Labour Mobility within the EU: Causes, Directions and Constraints

Herbert Brücker

1University of Bamberg, Institute for Employment Research (IAB) and IZA

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Although many EU member states applied transitional immigration restrictions, EU Eastern enlargement has triggered substantial East-West migration flows: 1 million from the NMS-8 and 1.2 millions from BU and RO in 2004-07.

This migration surge is associated with a substantial diversion of migration flows away from AT and GER towards the UK and IE in case of NMS-8 migrants and towards IT and ESP in case of NMS-2 migrants.

These migration flows have changed factor endowments in the NMS and the EU-15.

Uncertainty on potential migration flows under changing economic and institutional conditions is still high.
This presentation

- Analyzes the main economic and institutional causes of East-West migration in the enlarged EU
- Describes the main migration patterns in the enlarged EU
- Examines the self-selection of migrants from the NMS with respect to educational attainment
- Assesses the forecasts of potential migration and presents a projection of potential migration from the NMS-8
- Discusses the potential implications of a global recession
Part I

Causes and Constraints
Key figures

- Population
  - NMS-8: 73 millions
  - NMS-2: 29 millions
  - EU-15: 384 millions

- Income gap:
  - GDP per capita of NMS-8 in % of EU-15 in 2007:
    55% at PPP, 33% at current exchange rates (Eurostat, 2008)
  - GDP per capita of NMS-2 in % of EU-15 in 2007:
    36% at PPP, 18% at current exchange rates (Eurostat, 2008)

- Convergence: Average growth rates in NMS-10 are higher than in EU-15, convergence rate resembles famous 2 per cent rate (Barro/Sala-i-Martin, 1991, 1995)

- Unemployment: Average unemployment rate in NMS-10 have converged to EU-15 levels
Main trends

- Fast nominal convergence of per capita GDP levels due to currency appreciation
- Nominal wage convergence even faster
- Inequality of earnings in NMS similar to EU-15
- Brain waste: low returns to education for NMS migrants in EU-15 (Upward, 2008; Barret, 2008)
- Eroding role of distance due to low-budget air transport
- Outlook: NMS more than proportional affected by financial crisis
  - Depreciation of currencies
  - Fiscal crisis in some countries
  - Deeper recession and higher unemployment likely
GDP per capita convergence at market prices, 2000-07

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Wages convergence at current exchange rates, 2000-06

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Gini-coefficients of the EU-15 and the NMS

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Transport costs by car

\[ y = 0.1195x + 4.094 \]

\[ R^2 = 0.7632 \]
Air transport costs

\[ y = 0.0279x + 231.88 \]

\[ R^2 = 0.0454 \]
Selective application of transitional arrangements

- EU agreed transitional periods for free movement of workers with the NMS ("2+3+2"-formula)
- NMS-8: Three groups of countries
  - First movers: UK, SWE and IE (partially DK)
  - Second movers: FIN, FR, ESP, IT, GRE, NL, LX, PT
  - Last movers: AT, DE, BE, DK
- NMS-2: Three groups of countries
  - First movers: SWE, FI
  - Liberal immigration conditions: ESP, IT, PT, partially UK, IE, GRE
  - Others maintain immigration restrictions
The standard approach

- Migration as an investment in human resources (Sjaastad, 1962)
- Returns depend on expected earnings net of monetary, social and psychic migration costs
- Income expectations are conditioned by employment opportunities (Harris/Todaro, 1970)
- Migration costs depend on family status (Mincer, 1964) and migration networks (Massey/Espana, 1987)
- Trigger value for migration increases with uncertainty (Burda, 1995)
Homogeneous vs. heterogeneous individuals

- Standard approach: representative agent
  - Implies that net migration rate persists until net difference in (expected) income levels equals migration costs
  - Hence, it is unlikely that net migration rate from NMS will decline

- Heterogeneous agents, i.e. individuals differ with respect to preferences or productivity (Brücker/Schröder, 2006; Faini/Venturini, 1995; Stark et al., 1997)
  - Implies that net migration rate ceases eventually to zero at given income difference
  - Equilibrium between migration stocks and (expected) income difference emerges
  - Explains why (i) Southern Enlargement did not trigger migration surge, and (ii) that Eastern Enlargement did
  - Implies that net migration rate from NMS will fall over time
Temporary migration

- Duration of individual migration episodes differ
- 80 per cent of the migrants return before end of life
- Length of individual migration episodes depend on net returns of migration (incl. migration costs) and locational preferences
- Duration of migration episodes increases with moving costs
- Hence, it is likely that (i) the share of temporary migrants is higher and (ii) the average length of migration episodes are shorter among NMS migrants compared to traditional immigrants
- This implies that gross immigration and return migration rates from the NMS are relatively high at a given migration stock
High fixed costs of air transport have eroded role of distance

Moreover, migration costs decline with size of migration community and become thus endogenous

Hence, (i) the geographical pattern of migration from the NMS depends less on distance than in case of past migration episodes, (ii) the role of networks in establishing migration clusters is further enforced by the scale economies of transport
Heterogeneity and self-selection

- Roy(1951)-Borjas(1987)-hypothesis: self-selection of migrants on observable and unobservable skills and abilities depends on relative returns in destination and sending countries
  - Positive selection with respect to observable skills requires higher returns to skills at destination country relative to sending country
  - Positive selection with respect to unobservable abilities requires higher inequality of earnings at destination country relative to sending country if earnings are sufficiently correlated
- Does not hold if migration costs (i) are fixed amount or (ii) tend to decline with skill level (Chiswick, 1999; Brücker/Defoort, 2008; Grogger/Hanson, 2008)
Since the relative returns to skill between the destination and the sending countries are similar, the Roy-Borjas model would not predict a strong selection bias of the migrant population.

Relatively low migration costs diminish the positive selection bias which is a stylized fact of international migration (Brücker/Defoort, 2008; Grogger/Hanson, 2008; Belot/Hatton, 2008).

Nevertheless, we shall expect a relatively high skill level of migrants from the NMS since the educational attainment of labour force is relative high there and has substantially increased since begin of transition.
Part II

Migration trends: scale, direction and skills
Most EU countries do not report stock of residents and/or migration flows by country of origin.

Our analysis relies on (i) official population and migration statistics if available, and (ii) LFS data if not available.

Wherever possible we defined migrants by nationality, not by country of birth to rule out movements of ethnic Germans etc.

Caveat: In some countries increasing migration stock figures reflect statistical revisions and the legalization of migrants.
Table: *Residents from the NMS-8 in the EU-15, 2003-2007*

<table>
<thead>
<tr>
<th>Country</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
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<td>84</td>
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<td>10</td>
<td>12</td>
<td>14</td>
<td>17</td>
<td>22</td>
</tr>
<tr>
<td>Finland</td>
<td>16</td>
<td>16</td>
<td>18</td>
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<td>23</td>
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<tr>
<td>France</td>
<td>34</td>
<td>43</td>
<td>36</td>
<td>44</td>
<td>37</td>
</tr>
<tr>
<td>Germany</td>
<td>481</td>
<td>439</td>
<td>482</td>
<td>525</td>
<td>554</td>
</tr>
<tr>
<td>Greece</td>
<td>16</td>
<td>15</td>
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<tr>
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<td>78</td>
<td>91</td>
<td>117</td>
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<td>3</td>
<td>4</td>
<td>5</td>
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<td>Portugal</td>
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<td>na</td>
<td>na</td>
<td>na</td>
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<tr>
<td>Spain</td>
<td>47</td>
<td>62</td>
<td>78</td>
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<td>21</td>
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<td>27</td>
<td>34</td>
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</tr>
<tr>
<td>UK</td>
<td>122</td>
<td>121</td>
<td>220</td>
<td>357</td>
<td>609</td>
</tr>
<tr>
<td>EU-15</td>
<td>893</td>
<td>950</td>
<td>1,196</td>
<td>1,505</td>
<td>1,910</td>
</tr>
</tbody>
</table>

All figures refer to the end of each year.

*Sources:* National population statistics, Eurostat LFS.
Table: *Residents from the NMS-2 in the EU-15, 2003-2006*

<table>
<thead>
<tr>
<th></th>
<th>2003</th>
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<th>2007</th>
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<td><strong>in 1,000 persons</strong></td>
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<tr>
<td>Austria</td>
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<td>28</td>
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<td>30</td>
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<tr>
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<td>8</td>
<td>11</td>
<td>11</td>
<td>23</td>
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<tr>
<td>Denmark</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Finland</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>France</td>
<td>9</td>
<td>17</td>
<td>12</td>
<td>39</td>
<td>44</td>
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<td>Germany</td>
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<td>112</td>
<td>112</td>
<td>112</td>
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</tr>
<tr>
<td>Greece</td>
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<td>Italy</td>
<td>189</td>
<td>264</td>
<td>315</td>
<td>362</td>
<td>679</td>
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<tr>
<td>Luxembourg</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Netherlands</td>
<td>4</td>
<td>5</td>
<td>5</td>
<td>5</td>
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<tr>
<td>Portugal</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
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<tr>
<td>Spain</td>
<td>278</td>
<td>410</td>
<td>508</td>
<td>649</td>
<td>829</td>
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<td>Sweden</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>6</td>
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<tr>
<td>UK</td>
<td>18</td>
<td>17</td>
<td>34</td>
<td>38</td>
<td>40</td>
</tr>
<tr>
<td><strong>EU-15</strong></td>
<td>702</td>
<td>909</td>
<td>1,080</td>
<td>1,307</td>
<td>1,864</td>
</tr>
</tbody>
</table>

All figures refer to the end of each year.

*Sources:* National population statistics, Eurostat LFS.
Regional allocation of migration stocks and flows across EU-15 has changed since EU enlargement

- 60 per cent of the NMS-8 migrants resided before EU enlargement in GER and AT
- 43 per cent of the NMS-8 resided in UK and IE in 2007
- More than 70 per cent of the net migration flows from the NMS-8 have been absorbed by UK and IE since EU enlargement
- IT and ESP receive 80 per cent of the net migration flows from NMS-2 since beginning of 2000s
Regional distribution of NMS-8 migrants, 2003

- LX: 0%
- DK: 1%
- NL: 1%
- IE: 2%
- BE: 2%
- FIN: 2%
- GRE: 2%
- SWE: 2%
- FR: 4%
- SP: 5%
- IT: 6%
- AT: 7%
- UK: 13%
- GER: 53%

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Regional distribution of NMS-8 migrants, 2007

- UK: 33%
- GER: 29%
- IE: 9%
- SP: 7%
- IT: 6%
- AT: 5%
- NL: 2%
- FR: 2%
- BE: 2%
- SWE: 2%
- DK: 1%
- GRE: 1%
- LX: 0%
Causes of diversion

- The following factors may have contributed to diversion
  - Institutional distortion of migration patterns before EU enlargement, i.e. relatively liberal conditions in AT and GER
  - Selective application of transitional arrangements
  - High economic growth in IE, UK and ESP (less so in IT)
  - English language
  - Cultural and language proximity between IT and ESP on the one hand, ROM + BU on the other
  - Flexible labour market institutions
Skill selection

- Returns to education and earnings inequality is similar in EU-15 and NMS
- But 'brain waste' may reduce incentives for high-skilled to move
- Relatively balanced skill structure
  - Educational attainment of NMS migrants is slightly higher than that of natives in sending countries
  - Educational attainment of NMS migrants is similar to that of natives in receiving countries
  - But NMS migrants are employed well below education levels in destinations
  - But return migrants receive nevertheless a wage premium, which may caused by improved command of foreign languages
Educational attainment of NMS-8 migrants, 2006

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Educational attainment of NMS-2 migrants, 2006

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Part III

Looking into the future: the migration potential
Assessing previous forecasts

A new approach

Migration scenario

Methods

- Extrapolation of guestworker migration in 1960s (Layard et al., 1992)
- Survey of migration intentions (Fassmann/Hintermann, 1996; Krieger, 2003; Münz 2003)
- Econometric estimates of macro migration models
  - Pooled OLS models (e.g. Sinn et al., 2001)
  - Fixed effects models (e.g. Alvarez-Plata et al., 2003; Bauer/Zimmermann, 1999; Boeri/Brücker, 2001; Fertig, 2001; Zaiceva, 2006; Pytlikova, 2007)
  - Error-component models (e.g. Fertig/Schmidt, 2001; Dustmann et al., 2003)
Most migration forecasts prior to Enlargement predicted
- a long-run migration stock of 3%-5% of the sending countries’ population,
- a short-run net inflow of some 250,000-400,000 persons p.a.
see Alvarez-Plata et al. (2003), Bauer/Zimmermann (1999),

Some recent studies after Enlargement support these mainstream estimates (Zaiceva, 2006; Pytlikova, 2007)

However, there exist studies which obtained substantially lower figures (Fertig, 2001; Fertig/Schmidt, 2001; Dustmann et al., 2003)

... or higher figures (Sinn et al., 2001; Flaig, 2002)
Confronting with post-Enlargement experience

- Migration forecasts cannot be falsified since counterfactual assumption of free movement in entire EU does not apply
- Migration stocks and net inflows from NMS-8 are in line with Alvarez-Plata et al. (2003) forecasts (baseline projection: 1.85 millions in 2007, actual: 1.9 millions in 2007)
- Net inflows from NMS-2 are larger than predicted
- Regional pattern deviates largely from forecasts (GER obtains 30 per cent the forecasted level, UK inflows are 3-5 times larger)
- Note that forecasts could not consider selective application of transitional arrangements due to missing historical evidence
The approach

- Post-enlargement experience enables us to include NMS in sample
- Since regional patterns are distorted, we treat entire EU-15 as one destination country

**What can we identify?**
- elasticities under free movement from experience from old EU member states
- elasticities under status-quo conditions from experience from NMS
- country-specific fixed effects

**What can we not identify?**
- Regional distribution of migration stocks and flows under free movement
Assessing previous forecasts
A new approach
Migration scenario

Sketch of model

- Migration stock equation derived from temporary migration model with heterogeneous agents (Brücker/Schröder, 2006)
- Explains migration stocks by earnings difference and employment opportunities in destination and sending countries and considers liquidity constraints.
- Dynamic specification considers sluggish adjustment.
- Migration restrictions are identified by (i) dummy variables and (ii) interaction terms
- This enables us to identify impact of transitional arrangements and other migration restrictions compared to free movement in EU-15
- Consideration of country-specific fixed effects.
Assumptions of migration scenarios

- GDP at PPP converges at 2 per cent p.a.
- unemployment remains stable
- status quo scenario: present application of transitional arrangements persist
- free movement: all EU countries apply Community rules of free movement
Table: *Projection: Migration from the NMS-8 into the EU-15, 2008-2020*

<table>
<thead>
<tr>
<th>scenario</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2015</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>status quo</td>
<td>1,911</td>
<td>2,122</td>
<td>2,311</td>
<td>2,480</td>
<td>2,983</td>
<td>3,308</td>
</tr>
<tr>
<td>free movement</td>
<td>1,949</td>
<td>2,195</td>
<td>2,419</td>
<td>2,621</td>
<td>3,243</td>
<td>3,695</td>
</tr>
<tr>
<td>net growth of migration stock from NMS-8 in 1,000 persons</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>status quo</td>
<td>234</td>
<td>211</td>
<td>189</td>
<td>169</td>
<td>102</td>
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<tr>
<td>free movement</td>
<td>271</td>
<td>247</td>
<td>224</td>
<td>202</td>
<td>131</td>
<td>67</td>
</tr>
</tbody>
</table>
Caveats

- All results are preliminary and currently under revision
- Forecast confidence intervals are large
- Forecast is based on long-run trends and relies in assumption that elasticities from EU-15 countries can be transferred to NMS
- Short-term fluctuations in business cycle are not considered here
How does global recession affect results?

- NMS sending countries more than proportionally affected by (i) depreciation of exchange rate, (ii) economic contraction, (iii) increase in unemployment rates
- Asymmetric impact of unemployment in destination and sending countries
  - Higher unemployment in destination involves (i) lower immigration and (ii) higher return migration
  - Higher emigration incentives in sending countries have only low impact if economic conditions in receiving countries are unfavorable
- Thus, migration from NMS should be below projected potential if enlarged EU faces recession
Conclusions
Summary of results

- The number of foreign residents from the NMS-8 in the EU-15 has increased from 900,000 in 2003 to 1.9 millions by the end of 2007 or by 250,000 persons p.a. on average.
- The number of foreign residents from Bulgaria and Romania in the EU-15 has increased from 700,000 in 2003 to 1.9 millions in 2007 or by 300,000 persons on average.
- Diversion: 70 per cent of the foreign residents from NMS-8 in the EU-15 moved to AT and DE before enlargement, 70 per cent move to UK and IE since enlargement.
- 70 per cent of migrants from NMS-2 in the EU-15 moved to AT and DE during the 1990s, 80 per cent move to ES and IT since 2000.
Similar returns to human capital and low migration costs involve that we observe neither a brain drain nor a brain gain.

- Migrants from the NMS are heavily concentrated at medium skill levels.
- Emigrants are moderately better educated than population average in NMS.
- NMS immigrants have the same or only slightly lower education levels than natives in the EU-15.

Brain waste: NMS immigrants are employed well below their education levels in receiving countries and assimilation is slow.
Outlook

- The long-run migration potential is estimated to be about twice as high as present stocks.
- Recent decline in immigration rates in UK confirm this expectation.
- Regional pattern of migration cannot be estimated due to missing free movement counterfactual.
- Stock of NMS migrants in AT and GER will certainly increase after the end of transitional periods, but networks effects, language and low transport costs makes a reversal of regional structure unlikely.
- Financial crisis and global recession will affect NMS more than proportional, but migration is likely to decline since employment opportunities in destinations shrink.