

**Labour mobility within the EU in the context of enlargement and the functioning  
of the transitional arrangements**

**VC/2007/0293**

Deliverable 2

Institute for Employment Research (IAB)

**Analysis of the scale, direction and structure of labour mobility**

Herbert Brücker and Andreas Damelang

**Abstract**

This background report is part of the study "Labour mobility within the EU in the context of enlargement and the functioning of transitional arrangements" (VC/2007/0293). The objective of this report is to provide an overview on the main patterns of labour migration in the context of the EU Eastern enlargement and on the fundamental economic forces which cause these patterns.

The income gap between the EU-15 and the new member states from Central and Eastern Europe is larger than in previous enlargement rounds. In particular, the nominal gap in per capita GNI and wage levels is high, reflecting poor capital endowments and particularly large productivity differences in the tradable sectors. Although economic incentives to migrate are considerable at present, we also observe a fast convergence of per capita GDP and wage levels which mitigate migration incentives over time. Particularly wages have converged very fast since the enlargement. Convergence between the EU-15 and the new member states is faster than convergence between the EU-15 and the candidate countries in South-Eastern Europe. Transport costs have declined since enlargement and depend less on geographical distance. This may be one of the reasons for the fast shift in migration away from destinations neighbouring the new member states toward destinations such as Ireland, the UK and Spain.

The stock of foreign residents from the NMS-8 in the EU-15 has increased from 893,000 persons in 2003 to about 1.91 million persons in 2007, or by 254,000 persons p.a. The number of foreign residents from Bulgaria and Romania has increased from 702,000 to about 1.86 million persons during the same period of time, or by 290,000 persons p.a. This increase in migration is associated with a shift in the regional structure of migration, i.e. away from Austria and Germany towards Ireland and the UK in case of migrants from the NMS-8, and towards Spain and Italy in case of migrants from Bulgaria and Romania. Migrants from the NMS are highly concentrated at the medium level of the skill spectrum, i.e. in the group with a vocational training degree. They are highly concentrated in the young age groups. The unemployment risk of migrant workers from the NMS is slightly higher than that of the native labour force in the EU-15 on average, but below that of the main other foreigner groups in the EU.

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# 1 Introduction

This background report provides an overview on the key trends in labour mobility in the enlarged European Union (EU) and on the fundamental economic forces which affect these mobility patterns in one way or another. The description of mobility patterns presented here serves as a starting point for the further analysis which is carried out in the later sections of this study.

Throughout the analysis, we distinguish four groups of countries: The first group contains the fifteen EU member states which belonged to the Community before May 2004 (EU-15), the second group includes the eight new member states from Central and Eastern Europe (NMS-8)<sup>1</sup> which joined at the 1<sup>st</sup> of May, 2004. The third group consist of Bulgaria and Romania (NMS-2), which acceded in 2007, and the final group comprises the six candidate and potential candidate countries from South-Eastern Europe (CAND-6).<sup>2</sup>

Our analysis starts with a presentation of the main economic forces which affect labour mobility within the enlarged EU and between the EU and the candidate countries from South-Eastern Europe. Migration theories state that migration decisions are driven by expectations on income levels in the relative destinations and the social and economic costs of migration. We therefore examine the present gap in per capita income levels and the convergence of income levels which may affect expectations on future developments. Finally, we analyse new patterns of transport costs which arise from the emergence of low-cost carriers in air transport. As a consequence, geographical proximity may loose its important role in determining geographical migration patterns in Europe (Section 2).

Section 3 presents the main migration trends in the enlarged EU and between the EU and the candidate countries. Based on the available data from population statistics and Labour Force Survey (LFS) data we present the development of migration stocks in the enlarged EU from the NMS-8, NMS-2 and the candidate countries both from a receiving and sending country perspective. In the next step we analyse the skill, age and gender patterns of migration from the NMS and the candidate countries (Section 4). Finally, we analyse the labour market performance of the migrant communities from the NMS within the EU-15 based on standard indicators on unemployment and labour market participation (Section 5).

The analysis presented here – as any other analysis on migration patterns in Europe – is hampered by several shortcomings in the available data. In particular, only a minority of the EU member states report data on the stocks and flows of migrants by country of origin in their population statistics. This concerns also destinations particularly relevant in the context of the EU's eastern enlargement such as Ireland and the UK. Large parts of

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<sup>1</sup> Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic, Slovenia.

<sup>2</sup> Albania, Bosnia-Herzegovina, Croatia, the former Yugoslav Republic of Macedonia, Serbia and Montenegro, Turkey.

our analysis rely therefore on LFS data, which may especially underreport migrants from small countries. Moreover, the concept of nationality differs in the EU member states, such that the available data are not entirely comparable across countries. Finally, illegal migration is not reported in official data by definition and reliable estimates for the scale of illegal migrants from the NMS and the candidate countries do not exist. We therefore do not cover illegal migration in our analysis. Nevertheless, the available data sources enables us to sketch a picture on the scale of labour mobility and migration in the context of EU enlargement, as well as a picture on the skill and age structure of migration. The reader should however consider the caveats which result from the shortcomings of the available data.

## **2 The economic incentives to migrate**

Migration theory suggests that monetary and non-monetary arguments affect migration decisions (Sjaastadt, 1962; Stark, 1991). Individuals form expectations on income levels at different destinations which are determined by the respective wage levels and employment opportunities (Harris/Todaro, 1970). Moreover, since migration involves sunk costs, expectations on the future development of wages and employment opportunities are relevant (Burda, 1995). If migrants are heterogeneous with regard to their preferences or productivity, an equilibrium stock of migrants emerges eventually which is determined by the differences in income levels, labour market conditions and other factors which affect the benefits and costs from migration (Brücker/Schröder, 2006). We therefore describe here the current income gap within the enlarged EU and between the EU and the candidate countries as a starting point (Section 2.1). In the next step we analyse the factor endowments in the sending countries, particularly the endowments with human capital, since this may provide a first hint regarding the migration potential by skill levels (Section 2.2). On this basis we analyse the convergence of per capita GDP and wage levels in the EU (Section 2.3) and the convergence of employment opportunities (Section 2.4). Finally, we discuss the implications of new patterns of transport costs for the geographical structure of migration in the enlarged EU (Section 2.5).

### **2.1 The income gap in the enlarged EU**

The income gap between the EU-15 and the new member states from Central and Eastern Europe creates substantial monetary incentives for labour mobility. Measured at purchasing power parity standards (PPS), Eurostat (2008) estimates the GNI per capita in the ten new member states from Central and Eastern Europe (NMS-10) at 48 per cent of that in the EU-15 in 2007. The GNI per capita of the eight new member states (NMS-8) which joined the EU in 2004 amounted to 53 per cent at PPS in 2007, and that of Bulgaria and Romania to about 34 per cent of that in the EU-15 at the same time. The PPS estimate of the per capita GNI of the candidate and potential candidate countries by Eurostat amounted to 38 per cent of the respective level in the EU-15, such that the

income gap between the EU-15 and the NMS-2 resembles roughly that between the EU-15 and the candidate countries.

Purchasing power parity estimates tend to understate monetary incentives for labour mobility, since migrants can consume a part of their earnings in their home countries or remit a part of the income to their families. Consequently, differences in earnings at current exchange rates may affect migration decisions as well. At current exchange rates, the GNI per capita of the NMS-10 amounted to slightly more than one quarter of that in the EU-15 in 2007. The GNI per capita at market prices of the NMS-8 is reported to be at 31 per cent in 2007, and that of the NMS-2 at 17 per cent. The GNI per capita at market prices of the CAND-6 countries amounted to 22 per cent of those in the EU-15 at the same time (see Table 1).

The wage gap is even larger. The average level of hourly gross wages and salaries in the NMS-8 was 25 per cent of that in the EU-15 in 2006, and that of the NMS-2 at about 11 per cent. Note that substantial differences in wage and GNI levels across the new member states and the candidate countries exist, ranging from a wage of 8 per cent of the average level in the EU-15 in Bulgaria to 57 per cent in Slovenia.

Altogether, a relatively moderate GNI gap between the old and the new member states measured in purchasing power parities translates in a much larger GNI gap at current exchange rates. Low-income countries usually have a higher income in purchasing power parities than at current exchange rates, since the productivity gap to high-income countries is lower in non-tradable sectors (e.g. services) compared to tradable sectors (e.g. manufacturing industries). In case of the NMS this income gap is nevertheless strikingly high. Moreover, the high wage and GNI gap reflects rather poor endowments with physical capital in the new member states.

**Table 1: GNI per capita, hourly gross wages and salaries and net migration in the EU, the other EEA and the candidate countries, 2007**

	GNI per capita at PPS <sup>1</sup>		GNI per capita		hourly gross wages and salaries <sup>2</sup>		net migration <sup>3</sup>	
	in EUR	in % of EU-15	in EUR	in % of EU-15	in EUR	in % of EU-15	in 1,000	rate per 1,000
Austria	31,400	114 <sup>f</sup>	32,400	112 <sup>f</sup>	15.00	103	29	3.59
Belgium	29,900	108	31,500	109	17.53	120	53	5.12
Denmark	31,400	114	42,500	147	24.23	166	10	1.87
France	27,700	100	29,900	103	17.58	121	90	17.24
Finland	29,600	107	34,000	117	15.46	106	11	0.18
Germany	28,600	104	29,700	102	16.56	114	26	0.31
Greece	23,800	86	20,000	69	5.71	39	40	3.62
Ireland	31,000	112	36,500	126	17.55	121	69	16.93
Italy	25,100	91	25,700	89	9.86	68	377	6.56
Luxembourg	56,300	204	60,400	208	25.25	173	5	11.81
Netherlands	33,300	121	34,800	120	17.71	122	-26	-1.59
Portugal	17,600	64	14,700	51	6.72	46	26	2.48
Spain	25,200	91	22,800	79	10.88	75	605	14.17
Sweden	31,300	113	37,100	128	17.68	121	51	5.65
United Kingdom	29,400	107	33,400	115	16.84	116	214	3.57
<b>EU-15</b>	<b>27,600</b>	<b>100</b>	<b>29,000</b>	<b>100</b>	<b>14.56</b>	<b>100</b>	<b>1580</b>	<b>4.12</b>
Cyprus	22,100	80	19,200	66	8.28	57	6	7.26
Malta	18,700	68	12,800	44	7.27	50	1	2.49
Czech Republic	18,700	68 <sup>f</sup>	11,500	40 <sup>f</sup>	3.71	25	35	3.40
Estonia	16,700	61	10,900	38	3.51	24	0	0.12
Hungary	14,800	54	9,300	32	4.16	29	21	2.11
Latvia	13,900	50	8,000	28	2.92	20	-2	-1.06
Lithuania	14,300	52	9,300	32	2.95	20	-5	-1.41
Poland	12,900	47	7,700	27	3.34	23	-36	-0.95
Slovak Republic	16,400	59	9,800	34	3.42	24	4	0.72
Slovenia	22,000	80	16,300	56	8.31	57	6	3.14
<b>NMS-8</b>	<b>14,700</b>	<b>53</b>	<b>9,000</b>	<b>31</b>	<b>3.65</b>	<b>25</b>	<b>23</b>	<b>0.31</b>
Bulgaria	9,300	34	3,700	13	1.11	8	-34	-4.35
Romania	9,600	35 <sup>f</sup>	5,400	19 <sup>f</sup>	1.76	12	-100	-4.61
<b>NMS-2</b>	<b>9,400</b>	<b>34</b>	<b>5,000</b>	<b>17</b>	<b>1.60</b>	<b>11</b>	<b>-134</b>	<b>-4.54</b>
<b>NMS-10</b>	<b>13,200</b>	<b>48</b>	<b>7,800</b>	<b>27</b>	<b>3.03</b>	<b>21</b>	<b>-111</b>	<b>-1.08</b>
<b>EU-25</b>	<b>25,600</b>	<b>93</b>	<b>25,900</b>	<b>89</b>	<b>12.74</b>	<b>88</b>	<b>1470</b>	<b>3.02</b>
<b>EU-27</b>	<b>24,600</b>	<b>89</b>	<b>24,600</b>	<b>85</b>	<b>12.12</b>	<b>83</b>	<b>1477</b>	<b>3.03</b>
Iceland	32,000	116	46,900	162	n.a.	n.a.	5	n.a.
Norway	45,700	166	60,400	208	26.14	179	24	n.a.
Switzerland	34,700	126	41,500	143	22.59	155	37	n.a.
Albania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-20	-6.43 <sup>4</sup>
Bosnia-Herzegovina	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8	2.05 <sup>4</sup>
Croatia	13,900	50 <sup>f</sup>	8,600	30	n.a.	n.a.	7	1.64
Macedonia	7,300	26 <sup>f</sup>	2,700	9 <sup>f</sup>	n.a.	n.a.	-1	-0.26
Serbia-Montenegro	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	-20	-2.45 <sup>4</sup>
Turkey	10,500	38 <sup>f</sup>	6,500	22 <sup>f</sup>	n.a.	n.a.	-3	-0.04
<b>CAND-6</b>	<b>10,600</b>	<b>38</b>	<b>6,500</b>	<b>22</b>	<b>n.a.</b>	<b>n.a.</b>	<b>-28</b>	<b>-0.30</b>

1) Purchasing power parity standards (Eurostat estimate).

2) 2006: Hourly labour cost according to Eurostat.

3) 2005.

4) 2005 (World Development Indicators, 2007).

f) forecast.

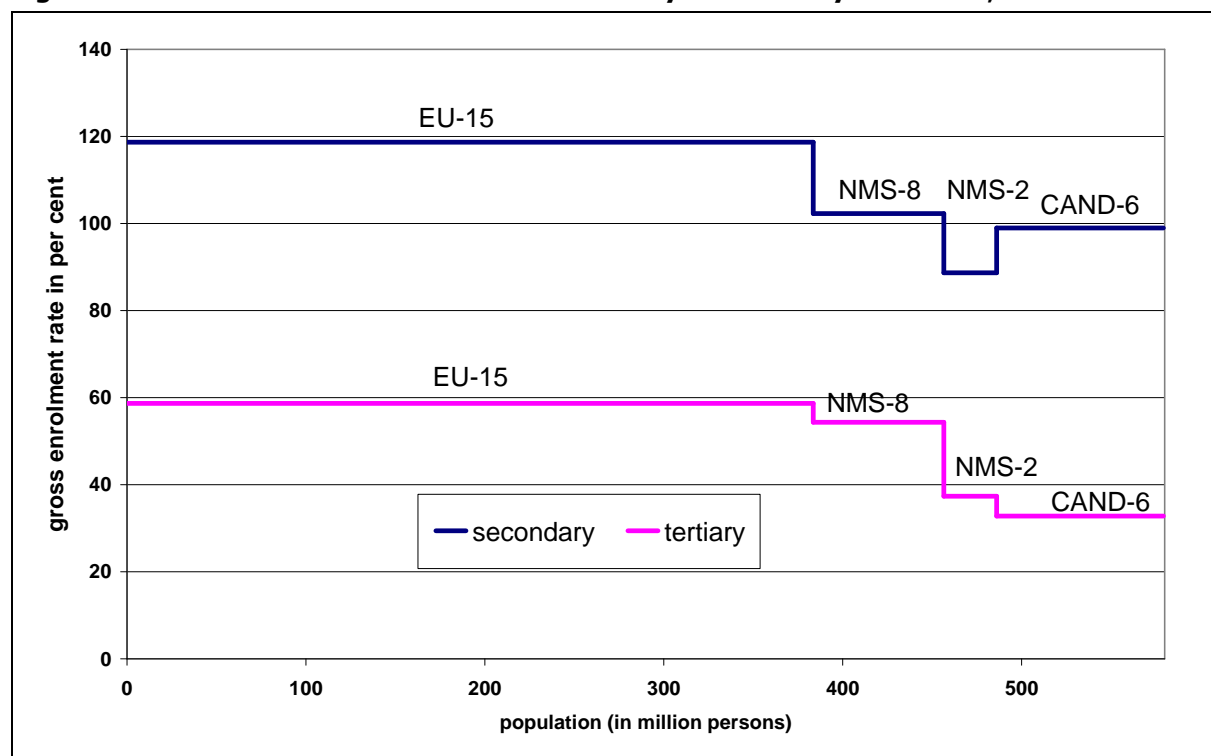
Sources: GNI and hourly labour costs: Eurostat, net migration: Eurostat, supplemented by WDI. Own calculations and presentation.

## 2.2 Human capital investment

The difference in the income levels between the EU-15, the new member states and the candidate countries can be largely traced back to differences in factor endowments. Although data on physical capital stocks is scarce, it is likely that the substantial gap in GNI and wages can be largely traced back to differences in capital endowments.

However, one important feature sets the NMS apart from traditional emigration countries: The NMS have a human capital endowment which is only slightly below that of the EU-15. In particular, school enrolment rates catch-up to average levels in the EU-15, such that existing differences will decline over time.

**Figure 1: Gross enrolment rates in secondary and tertiary education, 2006**



Source: World Bank 2007. Own calculations and presentation.

Figure 1 displays the gross school enrolment rates<sup>3</sup> in secondary and tertiary education for the EU-15, the NMS-8, the NMS-2 and the CAND-6 countries, which have been compiled by the World Bank in the World Development Indicators 2007. The gap in both secondary and tertiary school enrolment rates between the EU-15 and the NMS-8 is very moderate. Note that substantial differences across individual EU-15 countries exist. However, there is a gap in the enrolment rates in tertiary education between the EU-15 and the NMS-2 and the candidate countries of about 20 percentage points, which reflects particularly large differences in university education. However, we observe an increasing school enrolment in all new member states, such that a convergence or even an overtaken in school enrolment is rather likely in the future.<sup>4</sup>

Compared to other countries of a similar income level the new member states possess rich endowments with human capital. This may have two consequences which are relevant in the context of this study: The rich human capital endowment may support faster convergence of per capita income levels, and it may result in the emigration of a

<sup>3</sup> Note that gross school enrolment rates can exceed 100 per cent.

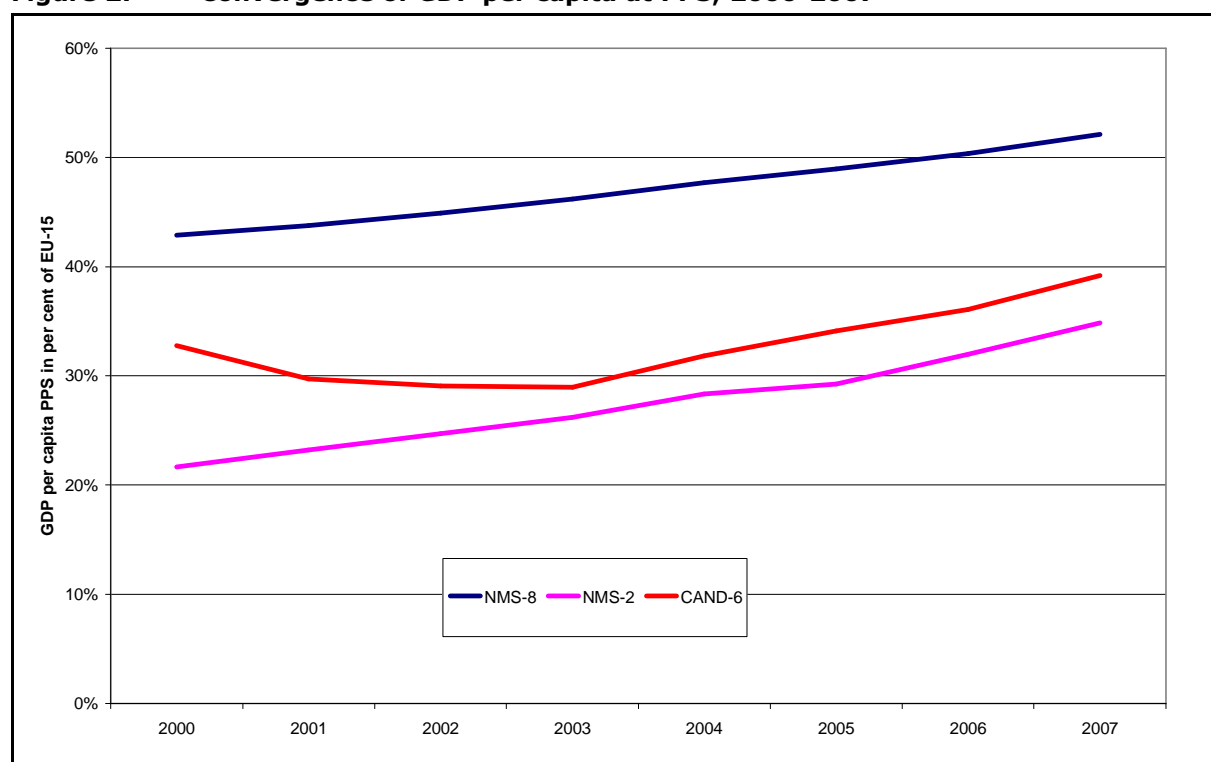
<sup>4</sup> The trends in school enrolment will be discussed in the report to Deliverable 7.

relatively well-educated workforce compared to the traditional sending countries of labour migration in Northern Africa and South-Eastern Europe.

### 2.3 Convergence of GDP per capita and wage levels

We find indeed strong evidence that GDP and wage levels between the old and the new member states tend to converge. In the year 2000, the GDP per capita of the NMS-8 measured in PPS amounted to 43 per cent of that in the EU-15, while it is forecasted to achieve 52 per cent in the year 2007. A similar convergence trend can be observed for Bulgaria and Romania. Interestingly enough, in the candidate and potential candidate countries we observe a slower speed of convergence compared to the new member states since the beginning of this millennium (see Figure 2).

**Figure 2: Convergence of GDP per capita at PPS, 2000-2007<sup>5</sup>**

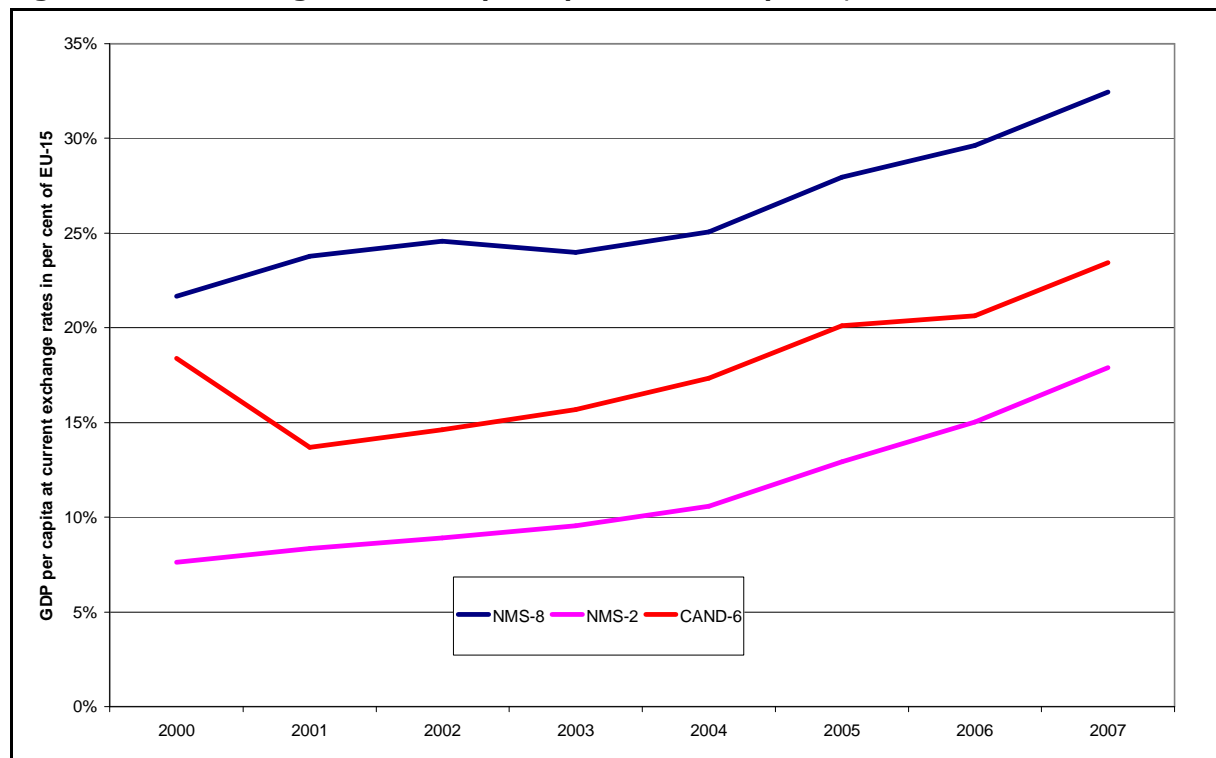


Source: Eurostat 2008. Own calculations and presentation.

A similar picture emerges regarding the convergence of the GDP per capita at current exchange rates: The initial gap in the year 2000 declined both in case of the NMS-8 and the NMS-2 by 10 percentage points until 2007, but only by 5 percentage points in case of the candidate countries during the same time span (see Figure 3).

<sup>5</sup> Values for 2007 are forecasted by Eurostat.

**Figure 3: Convergence of GDP per capita at market prices, 2000-2007<sup>6</sup>**



Source: Eurostat 2008. Own calculations and presentation.

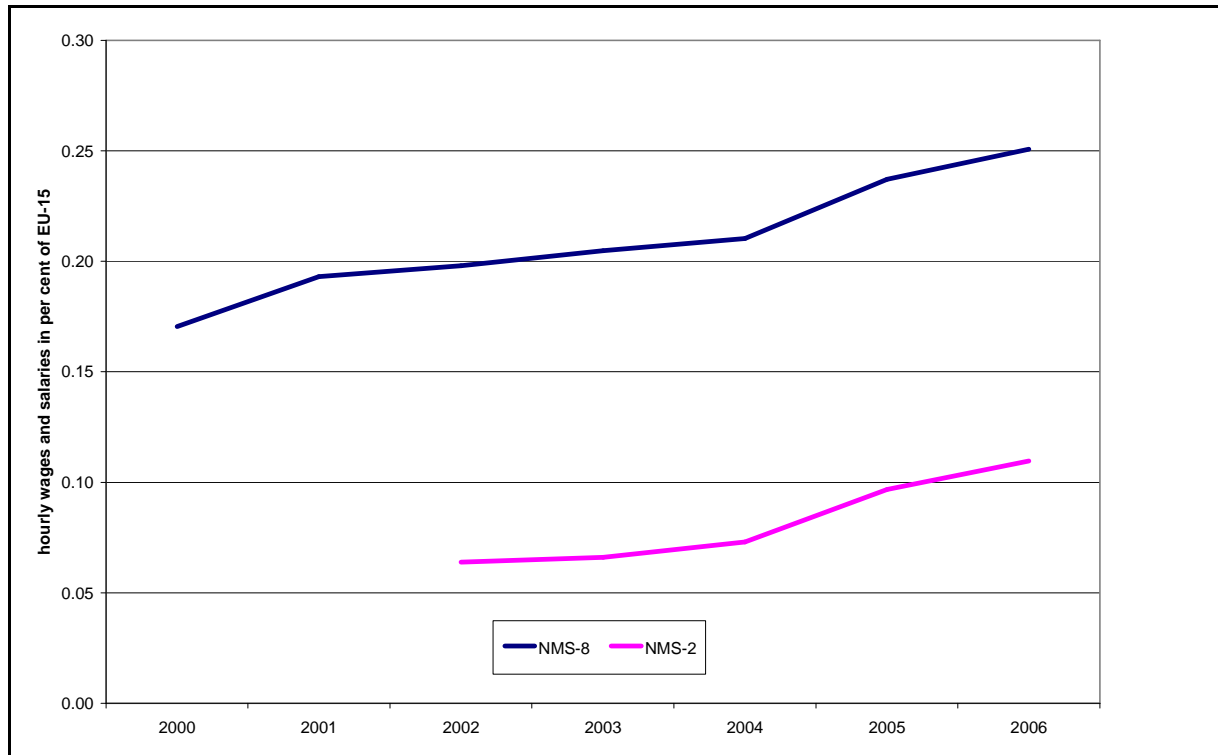
We do not investigate the causes of per capita GDP convergence at this stage of our analysis. A number of factors may have contributed to the fast GDP convergence in the new member states, inter alia the rich human capital endowments, the transfers of the EU in the context of the integration of the NMS into the Common Agricultural Policy (CAP) and the regional policies as well as private capital mobility and private investment. Whether migration has contributed to the convergence of GDP levels and wages will be discussed in detail in Deliverable 4. However, it is important to note that the fast convergence of GDP levels between the EU-15 and the NMS-8 and the NMS-2 mitigates economic incentives to migrate considerably over time.

The impact of convergence on migration incentives is even larger if we look at the development of wages: The hourly gross wages and salaries have increased between 2000 and 2006 in the NMS-8 by almost 10 percentage points, and in case of the NMS-2 by 5 percentage points between 2002 and 2006. In particular, wages have jumped in the NMS-8 after enlargement in 2004. Labour mobility may have contributed to this wage hike (see Deliverable 4), but is sincerely not the only cause: Transfers into the NMS and capital mobility may have contributed to the increasing wages as well (see Figure 4). But the rapid convergence since 2004 is to be interpreted carefully as it refers only to two observations.

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<sup>6</sup> Values for 2007 are forecasted by Eurostat.

**Figure 4: Convergence of wage levels, 2000-2006**



Source: Eurostat 2008. Own calculations and presentation.

## 2.4 Convergence of labour market conditions

The labour market conditions between the EU-15 and the new member states have also converged since the trough of the transitional recession. Unemployment rates both in the NMS-8 and the NMS-2 meanwhile match the average unemployment rates in the EU-15 (see Table 2). Participation rates are – due to a higher female participation in the labour force – higher in the NMS compared to the EU-15. Altogether, unemployment risks do not create specific migration incentives in the NMS.

However, two aspects are worthwhile to mention in this context: First, replacement rates are in the NMS well below those in the EU-15 (OECD, 2008). This may not only create additional migration incentives for those who are unemployed or suffer from an unemployment risk. It may also result in an underreporting of unemployment in the NMS. Second, migrants can optimise with regard to wage levels and unemployment risks across locations. In particular, migrants from the NMS-8 cluster in countries and regions with high wage levels and low unemployment rates in the EU-15, such that a comparison of average unemployment and wage rates between the EU-15 and the NMS is misleading.

**Table 2: Unemployment rates in the EU, the NMS and the candidate countries, 2000-2007**

	2000	2001	2002	2003	2004	2005	2006	2007
Austria	3.60	3.60	4.20	4.30	4.80	5.20	4.70	4.40
Belgium	6.90	6.60	7.50	8.20	8.40	8.40	8.20	7.50
Denmark	4.30	4.50	4.60	5.40	5.50	4.80	3.90	3.70
France	9.00	8.30	8.60	9.00	9.30	9.20	9.20	8.30
Finland	9.80	9.10	9.10	9.00	8.80	8.40	7.70	6.90
Germany	7.50	7.60	8.40	9.30	9.70	10.70	9.80	8.40
Greece	11.20	10.70	10.30	9.70	10.50	9.80	8.90	n.a.
Ireland	4.20	4.00	4.50	4.70	4.50	4.30	4.40	4.50
Italy	10.10	9.10	8.60	8.40	8.00	7.70	6.80	n.a.
Luxembourg	2.30	2.00	2.70	3.70	5.10	4.50	4.70	4.70
Netherlands	2.80	2.20	2.80	3.70	4.60	4.70	3.90	3.20
Portugal	3.90	4.00	5.00	6.30	6.70	7.60	7.70	8.00
Spain	11.10	10.30	11.10	11.10	10.60	9.20	8.50	8.30
Sweden	5.60	4.90	4.90	5.60	6.30	7.40	7.10	6.10
United Kingdom	5.30	5.00	5.10	4.90	4.70	4.80	5.30	n.a.
<b>EU-15</b>	<b>7.70</b>	<b>7.20</b>	<b>7.60</b>	<b>7.90</b>	<b>8.00</b>	<b>8.10</b>	<b>7.70</b>	<b>7.00</b>
Cyprus	4.90	3.80	3.60	4.10	4.60	5.20	4.60	3.90
Malta	6.70	7.60	7.50	7.60	7.40	7.30	7.30	6.30
Czech Republic	8.70	8.00	7.30	7.80	8.30	7.90	7.10	5.30
Estonia	12.80	12.40	10.30	10.00	9.70	7.90	5.90	4.90
Hungary	6.40	5.70	5.80	5.90	6.10	7.20	7.50	7.20
Latvia	13.70	12.90	12.20	10.50	10.40	8.90	6.80	5.90
Lithuania	16.40	16.50	13.50	12.40	11.40	8.30	5.60	4.30
Poland	16.10	18.20	19.90	19.60	19.00	17.70	13.80	9.60
Slovak Republic	18.80	19.30	18.70	17.60	18.20	16.30	13.40	11.30
Slovenia	6.70	6.20	6.30	6.70	6.30	6.50	6.00	4.70
<b>NMS-8</b>	<b>11.27</b>	<b>12.22</b>	<b>12.94</b>	<b>12.76</b>	<b>12.41</b>	<b>11.61</b>	<b>9.30</b>	<b>6.90</b>
Bulgaria	16.40	19.50	18.10	13.70	12.00	10.10	9.00	6.90
Romania	7.20	6.60	8.40	7.00	8.10	7.20	7.30	n.a.
<b>NMS-2</b>	<b>9.66</b>	<b>10.04</b>	<b>10.98</b>	<b>8.77</b>	<b>9.13</b>	<b>7.97</b>	<b>7.75</b>	<b>n.a.</b>
<b>NMS-10</b>	<b>10.80</b>	<b>11.58</b>	<b>12.37</b>	<b>11.61</b>	<b>11.47</b>	<b>10.56</b>	<b>8.85</b>	<b>n.a.</b>
Iceland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Norway	3.40	3.60	3.90	4.50	4.40	4.60	3.50	2.60
Switzerland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Albania	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bosnia-Herzegovir	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Croatia	na	na	14.70	14.10	13.60	12.60	11.10	9.10
Macedonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Serbia-Montenegr	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Turkey	5.20	6.80	8.90	9.30	9.00	8.80	8.40	n.a.
<b>CAND-6</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
<b>EU-25</b>	<b>8.60</b>	<b>8.40</b>	<b>8.70</b>	<b>9.00</b>	<b>9.00</b>	<b>8.90</b>	<b>8.20</b>	<b>7.20</b>
<b>EU-27</b>	<b>8.60</b>	<b>8.50</b>	<b>8.90</b>	<b>8.90</b>	<b>9.00</b>	<b>8.90</b>	<b>8.20</b>	<b>7.10</b>

Source: Eurostat 2008. Own calculations and presentation.

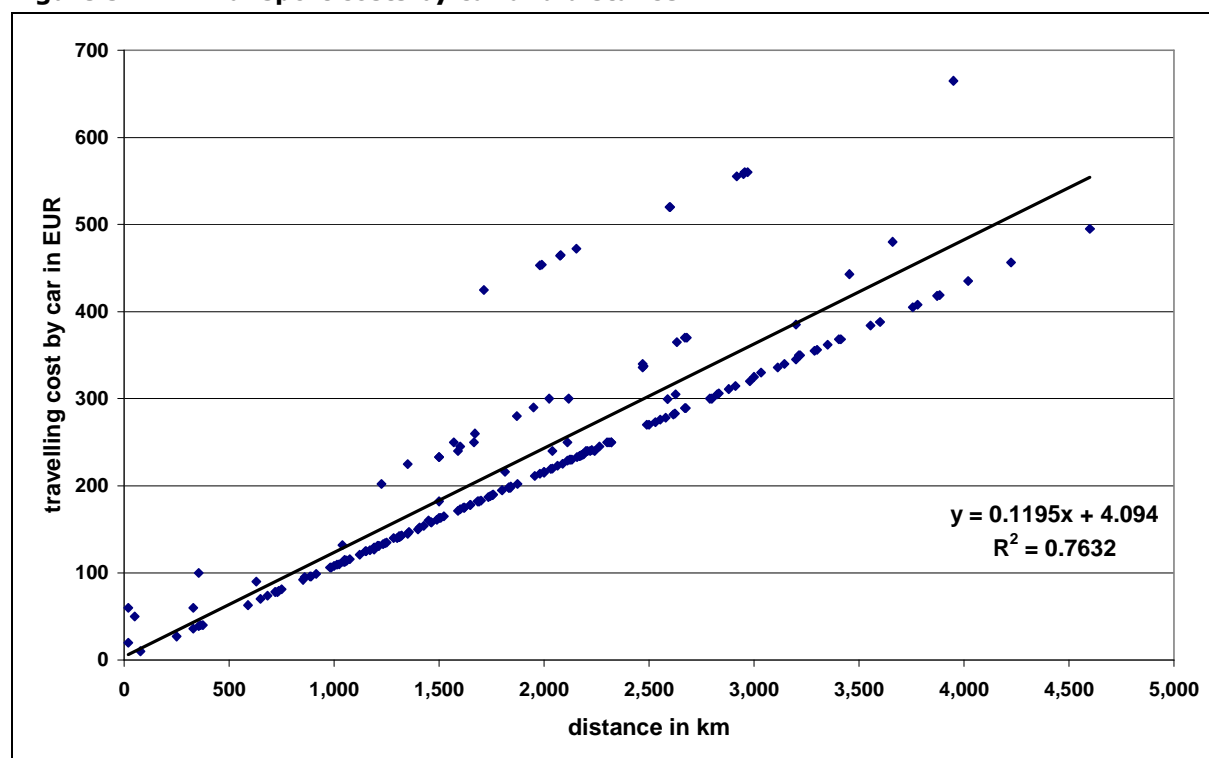
## 2.5 The eroding role of distance

Theories of the migration decision traditionally highlight the role of migration costs, particularly the costs of distance (Sjaastadt, 1962; Stark, 1991). The social and psychic

costs of moving to an unfamiliar environment play indeed an important role and affect the structure of migration (Brücker/Schröder, 2006). However, the role of geographical distance for migration costs tends to decline with the emergence of low-cost air carriers. Low-budget air transport has two important effects on migration particularly in the European context: First, the role of fixed costs in transport increases, while the role of variable costs diminishes. As a consequence, the impact of geographical distance decreases. Second, due to the high share of fixed costs, transport costs tend to decline with an increasing migrant community. As a consequence, transport costs become endogenous: The more migrants settle in a certain location, the lower are the migration costs. Thus, within the European context, it becomes more and more uncertain where migrants settle.

We have collected data on distance and different types of transport costs to illustrate this point. Geographical distance and the costs for road and air transport are calculated for 13 sending and 15 destination countries, which gives 195 data points. The data are reported in Annex Table 1. Road transport by car is largely determined by variable costs, i.e. gasoline, fares for ferries, and depreciation. Depreciation depends largely – albeit not only – on the kilometres run by the vehicle. We use a standard route planning system to calculate the costs by car, which are – as a consequence of assumptions applied here – largely linear in distance (see Figure 5).

**Figure 5: Transport costs by car and distance**



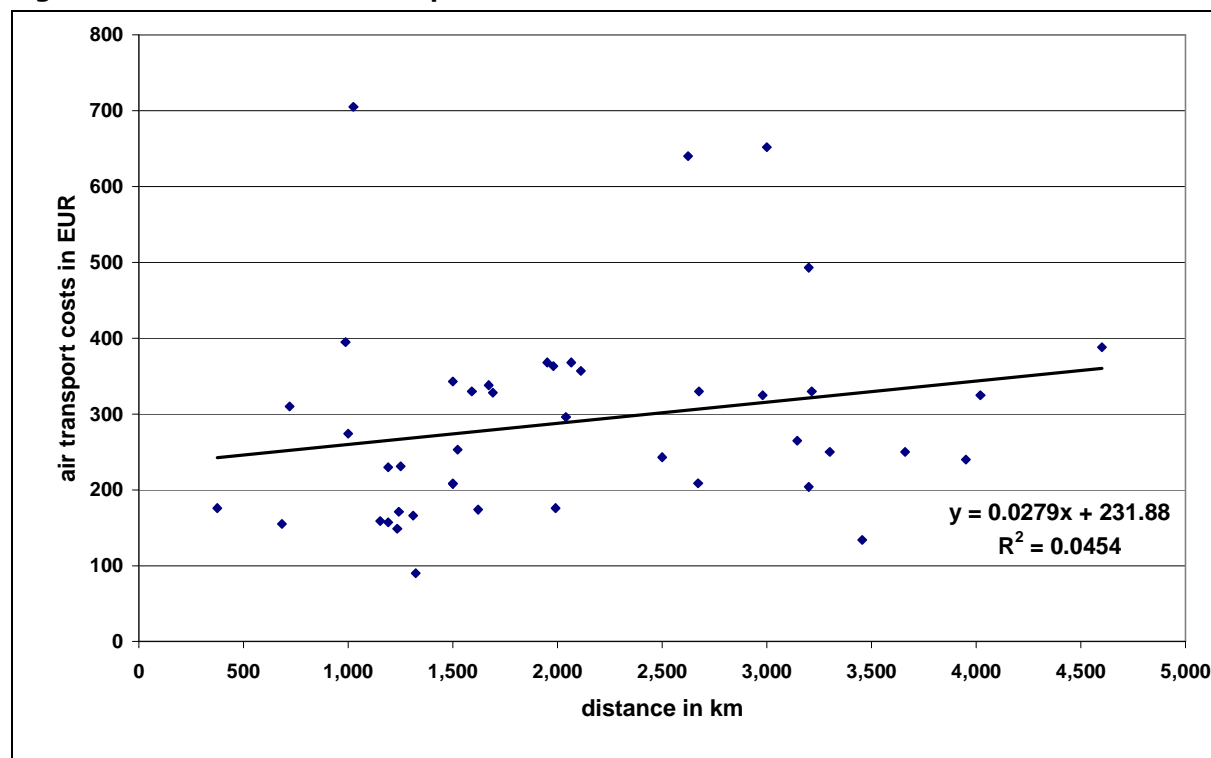
Source: Own calculations based on the Falk-route planning system.

In contrast, there is only a weak correlation between air transport costs and distance. For the calculation we have used the cheapest connection provided by the OPODO booking system. As Figure 5 demonstrates, the costs of air transport are only weakly increasing

with geographical distance. In particular, for the relevant range between 500 and 2,500 kilometres, there is no clear correlation between air fares and distance (see Figure 6).

Of course this illustrative evidence can only sketch the changing role of transport costs. It may, however, have very important implications for the geographical structure of labour mobility in the context of EU enlargement: While past migration patterns in the EU have been largely determined by geographical proximity, the emergence of low-cost carriers makes it more and more likely that migrants choose destinations by other criteria such as language, climate or labour market conditions. Moreover, network effects may become more important, since transport costs depend on the size of the migrant community. Thus, even if Austria or Germany open their labour markets, long-distance destinations such as Ireland and the UK might remain attractive destinations for migrants from the NMS in the future.

**Figure 6: Costs of air transport and distance**



Source: Own calculations based on the OPODO-booking system.

## 2.6 Concluding remarks

Particularly the nominal gap in wages between the EU-15 and the NMS as well as between the EU-15 and the candidate countries creates substantial migration incentives at present. These incentives however diminish over time, since the convergence of wages and employment conditions is fast particularly in the NMS-8. The difference in the speed of convergence between the NMS-8 and candidate countries suggests that Eastern enlargement may have contributed to mitigate monetary migration incentives.

The NMS are, relative to their income levels, well endowed with human capital. This is particularly true for the NMS-8. Their school enrolment rates are only slightly below those of the EU-15 average, and well above those of the Southern EU-15 member states. School enrolment in tertiary education is substantially higher in the NMS-8 compared to the candidate countries and other traditional sending countries of European immigration, e.g. in Northern Africa. This creates a large potential of medium and high skilled migrants particularly in the NMS-8.

The role of geographical distance for transport costs diminishes in Europe due to the emergence of low-cost carriers in air transport. As a consequence, geographical proximity plays a less important role for the choice of migration destinations. Migrants from Central and Eastern Europe may therefore prefer destinations even if the geographical distance is large if other factors such as wages, employment opportunities, language, climate etc. motivate migration. Moreover, the role of network effects increases since transport costs depend more and more on the size of the migrant community.

### **3 The scale of labour mobility**

This section presents the main migration trends in the enlarged EU. The section starts with a brief discussion of the definitions applied in the analysis and limitations of the available data (Section 3.1). We then present the development of migration stocks in the enlarged EU both from the receiving (Section 3.2 - 3.4) and the sending countries (Section 3.5).

#### **3.1 Definitions and data restrictions**

Throughout the analysis, we refer to the concept of citizenship in describing migrations patterns in the context of the EU's eastern enlargement. This excludes a part of the migrants from the new member states residing in the EU-15, e.g. ethnic Germans (so-called "Spätaussiedler") which have migrated from the NMS into the EU-15 during the 1990s. Nevertheless, the free movement of workers and the transitional arrangements refers to the concept of citizenship, such that we believe that a nationality-based concept is most appropriate in the context of our analysis. It is however important to keep in mind that the definition of foreign nationals differs across destination countries in the EU depending on legal traditions and naturalisation practices, such that figures about the stocks of foreign residents are not entirely comparable across the EU member states. Nonetheless, since migration from NMS is a recent phenomenon in most EU countries, these differences have only a minor quantitative impact.<sup>7</sup>

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<sup>7</sup> Germany is the main exception here, since the number of ethnic Germans which have immigrated into Germany has roughly the same size as the immigration of citizens from the NMS during the 1990s. However, the immigration of ethnic Germans has ceased since the beginning of this decade.

Moreover, our analysis is restricted to legal migration. Data on illegal migration are scarce and highly unreliable, such that we cannot cover this phenomenon empirically. Since the free movement of workers is likely to diminish incentives for illegal migration from the NMS, this affects our analysis in several ways. Current immigration flows might be overstated if illegal migrants use the new opportunities to legalise their status of residency and employment in host countries. Similarly, the wage and employment effects of immigration from the NMS may be overstated if legal activities of immigrants replace illegal activities. Finally, migration may have a different impact on public finances if we consider that activities in the shadow economy are replaced by activities in the first labour market.

The figures picturing the migration trends are drawn from different data sources depending on the availability of data. Priority is given to figures which are derived from the population statistics and provided by National Statistical Offices and Eurostat. Unfortunately, these figures are only available for about two-third of the EU-15 countries. For the remaining countries, we report the figures from the European Labour Force Survey (LFS), in case of UK from the UK LFS. The LFS is an EU wide household survey collecting data about labour force participation and other socio-economic factors which was first implemented in 1960 by the six original EU Member States. Today, the survey – hosted by Eurostat – covers all 27 States and is a key research instrument by providing unique time series data about economic and social developments in Europe.

In case of Ireland, the main destination of immigrants from the NMS in relative terms, specific data problems arise. The European LFS does not include data for Ireland for most of the sample periods. Since 2004 we employ data from the Irish Labour Force Survey. Unfortunately, this dataset reports only aggregate figures for the NMS-8 and since 2007 for the NMS-10 such that we use the contingent derived from the Personal Public Service Numbers (PPSN)<sup>8</sup> to disentangle migration from each sending country. Moreover, no information on the skill and age structure is available. Beyond Ireland, there are also a number of other EU member states which do not report the entire information on immigrants from the NMS due to low response rates. However, these countries are relatively small such that this does not much affect the overall results.

Although using three different data sources, it was not possible to obtain information about the stock of foreign residents for all individual sending countries. In some cases, response rates have been too small to cover all countries of origin from the NMS. As a consequence, the aggregate figures of migration stocks from NMS-8, NMS-2, and Cand-6 migrants as reported below may slightly underestimate the actual number of foreign residents in the EU-15.

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<sup>8</sup> The PPS Number is a unique reference number that helps to gain access to social welfare benefits, public services and information in Ireland. State agencies that use PPS Numbers to identify individuals include the Department of Social and Family Affairs, the Revenue Commissioners and the Health Services Executive (HSE) Areas.

Some further restrictions apply to the LFS data sources in our context. First, immigrants may generally be under-represented in the LFS as the survey is usually carried out in the national languages of the host countries. Second, many immigrants from the NMS are employed as seasonal workers, e.g. in agriculture and construction, which are likely to be underreported particularly if the LFS is undertaken off season. Third, the sample design and rotation patterns are not fully harmonised: Various schemes are used to sample the units in the different member states. This may, in turn, lead to a long time span until new migration waves (households) rotate in the sample, resulting in a possible under-representation of migrants in the current year LFS.

In contrast, migration figures in the population statistics may overstate legal migration from the NMS. These statistics on the stocks of residents relies usually on registers of the foreign population, which tend to understate return migration since no incentives exist to deregister.

Our analysis of the skill and age structure of immigrants from the NMS as well as on their employment status is based again on LFS sources. We restrict our analysis to the employed working age population (15-64 age group) in case of skill and age structure, and to the overall working age population in case of employment status. The figures are drawn from a special provision from the European LFS for second quarter 2006. In case of missing information, we use the 2005 values wherever necessary.

### **3.2 Immigration from the NMS-8 into the EU and EEA**

The number of foreign residents from the NMS-8 in the EU-15 has increased from 893,000 persons in the year before Eastern Enlargement (2003) to 1.91 million persons or 0.5 per cent of the population of the EU-15 by the end of 2007. This corresponds to an annual increase of 254,000 persons p.a. on average since Eastern enlargement compared to 62,000 persons p.a. in the years from 2000 to 2003. The stock of migrants from the NMS-8 in the new member states of the EU is at about 100,000 persons small and only slightly increasing. In the remaining member states of the European Economic Area (Iceland, Norway, Liechtenstein) and Switzerland, the number of foreign residents from the NMS-8 has increased from 28,000 to approximately 61,000 persons during the 2003-2007 period (see Tables 3a/b).

Since the beginning of Eastern enlargement in 2003, almost 70 per cent of the immigrants from the NMS-8 have been absorbed by the UK and Ireland. These two countries have replaced Austria and Germany as the main destinations for migrants from the NMS-8. The stock of foreign residents from the NMS-8 increased from 95,000 to about 609,000 persons in the UK since 2000 according to the LFS data and from 44,000 to about 179,000 persons in Ireland since 2004. By the end of 2007, the stock of foreign residents from the NMS-8 achieves 4 per cent of the population in Ireland and about 1 per cent of the population in the UK.

**Table 3a: Foreign residents from the NMS-8 in the EU and EEA, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>in persons</i>								
Austria <sup>1</sup>	n.a.	54,797	57,537	60,255	68,933	77,264	83,978	89,940
Belgium <sup>1</sup>	9,667	12,102	14,106	16,151	19,524	25,638	32,199	42,918
Denmark <sup>1</sup>	9,101	9,447	9,805	9,807	11,635	14,282	16,527	22,146
Finland <sup>1</sup>	12,804	13,860	14,712	15,825	16,459	18,266	20,801	23,957
France <sup>3</sup>	37,832	44,946	44,857	33,858	43,138	36,237	44,181	36,971
Germany <sup>1</sup>	434,603	453,110	466,356	480,690	438,828	481,672	525,078	554,372
Greece <sup>3</sup>	13,832	12,695	14,887	16,413	15,194	19,513	18,357	20,257
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	43,500	94,000	147,900	178,504
Italy <sup>2</sup>	40,433	40,108	41,431	54,665	66,159	77,889	91,318	117,042
Luxembourg <sup>1</sup>	n.a.	n.a.	1,156	1,574	2,278	3,488	4,217	5,101 <sup>e</sup>
Netherlands <sup>1</sup>	10,063	11,152	12,147	13,048	17,814	23,155	28,344	36,317
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	19,284	29,998	41,471	46,710	61,830	77,772	100,832	131,118 <sup>e</sup>
Sweden <sup>1</sup>	23,884	22,868	21,376	21,147	23,257	26,877	33,757	42,312
United Kingdom <sup>5</sup>	94,792	105,048	93,340	122,465	120,999	219,797	357,468	609,415
<b>EU-15</b>	<b>706,295</b>	<b>755,334</b>	<b>833,181</b>	<b>892,608</b>	<b>949,548</b>	<b>1,195,850</b>	<b>1,504,957</b>	<b>1,910,370</b>
Island <sup>1</sup>	1,865	2,232	2,462	2,547	2,644	4,251	7,803	10,782
Norway <sup>1</sup>	3,366	3,658	4,195	5,166	5,549	7,427	11,240	20,074
Switzerland <sup>1</sup>	17,598	18,733	19,997	20,308	20,909	22,060	25,711	29,786
<b>EEA-2 and CH</b>	<b>22,829</b>	<b>24,623</b>	<b>26,654</b>	<b>28,021</b>	<b>29,102</b>	<b>33,738</b>	<b>44,754</b>	<b>60,642</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	62,095	70,581	77,947	81,484	64,546	68,300	78,428	90,258 <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	4,632	4,715	3,739	5,001	3,596	6,346	7,445	8,755 <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	2,524	3,121	n.a.	3,755	4,119	4,526 <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	735	934	992	1,061 <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	9,372	7,698	9,057	11,017	13,429 <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	418	492	203	656	711	794 <sup>e</sup>
<b>NMS-8</b>	<b>66,727</b>	<b>75,296</b>	<b>84,628</b>	<b>99,470</b>	<b>76,778</b>	<b>89,048</b>	<b>102,712</b>	<b>118,823</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	372	n.a.	372	373	365	362	359 <sup>e</sup>
<b>NMS-2</b>	<b>n.a.</b>	<b>372</b>	<b>n.a.</b>	<b>372</b>	<b>373</b>	<b>365</b>	<b>362</b>	<b>359</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

In contrast, Austria and Germany experienced only a modest increase in the number of foreign residents from the NMS-8 during the 2003 – 2007 period. The stock of foreign residents from the NMS-8 has increased by about 30,000 persons in Austria. Germany has revised its migration statistics in 2004 such that the actual increase cannot be calculated properly. Taking the data revision into account, we can estimate the actual increase in the number of foreign residents at 70,000 persons for the 2003 - 2007 period. Foreigners from the new member states achieve meanwhile a share of 1 per cent of the population in Austria and 0.7 per cent in Germany. Other important destinations for migrants from the NMS-8 are Spain (85,000 persons), Italy (62,000 persons), Belgium (26,000 persons), The Netherlands (23,000 person) and Belgium (21,000 persons), but the share of foreign residents from the NMS-8 in the population of these countries does not exceed the EU-15 average of 0.5 per cent.

**Table 3b: Foreign residents from the NMS-8 in the EU and EEA in per cent of the host population, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>share of total population</i>								
Austria <sup>1</sup>	n.a.	0.68%	0.71%	0.74%	0.84%	0.94%	1.01%	1.08%
Belgium <sup>1</sup>	0.09%	0.12%	0.14%	0.16%	0.19%	0.24%	0.31%	0.40%
Denmark <sup>1</sup>	0.17%	0.18%	0.18%	0.18%	0.22%	0.26%	0.30%	0.41%
Finland <sup>1</sup>	0.25%	0.27%	0.28%	0.30%	0.31%	0.35%	0.39%	0.45%
France <sup>3</sup>	0.06%	0.07%	0.07%	0.05%	0.07%	0.06%	0.07%	0.06%
Germany <sup>1</sup>	0.53%	0.55%	0.57%	0.58%	0.53%	0.58%	0.64%	0.67%
Greece <sup>3</sup>	0.13%	0.12%	0.14%	0.15%	0.14%	0.18%	0.16%	0.18%
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	1.07%	2.26%	3.47%	4.09%
Italy <sup>2</sup>	0.07%	0.07%	0.07%	0.09%	0.11%	0.13%	0.15%	0.20%
Luxembourg <sup>1</sup>	n.a.	n.a.	0.26%	0.35%	0.50%	0.76%	0.90%	1.06% <sup>e</sup>
Netherlands <sup>1</sup>	0.06%	0.07%	0.08%	0.08%	0.11%	0.14%	0.17%	0.22%
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	0.05%	0.07%	0.10%	0.11%	0.14%	0.18%	0.23%	0.29% <sup>e</sup>
Sweden <sup>1</sup>	0.27%	0.26%	0.24%	0.24%	0.26%	0.30%	0.37%	0.46%
United Kingdom <sup>5</sup>	0.16%	0.18%	0.16%	0.21%	0.20%	0.36%	0.59%	1.00%
<b>EU-15</b>	<b>0.20%</b>	<b>0.21%</b>	<b>0.23%</b>	<b>0.24%</b>	<b>0.25%</b>	<b>0.32%</b>	<b>0.40%</b>	<b>0.50%</b>
Island <sup>1</sup>	0.66%	0.78%	0.86%	0.88%	0.91%	1.43%	2.57%	3.47%
Norway <sup>1</sup>	0.07%	0.08%	0.09%	0.11%	0.12%	0.16%	0.24%	0.43%
Switzerland <sup>1</sup>	0.24%	0.26%	0.27%	0.28%	0.28%	0.30%	0.34%	0.39%
<b>EEA-2 and CH</b>	<b>0.19%</b>	<b>0.20%</b>	<b>0.22%</b>	<b>0.23%</b>	<b>0.24%</b>	<b>0.27%</b>	<b>0.36%</b>	<b>0.48%</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	0.60%	0.69%	0.76%	0.80%	0.63%	0.67%	0.76%	0.87% <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	0.05%	0.05%	0.04%	0.05%	0.04%	0.06%	0.07%	0.09% <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	0.11%	0.13%	n.a.	0.16%	0.18%	0.20% <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	0.02%	0.03%	0.03%	0.03% <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	0.17%	0.14%	0.17%	0.20%	0.25% <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	0.02%	0.02%	0.01%	0.03%	0.04%	0.04% <sup>e</sup>
<b>NMS-8</b>	<b>0.09%</b>	<b>0.10%</b>	<b>0.12%</b>	<b>0.14%</b>	<b>0.11%</b>	<b>0.12%</b>	<b>0.14%</b>	<b>0.16%</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	0.00%	n.a.	0.00%	0.00%	0.00%	0.00%	0.00% <sup>e</sup>
<b>NMS-2</b>	<b>n.a.</b>	<b>0.00%</b>	<b>n.a.</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

The share of Austria and Germany in the total number of foreign residents from the NMS-8 in the EU-15 has declined from almost 63 per cent in 2002 to 34 per cent in 2007, while that of Ireland and the UK has increased from 11 per cent to 41 per cent during the same period of time. This diversion process can be inter alia explained by the selective application of the transitional arrangements for the free movement of workers. While Ireland and the UK opened their labour markets, Austria and Germany maintained their immigration restrictions. Interestingly enough, other destinations which have opened their labour markets completely (Sweden) or partially (Denmark) have not been affected by this diversion effect.

The available data for the years 2006 and 2007 do moreover not suggest that the removal of immigration restrictions in numerous EU member states (Finland, Greece, Italy, Portugal, Netherlands, Spain) for the second period of the transitional

arrangements has involved a visible increase in immigration flows from the NMS-8. By and large, the removal of migration barriers in these 'second-movers' has not affected the scale of migration in the enlarged EU.

The available evidence thus suggests that the high share of migrants from the NMS-8 in Ireland and the UK cannot be explained by the selective application of transitional arrangements for the free movement of workers alone. Other factors, such as the increasing English language proficiency particularly among the young cohorts in the NMS, favourable labour market conditions and flexible labour market institutions, and the declining costs of distance, have facilitated the diversion of migration flows to these destinations as well.

### **3.3 Immigration from the NMS-2 into the EU and EEA**

Immigration from Bulgaria and Romania – summarised as the two new member states (NMS-2) – into EU-15 countries is heavily restricted in most EU-15 countries. Nonetheless, the number of foreign residents from there has increased from 279,000 persons in 2000 to 1.86 million by the end of 2007. This corresponds to an annual increase in the number of residents of about 226,000 persons p.a. Meanwhile, the stock of foreign residents from the NMS-2 has achieved 0.49 per cent of the population in the EU-15. In the NMS-8 the stock of NMS-2 immigrants stagnates at about 77,000 persons. In the other member states of the EEA and Switzerland, immigration from the NMS-2 is at some 9,000 persons negligible (see Tables 4a/b).

Immigration from Bulgaria and Romania has been facilitated by bilateral agreements between Spain and Italy and the sending countries and the legalisation of immigrants there. Spain is the main destination for migrants from the NMS-2 at a migration stock of about 829,000 persons, followed by Italy with 659,000 persons.<sup>9</sup> By the end of 2007, the share of NMS-2 immigrants in the population achieves 1.9 per cent in Spain and 1.1 per cent in Italy. Other important destinations in the EU-15 are Germany (131,000 persons), Greece (53,000 persons), the UK (40,000 persons) and Austria (37,000 persons).

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<sup>9</sup> Note that the official statistics may underreport migrants from the NMS-2 in Italy, since it does inter alia not count people whose residence permit has expired but still stay in the country and wait for a prolongation. The Italian Caritas estimates therefore the stock of migrants from the NMS-2 in Italy at about 560,000 persons by the end of 2006.

**Table 4a: Foreign residents from the NMS-2 in the EU and EEA, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>in persons</i>								
Austria <sup>1</sup>	n.a.	22,387	24,926	26,802	28,367	29,573	29,958	36,792
Belgium <sup>1</sup>	3,435	4,642	5,900	6,831	8,238	10,814	14,095	23,810
Denmark <sup>1</sup>	1,580	1,646	1,746	1,834	1,987	2,200	2,350	3,316
Finland <sup>1</sup>	786	854	873	887	909	970	1,089	1,388
France <sup>3</sup>	5,752	8,761	7,960	8,840	17,282	12,027	39,069	43,652
Germany <sup>1</sup>	124,453	126,245	131,098	133,404	112,532	112,196	112,406	131,402
Greece <sup>3</sup>	12,961	17,344	25,612	30,583	39,220	45,551	49,086	52,567
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	24,496
Italy <sup>2</sup>	69,020	81,444	102,363	189,279	264,223	315,316	362,124	658,755
Luxembourg <sup>1</sup>	n.a.	n.a.	477	498	545	700	871	1,085 <sup>e</sup>
Netherlands <sup>1</sup>	2,564	3,168	3,720	4,413	4,944	5,082	5,427	11,272
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	43,676	97,020	190,185	277,814	410,403	508,776	649,076	828,772 <sup>e</sup>
Sweden <sup>1</sup>	3,951	3,300	3,123	3,148	3,170	3,205	3,080	6,280
United Kingdom <sup>5</sup>	10,504	9,739	17,494	17,979	17,118	33,578	37,945	40,023
<b>EU-15</b>	<b>278,682</b>	<b>376,550</b>	<b>515,477</b>	<b>702,312</b>	<b>908,938</b>	<b>1,079,988</b>	<b>1,306,576</b>	<b>1,863,610</b>
Island <sup>1</sup>	108	123	141	143	154	178	204	241
Norway <sup>1</sup>	835	893	1,049	1,205	1,313	1,427	1,520	1,543
Switzerland <sup>1</sup>	5,060	5,745	6,480	6,535	6,748	6,813	6,846	6,943
<b>EEA-2 and CH</b>	<b>6,003</b>	<b>6,761</b>	<b>7,670</b>	<b>7,883</b>	<b>8,215</b>	<b>8,418</b>	<b>8,570</b>	<b>8,727</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	6,408	6,405	6,485	6,303	7,035	7,252	7,451	7,656 <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	44,371	46,123	48,366	56,794	68,785	67,390	68,074	68,766 <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	26	42	n.a.	37	44	52 <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	33	46	107	249 <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	2,757	1,051	971	1,247	1,711 <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	213	240	199	208	284	396 <sup>e</sup>
<b>NMS-8</b>	<b>50,779</b>	<b>52,528</b>	<b>55,090</b>	<b>66,136</b>	<b>77,103</b>	<b>75,904</b>	<b>77,207</b>	<b>78,831</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	189	n.a.	189	190	186	186	186 <sup>e</sup>
<b>NMS-2</b>	<b>n.a.</b>	<b>189</b>	<b>n.a.</b>	<b>189</b>	<b>190</b>	<b>186</b>	<b>186</b>	<b>186</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

Again, we observe a diversion effect: Germany has been with some 260,000 residents the main destination for migrants from the NMS-2 in the beginning of the 1990s, a figure which has declined to some 124,000 persons by the beginning of this decade. At the same time, migration from Romania and Bulgaria to Spain and Italy has increased substantially.

It is worthwhile to note in this context that the figures presented here refer to legal migration only. Incentives for illegal migration are high in case of Bulgaria and Romania, since legal immigration opportunities are limited. Anecdotal evidence suggests that actual migration stocks from the NMS-2 in the EU-15 might be twice the official figures, but reliable evidence is missing.

**Table 4b: Foreign residents from the NMS-2 in the EU and EEA in per cent of the host population, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>share of total population</i>								
Austria <sup>1</sup>	n.a.	0.28%	0.31%	0.33%	0.35%	0.36%	0.36%	0.44%
Belgium <sup>1</sup>	0.03%	0.05%	0.06%	0.07%	0.08%	0.10%	0.13%	0.22%
Denmark <sup>1</sup>	0.03%	0.03%	0.03%	0.03%	0.04%	0.04%	0.04%	0.06%
Finland <sup>1</sup>	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.03%
France <sup>3</sup>	0.01%	0.01%	0.01%	0.01%	0.03%	0.02%	0.06%	0.07%
Germany <sup>1</sup>	0.15%	0.15%	0.16%	0.16%	0.14%	0.14%	0.14%	0.16%
Greece <sup>3</sup>	0.12%	0.16%	0.23%	0.28%	0.35%	0.41%	0.44%	0.47%
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	0.56%
Italy <sup>2</sup>	0.12%	0.14%	0.18%	0.33%	0.45%	0.54%	0.61%	1.11%
Luxembourg <sup>1</sup>	n.a.	n.a.	0.11%	0.11%	0.12%	0.15%	0.19%	0.23% <sup>e</sup>
Netherlands <sup>1</sup>	0.02%	0.02%	0.02%	0.03%	0.03%	0.03%	0.03%	0.07%
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	0.11%	0.24%	0.46%	0.66%	0.96%	1.17%	1.47%	1.85% <sup>e</sup>
Sweden <sup>1</sup>	0.04%	0.04%	0.03%	0.04%	0.04%	0.04%	0.03%	0.07%
United Kingdom <sup>5</sup>	0.02%	0.02%	0.03%	0.03%	0.03%	0.06%	0.06%	0.07%
<b>EU-15</b>	<b>0.08%</b>	<b>0.10%</b>	<b>0.14%</b>	<b>0.19%</b>	<b>0.24%</b>	<b>0.29%</b>	<b>0.35%</b>	<b>0.49%</b>
Island <sup>1</sup>	0.04%	0.04%	0.05%	0.05%	0.05%	0.06%	0.07%	0.08%
Norway <sup>1</sup>	0.02%	0.02%	0.02%	0.03%	0.03%	0.03%	0.03%	0.03%
Switzerland <sup>1</sup>	0.07%	0.08%	0.09%	0.09%	0.09%	0.09%	0.09%	0.09%
<b>EEA-2 and CH</b>	<b>0.05%</b>	<b>0.06%</b>	<b>0.06%</b>	<b>0.06%</b>	<b>0.07%</b>	<b>0.07%</b>	<b>0.07%</b>	<b>0.07%</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	0.06%	0.06%	0.06%	0.06%	0.07%	0.07%	0.07%	0.07% <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	0.43%	0.45%	0.48%	0.56%	0.68%	0.67%	0.68%	0.68% <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	0.00%	0.00%	n.a.	0.00%	0.00%	0.00% <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	0.00%	0.00%	0.00%	0.01% <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	0.05%	0.02%	0.02%	0.02%	0.03% <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	0.01%	0.01%	0.01%	0.01%	0.01%	0.02% <sup>e</sup>
<b>NMS-8</b>	<b>0.07%</b>	<b>0.07%</b>	<b>0.08%</b>	<b>0.09%</b>	<b>0.11%</b>	<b>0.10%</b>	<b>0.11%</b>	<b>0.11%</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	0.00%	n.a.	0.00%	0.00%	0.00%	0.00%	0.00% <sup>e</sup>
<b>NMS-2</b>	<b>n.a.</b>	<b>0.00%</b>	<b>n.a.</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

### 3.4 Immigration from the candidate countries into the EU and EEA

The six candidate and potential candidate countries (CAND-6) from South-Eastern Europe have been one of the main sources of immigrants in Western Europe during the post-WW II period. Especially workers from Turkey and from former Yugoslavia have been the main targets for guestworker recruitment in Austria, Germany, Switzerland and other Western European countries. In addition, migrants from Albania, one of the countries with the lowest per capita income in Europe, form an important source of immigration in Italy and Greece since the removal of emigration barriers in the beginning of the 1990s. Altogether, the stock of immigrants from the candidate countries in the EU-15 amounted

to 4.1 million people in the EU-15<sup>10</sup> in 2000 and another 476,000 people residing in the other EEA countries and Switzerland at the same time. Since the EU's Eastern enlargement, the stock of migrants from this region however stagnates in the EU-15. By the end of 2007, the EU-15 countries reports about 4.3 million migrants from the candidate countries (see Tables 5a/b).

**Table 5a: Foreign residents from the candidate countries in the EU and the EEA, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>in persons</i>								
Austria <sup>1</sup>	n.a.	432,149	437,481	428,386	420,237	415,857	405,949	401,885
Belgium <sup>1</sup>	66,240	56,872	54,018	53,811	52,525	53,857	54,758	66,349
Denmark <sup>1</sup>	58,086	52,841	50,319	48,146	47,304	45,494	44,872	45,065
Finland <sup>1</sup>	5,061	6,107	6,561	7,328	7,937	8,101	8,395	8,397
France <sup>3</sup>	240,328	233,120	250,124	116,420	159,829	186,629	153,974	168,246
Germany <sup>1</sup>	3,097,721	3,025,940	2,968,399	2,922,084	2,346,782	2,519,298	2,477,923	2,405,952
Greece <sup>3</sup>	181,842	209,475	252,780	288,834	338,863	343,603	337,901	376,487
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Italy <sup>2</sup>	227,148	291,816	346,331	422,471	487,518	533,861	576,251	611,807
Luxembourg <sup>1</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands <sup>1</sup>	113,851	112,596	112,195	113,584	111,725	109,321	106,411	102,798
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	6,584	7,970	9,172	8,914	10,468	10,493	9,939	9,458 <sup>e</sup>
Sweden <sup>1</sup>	48,342	42,437	36,736	33,699	32,309	30,224	27,083	27,271
United Kingdom <sup>5</sup>	61,074	83,063	89,731	96,260	81,866	77,995	106,430	102,255
<b>EU-15</b>	<b>4,106,277</b>	<b>4,554,386</b>	<b>4,613,847</b>	<b>4,539,937</b>	<b>4,097,363</b>	<b>4,334,733</b>	<b>4,309,886</b>	<b>4,325,970</b>
Island <sup>1</sup>	609	697	740	724	699	734	813	680
Norway <sup>1</sup>	27,507	25,723	20,810	19,707	17,539	17,053	15,552	14,072
Switzerland <sup>1</sup>	447,839	452,933	455,804	452,495	445,797	436,546	423,670	413,089
<b>EEA-2 and CH</b>	<b>475,955</b>	<b>479,353</b>	<b>477,354</b>	<b>472,926</b>	<b>464,035</b>	<b>454,333</b>	<b>440,035</b>	<b>427,841</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	8,556	7,976	8,098	7,917	9,036	9,413	10,134	10,959 <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	1,916	1,965	9,628	14,310	2,962	14,459	14,913	15,391 <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	45	46	n.a.	79	70	72 <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	70	71	132	265 <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	2,784	1,160	1,170	1,626	2,786 <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	40,424	40,553	40,306	43,371	48,130	53,577 <sup>e</sup>
<b>EU-8</b>	<b>10,472</b>	<b>9,941</b>	<b>58,195</b>	<b>65,610</b>	<b>53,534</b>	<b>68,563</b>	<b>75,005</b>	<b>83,051</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	3,027	n.a.	3,027	3,069	3,071	3,079	3,087 <sup>e</sup>
<b>EU-2</b>	<b>n.a.</b>	<b>3,027</b>	<b>n.a.</b>	<b>3,027</b>	<b>3,069</b>	<b>3,071</b>	<b>3,079</b>	<b>3,087</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

<sup>10</sup> Unfortunately, we have no figures for Ireland, Luxembourg and Portugal.

**Table 5b: Foreign residents from the candidate countries in the EU and the EEA in per cent of the host population, 2000-2007**

Host country	2000	2001	2002	2003	2004	2005	2006	2007
<i>share of total population</i>								
Austria <sup>1</sup>	n.a.	5.37%	5.41%	5.27%	5.14%	5.05%	4.90%	4.83%
Belgium <sup>1</sup>	0.65%	0.55%	0.52%	0.52%	0.50%	0.51%	0.52%	0.62%
Denmark <sup>1</sup>	1.09%	0.99%	0.94%	0.89%	0.88%	0.84%	0.83%	0.83%
Finland <sup>1</sup>	0.10%	0.12%	0.13%	0.14%	0.15%	0.15%	0.16%	0.16%
France <sup>3</sup>	0.40%	0.38%	0.41%	0.19%	0.26%	0.30%	0.24%	0.26%
Germany <sup>1</sup>	3.77%	3.67%	3.60%	3.54%	2.84%	3.05%	3.01%	2.92%
Greece <sup>3</sup>	1.67%	1.91%	2.30%	2.62%	3.06%	3.09%	3.03%	3.36%
Ireland <sup>4</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Italy <sup>2</sup>	0.40%	0.51%	0.61%	0.73%	0.84%	0.91%	0.98%	1.03%
Luxembourg <sup>1</sup>	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands <sup>1</sup>	0.71%	0.70%	0.69%	0.70%	0.69%	0.67%	0.65%	0.63%
Portugal	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Spain <sup>1</sup>	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02%	0.02% <sup>e</sup>
Sweden <sup>1</sup>	0.54%	0.48%	0.41%	0.38%	0.36%	0.33%	0.30%	0.30%
United Kingdom <sup>5</sup>	0.10%	0.14%	0.15%	0.16%	0.14%	0.13%	0.18%	0.17%
<b>EU-15</b>	<b>1.15%</b>	<b>1.25%</b>	<b>1.26%</b>	<b>1.23%</b>	<b>1.10%</b>	<b>1.16%</b>	<b>1.15%</b>	<b>1.15%</b>
Island <sup>1</sup>	0.22%	0.24%	0.26%	0.25%	0.24%	0.25%	0.27%	0.22%
Norway <sup>1</sup>	0.61%	0.57%	0.46%	0.43%	0.38%	0.37%	0.33%	0.30%
Switzerland <sup>1</sup>	6.23%	6.26%	6.26%	6.17%	6.03%	5.87%	5.66%	5.47%
<b>EEA-2 and CH</b>	<b>3.98%</b>	<b>3.99%</b>	<b>3.94%</b>	<b>3.88%</b>	<b>3.78%</b>	<b>3.68%</b>	<b>3.53%</b>	<b>3.40%</b>
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
<b>Cyprus and Malta</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>	<b>n.a.</b>
Czech Republic <sup>1</sup>	0.08%	0.08%	0.08%	0.08%	0.09%	0.09%	0.10%	0.11% <sup>e</sup>
Estonia	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Hungary <sup>6</sup>	0.02%	0.02%	0.09%	0.14%	0.03%	0.14%	0.15%	0.15% <sup>e</sup>
Latvia <sup>6</sup>	n.a.	n.a.	0.00%	0.00%	n.a.	0.00%	0.00%	0.00% <sup>e</sup>
Lithuania <sup>6</sup>	n.a.	n.a.	n.a.	n.a.	0.00%	0.00%	0.00%	0.01% <sup>e</sup>
Poland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Slovak Republic <sup>6</sup>	n.a.	n.a.	n.a.	0.05%	0.02%	0.02%	0.03%	0.05% <sup>e</sup>
Slovenia <sup>6</sup>	n.a.	n.a.	2.03%	2.03%	2.02%	2.17%	2.40%	2.65% <sup>e</sup>
<b>EU-8</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.08%</b>	<b>0.09%</b>	<b>0.07%</b>	<b>0.09%</b>	<b>0.10%</b>	<b>0.11%</b>
Bulgaria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Romania <sup>6</sup>	n.a.	0.01%	n.a.	0.01%	0.01%	0.01%	0.01%	0.01% <sup>e</sup>
<b>EU-2</b>	<b>n.a.</b>	<b>0.01%</b>	<b>n.a.</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.01%</b>	<b>0.01%</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

1) National Statistics; 2) 2000-01: Eurostat; 2002-07: National Statistics; 3) LFS annual 4) 2004-07: Irish-LFS 4th Qu. (15+);

5) 2000-07: UK-LFS 2th Qu.; 6) Eurostat; e: estimated

The main destination for immigrants from the candidate and potential countries is Germany. In 2000, about 3.1 million or 75 per cent of the immigrants from the candidate countries in the EU-15 resided in Germany. The German migration statistics reports 2.4 million residents from the candidate countries or 56 per cent of the migrants from there in the EU-15 by the end of 2007. This decline can be largely traced back to the revision of the migration statistics which reduced the number of migrants from the candidate countries by about 600,000 persons. Moreover, the repatriation of refugees from the civil wars in the former Yugoslavia and an increasing number of naturalisations following the reform of the immigration act in 2000 has contributed to this decline. Other important destinations for migrants from the candidate countries are Italy (612,000 persons), Austria (402,000 persons), Greece (376,000 persons) and France (168,000 persons), and among the EEA countries Switzerland with 413,000 persons. While the number of immigrants from the candidate countries has declined or stagnated in most destination

countries, it has substantially increased in Italy (+385,000 persons) and Greece (+195,000 persons) since the beginning of this decade. This can be traced back largely to the immigration of Albanians and some successor states of the former Yugoslavia to these destinations.

To sum up, immigrants from the candidate and potential candidate countries exceed the stock of foreign residents from the new member states at a share of 1.2 per cent of the population in the EU-15 by far. However, with the notable exceptions of Italy and Greece, this stock is stagnating or declining in most destinations since the beginning of this decade. Tighter immigration conditions for third country nationals in most EU member states (Boeri/Brücker, 2005) and adverse economic conditions in main destinations such as Germany have contributed to this development.

### **3.5 Main emigration trends from a sending country perspective**

By the end of 2007, the migration data from the statistics in the receiving countries indicates that about 3.8 million emigrants from the NMS-10 resided in the EU-15. The main sending countries are Romania (1.6 million) and Poland (1.3 million). The share of EU-emigrants in the population of the sending countries fluctuates heavily across country groups and individual countries. About 2.6 per cent of the population in the NMS-8 and 6.4 per cent of the population of the NMS-2 resided by the end of 2007 in the EU-15. The emigration shares in the population vary with the per capita income level: While emigration shares are relatively low in the Czech Republic (1.0 per cent), Hungary (1.3 per cent), and Slovenia (1.8 per cent), they are particularly high in Romania (7.2 per cent), Bulgaria (4.1 per cent), Lithuania (3.8 per cent), and Poland (3.4 per cent) (see Tables 6a/b).

**Table 6a: EU-15 emigrants from the NMS-8, NMS-2 and CAND-6, 2000-2007**

Sending country	2000	2001	2002	2003	2004	2005	2006	2007
<i>in persons</i>								
Czech Republic	42,379	52,810	58,138	71,119	62,894	71,185	90,952	104,442
Estonia	18,458	20,924	22,639	26,699	26,746	30,567	32,885	36,735
Hungary	84,976	94,905	98,492	94,274	91,961	102,158	105,939	132,582
Latvia	21,713	19,309	22,184	24,632	24,194	32,920	42,119	42,547
Lithuania	24,154	36,567	41,577	53,572	52,613	85,364	114,185	128,361
Poland	476,229	531,986	545,072	576,939	606,442	757,252	992,924	1,297,647
Slovak Republic	25,195	36,947	39,019	43,948	52,343	81,705	91,560	132,207
Slovenia	23,814	30,697	31,218	35,672	32,355	34,698	34,395	35,848
<b>NMS-8</b>	<b>716,917</b>	<b>824,145</b>	<b>858,338</b>	<b>926,854</b>	<b>949,548</b>	<b>1,195,850</b>	<b>1,504,957</b>	<b>1,910,370</b>
Bulgaria	71,437	102,980	140,864	166,330	203,528	219,233	255,163	310,335
Romania	217,669	285,075	389,045	553,508	724,697	880,738	1,072,307	1,553,276
<b>NMS-2</b>	<b>289,106</b>	<b>388,054</b>	<b>529,909</b>	<b>719,839</b>	<b>928,225</b>	<b>1,099,971</b>	<b>1,327,470</b>	<b>1,863,610</b>
Albania	412,915	434,002	514,291	581,605	670,751	717,450	743,485	805,416
Bosnia-Herzegovina	227,011	323,006	323,929	330,751	313,440	314,624	310,651	319,347
Croatia	249,031	316,953	329,448	334,136	324,698	326,088	322,926	316,504
Macedonia	83,848	103,932	112,922	137,863	146,209	153,059	161,556	171,450
Serbia-Montenegro	679,548	835,178	806,739	777,571	342,551	521,495	508,255	471,764
Turkey	2,453,924	2,541,316	2,526,518	2,378,011	2,299,713	2,302,017	2,263,013	2,241,489
<b>Cand-6</b>	<b>4,106,277</b>	<b>4,554,386</b>	<b>4,613,847</b>	<b>4,539,937</b>	<b>4,097,363</b>	<b>4,334,733</b>	<b>4,309,886</b>	<b>4,325,970</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

2000: without Austria; 2000-2001: without Luxembourg; 2000-2003: without Ireland

2004-2007: Ireland included with structure of PPSN

These figures refer to migration stocks, which hide a large number of inflows and outflows every year. The statistics of gross migration inflows and outflows in countries such as Germany or the large difference between gross figures on work permits in the UK and the actual number of foreigner workers there suggests that return migration is substantial and has increased recently. As in other migration episodes, a high share of migration from the new member states is temporary. The relatively short distance and falling communication and transport costs make it likely that the share of temporary migration is higher in case of the NMS than in other migration episodes.

**Table 6b: EU-15 emigrants from the NMS-8, NMS-2 and CAND-6 in per cent of the home population, 2000-2007**

Sending country	2000	2001	2002	2003	2004	2005	2006	2007
<i>share of total population</i>								
Czech Republic	0.41%	0.52%	0.57%	0.70%	0.62%	0.70%	0.89%	1.01%
Estonia	1.35%	1.53%	1.67%	1.97%	1.98%	2.27%	2.45%	2.74%
Hungary	0.83%	0.93%	0.97%	0.93%	0.91%	1.01%	1.05%	1.32%
Latvia	0.91%	0.82%	0.95%	1.06%	1.05%	1.43%	1.84%	1.87%
Lithuania	0.69%	1.05%	1.20%	1.55%	1.53%	2.50%	3.36%	3.80%
Poland	1.24%	1.39%	1.43%	1.51%	1.59%	1.98%	2.60%	3.40%
Slovak Republic	0.47%	0.69%	0.73%	0.82%	0.97%	1.52%	1.70%	2.45%
Slovenia	1.20%	1.54%	1.57%	1.79%	1.62%	1.73%	1.71%	1.78%
<b>EU 8</b>	<b>0.96%</b>	<b>1.10%</b>	<b>1.15%</b>	<b>1.25%</b>	<b>1.28%</b>	<b>1.61%</b>	<b>2.03%</b>	<b>2.57%</b>
Bulgaria	0.87%	1.28%	1.79%	2.13%	2.62%	2.83%	3.31%	4.05%
Romania	0.97%	1.29%	1.78%	2.55%	3.34%	4.07%	4.97%	7.21%
<b>EU 2</b>	<b>0.94%</b>	<b>1.29%</b>	<b>1.79%</b>	<b>2.43%</b>	<b>3.15%</b>	<b>3.74%</b>	<b>4.53%</b>	<b>6.38%</b>
Albania	13.49%	14.12%	16.63%	18.69%	21.45%	22.83%	23.56%	25.46%
Bosnia-Herzegovina	6.02%	8.50%	8.48%	8.63%	8.16%	8.19%	8.08%	8.31%
Croatia	5.57%	7.14%	7.41%	7.52%	7.31%	7.34%	7.27%	7.13%
Macedonia	4.14%	5.11%	5.56%	6.80%	7.19%	7.51%	7.92%	8.39%
Serbia-Montenegro	6.39%	7.84%	8.60%	9.57%	4.22%	6.47%	6.30%	5.85%
Turkey	3.64%	3.72%	3.65%	3.39%	3.23%	3.19%	3.18%	3.20%
<b>Cand 6</b>	<b>4.49%</b>	<b>4.93%</b>	<b>5.01%</b>	<b>4.95%</b>	<b>4.42%</b>	<b>4.63%</b>	<b>4.65%</b>	<b>4.72%</b>

Sources: National population statistics, Eurostat, LFS, own calculations and presentation.

2000: without Austria; 2000-2001: without Luxembourg; 2000-2003: without Ireland

2004-2007: Ireland included with structure of PPSN

## 4 The structure of migration: Skills, age and gender

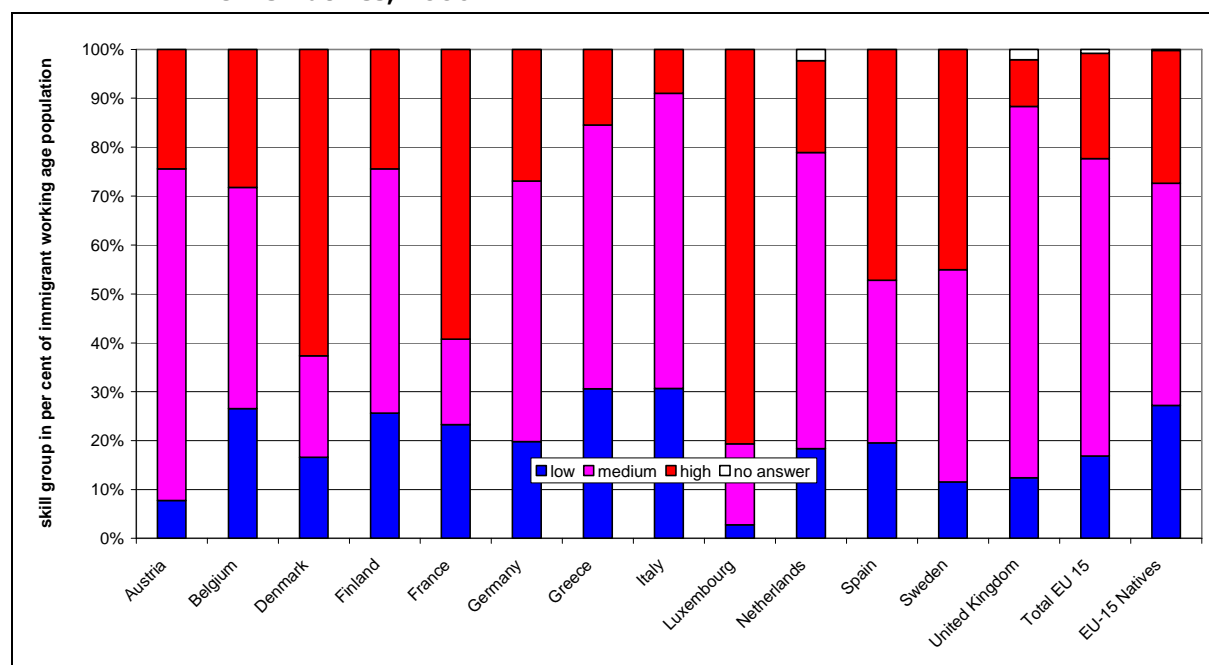
The qualification structure of migrants from the NMS is concentrated about the mean. The migrant population from the NMS has a smaller share of less skilled workers than the native population in the EU-15, but also a smaller share of high-skilled workers compared to the native workforce in the EU-15. However, the migrant workforce from the NMS is better qualified compared to the native population which stayed behind in the NMS. In general, we observe a moderate 'brain drain' in the sending countries, but not a large impact on human capital endowments in the receiving countries of the enlarged EU. In contrast, education levels of migrants from the candidate countries are well below those of natives in the receiving countries of the EU-15 (Section 4.1). Not surprisingly, the age of migrants from the NMS is well below that of natives in the receiving and the sending countries. In those countries which have been heavily affected by the recent immigration episode from the NMS the age of migrants is particularly low. Although the age of migrants from the NMS will grow over time, the relatively high share of temporary migrants will result in a younger age of the migrants from the NMS compared to other immigrant groups with a lower share of temporary migrants (Section 4.2).

## 4.1 Skill structure

### 4.1.1 Skill structure of immigrants from the NMS-8

Figure 7 and Annex Table A2 display the skill structure of the migrants from the NMS-8 in the EU-15 by their highest level of completed education. The LFS classification of education levels is based on the ISCED classification. The data reported here are aggregated to three levels: Lower secondary education (low), upper secondary education (medium), and tertiary education levels (high). Note that education degrees are not comparable across countries. Many education degrees are therefore not acknowledged. Moreover, misclassification in the LFS is widespread if education systems differ largely between receiving and sending countries.

**Figure 7: Skill structure of immigrants from the NMS-8 in the EU-15 compared to EU-15 natives, 2006**



Source: European LFS, special provision 2008. Own calculations and presentation.

With a share of 61 per cent the working age population from the NMS-8 in the EU-15 is heavily concentrated in the middle of the skill spectrum. Only 17 per cent of the NMS-8 migrants belong to the less qualified group, compared to 27 per cent in the native workforce in the EU-15. However, the share of the high-skilled is at 22 per cent of the working age population of the NMS-8 immigrants slightly below that of natives in the EU-15 (27 per cent).

The results for the individual EU-15 member states are however quite heterogeneous: Only a very small fraction of immigrants in Austria, Sweden, and the UK belong to the less qualified group (8-12 per cent), while that fraction is substantially higher in the

other EU-15 countries (varying between 17 per cent in Denmark to 31 per cent in Italy).<sup>11</sup> The share of medium skilled immigrants differs considerably. While their fraction is relatively low in Denmark and France (17-20 per cent), it is extraordinarily high in the UK, Austria, the Netherlands, and Italy. However, measurement errors bias the results to the mean. In the UK as an example, the category of 'unknown education' has been classified as medium education during the last survey years which has biased the education structure of the foreign population in one way or another.

Austria, Belgium, Finland, and Germany each report that approximately 25 per cent of the NMS-8 immigrants are highly qualified, while Sweden and Spain have values of about 45 per cent. Low shares of highly qualified immigrants from the NMS-8 are found in Greece, the Netherlands, and the UK (10-20 per cent). The extremely high values for Denmark, France and Luxembourg are based on low response rates and may therefore result from measurement or classification errors.

Altogether, the skill structure of the workforce from NMS-8 countries in the EU-15 is high compared to other foreigner groups. In almost all EU-15 countries the share of less skilled workers in the immigrant workforce from the NMS-8 is below that of the native workforce. Belgium, Finland and Germany are notable exceptions in this respect. However, the share of high skilled workers, i.e. workers with a university degree, is in most receiving countries well below that of the native workforce.

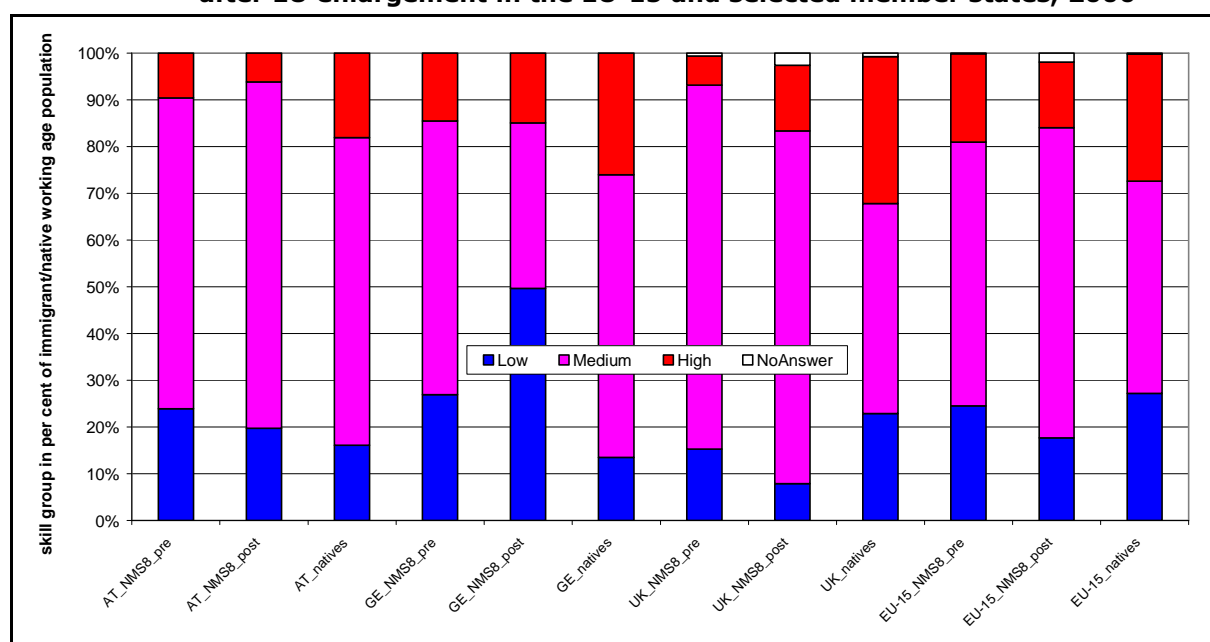
The figures presented above refer to the skill structure of the current stock of migrants, which has been accumulated both before and after EU enlargement. As a result of the new immigration opportunities the skill structure of migrants may have changed in the context of Enlargement. The LFS allows to identify the year of arrival which enables us to disentangle the skill structure of migrants which have arrived before and after enlargement. Low response rates restrict our analysis only on the main destinations, i.e. Austria, Germany and the UK.

We find indeed that the skill structure of immigrants which have arrived after enlargement deviates from that of the earlier vintages: In Germany, which has been the main destination before enlargement, we observe that the average education level of the new arrivals from the NMS-8 has significantly deteriorated. Particularly the share of the group with a low educational degree has substantially increased in Germany. In contrast, that of NMS-8 immigrants in the UK has slightly improved. In Austria, the average education level of the immigrants from the NMS-8 which have arrived after Enlargement are slightly higher than that of the groups which have arrived before Enlargement, but the differences are within the range of measurement errors. At the level of the EU-15, we observe a slight increase in the average education level of the NMS-8 immigrants since enlargement, particularly the share of the less-skilled immigrants has declined (see Figure 8).

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<sup>11</sup> The figures for Luxembourg are not plausible and may suffer from low response rates.

**Figure 8: Skill structure of NMS-8 immigrant cohorts which have arrived before and after EU enlargement in the EU-15 and selected member states, 2006**



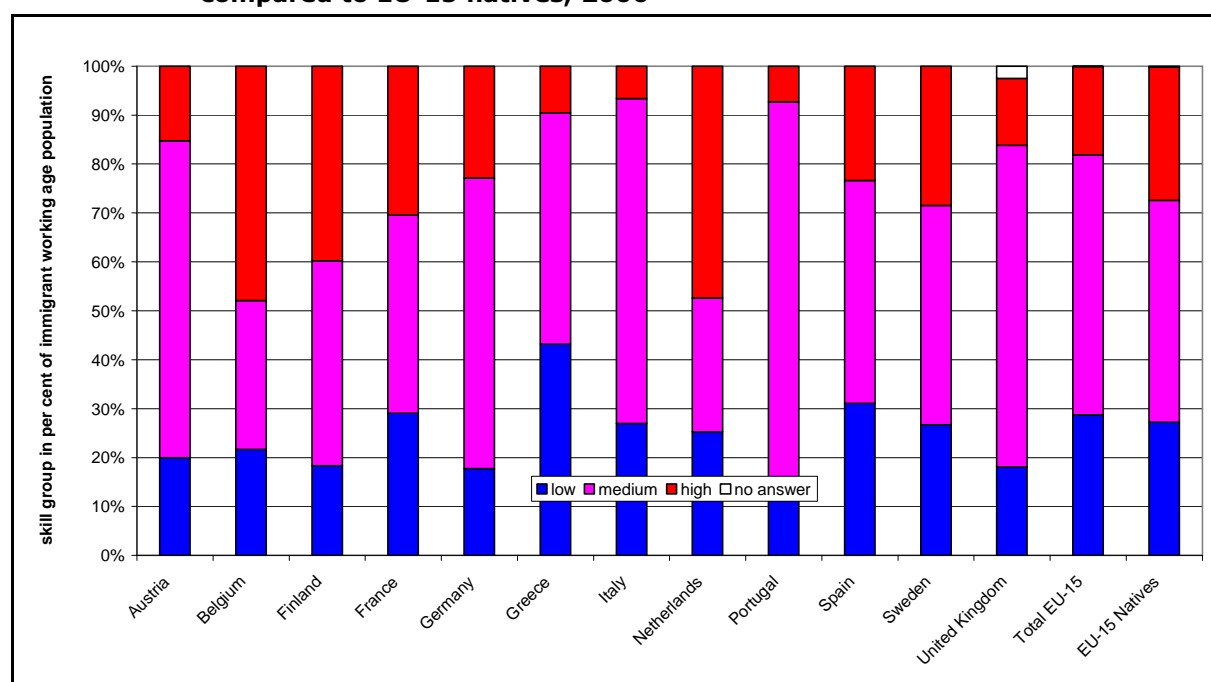
Source: European LFS, special provision 2008. Own calculations and presentation.

#### 4.1.2 Skill structure of immigrants from Bulgaria and Romania

The average education level of the native population in Bulgaria and Romania is below that of natives in the NMS-8. The skill structure of the working age population from the NMS-2 in the EU-15 reflects this lower education level of the native population in the sending countries: About 29 per cent of the immigrant population in working age from the NMS-2 belong to the less-educated skill group, compared to 17 per cent in the workforce from the NMS-8 and 27 per cent in the native workforce of the EU-15. At the upper end of the skill spectrum, about 18 per cent of the NMS-2 immigrants belong to the high-skilled group, compared to 22 per cent in the NMS-8 workforce and 27 per cent in the native workforce of the EU-15.

However, in the main destinations of the NMS-2 migrants, Spain and Italy, the share of less- and high-skilled workers in the NMS-2 workforce is well below that of the native population there. Altogether, immigration from the NMS-2 has a similar impact as immigration of the NMS-8 on the skill structure of the workforce in the main destinations: It increases the labour supply more than proportional at the medium levels of the skill spectrum, but less than proportional both at the lower and the upper end of the skill spectrum. In Greece, where immigration from the NMS-2 is important in relative terms, we observe a similar pattern (see Figure 9 and Table A2).

**Figure 9: Skill structure of immigrants from Bulgaria and Romania in the EU-15 compared to EU-15 natives, 2006**



Source: European LFS, special provision 2008. Own calculations and presentation.

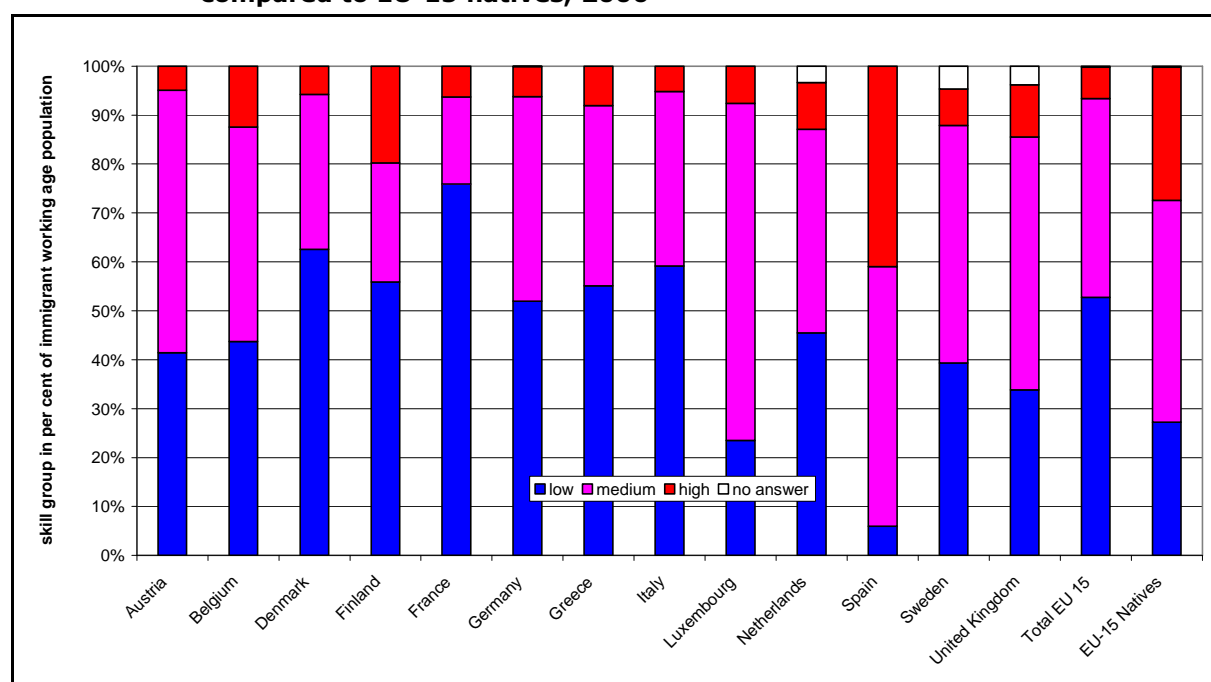
#### 4.1.3 Skill structure of immigrants from the candidate countries

The qualification structure of the working age population from the six candidate and potential candidate countries in the EU-15 displays a completely different pattern than that of the NMS immigrant workforce: 53 per cent belong to the less qualified group, 41 to the medium qualified group and only 6 per cent to the highly qualified education group. Immigration from these countries has a long history in the EU and reflects inter alia the recruitment of manual workers during the 1960s and early 1970s, which leaves its traces in the skill structure of the immigrant workforce from there until today.

In the main destinations of migrants from these countries, i.e. in Germany, Austria, Italy and the Netherlands, the share of the less-skilled in the working age population from the candidate countries varies between 40 and 60 per cent, compared to 14 to 20 per cent in the native population of the receiving countries with the exception of Italy (39 per cent). The share of the high skilled varies between 5 and 7 per cent and is thus well that of the native population (see Figure 10 and Table A2).

Altogether, the average education level of the workforce from the candidate countries is well below that of the native labour force in the receiving countries. This is true for both the traditional destinations such as Germany and Austria as well as new destinations such as Italy and Greece.

**Figure 10: Skill structure of immigrants from the candidate countries in the EU-15 compared to EU-15 natives, 2006**



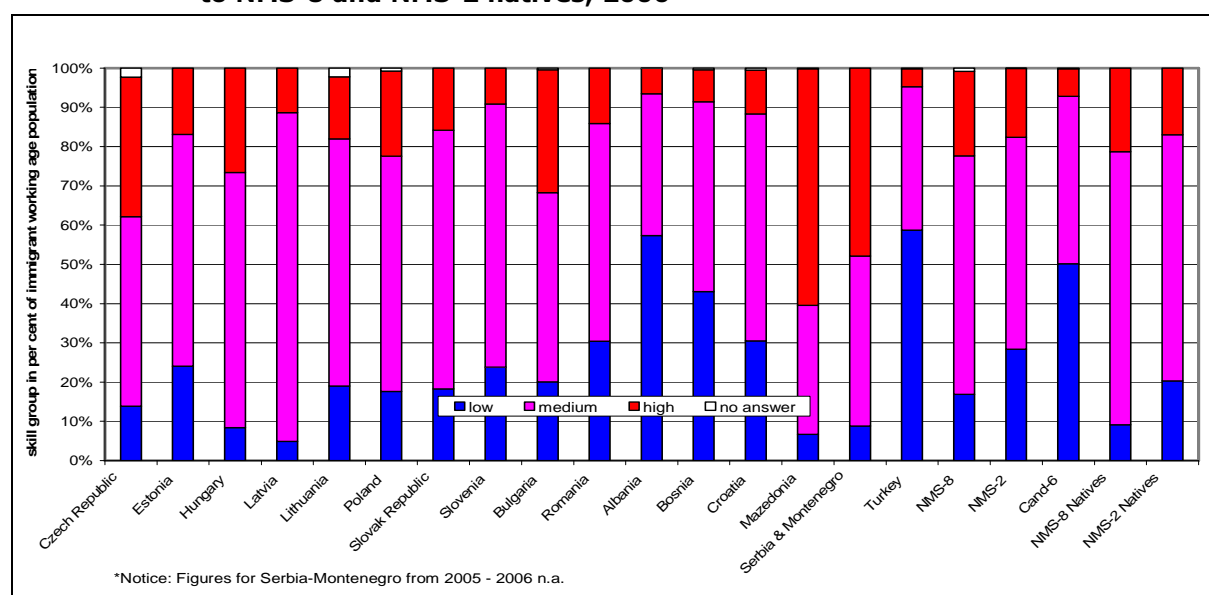
Source: European LFS, special provision 2008. Own calculations and presentation.

## 4.2 Does Eastern enlargement involve a brain drain?

The average education level of the migrant workforce from the NMS-8 residing in the EU-15 is well above that of the native workforce staying behind. In the NMS-8, the share of the high-skilled segment of the workforce is at 22 per cent more than twice as high as that of the native workforce (9 per cent), while the share of the less-skilled group is at 17 per cent well below that of the native workforce in the sending countries (21 per cent). In contrast, average education levels of the migrant workforce from the NMS-2 are not above those of the native population: The share of the high-skilled group is about 18 per cent of the migrant workforce from the NMS-2 residing in the EU-15 compared to 20 per cent in the native working age population in the sending countries. Analogously, about 28 per cent of the migrants from the NMS-2 belong to the less-skilled group, but only 17 per cent of the native population in working age in the NMS-2. However, these figures have to be taken with a grain of salt since survey results from the sending and receiving countries are biased due to classification and measurement errors (see Figure 11 and Table A3).

The results for the individual sending countries differ widely. The Labour Force Survey suggests that the migrant workforce from the Czech Republic, Hungary, Bulgaria and Poland is particularly high skilled compared to the native population, while the skill level of the migrant working age population is below the native population in case of Romania and Slovenia.

**Figure 11: Skill structure of immigrants in the EU-15 by country of origin compared to NMS-8 and NMS-2 natives, 2006**



Source: European LFS, special provision 2008. Own calculations and presentation.

### 4.3 Is there evidence for brain waste?

To illustrate the issue of possible brain waste among migrants (compared to the native population), we restrict the analysis to the group of high-skilled persons in order to investigate whether and to what extent these highly qualified individuals work in jobs that would generally require only medium or low qualification (see Table A4 for medium skilled persons). We expect to see high-skilled individuals working in jobs requiring a high level of education; hence there should be an accumulation of individuals working as professionals or managers and only a minority of individuals working in fields such as agriculture, crafts or machine operating. As the dataset gives only a loose overview of the occupational structure we refer to the occupational structure of natives in order to identify different employment patterns. Hence, Table 7 describes the occupational structure of employed individuals within the EU-15 of foreigners and natives for the year 2006.

For our analysis we refer to data based on the International Standard Classification of Occupations, ISCO, which enables us to distinguish the basic occupational fields in which an individual works. We drop the 'Armed Forces' category due to missing values for the NMS-8, NMS-2, and Cand-6 group. There are two classes used in the table: '>10years', i.e. immigrants that lived in the host country for more than ten years, and 'newly arrived', the group of persons that moved to the host country within the last decade.

**Table 7: Occupational structure of highly skilled employed individuals by migration status in the EU-15, 2006**

	immigrants from NMS-8		immigrants from NMS-2		immigrants from CAND-6		natives
	> 10years	newly arrived	> 10years	newly arrived	> 10years	newly arrived	
<i>in per cent of highly skilled employed individuals aged 15-64</i>							
Clerks	0.7	8.9	0.9	3.4	17.6	3.3	8.1
Craft and related trade workers	15.0	12.6	15.8	32.6	13.5	20.0	3.8
Elementary occupations	9.8	9.2	4.9	20.9	10.8	18.5	1.2
Legislators, senior officials and managers	5.0	10.8	1.2	1.6	5.5	9.9	12.6
Plant and machine operators and assemblers	0.4	2.7	27.2	2.4	5.9	11.9	1.4
Professionals	23.8	21.1	29.2	8.0	21.4	18.5	42.8
Service workers and shop and market sales workers	8.7	16.7	2.6	19.8	7.2	8.6	5.1
Skilled agricultural and fishery workers	0.2	0.0	0.0	0.4	0.7	2.6	0.8
Technicians and associate professionals	36.6	17.9	18.1	11.0	17.4	6.6	23.7
<i>Total (in persons)</i>	41,278	91,350	15,673	109,696	57,800	33,373	42,512,500

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'armed forces' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

Using natives' occupational structure as reference, which is characterised by a high share of professionals (43 per cent), technicians (24 per cent) and legislators (13 per cent), sizeable differences between natives and foreigners become apparent. However, these differences vary also between newly arrived immigrants and those who are in the respective country for more than 10 years. It is obvious that foreigners, independent of their origin, work more often in occupations which require only elementary skills (craft and related trade workers, elementary occupations, plant and machine operators, service workers and shop and market sales workers). Moreover, the group which stays more than 10 years is less represented in these occupational groups than the new arrivals.

#### 4.4 Changing the age structure of the workforce

One important feature of the recent migration wave from the new member states is that the immigrant population from the NMS is particularly young. Almost two-thirds (63 per cent) of the working age population from the NMS-8 in the EU-15 belongs to the age group from 15 to 34 years, compared to 58 per cent in the immigrant workforce from the NMS-2 and 34 per cent of the native workforce in the EU-15. This can be traced back to the fact that immigration from the NMS has started only recently. In countries like Austria and Germany, where immigration from the NMS began already in the early 1990s, the share of the 15 to 34 age group among the working age population from the NMS-8 is at 37 per cent and 49 per cent, respectively, well below that of the UK (86 per cent). Due to the long migration tradition, the working age population from the candidate countries in the EU-15 is much older than the immigrant workforce from the NMS: The

share of the 15 to 34 age group of the CAND-6 amounts to 46 per cent on average. This share is still higher than among the native working age population, but considerably smaller than in the workforce from the NMS (see Table 8).

**Table 8: Age composition of the working age population by migration status in the EU-15, 2006**

	immigrants from NMS-8			immigrants from NMS-2			immigrants from CAND-6			natives		
	15-34	35-49	50-64	15-34	35-49	50-64	15-34	35-49	50-64	15-34	35-49	50-64
<i>in per cent of working age population</i>												
Austria	36.8	38.8	24.4	70.5	24.7	4.8	45.4	41.2	13.4	35.5	45.3	19.2
Belgium	64.1	31.2	4.7	74.9	18.4	6.7	n.a.	n.a.	n.a.	34.6	45.1	20.3
Denmark	85.0	5.7	9.4	n.a.	n.a.	n.a.	66.7	28.2	5.0	34.8	37.5	27.7
Finland	44.0	49.5	6.4	39.8	41.9	18.3	42.3	47.8	9.9	32.6	38.1	29.3
France	46.2	45.4	8.4	68.2	20.2	11.6	53.2	36.0	10.8	34.0	42.6	23.3
Germany	48.7	36.5	14.9	55.5	32.9	11.6	44.3	38.2	17.5	30.3	44.9	24.8
Greece	38.3	52.1	9.6	41.1	45.6	13.3	46.4	44.7	8.9	34.2	42.4	23.4
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	43.3	35.3	21.4
Italy	58.3	28.7	12.9	60.3	33.2	6.5	46.9	47.9	5.2	32.2	45.6	22.2
Luxembourg	74.5	19.5	6.0	36.7	48.7	14.6	44.8	52.2	3.0	29.6	48.2	22.3
Netherlands	53.8	40.6	5.6	0.0	0.0	0.0	52.9	40.9	6.2	37.5	39.6	22.8
Portugal	n.a.	n.a.	n.a.	56.7	38.9	4.3	n.a.	n.a.	n.a.	36.7	39.7	23.6
Spain	70.9	21.6	7.5	57.3	35.1	7.6	n.a.	n.a.	n.a.	38.5	40.3	21.2
Sweden	35.8	43.9	20.3	71.5	19.8	8.7	49.1	44.3	6.7	32.3	36.8	30.8
United Kingdom	86.0	11.2	2.9	79.8	13.8	6.4	51.4	45.1	3.5	34.5	39.3	26.3
Total EU 15	63.0	26.8	10.2	58.3	33.9	7.8	45.8	40.8	13.3	33.9	42.2	23.9

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

From the sending country perspective, the share of emigrants in the young cohorts increases with the share of people which have emigrated during the last years: The share of the 15 to 34 cohort in the migrant population is particularly high in Lithuania, Latvia, the Slovak Republic, the Czech Republic and Poland, i.e. in case of sending countries for which migration barriers have been recently removed. In the successor states of the former Yugoslavia, where emigration has started already during the guestworker recruitment phase in the 1960s and accelerated during the civil wars in the 1990s, the average age of the emigrant population is high compared to the other sending countries (see Table 9).

Altogether, the migrant workforce from the NMS is particularly young, which reduces labour supply in the young cohorts substantially in the sending countries and increases it in the main destinations such as the UK and Ireland. Of course, the age of the workforce from the new member states will increase over time. The higher share of temporary migration which is facilitated by the migration opportunities within the EU and the geographical proximity may however result in a higher labour mobility among the young cohorts of the labour force from the NMS and, hence, a lower average age of the migrant workforce from the NMS in the EU-15 compared to other immigrant groups even in the long-run.

**Table 9: Age composition of the working age population by migration status in the sending countries, 2006**

age group	EU-15 emigrants			natives		
	15-34	35-49	50-64	15-34	35-49	50-64
<i>in per cent of working age population</i>						
Czech Republic	65.4	21.5	13.1	14.5	79.7	5.8
Estonia	54.0	41.6	4.4	35.7	53.6	10.7
Hungary	43.4	33.4	23.2	21.3	65.3	13.4
Latvia	70.6	22.7	6.7	23.9	62.3	13.7
Lithuania	77.6	15.2	7.2	31.2	61.0	7.9
Poland	64.7	27.2	8.1	22.4	68.4	9.2
Slovak Republic	69.3	23.2	7.6	16.6	78.7	4.7
Slovenia	38.9	31.4	29.7	23.4	62.2	14.4
Bulgaria	57.4	32.8	9.8	25.2	59.3	15.6
Romania	58.4	34.4	7.2	14.2	63.9	21.9
Albania	48.7	44.5	6.9	n.a.	n.a.	n.a.
Bosnia-Herzegovina	37.6	42.6	19.8	n.a.	n.a.	n.a.
Croatia	35.8	34.8	29.4	35.7	53.6	10.7
Mazedonia	39.2	57.1	3.7	n.a.	n.a.	n.a.
Serbia-Montenegro	44.6	31.3	24.1	n.a.	n.a.	n.a.
Turkey	50.1	39.4	10.5	n.a.	n.a.	n.a.
NMS-8	63.0	26.8	10.2	37.7	40.0	22.4
NMS-2	58.2	34.1	7.7	36.5	41.0	22.5
Cand-6	45.7	39.6	14.7	n.a.	n.a.	n.a.

Results for immigrants can be biased due to measurement and classification errors.--  
Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

#### 4.5 Gender patterns

Another feature of the recent immigration wave from the new member states is the relatively high participation of females in the migrant labour force. Table 10 displays the share of females in the labour force of immigrants from the NMS-8, NMS-2, the CAND-6 and natives in the EU-15. The share of females in the native labour force is below 50 per cent in all EU-15 countries and particularly low in Italy and Greece. In the labour force from the NMS-8 we observe a share of females of 51 per cent, which is considerably higher compared to the native labour force. The share of females in the NMS-2 labour force in the EU-15 is at 47 per cent lower than that in the NMS-8 labour force, but still higher than that of females in the native labour force of the EU-15 (45 per cent). However, the LFS data reports for some countries implausible high shares of females in the immigrant labour force from the NMS, such that we have to take these results with a grain of salt (see Table 10).

In the labour force from the candidate countries we observe a different gender pattern: The share of females is at 34 per cent much lower than among the native and the

immigrant labour force from the NMS, which reflects both a lower participation of females in the migrant population from these countries and a lower labour market participation of females from the candidate countries residing in the EU-15.

Altogether, the relatively high share of females in the immigrant labour force demonstrates that labour mobility from the new member states deviates from the breadwinner model which influences migration patterns and the female labour market participation in many migrant groups until today.

**Table 10: Share of females in labour force by migrant status in the EU-15, 2006**

	NMS-8	NMS-2	CAND-6	natives
<i>in per cent of labour force</i>				
Austria	46.6	56.5	35.9	45.6
Belgium	63.4	53.2	n.a.	44.5
Denmark	n.a.	n.a.	45.9	46.8
Finland	n.a.	n.a.	n.a.	48.6
France	74.4	n.a.	17.2	46.8
Germany	54.5	63.4	36.9	46.3
Greece	55.3	58.9	30.1	39.2
Italy	81.7	40.9	26.8	39.7
Luxembourg	69.1	n.a.	n.a.	43.3
Netherlands	69.3	n.a.	34.1	45.1
Portugal	n.a.	n.a.	n.a.	46.3
Spain	48.3	47.7	53.0	40.2
Sweden	n.a.	n.a.	n.a.	47.5
United Kingdom	43.4	n.a.	23.9	47.0
EU-15	51.3	47.4	33.5	44.7

Source: European LFS, special provision 2008. Own calculations and presentation.

## 5 Unemployment and labour market participation

This section deals with the labour market status of immigrants from the new member states and the candidate countries in the EU-15. We distinguish between employed, unemployed, and inactive persons in the working age population based again on the information provided by the European LFS. The employment share of the immigrant population in working age from the NMS-8 is at 68 per cent similar to that of natives (67 per cent). Interestingly enough, the LFS reports a considerably higher employment share for the working age population from the NMS-2 in the EU-15 (74 per cent). The share of unemployed individuals in the working age population<sup>12</sup> from the NMS is at some 8.5 per cent somewhat higher compared to the native population in the EU-15 (5.2 per cent). The inactivity rate is at 18 per cent (NMS-2) and 24 per cent (NMS-8) well below that of

<sup>12</sup> Note that the share of unemployed in the total working age population is not comparable to the unemployment rate, which is usually defined as the share of unemployed in the civil labour force.

natives in the EU-15 (28 per cent), which reflects inter alia the lower age of the migrant population from the NMS. In contrast, the working age population from the candidate countries shows a substantially higher share of inactive (36 per cent) and unemployed persons (11 per cent) (see Table 11). The differences in the labour market performance between immigrants from the new member states and the candidate countries reflect both to other demographic characteristics and differences in education levels which have been described above.

**Table 11: Employment, unemployment and inactivity by migrant status in EU-15, 2006**

	immigrants from NMS-8			immigrants from NMS-2			immigrants from CAND-6			natives		
	employed	unemployed	inactive	employed	unemployed	inactive	employed	unemployed	inactive	employed	unemployed	inactive
<i>in per cent of working age population</i>												
Austria	68.7	6.6	24.8	60.0	5.6	34.3	61.7	7.5	30.8	70.8	3.1	26.2
Belgium	52.9	3.5	43.6	53.6	19.2	27.2	27.8	12.7	59.5	61.5	5.0	33.4
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	60.6	5.0	34.4	77.3	3.2	19.6
Finland	71.7	2.9	25.4	60.0	18.7	21.3	54.5	15.5	30.0	70.2	6.8	23.1
France	61.4	6.8	31.7	27.8	34.0	38.2	43.4	9.6	47.0	64.5	5.7	29.8
Germany	58.6	12.3	29.1	60.8	8.8	30.5	49.5	13.5	37.1	68.9	7.1	24.0
Greece	69.9	1.6	28.4	78.4	6.6	15.0	69.0	5.2	25.8	60.6	6.0	33.4
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	67.7	2.9	29.3
Italy	57.4	3.7	38.9	73.3	8.2	18.4	62.7	8.4	28.9	58.4	4.0	37.6
Luxembourg	79.1	3.5	17.4	74.2	6.1	19.7	62.8	12.3	24.9	60.9	1.9	37.2
Netherlands	58.4	5.6	36.0	53.5	5.7	40.9	48.8	5.8	45.4	75.0	2.9	22.1
Portugal	n.a.	n.a.	n.a.	72.5	14.7	12.8	n.a.	n.a.	n.a.	68.0	5.6	26.4
Spain	75.6	8.1	16.3	77.3	8.1	14.6	85.6	9.2	5.2	63.9	5.6	30.4
Sweden	60.9	15.9	23.3	n.a.	n.a.	n.a.	46.0	12.8	41.1	74.0	6.2	19.8
United Kingdom	82.3	5.4	12.4	84.1	8.2	7.7	41.1	8.3	50.6	71.7	3.9	24.4
Total EU 15	67.6	8.5	23.9	73.7	8.5	17.8	53.1	11.2	35.8	66.5	5.2	28.2

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

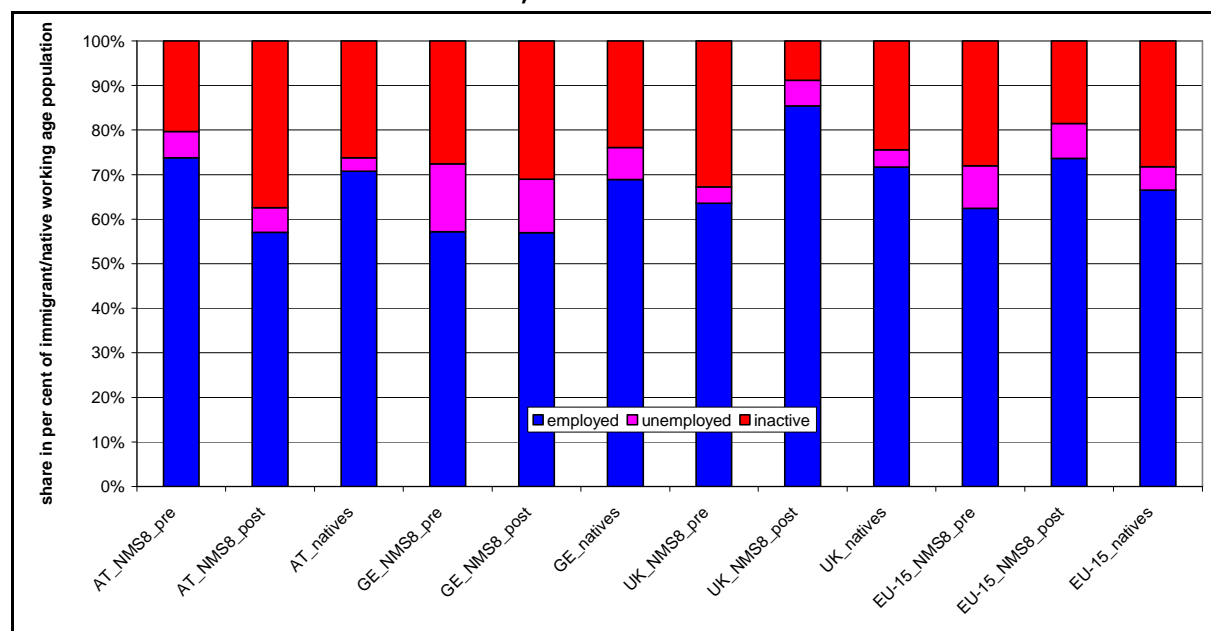
Source: European LFS, special provision 2008. Own calculations and presentation.

The labour market performance of migrants from the new member states and the candidate countries varies considerably across destination countries. Employment shares of migrants from the NMS are particularly high in the UK, Luxembourg, Spain, Greece, and Italy. Note that immigration from the NMS is a recent phenomenon in these countries. Moreover, the UK has restricted the access to unemployment benefits for migrants from the NMS. In contrast, employment shares are particularly low in Belgium, France, Germany, and the Netherlands. Note again that particularly the country results may suffer from low response rates in the LFS.

Figure 12 compares the labour market performance of immigrants from the NMS-8 which moved before and after EU enlargement for the EU-15 and selected destinations. At the EU-15 average, the immigrant cohorts which arrived after EU enlargement are characterised by a higher employment and a lower inactivity ratio compared to the cohorts which arrived before enlargement. Nonetheless, the picture differs by destination countries. In Austria we find a high employment share among the pre-enlargement migrants and in Germany the employment ratio is roughly the same for both groups. In contrast, the post-enlargement cohorts outpace the employment share of their predecessors by far in the UK. These differences in the labour market performance may

reflect different migration patterns: While immigration in the UK is largely driven by the opening of the labour markets, the main channels for permanent migration from the NMS to Germany are family reunification.

**Figure 12: Employment, unemployment, and inactivity of NMS-8 immigrant cohorts which have arrived before and after EU enlargement in the EU-15 and selected member states, 2006**



Source: European LFS, special provision 2008. Own calculations and presentation.

Table 12 compares the employment, unemployment and inactivity shares of the working age population of the EU-15 migrants with that of natives in the sending countries. Note that the observable and unobservable human capital characteristics of the migrant population differ from those of the native population, such that this does not provide information on the labour market performance of individuals in the home and the host country. According to the LFS data, the inactivity rate of the migrant population of the NMS-8 and the NMS-2 is at 24 per cent and 18 per cent, respectively, well below that of the native population in the NMS-8 (35 per cent) and the NMS-2 (36 per cent), while the unemployment rate is slightly higher. The employment rates of the migrant population are in most sending countries well above those of the native population. The higher activity of the migrant population relative to the native population is not surprising, since the age is substantially lower and the education levels are usually higher compared to the native population. Moreover, specific characteristics of the migrant population may play a role here. Interestingly enough, this pattern does not hold for all sending countries: The employment rates of migrants from the successor states of the former Yugoslavia are on average below those of the new member states, and that of Turkey are at 46 per cent particularly low. Although data on the labour market participation of natives in the home countries are not available for most of these countries, these figures suggest that employment shares of the migrant population may be below those of natives in the sending countries.

**Table 12: Employment, unemployment and inactivity of EU-15 emigrants and natives in the sending countries, 2006**

	EU-15 emigrants			natives		
	employed	unemployed	inactive	employed	unemployed	inactive
<i>in per cent of working age population</i>						
Czech Republic	63.8	8.7	27.5	65.2	5.0	29.8
Estonia	73.1	2.7	24.2	68.7	4.0	27.3
Hungary	72.6	9.3	18.2	57.3	4.5	38.2
Latvia	70.3	13.7	16.0	65.4	5.2	29.4
Lithuania	75.7	9.6	14.7	63.6	3.8	32.5
Poland	67.1	8.0	24.9	54.0	9.0	37.0
Slovak Republic	64.4	8.5	27.1	59.2	9.3	31.5
Slovenia	65.7	9.7	24.6	67.2	4.3	28.6
Bulgaria	71.3	8.0	20.7	59.1	5.8	35.0
Romania	74.3	8.7	17.1	59.6	4.8	35.6
Albania	64.7	6.7	28.6	n.a.	n.a.	n.a.
Bosnia-Herzegovina	60.1	10.3	29.5	n.a.	n.a.	n.a.
Croatia	63.5	10.1	26.4	68.7	4.0	27.3
Mazedonia	62.2	7.5	30.3	n.a.	n.a.	n.a.
Serbia-Montenegro	61.0	7.0	32.1	n.a.	n.a.	n.a.
Turkey	45.6	13.1	41.3	n.a.	n.a.	n.a.
NMS-8	67.7	8.4	23.9	57.8	7.3	34.9
NMS-2	73.6	8.5	17.8	59.5	5.0	35.5
Cand-6	53.6	10.9	35.5	n.a.	n.a.	n.a.

Results for immigrants can be biased due to measurement and classification errors.--  
 Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

Altogether, the labour market performance of the migrants from the new member states reflects both their relatively high education level and low age compared to other foreigner groups. Employment and activity rates are above the native population in the receiving and the sending countries. However, the share of unemployed individuals in the working age population is higher in the migrant population from the NMS compared to those of natives in the receiving countries.

## 6 Conclusions

This background report has described the main migration patterns and fundamental economic conditions which may have contributed to the migration from the new member states and the candidate countries in the context of the EU eastern enlargement. We find that differences particularly in nominal per capita GDP and wage levels create substantial monetary incentives for migration, although the fast convergence of per capita GDP and

wage levels erodes these incentives over time. The speed of wage and income convergence is faster in the new member states compared to the candidate countries and has considerably accelerated after enlargement.

The removal of immigration barriers in selected EU countries is associated with a substantial increase in migration from the NMS-8 into the EU-15 since 2004 and a diversion of migration flows away from Austria and Germany towards Ireland and the UK. An annual increase in the stock of migrants of some 254,000 persons p.a. corresponds to the forecasts of potential migration from the NMS-8 into the EU-15 which have been undertaken before enlargement (e.g. Alvarez-Plata et al., 2003), although the large influx of migrants to destinations such as Ireland and the UK has not been expected. Immigration from Bulgaria and Romania has substantially increased and amounts to some 226,000 persons p.a. since the beginning of this decade, although most EU member states have maintained their immigration restrictions vis-à-vis both countries after their accession in 2007. This substantial influx has been mainly facilitated by bilateral agreements between Spain and Italy and the NMS-2.

The 2007 immigration data suggest that net immigration from the NMS-8 into the EU-15 starts to decline, which would coincide with standard migration patterns (Brücker/Schröder, 2006), while net immigration from Bulgaria and Romania remains at the levels of the previous years. Immigration from the candidate countries, which have been one of the main sources of immigration in the EU-15 during the last decades, however stagnates since the beginning of this decade.

The influx of migrants from the NMS will not much change the skill structure of the workforce in the receiving countries of the EU-15 since they are, similar to the native population, mainly concentrated at the mean of the skill spectrum. However, the shares of low- and high-skilled workers from the NMS are slightly below those of the native workforce. The average education level of migrants from the NMS-2 are slightly below those of the NMS-8, but compared to the education level of the native workforce in the main destinations of immigrants from the NMS-2 a similar pattern as in case of immigration from the NMS-8 emerges. This distinguishes the skill level of the workforce from the new member states in the EU-15 from that of other immigrant groups, which are characterised by lower education levels compared to the native workforce.

Comparing the skill structure of migrants with natives in the sending countries, we find that migrants from the NMS-8 are better qualified than natives in their home countries. Particularly the share of the high-skilled group in the migrant workforce is more than twice as high as that of the native workforce of the NMS-8. A brain drain may therefore be an issue for some of these countries, although recent research suggests that sending countries can benefit from high-skilled emigration if it is temporary and involves additional human capital investment in the sending countries. This will be discussed in detail in Deliverable 6 of this study.

Eastern enlargement is associated with an improvement of the skill structure of the workforce from the NMS-8 if we compare migration cohorts which arrived before and

after enlargement. An explanation of this phenomenon is not self-evident, since lower migration barriers are often associated with a lower skill level of the migrant population (Belot/Hatton, 2008; Brücker/Defoort, 2006). A possible explanation is that the regulation of immigration from the NMS by family reunification and seasonal work permits has reduced the skill level of the workforce which immigrated before enlargement.

The immigrant workforce from the NMS is particularly young compared to the native workforce in the receiving countries but also compared to the workforce of other immigrant groups. The age pattern of the migrant workforce reflects the fact that immigration from the NMS is in many countries a very recent phenomenon. The age of the immigrant workforce from the NMS will therefore increase over time. Nevertheless, geographical proximity, low transport and communication costs create together with the free movement of workers in the EU special incentives for temporary migration, which will be more than proportionally utilised by the young cohorts in the labour market. It is therefore likely that the age of the workforce from the NMS will remain below that of natives and other immigrant groups in the long-run.

The low age of the workforce from the NMS creates benefits for the public sector in the receiving countries and costs in the sending countries. Over the life-cycle, individuals contribute in the age brackets where the migrants from the NMS are more than proportionally represented much more to the public sector by taxes and social security contributions than they receive in terms of transfers. This generates a net gain for the public sector in the receiving countries, particularly if migration is temporary. This will be discussed further in Deliverable 5.

The patterns of labour market participation of migrants from the NMS in the EU-15 reflect their human capital characteristics. Inactivity rates are particularly low compared to the native workforce as well as compared to other immigrant groups, and employment rates are relatively high. This is not surprising given the low age of the immigrant workforce and the small share of less-skilled workers in the immigrant workforce from the NMS. However, the share of unemployed individuals is considerably higher compared to the native workforce, reflecting problems of labour market integration of immigrants. It is however worthwhile to note that the unemployment risks of migrants from the NMS are lower than those of other immigrant groups. We observe moreover distinct differences between destination countries, reflecting different labour market conditions and institutions as well as different modes of regulating the entry of immigrants from the NMS.

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## 8 Annex

**Table A1: Distance and transport costs, 2008**

	AT	BE	DK	DE	FI	FR	GRE	IE	IT	LX	NL	PT	SWE	SP	UK
<i>distance in km</i>															
BU	1,013	2,112	2,032	1,648	2,589	2,189	736	2,918	1,650	1,955	2,171	3,555	2,633	2,833	2,474
CZE	330	915	981	355	1,500	1,050	1,980	1,713	1,300	750	890	2,790	1,350	2,320	1,226
EST	1,754	2,185	1,758	1,463	20	2,530	3,289	2,950	2,825	2,185	2,088	4,224	50	3,757	2,470
HRV	365	1,283	1,615	1,075	2,122	1,400	1,450	2,080	860	1,150	1,350	2,800	2,025	2,200	1,600
HUN	250	1,356	1,508	886	1,814	1,490	1,426	2,154	1,208	1,192	1,407	3,113	1,870	2,554	1,667
LAT	1,462	1,832	1,316	1,043	330	2,178	2,912	2,598	2,579	1,833	1,735	3,872	20	3,405	2,117
LIT	1,170	1,841	1,620	1,050	630	2,132	2,616	2,600	2,240	1,840	1,744	3,884	355	3,414	2,126
MAC	1,050	2,157	2,310	1,684	2,627	2,227	650	2,955	852	2,000	2,208	3,600	2,670	3,033	2,470
POL	730	1,310	1,190	590	1,040	1,600	2,264	2,076	1,800	1,310	1,213	3,350	1,570	2,880	1,590
ROM	1,060	2,170	2,320	1,700	2,040	2,300	1,122	2,970	1,874	2,000	2,220	3,780	2,680	3,220	2,490
SVK	78	1,190	1,310	683	1,690	1,322	1,620	1,990	1,152	1,025	1,234	3,000	1,670	2,500	1,500
SVN	374	1,190	1,522	1,000	2,111	1,250	1,590	1,980	720	987	1,242	2,623	1,950	2,065	1,500
TK	2,040	3,145	3,300	2,671	3,200	3,214	1,500	3,950	2,675	2,980	3,200	4,600	3,660	4,020	3,455
<i>cost of road transport by car (EUR)</i>															
BU	109	229	219	178	300	236	79	555	178	211	235	384	365	306	337
CZE	36	99	106	39	182	113	214	425	140	81	96	300	225	250	202
EST	189	236	190	158	20	273	355	558	305	236	226	456	50	405	336
HRV	40	140	175	116	230	150	160	465	95	125	145	300	300	240	245
HUN	27	147	163	96	216	161	154	472	131	129	152	336	280	276	250
LAT	158	198	142	113	60	235	315	520	278	198	187	418	60	368	300
LIT	126	199	175	113	90	230	282	520	240	198	188	419	100	368	230
MAC	115	233	250	182	305	241	70	560	92	215	240	388	370	330	340
POL	78	141	129	63	132	173	245	464	195	142	131	362	250	311	240
ROM	114	234	250	183	240	250	121	560	202	216	240	408	370	350	270
SVK	10	127	141	74	182	143	175	454	125	110	133	325	260	270	233
SVN	40	129	165	108	250	135	171	453	78	106	134	283	290	223	233
TK	220	340	356	289	385	350	163	665	289	320	345	495	480	435	443
<i>costs of air transport (EUR)</i>															
BU	101	167	292	174	316	167	99	245	100	305	167	330	308	200	145
CZE	169	106	110	200	124	195	142	104	340	620	106	198	140	140	90
EST	156	119	80	125	49	159	246	127	141	247	142	500	61	250	112
HRV	187	196	250	215	310	197	360	840	207	385	197	663	290	351	197
HUN	221	103	315	148	325	130	224	160	140	265	147	211	290	122	129
LAT	172	146	132	88	82	153	250	180	193	172	140	254	90	227	140
LIT	168	110	124	100	82	165	250	168	160	168	110	183	105	220	124
MAC	221	239	228	312	371	228	340	323	203	408	239	460	340	340	165
POL	90	127	72	108	132	216	249	115	179	411	127	254	143	105	127
ROM	165	333	188	327	290	195	125	160	180	430	311	223	293	170	145
SVK	n.a.	157	166	155	328	90	174	176	159	705	149	652	338	243	208
SVN	176	230	253	274	357	231	330	363	310	395	171	640	368	368	343
TK	296	265	250	209	493	330	208	240	330	325	204	388	250	325	134

Distance refers to the distance between capitals in km.-- Travelling costs by car are computed by using the Falk-routing planner, calculated for the fastest route. Travelling costs refer to one person per car and include ferry fares.-- Air transport costs are taken from OPODO for the cheapest carrier, booking one week before travelling.

Sources: Own calculations using the Falk-route planning system and the OPODO booking system.

**Table A2: Skill composition of the working age population by migration status in the EU15, 2006**

	immigrants from NMS-8			immigrants from NMS-2			immigrants from CAND-6			natives		
	low	medium	high	low	medium	high	low	medium	high	low	medium	high
<i>share in per cent of working age population</i>												
Austria	7.7	67.8	24.4	20.0	64.8	15.2	41.4	53.6	4.9	16.1	65.9	18.0
Belgium	26.5	45.3	28.2	21.7	30.4	47.9	43.7	43.8	12.5	23.7	38.7	37.6
Denmark	16.6	20.7	62.7	n.a.	n.a.	n.a.	62.6	31.7	5.8	20.1	47.3	32.5
Finland	25.6	50.0	24.4	18.3	41.9	39.8	55.9	24.3	19.8	17.6	47.1	35.3
France	23.3	17.5	59.2	29.1	40.6	30.4	75.9	17.8	6.3	24.8	45.5	29.7
Germany	19.8	53.3	26.9	17.8	59.4	22.8	52.0	41.8	6.1	13.5	60.5	26.0
Greece	30.5	54.0	15.5	43.2	47.2	9.5	55.1	36.9	8.0	34.7	39.3	25.9
Ireland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	26.6	40.1	32.3
Italy	30.7	60.3	9.0	27.0	66.4	6.6	59.2	35.6	5.2	39.0	45.8	15.3
Luxembourg	2.7	16.6	80.7	n.a.	n.a.	n.a.	23.5	68.9	7.6	26.0	50.3	23.7
Netherlands	18.4	60.5	18.8	25.3	27.3	47.4	45.5	41.6	9.6	25.9	43.5	30.2
Portugal	n.a.	n.a.	n.a.	12.2	80.5	7.3	n.a.	n.a.	n.a.	70.1	15.4	14.5
Spain	19.5	33.3	47.2	31.1	45.6	23.3	5.9	53.1	41.0	44.9	21.5	33.5
Sweden	11.6	43.4	45.0	26.7	44.8	28.5	39.3	48.5	7.5	14.4	55.2	29.7
United Kingdom	12.4	76.0	9.5	18.1	65.7	13.7	33.8	51.7	10.7	22.9	44.9	31.5
Total EU 15	16.9	60.8	21.5	28.8	53.1	18.0	52.7	40.6	6.4	27.2	45.4	27.2

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

**Table A3: Skill composition of the working age population in the sending countries by migration status, 2006**

	EU-15 emigrants			natives		
	low	medium	high	low	medium	high
<i>in per cent of working age population</i>						
Czech Republic	13.9	48.3	35.6	14.5	79.7	5.8
Estonia	24.1	59.0	16.9	35.7	53.6	10.7
Hungary	8.4	65.0	26.6	21.3	65.3	13.4
Latvia	4.9	83.8	11.3	23.9	62.3	13.7
Lithuania	19.0	62.9	15.9	31.2	61.0	7.9
Poland	17.6	60.0	21.7	22.4	68.4	9.2
Slovak Republic	18.2	65.9	15.8	16.6	78.7	4.7
Slovenia	23.8	67.0	9.2	23.4	62.2	14.4
Bulgaria	20.1	48.2	31.3	25.2	59.3	15.6
Romania	30.4	55.5	14.1	14.2	63.9	21.9
Albania	57.3	36.2	6.5	n.a.	n.a.	n.a.
Bosnia-Herzegovina	43.1	48.4	8.2	n.a.	n.a.	n.a.
Croatia	30.5	57.7	11.2	35.7	53.6	10.7
Mazedonia	6.7	32.9	60.2	n.a.	n.a.	n.a.
Serbia-Montenegro	8.8	43.3	47.9	n.a.	n.a.	n.a.
Turkey	58.8	36.5	4.6	n.a.	n.a.	n.a.
NMS-8	16.8	60.8	21.5	21.3	69.6	9.1
NMS-2	28.4	54.0	17.5	17.0	62.7	20.3
Cand-6	48.2	41.0	6.7	n.a.	n.a.	n.a.

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'no answer' is not reported here.

Source: European LFS, special provision 2008. Own calculations and presentation.

**Table A4: Occupational structure of medium skilled employed individuals by migration status in the EU-15, 2006**

	immigrants from NMS-8		immigrants from NMS-2		immigrants from CAND-6		natives
	> 10years	newly arrived	> 10years	newly arrived	> 10years	newly arrived	
<i>in per cent of medium skilled employed individuals aged 15-64</i>							
Clerks	8.6	3.2	7.4	3.0	7.3	3.1	16.4
Craft and related trade workers	18.7	18.1	27.9	29.2	30.1	37.3	14.8
Elementary occupations	18.1	33.6	21.2	38.5	15.7	26.2	7.2
Legislators, senior officials and managers	5.9	2.3	0.6	1.1	3.8	1.0	7.9
Plant and machine operators and assemblers	7.4	13.5	14.1	9.5	11.5	14.8	8.2
Professionals	4.7	3.6	0.3	0.8	1.2	0.0	4.5
Service workers and shop and market sales workers	20.3	19.4	20.6	15.3	16.6	15.4	16.8
Skilled agricultural and fishery workers	0.4	1.9	5.8	1.2	0.8	0.8	2.5
Technicians and associate professionals	16.0	4.6	2.1	1.5	13.0	1.5	20.9
<i>Total (in persons)</i>	106,030	267,438	48,006	396,778	431,526	136,763	70,896,574

Results for immigrants can be biased due to measurement and classification errors.-- Figures need not add up to 100 per cent since the category 'armed forces' is not reported here.

Sources: European LFS, special provision 2008. Own calculations and presentation.