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3. Ageing and European labour supply: potential employment gaps and migration ⁽²⁾

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Abstract

Although age distributions differ between countries, the ageing challenge is apparent everywhere. In the coming decades, average age will increase across Europe. As a consequence, the ratio of the working-age population (age 15-64) to the elderly population will decline, meaning relatively less supply of labour, resulting in a potential employment gap. Though different in magnitude, the ageing effect is clearly present in all countries. If EU-25 employment remains at 63 % (as in 2007) the average employment level will have decreased by 30 million persons in 2050. This effect is relevant to the short-term perspective, as the first post-war birth cohorts are leaving the labour market already.

3.1. Introduction

The picture of age distribution of the future European workforce leads to consideration of the potential employment gap and possible solutions to close it. These include raising participation rates and real labour productivity, with a focus on the possible role of migration in labour supply. Besides being the most unpredictable, this is also the most disputed variable. As traditional migration patterns are rapidly changing at the moment it is not possible to be conclusive and absolute. However, the labour migration debate can still be elevated to a more scientific level by tackling some common misperceptions and adding new empirical facts.

3.2. Ageing in Europe

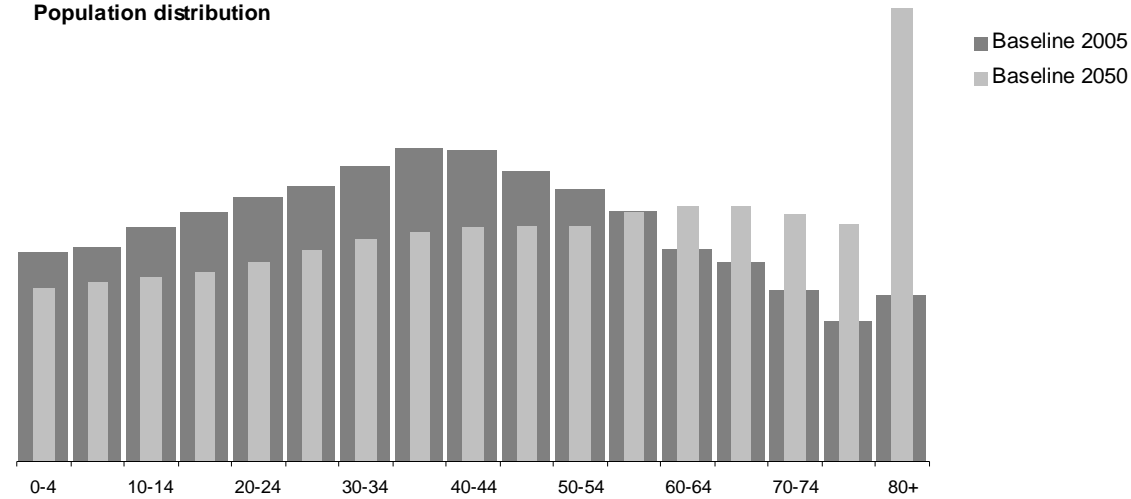
Although age distributions differ between countries, the ageing challenge is apparent everywhere. In the coming decades, average age will increase across Europe. The most recent population projection published by Eurostat ⁽³⁾ signals that the working age population in EU-25 (people aged 15-64) will drop from 305 million in 2005 to 255 million in 2050, while the population aged 65+ will rise from 77 million to 135 million. Total population will remain

⁽²⁾ This paper is extracted from Berkhout et al. (2007).

⁽³⁾ The projection database is officially called Europop2004: Eurostat population projections 2004-based and originally consisted of four scenarios; the three basic projections 'baseline', 'low growth' and 'high growth' plus a hypothetical no-migration variant. In this publication the baseline projection is used mainly, because this projection is build on the most realistic assumptions given current knowledge. The high growth- and low growth-variants indicate what will happen if all assumptions work together in population growth or population reduction. The no-migration variant is used to indicate the implicit effects of migration in the baseline projection.

more or less constant, but its share of working age population will fall from 67.2 % to 56.7 %. The effect of ageing on EU-25 age distribution is shown in detail in Figure 3:1.

Figure 3:1 **Age distribution of the future EU-25 labour force (baseline projection)**



Source: SEO calculations based on Eurostat (Europop2004).

The figure compares the relative age distribution of 2005 with that of 2050. The height of the bars represents the relative size of the age group in the total population, the dark grey bars represent the 2005 population and the light grey bars for the 2050 population. All the dark grey bars together represent 100 %, as do all the light grey bars together. In the next decennia the middle ‘bulk’ of 2005 will shift to the right and the share of ‘older elderly’ (aged 80+) will more than double. The consequence is a potential employment gap because a lower proportion of economically active people has to meet the same demand for goods and services.

3.2.1. The potential European employment gap

The effect of declining working age on potential labour supply is best illustrated by the hypothetical calculation of the potential employment gap in Table 3:1. The first columns show the 2005 employment situation. Out of 450 million people in the EU, 67.2 % (305 million) are between the ages of 15-64. The employment rate among this potential labour force is 63.6 %, which means that actually 194 million people are currently employed.

But in 2050 the working age rate will have dropped to 56.7 %, purely as a consequence of ageing. For illustrative purposes, we isolate the ageing effect by assuming population size to remain constant over time ⁽⁴⁾; the ageing effect translates into a potential labour force of only 257 million in 2050. If European employment rates remain at their current levels that

⁽⁴⁾ In detailed calculations it will become clear that this assumption does not matter for the relative size of the potential employment gap, if we assume that the size of demand is proportional to the size of the population.

would mean a labour supply of only 163.5 million. Because population size remained constant, demand will also remain at the same level so the potential gap ⁽⁵⁾ between labour supply and demand will be roughly 30 million. Among other solutions, this potential gap might be closed by raising the employment rate. If, on average, 75.5 % of the new labour force would participate in employment, labour supply would increase to (75.5 % x 257 million) 194 million people, thereby equalling demand.

Table 3:1 **Calculation of the potential employment gap, EU-25 (purely ageing effect)**

| | Supply | | Demand | Difference | To close the gap |
|--|--------|----------|----------|------------|------------------|
| | 2005 | 2050 | 2050 | 2050 | |
| Population (<i>in million</i>) | 453.8 | constant | constant | constant | |
| Working age rate | 67.2 % | → 56.7 % | | | |
| Potential employment 15-64 (<i>in million</i>) | 305.1 | 257.1 | | | 257.1 |
| Employment rate | 63.6 % | 63.6 % | | | 75.5 % |
| Real employment (<i>in million</i>) | 194.0 | 163.5 | 194.0 | -30.5 | 194.0 |

Source: SEO calculations based on Europop2004.

Relaxing the assumption of constant population, similar calculations can be made for the four different scenarios in the Eurostat projections (Table 3:2).

Table 3:2 **Potential employment gap: absolute and relative size in four scenarios**

| | Employment gap (x1 000 persons) | Employment rate needed to close the gap |
|-----------------------|------------------------------------|--|
| Ageing effect only | 30 485 | 75.5 % |
| Baseline scenario | 30 216 | 75.5 % |
| No migration scenario | 30 904 | 77.7 % |
| Low growth | 25 915 | 75.4 % |
| High growth | 36 972 | 76.0 % |

Source: SEO calculations based on Europop2004.

The baseline projection differs from the calculation in Table 3:1 only in a small decrease in population size. This affects the absolute, but not the relative, size of the employment gap, because demand should decrease proportionally. Also, in the baseline scenario an employment rate of 75.5 % will close the potential employment gap. Under the low growth and high growth scenarios results are quite similar (when measured in relative terms). The (hypothetical) no migration scenario, however, differs: because migrants are more often of working age, disallowing immigration leads to a smaller potential labour force. This means that a larger proportion of the potential should be activated, until an employment rate of 77.7 % is reached. Characteristics of migrants will be elaborated further in Section 3.3.

⁽⁵⁾ 'Potential gap' because in this calculation we make some strong implicit assumptions.

Implicit in the potential employment gap calculations above are the following assumptions:

- (a) constant demand (per capita);
- (b) constant inactivity rate;
- (c) constant length of average working week;
- (d) constant labour productivity;
- (e) migration along Eurostat projections 2005-50;
- (f) migrant supply fits required type of labour exactly.

To what extent these assumptions are realistic depends largely on the country and economic sector under consideration. For example, if a country's employment rate is already quite high, it will be more difficult to increase it any further. Possible other solutions and differences are briefly discussed below. Some assumptions are necessary because of lack of empirical estimates: if better data becomes available, they could be replaced. For example, following Cedefop's medium-term forecast of future skill needs (Cedefop, 2008), the assumption of constant demand could be replaced by a yearly growth of 0.6 to 0.8 %. Similarly, real labour productivity growth might also be allowed to be positive then ⁽⁶⁾. The migration projections used are the same as in the recent Cedefop forecast and stem from Eurostat sources. More recent and better national migration figures may exist, although it will probably remain the most vulnerable part in any supply side projection.

3.2.2. National differences and closing the gap

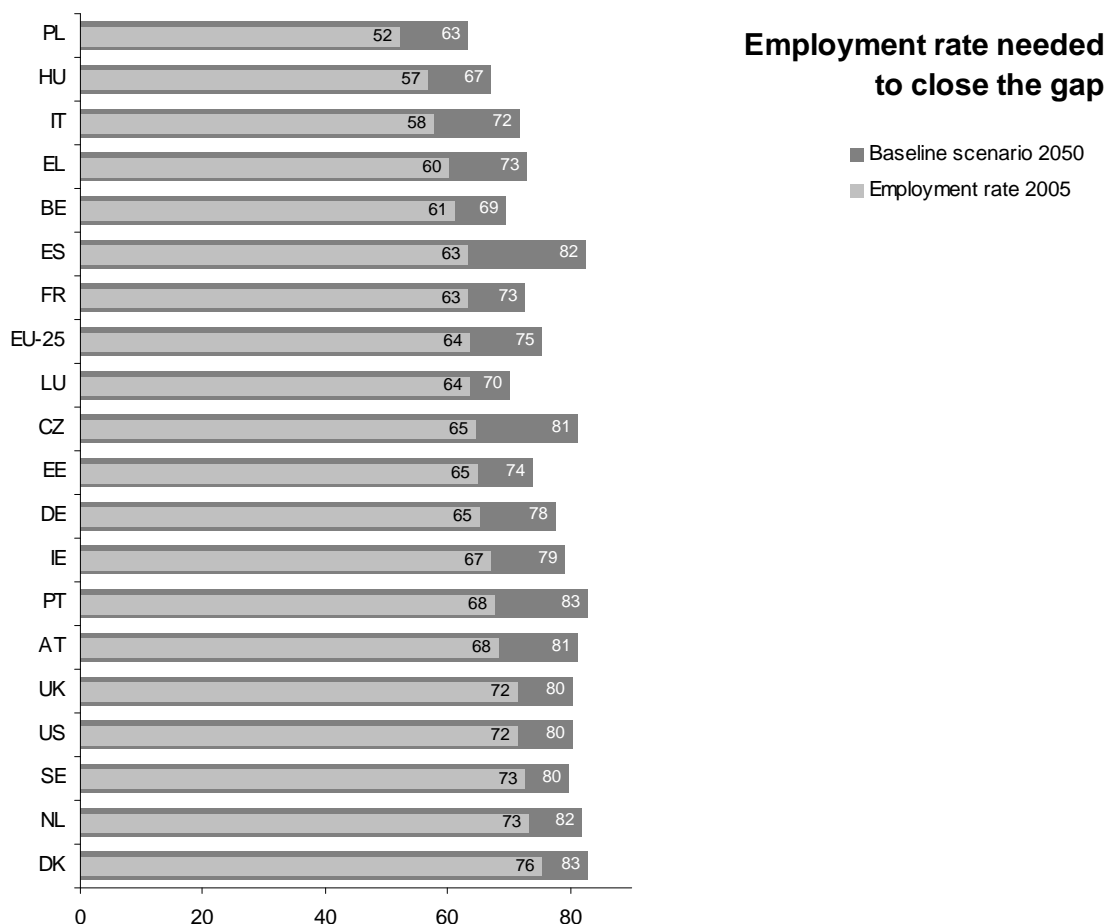
Employment gaps exist in almost all EU-25 Member States. Those with older populations or low net migration face the largest challenge (Figure 3:2). Several policy options might be considered, but usefulness, eligibility and effectiveness will differ strongly between countries and between different economic sectors. Not only because of structural economic differences: finding the optimal mix is also subject to national preferences and traditions. A 'one size fits all' policy solution is not available. The most frequent suggestions are:

- (a) increasing employment participation;
 - (i) number of persons;
 - (ii) number of hours worked per person (this seems less plausible than the former);
 - (iii) make employees take pensions at a later age;
 - (iv) stimulate part-time pensions instead of the currently dominant all-or-nothing pension schemes;

⁽⁶⁾ These figures are only illustrative; for realistic assumptions national estimates should be used and demand growth per capita calculated. Productivity growth should be analysed, preferably at sectoral level, and corrected for inflation. Sectoral labour shifts (such as from industry to services) will influence labour productivity (in this case to lower productivity).

- (b) stimulating population growth. This option is still suggested occasionally but is really not sustainable in the long term and will only make things worse. It will only be effective after 25 years, and after 65 years the problem will have returned on a much larger scale;
- (c) increasing productivity. An efficient and realistic option in the manufacturing and the agricultural sector. However, it is harder to achieve in labour-intensive service sectors, where constant (real) productivity seems a realistic assumption;
- (d) decrease output (GDP) per capita. For an economist this is the least favoured option, though the necessary outcome 'if everything else fails';
- (e) sectoral shifts of labour. As labour is scarce it might move from the lower-paying sectors to the higher-paying sectors. Normally this would also mean a shift to the more productive sectors. This will not bridge the overall employment gap but merely shift the problem from one sector to another while increasing overall productivity;
- (f) extra labour migration (in fact a regional shift of labour). If arranged so as to be beneficial to both the host country and the immigrant, it is an economically sensible option. However, it can be useful only if immigrants supply the skills the labour-markets need. Temporary migration should also be considered. Also it should be noted that in the baseline scenario 'normal' migration is already included.

Figure 3:2 **National differences in the effects of ageing**

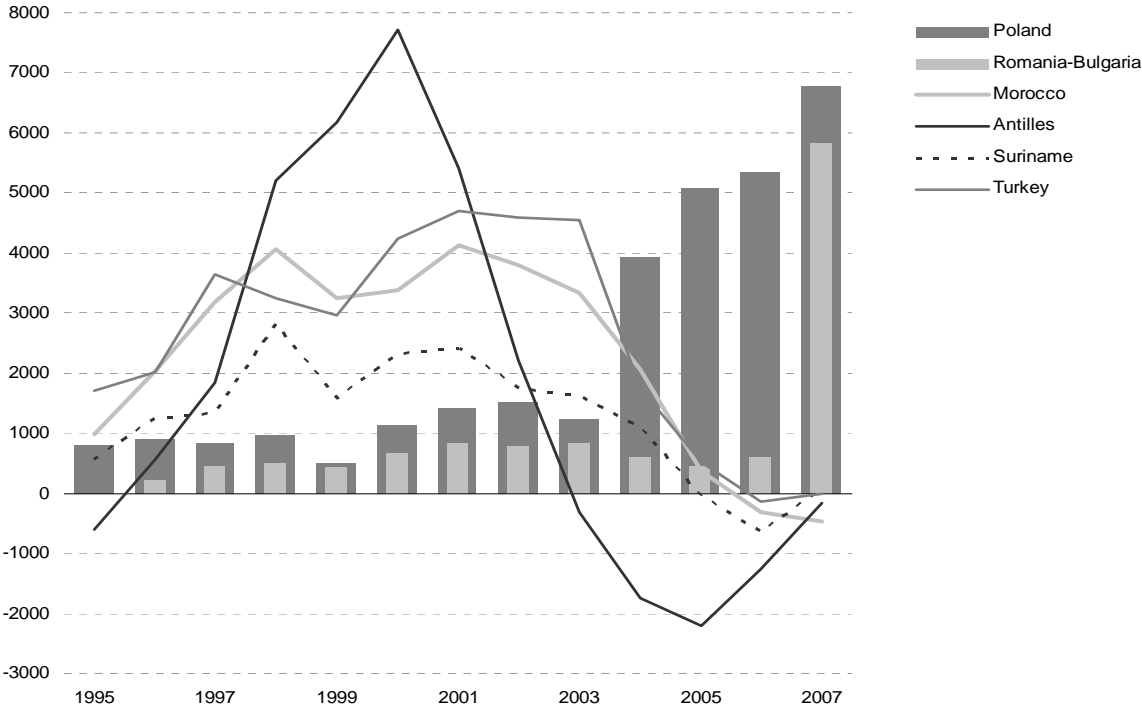


Source: SOE calculations based on Europop 2004.

3.2.3. Changing character of migration

When thinking of labour migration, many people still visualise low-skilled Turkish or African males, as was common during the last 40 years of the 20th century. But those traditional migration patterns are now rapidly changing, at least in western Europe. Tighter migration policies and EU enlargement are causing rapid changes. For example, in the Netherlands, immigration from traditional migrant countries (the Netherlands Antilles, Morocco, Suriname and Turkey) is falling and, since 2006, is even negative: emigration is higher than immigration (7). At the same time net migration from Poland is increasing sharply, as well as migration from Bulgaria and Romania since their entry into the EU.

Figure 3:3 Net migration from ‘traditional’ and ‘new’ migrant countries to the Netherlands



Source: own calculations, based on Statistics Netherlands (2008).

Most other west European countries have also experienced a shift from intercontinental migration to within-EU migration (from east to west). Recent studies show that these ‘new migrants’ are further characterised by much higher employment than the ‘old migrants’, a relatively low age (between 20-40) and a higher return migration (labour migration is partly

(7) See statline.cbs.nl: ‘external migration by country of birth, sex, age and marital status’.

used to fill seasonal gaps in the western labour markets). Another important fact is that many of the east European migrants are working in low-skilled jobs ⁽⁸⁾.

3.2.4. Skill composition of traditional immigrants

The changing character of migration, shown in the previous paragraph, shows that it might not be useful to think of immigrants as one homogenous group. Kahn (2004) clearly states that 'the distribution of immigrant skills is in most cases bimodal, while that of natives is single-peaked' in a study on Canada, New Zealand, Switzerland and the US. He suggests the presence of two distinct immigrant populations, one quite similar to natives and one with clearly lower skills. This implies that in terms of employment there would be no real difference between immigrants and natives in the top of the skill distribution, while at the bottom end immigrants would be overrepresented among the inactive. That was found to be the case, except for US male immigrants. The larger share of low-wage jobs in the US economy was found to offer more opportunities to male immigrants compared to the other countries, while low wages lead immigrant women in the US to supply less labour than immigrant women in the other countries.

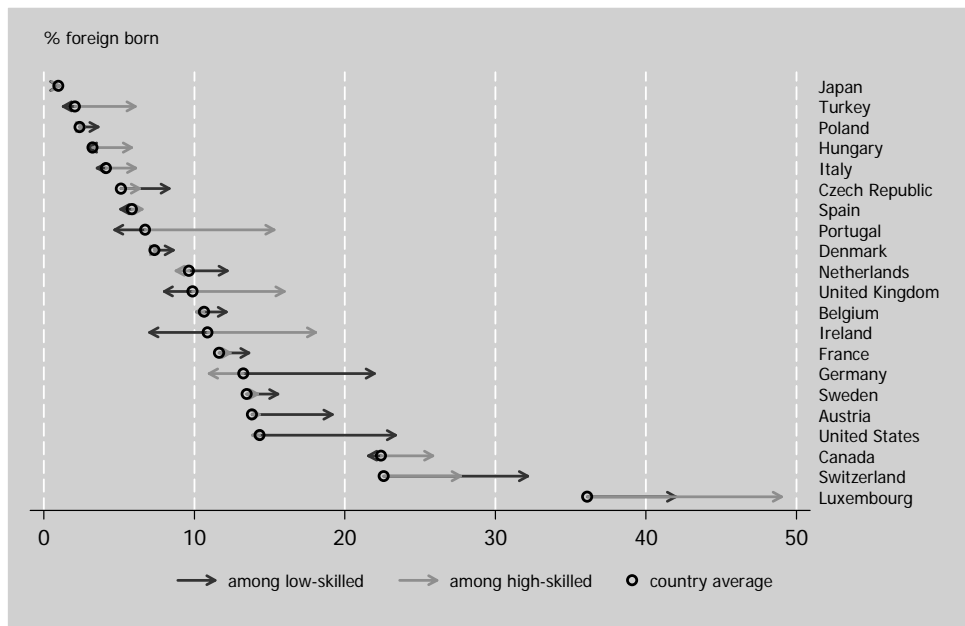
Figure 3:4 is based on the OECD database on immigrants and expatriates (2005) on these findings ⁽⁹⁾. It gives the average proportion of immigrants (defined as 'foreign-born') in a country, compared to the proportion among the high skilled population and among the low skilled population. If the black arrow points to the right, immigrants are overrepresented among the low-skilled working age population. If the black arrow points to the left immigrants are underrepresented. If the grey arrow points to the right, immigrants are overrepresented among the higher educated, and so on. In 13 of the 20 countries immigrants are overrepresented among the higher educated, in 11 countries they are overrepresented among the lower educated. In some countries the distribution of immigrants among educational level is bimodal ⁽¹⁰⁾. In the Czech Republic, France, Sweden and Switzerland, the foreign-born are overrepresented among both the low-skilled and the high-skilled. Ireland, Portugal, Switzerland, Turkey and the UK show a substantive overrepresentation of high-skilled immigrants; in Ireland, Portugal and the UK this goes together with an under-representation of lower-skilled immigrants. In the countries with relatively many immigrants, the low-skilled are overrepresented (except for Canada).

⁽⁸⁾ Drinkwater et al. (2006), Hughes (2007) and Wadensjö (2007).

⁽⁹⁾ Unfortunately these data only reflect 'old migrants' because they refer to the year 2000 for most countries.

⁽¹⁰⁾ The definition of skill level in the OECD/Eurostat data used is much less detailed than it is in Kahn's study. Only three national skill levels (low, middle and high) are used while Kahn used a continuous individual distribution. More important is that OECD and Eurostat use the 'highest completed level of education' as a proxy for skills whereas Kahn uses a complex instrument measuring applied cognitive skills (International Adult Literacy Survey).

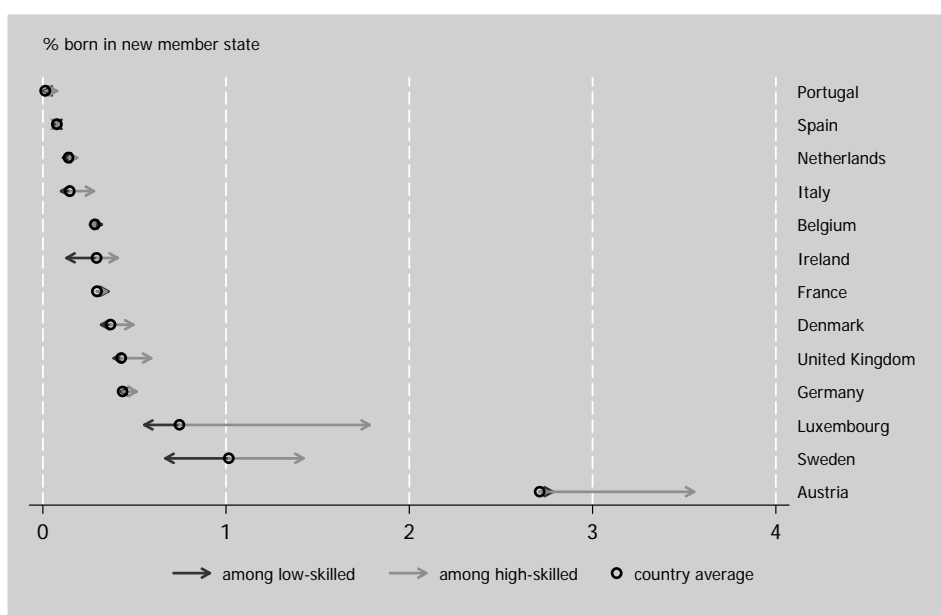
Figure 3:4 Immigrants overrepresented among both low-skilled and high-skilled



Source: OECD (database on immigrants and expatriates, 2005).

Instead of looking at foreign born immigrants we can look in a similar way at the differences between natives and migrants from the 10 new Member States. Figure 3:5 shows that differences between the local population in EU-15 and migrants from the new Member States were only relevant in Luxembourg, Sweden and Austria. Only in the last was more than 1 % of the population born in one of the new Member States, in the year 2000. In all countries, the eastern European migrant population had higher average education than the native population.

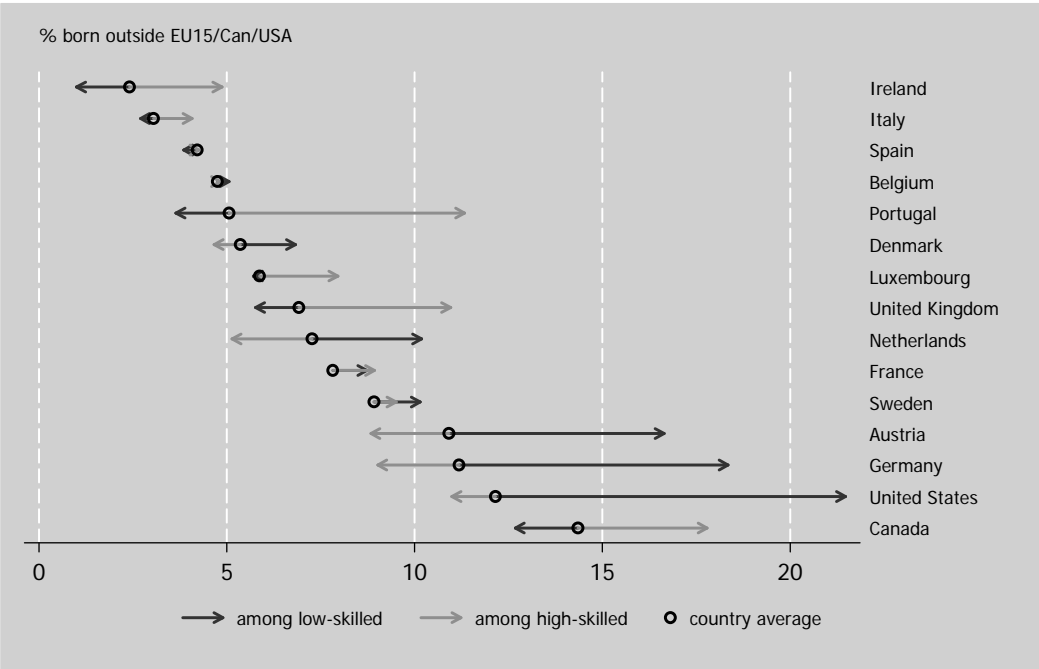
Figure 3:5 New Member States immigrants in EU-15 have nearly similar skill distribution



Source: OECD (database on immigrants and expatriates, 2005).

In Figure 3:6 the immigrant population is defined as non-western: born outside EU-15, the US or Canada. These migrants are relatively low-skilled in Denmark, Germany, the Netherlands and Austria; they are relatively high-skilled in Ireland, Italy, Luxembourg, Portugal and the UK. Immigrant educational distribution is bipolar in France and Sweden. Compared to Europe, Canada and the US have more non-western immigrants; in the US mainly low-skilled, in Canada mainly high-skilled.

Figure 3:6 Overrepresentation of non-western immigrants among skill groups



Source: OECD (database on immigrants and expatriates, 2005).

3.3. Conclusions

Migration has many different faces. It is not only low-skilled labour that immigrates and high-skilled labour that emigrates, as is sometimes suggested. In many countries at least two different migrant groups can be characterised, one relatively high-skilled and one relatively low-skilled.

The recent trend of intra-European migration means a rise in migration of high-skilled labour, although often working in low-skilled jobs. Even when focusing only on immigrants from non-western countries outside the EU, they turn out to be relatively high-skilled in the one country and relatively low-skilled in the other; much seems to depend on institutional differences like current and historical immigration policies, cultural links and (wage) structure of the economy. But the recent opportunities for (nearly) free labour migration among EU-27 citizens seem irreversible; intra-European labour migrants will probably characterise European migration for some time. This structural character implies the challenge of ensuring that immigrant labour remains beneficial to both the immigrant and the host country.

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- Wadensjö, E. *Migration to Sweden from the new EU Member States*. Bonn: IZA – Institute for the Study of Labour, 2007 (IZA Discussion Paper 3190).

Databases

- Eurostat, several databases, mostly collected in the labour force survey,
<http://epp.eurostat.ec.europa.eu/>
- OECD database on foreign-born and expatriates; 29 countries, most data collected from the 2000 census, stocks and flows. This is the source for the OECD trends in international migration publications.
www.oecd.org/document/51/0,2340,en_2649_37415_34063091_1_1_1_37415,00.html
- Europop2004 population projections can be found on the Eurostat website under the theme of 'Population and social conditions' in the Data section.