries help to attract further immigrants. Furthermore, the set of sending country-specific

intercepts suggest that migration costs vary by country and react to policy. The results of specification 3 suggest that country-specific migration costs exhibit a largely different pattern before and after the accession of the EU-8-countries. Prior to accession, the Czech Republic, Hungary and Slovenia display significantly and substantially higher migration rates to the EU-14 than Poland, whereas those of all other sending countries do not differ systematically from Poland. However, after accession, we observe significantly higher migration rates (i.e. lower country-specific migration costs) for the Baltic States only, even after controlling for economic conditions and policy regimes. Thus, our results indicate that, due to accession, country-specific migration costs increased in all EU-8-countries compared to Poland, except the Baltic States. For the latter we observe a decrease. This finding suggests that for the accession countries outside the Baltic region, accession to the EU seems to have opened up new opportunities at home (e.g. due to economic integration into a large single market) and hence increased migration costs. Finally, the mean of post-accession country-specific intercepts is around 25 per cent higher in specification 3 than in specification 2, in which we do not distinguish between policy regimes.

However, the largest single impact on observable flows is observed for policy indicators. Hence, policy regimes matter more than migration costs and economic conditions. Whereas partial liberalization does not have a significant effect on net-migration, the number of years of free movement unfolds a significant and quantitatively substantial impact on observable flows. One important result is that this impact follows an inversely u-shaped pattern, i.e. immigration increases in the first years after completely opening up labor markets, reaches its maximum in year four and declines thereafter. Thus, labor market liberalization evidently provides an incentive for nationals of the accession states to leave the country. This incentive is, however, countervailed by increasing migration costs, at least for some countries (see above).

By contrast, short-term variation in economic variables does not seem to greatly matter. The estimated coefficients of the changes in economic indicators are all statistically insignificant, apart from that of the employment rate in the destination countries. Finally, the significant negative impact of the lagged net-migration rate suggests that immigration to the EU-14 varies around a stable level. Thus, there is no reason to expect immigration to the EU to be ever-increasing in the future.

Naturally, our coefficient estimates are a weighted average of two regimes, namely the migration regime prior to 2004 and thereafter. Table 3 contains separate estimates for both time periods using specification 2 from above (apart from the accession dummy). From this table, it becomes apparent that economic conditions in the “closed border” regime only matter for short-term fluctuations, but not in the long-run. By contrast, the stock of migrants still has a positive impact (probably due to family reunification, facilitation of access to the labor market and institutions, or similar reasons). The observation that there was nontrivial immigration from the EU-8 in the years prior to 2004 when borders were “closed” suggests that net-migration flows can be positive, even in the closed border regime that applies to the countries under scrutiny.

Table 3: Estimation results for pre- and post-enlargement periods

	Pre-accession 1999-2003		Post-accession 2004-2009	
	Coefficient	t-value	Coefficient	t-value
Czech Republic[a]	0.00956270	1.48	0.0748285	3.59**
Estonia[a]	0.00202300	0.49	0.1169072	3.78**
Hungary[a]	0.00240400	0.69	0.0893779	3.57**
Latvia[a]	-0.00202470	-0.65	0.0994209	4.09**
Lithuania[a]	0.00700920	1.22	0.1203604	4.20**
Slovak Republic[a]	0.00951000	1.76*	0.0058181	0.35
Slovenia[a]	0.00810530	1.13	0.1084566	3.93**
Lagged net migration rate	-0.71747930	-2.00**	-0.9337470	-3.45**
First year of free movement	-	-	0.0036164	0.34
Second year of free movement	-	-	0.0255531	2.34**
Third year of free movement	-	-	0.0394101	2.91**
Fourth year of free movement	-	-	0.0525865	3.54**
Fifth year of free movement	-	-	0.0313255	1.13
Sixth year of free movement	-	-	0.0366845	1.61
Partial restrictions dummy[b]	-	-	0.0039100	0.69
(Log) Lagged PCI-ratio (in PPP) destination to home country	0.00468010	0.94	0.0357357	2.14**
(Log) Lagged employment rate home country	-0.05107300	-1.41	-0.6126742	-4.35**
(Log) Lagged employment rate destination country	-0.02096600	-0.82	0.2826819	3.08**
(Log) Lagged share of 20-39 years old in destination country	0.00796270	0.29	0.1834743	1.45
(Log) Lagged share of 20-39 years old in home country	-0.15627340	-0.53	1.4724600**	2.34**
Delta of (log) PCI-ratio (in PPP) destination to home country	-0.06489400	-3.04**	0.0640776	0.55
Delta of (log) employment rate home country	0.05323860	1.16	0.7292919*	1.84*
Delta of (log) employment rate destination country	0.01811520	0.39	0.4352930	1.47
Lagged stock of migrants from home in destination country	0.00000007	2.32**	0.0000003**	1.94**
Constant	0.36201190	1.57	0.8908057	1.45
Number of observations	532		672	
R-squared	0.291		0.398	

Reference category: [a] Poland; [b] full restriction. ** significant at 5 per cent-level, * at 10 per cent-level

Given that our model allows distinguishing between short- and long-term factors impinging upon observable migration flows, we have to calculate the long-run coefficients for the final specifications, i.e. specification 3 in Table 2, as well as the pre-accession specification in Table 3. This is achieved in a straightforward manner by setting all Δs in equation (1) to zero, in order that the impact of short-run fluctuations is eliminated. These long-run coefficients are then used to forecast the immigration potential from EaP-countries for which no common migration history with the EU is available under different policy scenarios or transitional arrangements. The results of these forecasts are presented in the next section.

5. Forecasting scenarios

Neither Croatia, Macedonia, Montenegro, Serbia nor the EaP-countries share a common migration history under different policy scenarios or transitional arrangements with the EU. Thus, forecasts of expected immigration from these countries are a double extrapolation exercise – over time and across space. This implies that we have to invoke a couple of identification assumptions that must hold *a priori* to ensure that the forecasts are valid. Clearly the most important assumption is the stability and transferability of the estimated structural relationship between observable flows and its determinants. Hence, we have to

assume that the structure that quite accurately describes the relationship between migration from the EU-8 and the EU-14 remains stable over the forecasting horizon and holds for the behavior of future migration from the EaP-countries. This implies that the migration decision of individuals from the EaP-countries must be determined by the same factors as the decision of individuals in our sample countries, at least in the long-run. In addition, we need further assumptions for the development of the exogenous variables in our model (i.e. GDP, employment and population). Finally, we have to invoke an assumption for country-specific migration costs. Clearly, the longer the forecasting period, the more likely that these assumptions are violated.

Specifically, we present the results of two scenarios. The pre-accession scenario describes the status quo situation for all the studied countries (except Croatia, which is already in the EU) and the projections thus produce migration flows that can be expected if there is no policy change.[8] Next, the accession scenario assumes accession and selective liberalization of EU labor markets (i.e. partial restrictions) until 2014 and full liberalization/free access from 2015 onwards.

- Pre-accession scenario: Long-run coefficients derived from the estimation results in the left part of Table 3, using medium migration costs (i.e. the mean of the sending country-specific intercepts).
- Accession scenario: Long-run coefficients derived from specification 3 of Table 2, using low, medium and high sending country-specific migration costs for the time after accession. Low country-specific migration costs are captured by the highest value of the country intercepts, medium migration costs by the mean of all country fixed-effects and high migration costs by the lowest value of the country dummies.

In both scenarios, following Kahanec et al. (2013), the following assumptions for the exogenous variables in the destination countries (EU-14) are invoked:

- 2010-2014: European recession, i.e. 0 per cent growth of per per-capita incomes together with annual employment growth rates of -0.3 per cent for high employment countries, -0.1 per cent for medium group and 0.2 per cent for low employment group.[9]
- 2015-2020: EU recovery, i.e. 2 per cent annual growth rate of per-capita-incomes together with annual employment growth of 0.15 per cent for high employment countries, 0.3 per cent for medium group and 0.6 per cent for low group.

For the sending countries, we assume the following annual growth rates for per-capita-income (cf. Table 4).[10]

[8] For Croatia these projections are valid under the (counterfactual) assumption of no EU accession.
[9] The EU14 countries are divided into three groups according to their labor market situation in 2010: (i) high employment countries: Austria, Denmark and the Netherlands; (ii) medium employment countries: Belgium, Finland, France, Germany, Greece, Ireland, Italy, Portugal, Sweden and the United Kingdom; and (iii) low employment countries: Spain.
[10] Kahanec et al. 2013.

Table 4: Assumed annual growth of PCI (in per cent) in EaP-countries, Croatia, Macedonia, Montenegro and Serbia

	2011-2014	2015-2019
Armenia	4	5
Azerbaijan	2.5	4
Belarus	4	3.5
Georgia	5.5	6
Moldova	5	6
Croatia, Macedonia, Montenegro, Serbia and Ukraine	3.5	4

With respect to the forecasts for the EaP-countries, we concentrate on the presentation of results for Ukraine, since it is the most important country of this group in quantitative terms. The predictions for this country are confronted with the results for Croatia. Forecasts for the rest of the accession candidates are summarized at the end of this section.

Table 5 summarizes the results of the (counterfactual) pre-accession scenario for Croatia, suggesting that there will be net-immigration from Croatia to the different countries of the EU-14, even in the case of closed borders and without accession. However, these inflows will be modest in size and will only total more than 1,000 persons per year for Germany, Italy and Spain.

Table 5: Predicted net-immigration from Croatia to EU-14 – Pre-accession scenario

2010-2020: Predicted net-immigration from Croatia to	Pre-accession scenario	
	absolute	relative[c]
Austria	6,991	0.08
Belgium	6,657	0.06
Denmark	6,187	0.11
Finland	6,402	0.12
France	7,330	0.01
Germany	12,889	0.02
Greece	9,150	0.08
Ireland	8,056	0.18
Italy	14,279	0.02
Netherlands	6,468	0.04
Portugal	8,290	0.08
Spain	12,042	0.03
Sweden	6,790	0.07
United Kingdom	7,542	0.01
Total	*119,072*	*0.03*

[c] Inflows relative to population in 2010 (in per cent).

For the case of Ukraine, Table 6 suggests higher net-immigration in this scenario, given that this sending country is larger in terms of population and less developed with respect to income and employment. However, even for Ukraine the absolute number of expected migrants only exceeds 100,000 persons for Germany and Italy during the ten years considered.

Table 6: Predicted net-immigration from Ukraine to EU-14 – Pre-accession scenario

2010-2020: Predicted net-immigration from Ukraine to	Pre-accession scenario	
	absolute	relative[c]
Austria	44,717	0.53
Belgium	41,241	0.37
Denmark	36,356	0.65
Finland	38,592	0.72
France	48,245	0.07
Germany	106,103	0.13
Greece	67,191	0.59
Ireland	55,801	1.22
Italy	120,573	0.20
Netherlands	39,274	0.24
Portugal	58,245	0.55
Spain	97,288	0.21
Sweden	42,628	0.45
United Kingdom	50,450	0.08
Total	*846,706*	*0.21*

[c] Inflows relative to population in 2010 (in per cent).

Compared to actual net-immigration from Croatia and Ukraine to Germany during 2000-2010, our model produces realistic results. The annual net-inflow from Croatia to Germany in the first decade of the 21st century amounted to around 2,000 persons, while the corresponding number for Ukraine was approximately 6,000 persons. Hence, we slightly under-predict immigration from Croatia, whereas the opposite holds for the case of Ukraine.

Tables 7 and 8 contain the forecasts derived from the accession scenario, with both tables demonstrating that policy and sending country-specific migration costs matter significantly. The importance of policy is demonstrated by the increase in net-migration, especially after allowing free access (2015-2020) for migrant workers; indeed, for some destinations we even predict positive net-immigration only from Croatia during this period. The importance of migration costs specific to various sending countries is underscored by the variation of projections depending on the assumption about migration costs. For example, forecasts for the case of Ukraine vary between 1.3 million to almost 7 million under various scenarios.

Table 7: Predicted net-immigration from Croatia – Accession scenario

Stock of Nationals from Croatia in	Low country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	70,000[e]	80,646	104,346	34,346	0.4
Belgium	808	6,157	24,658	23,850	0.2
Denmark	485	6,202	24,953	24,468	0.4
Finland	275	4,999	22,873	22,598	0.4
France	17,185[d]	22,585	41,137	23,952	0.0
Germany	234,381	252,576	283,978	49,597	0.1
Greece	17,185[d]	21,323	38,608	21,423	0.2
Ireland	503	6,936	26,526	26,023	0.6
Italy	21,261	26,066	44,020	22,759	0.0
Netherlands	1,464	8,155	27,883	26,419	0.2
Portugal	82	1,953	16,960	16,878	0.2
Spain	1,727	4,775	21,006	19,279	0.0
Sweden	2,400	8,265	27,285	24,885	0.3
United Kingdom	17,185[d]	23,588	43,148	25,963	0.0
Total	*263,386*	*474,225*	*747,382*	*362,441*	0.1
Stock of Nationals from Croatia in	Medium country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	70,000[e]	72,682	89,297	19,297	0.2
Belgium	808	-1,892	9,206	8,398	0.1
Denmark	485	-1,842	9,522	9,037	0.2
Finland	275	-3,061	7,372	7,097	0.1
France	17,185[d]	14,536	25,688	8,503	0.0
Germany	234,381	244,737	269,521	35,140	0.0
Greece	17,185[d]	13,254	23,062	5,877	0.1
Ireland	503	-1,096	11,158	10,655	0.2
Italy	21,261	18,007	28,526	7,265	0.0
Netherlands	1,464	126	12,527	11,063	0.1
Portugal	82	-6,154	1,239	1,157	0.0
Spain	1,727	-3,312	5,379	3,652	0.0
Sweden	2,400	224	11,873	9,473	0.1
United Kingdom	17,185[d]	15,556	27,778	10,593	0.0
Total	*263,386*	*361,765*	*532,147*	*147,206*	0.0
Stock of Nationals from Croatia in	Medium country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	70,000[e]	67,098	78,337	8,337	0.1
Belgium	808	-7,536	-2,039	-2,847	0.0
Denmark	485	-7,482	-1,709	-2,194	0.0
Finland	275	-8,711	-3,908	-4,183	-0.1
France	17,185[d]	8,893	14,446	-2,739	0.0
Germany	234,381	239,239	258,983	24,602	0.0
Greece	17,185[d]	7,596	11,750	-5,435	0.0
Ireland	503	-6,727	-28	-531	0.0
Italy	21,261	12,358	17,251	-4,010	0.0
Netherlands	1,464	-5,502	1,350	-114	0.0
Portugal	82	-11,837	-10,198	-10,280	-0.1
Spain	1,727	-8,981	-5,990	-7,717	0.0
Sweden	2,400	-5,414	656	-1,744	0.0
United Kingdom	17,185[d]	9,924	16,590	-595	0.0
Total	*263,386*	*282,918*	*375,489*	*-9,452*	0.0

[d] Stock for 2010 imputed by mean of countries without missing information; [e] Estimate of stock for 2010 taken from http://www.integrationsfonds.at/oeif_dossiers/kroatische_migrantinnen_in_oesterreich/. [f] Accumulated inflows relative to the population in 2010 (in per cent).

Table 8: Predicted net-immigration from Ukraine – Accession scenario

Stock of Nationals from Ukraine in	Low country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	14,136	187,876	520,859	506,722	6.0
Belgium	3,014	151,344	447,718	444,704	4.0
Denmark	6,072	161,426	466,910	460,838	8.3
Finland	1,983	142,178	426,384	424,401	7.9
France	17,381	164,933	460,144	442,764	0.7
Germany	137,527	376,543	808,559	671,032	0.8
Greece	55,109	213,350	524,550	469,441	4.2
Ireland	1,741	162,895	478,451	476,710	10.4
Italy	174,129	421,129	865,087	690,958	1.1
Netherlands	2,521	166,832	485,714	483,193	2.9
Portugal	52,423	192,510	476,556	424,133	4.0
Spain	81,718	255,710	590,944	509,226	1.1
Sweden	2,299	155,444	459,020	456,721	4.9
United Kingdom	24,229	189,076	510,155	485,926	0.8
Total	*574,282*	*2,941,246*	*7,521,051*	*6,946,769*	1.7
Stock of Nationals from Ukraine in	Medium country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	14,136	89,884	293,488	279,352	3.3
Belgium	3,014	52,804	215,760	212,746	1.9
Denmark	6,072	63,034	236,110	230,038	4.1
Finland	1,983	43,460	192,908	190,925	3.6
France	17,381	66,376	228,041	210,660	0.3
Germany	137,527	279,980	593,520	455,993	0.6
Greece	55,109	115,026	294,441	239,332	2.1
Ireland	1,741	64,634	248,885	247,144	5.4
Italy	174,129	324,740	651,537	477,408	0.8
Netherlands	2,521	68,635	256,584	254,063	1.5
Portugal	52,423	93,790	243,060	190,637	1.8
Spain	81,718	157,737	363,842	282,124	0.6
Sweden	2,299	57,009	227,960	225,661	2.4
United Kingdom	24,229	90,896	281,279	257,049	0.4
Total	*574,282*	*1,568,005*	*4,327,416*	*3,753,134*	0.9
Stock of Nationals from Ukraine in	High country-specific migration cost				
	2010	2015	2020	Change 2010-2020	relative inflow[f]
Austria	14,136	20,540	117,643	103,506	1.2
Belgium	3,014	-16,923	36,468	33,454	0.3
Denmark	6,072	-6,590	57,686	51,614	0.9
Finland	1,983	-26,390	12,475	10,492	0.2
France	17,381	-3,363	48,639	31,259	0.0
Germany	137,527	211,631	426,941	289,414	0.4
Greece	55,109	45,450	116,538	61,429	0.5
Ireland	1,741	-4,898	71,390	69,649	1.5
Italy	174,129	256,513	486,077	311,948	0.5
Netherlands	2,521	-852	79,417	76,896	0.5
Portugal	52,423	23,938	62,612	10,189	0.1
Spain	81,718	88,406	188,199	106,481	0.2
Sweden	2,299	-12,645	49,343	47,044	0.5
United Kingdom	24,229	21,420	104,301	80,072	0.1
Total	*574,282*	*596,236*	*1,857,730*	*1,283,448*	0.3

[f] Accumulated inflows relative to the population in 2010 (in per cent).

Table 9 provides a summary of the results for the rest of the countries considered (under the accession scenario medium migration costs post enlargement). From Table 9, it becomes apparent that expected migration flows from these countries are rather modest in size. In absolute numbers, the largest predictions occur for Serbia, Georgia and Armenia, with a little more than 300,000 persons over the entire forecasting period. For Belarus, which is relatively wealthy and exhibits no noteworthy stock of migrants in the EU-14 in 2010, we predict positive net-immigration only to Austria, Denmark, Germany, Ireland, the Netherlands, Sweden and the UK. For the rest of the destination countries, the model predicts no net-immigration.[11]

Table 9: Summary of forecasts for rest of EaP-countries, Macedonia, Montenegro and Serbia

2010-2020: Predicted net-immigration from: To:	Armenia	Azerbaijan	Belarus	Georgia
Austria	26,346	15,904	6,640	27,507
Belgium	24,647	9,644	-227	24,777
Denmark	24,726	11,009	1,099	25,256
Finland	23,384	6,810	-3,366	23,414
France	23,160	5,873	-4,038	23,097
Germany	24,704	12,157	3,436	25,653
Greece	21,349	169	-10,109	20,589
Ireland	25,817	14,458	4,831	26,806
Italy	21,848	1,894	-7,150	21,530
Netherlands	26,070	15,174	5,587	27,114
Portugal	19,303	-6,063	-16,881	17,889
Spain	21,808	-973	-10,869	21,170
Sweden	24,924	11,804	1,764	25,487
United Kingdom	24,601	10,409	792	25,091
Total	*332,687*	*108,269*	*-28,492*	*335,381*

2010-2020: Predicted net-immigration from… to…	Macedonia	Moldova	Montenegro	Serbia
Austria	8,843	20,115	2,008	30,931
Belgium	7,205	17,058	1,626	23,912
Denmark	7,452	17,518	1,714	24,700
Finland	6,502	16,035	1,461	21,580
France	6,819	16,574	1,398	23,217
Germany	10,203	17,716	1,717	57,246
Greece	5,666	14,560	1,050	18,831
Ireland	8,044	18,841	1,927	30,067
Italy	10,254	23,743	1,171	20,353
Netherlands	8,210	18,990	1,967	27,899
Portugal	3,897	13,354	678	11,575
Spain	4,933	14,824	984	15,912
Sweden	7,504	17,676	1,747	25,959
United Kingdom	7,735	18,176	1,674	26,705
Total	*103,267*	*245,180*	*21,122*	*358,887*

[11] However, we suspect that the underlying GDP and employment figures for Belarus might be biased upward. In such a case, our projections would be underestimated.

Figure 6 illustrates total annual inflows to the EU-14 from all countries under study (except Belarus, due to the above-mentioned data problems and resulting negative predictions). Extrapolating status quo will result in total predicted inflows to the EU-14 countries between 0.1 and 0.2 million migrants per year. Due to the positive impact of the stock of migrants, these annual inflows display a slightly positive trend over time. In the accession scenario, predicted inflows increase to almost 0.3 million migrants per year during the assumed five year period of partial liberalization. After 2015, i.e. if we assume free access to the EU-14's labor markets, annual inflows amount to around 0.8 million persons per year, although the inflows are expected to go down after the fourth year since liberalization, in line with the results from our regression model. In both cases, the majority of them, of course, are predicted to come from Ukraine. Hence, even in the unlikely event of simultaneously liberalizing EU-14's labor markets to all these countries, there is no reason to expect overwhelming immigration.

Figure 6: Total annual inflows to EU-14 for both scenarios

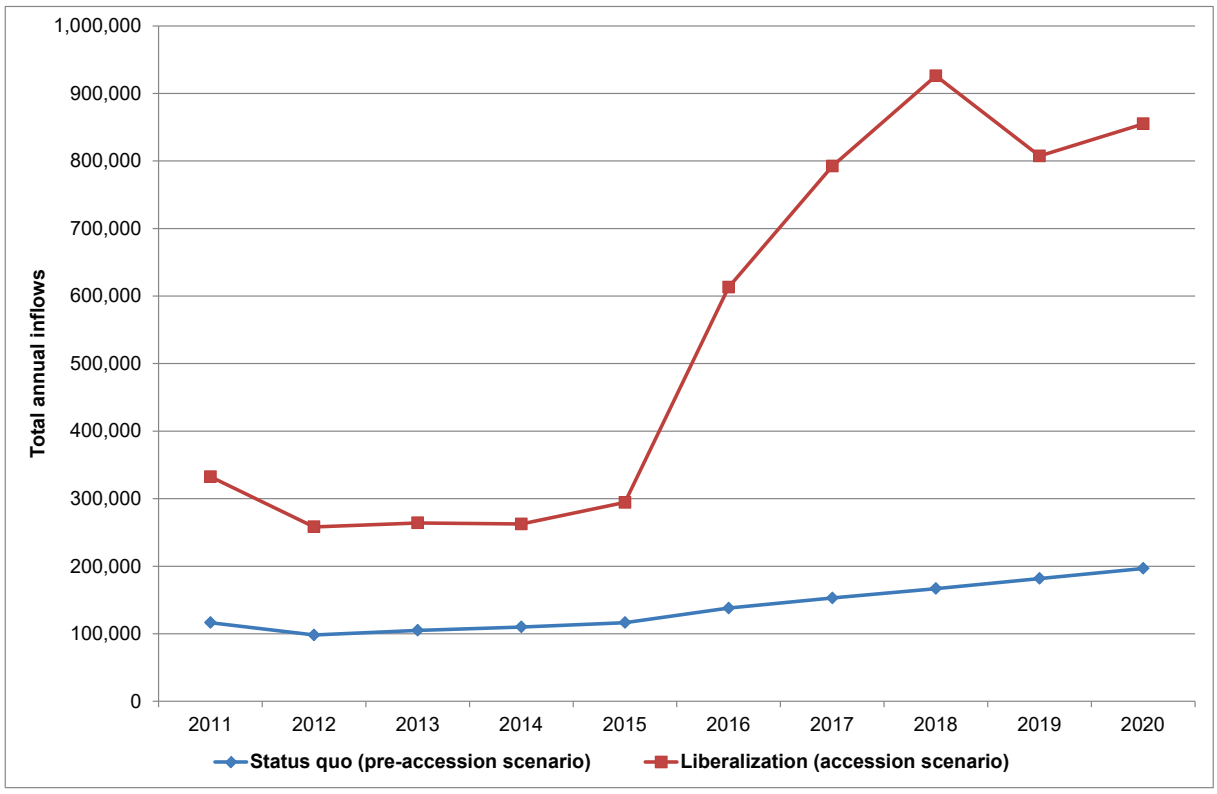


Table 10 summarizes the predicted inflows by destination for all countries under study, apart from Belarus. Accordingly, the predicted total net-immigration in absolute terms is the highest for Germany, Italy and Austria. Under the accession scenario with medium migration costs (post enlargement), Germany can expect slightly more than 0.6 million immigrants between 2010 and 2020, Italy slightly less than 0.6 million and Austria around 0.4 million. Portugal and Finland are found at the other end of the distribution.

Table 10: Predicted total net-immigration 2010-2020 by destination countries (Croatia, Macedonia, Montenegro, Serbia and all EaP-countries, except Belarus)

Destination country	Predicted absolute inflow 2010-2020	Relative to population as of 2010 (in per cent)
Germany	640,530	0.8
Italy	585,467	1.0
Austria	430,302	5.1
Netherlands	390,551	2.3
Ireland	383,758	8.4
United Kingdom	382,033	0.6
Spain	364,434	0.8
Denmark	351,449	6.3
Sweden	350,235	3.7
Belgium	330,014	3.0
Greece	327,423	2.9
France	319,300	0.5
Finland	297,209	5.5
Portugal	252,426	2.4

Note: Accession scenario with medium migration costs (post enlargement).

However, Finland is among the main receiving countries if predicted inflows are related to the destination countries' population in 2010,, and is predicted to experience a population growth of around 5.5 per cent due to these inflows, which is only exceeded by Ireland and Denmark. Hence, the distribution of net-immigration to the EU-14 in relative terms differs considerably from the distribution in absolute terms. The only destination country that is among the main receiving countries in both dimensions is Austria. By contrast, Germany and Italy can expect relative net-inflows only of around 1 per cent.

6. Conclusions

The European Union's eastern enlargement sparked heated debates in Europe during the 2000s, which continue to date. The discourse revolves around issues such as the effects of migration on wages and employment, the propensity to take up or be attracted by welfare benefits, or social dumping. Given that much of this debate has been politicized, misinformed or based on outright myths, it is important to anchor it in sound analysis based on hard data.

This paper provides an evaluation of the scale of east-west European mobility under two key scenarios – status quo and the liberalization of access to EU labor markets. Moreover, it also informs the broader debate about the determinants of migration by providing insights into the determinants of east-west migration in Europe following the 2004 enlargement of the European Union.

Using longitudinal data on bilateral flows between the EU-8 and EU-14, we estimate a robust prediction model that exhibits desirable properties. The key result is that while migration costs and economic conditions matter for east-west post-enlargement migration flows, policy variables explain a greater part of the observed variation.

Informed by expert demographic and economic forecasts and assuming two archetypal policy scenarios, we provide out-of-sample projections of migration flows from the Eastern Partnership countries, Croatia, Macedonia, Montenegro and Serbia to the EU15 minus

Luxembourg. The predicted migration flows are generally modest, remaining so even under the scenario of liberalized access to receiving labor markets. In fact, the predicted increase due to liberalization appears to be temporary, with the predicted incremental migration flows generally subsiding after several years. Ukraine will remain the country that sends the most migrants, also due to its size, while Germany, Italy and Austria will be among the countries receiving the most migrants in absolute terms. Overall, we predict that during 2010-2020, on average 1.7 per cent of populations of the studied countries (except Belarus) will decide to try their fate in the EU-15 minus Luxembourg under the status quo (pre-accession scenario), and 6.7 per cent under liberalization (accession scenario). This implies that additional total inflow from all these countries over 2010-2020 correspond to around only 0.3 per cent of the receiving countries' populations as of 2010 under the pre-accession scenario, and 1.5 per cent under the accession scenario.

From the policy perspective, a key result is that migration policy frameworks matter, although the effect of liberalization of migrants' access to receiving labor markets is predicted to be temporary. A further implication is that a non-harmonized timing of liberalization across the receiving countries, as was the case for prior eastern enlargements, may divert migration flows and concentrate them to some receiving countries more than others. In this regard, our projections should be seen as indicators of the migration potential. In any case, based on a sound out-of-sample prediction, we conclude that aggregate migration potential is modest and that fears of mass migration from EU's eastern neighbors and Croatia are unjustified.

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Appendix

Table A.1: Definition of policy regimes for workers from EU-8

Member State	pre-accession period	post-accession period
Austria	full restriction	full restriction
Belgium	full restriction	partial restrictions
Denmark	full restriction	partial restrictions
Finland	full restriction	free access since 2006
France	full restriction	free access since 2008
Germany	full restriction	partial restrictions
Greece	full restriction	free access since 2006
Ireland	full restriction	free access since 2004
Italy	full restriction	free access since 2006
Netherlands	full restriction	free access since 2007
Portugal	full restriction	free access since 2006
Spain	full restriction	free access since 2006
Sweden	full restriction	free access since 2004
United Kingdom	full restriction	free access since 2004

Source: European Commission (2008), Table 1, p. 111.


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