Migration policy and highly skilled migration in Europe

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Europe is facing three important challenges

- **GLOBAL RECESSION**
- **AGING OF THE POPULATION**
- **GLOBAL COMPETITION**
  - price, quality, capacity of innovate
The aging of the population imply

- Increasing share of elder persons

- Old age dependency ratio (65+/20-64) 28%

- Super Old age dependency ratio (75+/20-74) 13%

- Impact on the welfare cost and on the long term care needs of the elderly
Population 75+/ population 20-74
The demand for care services will increase
the demand of doctors, nurses, care givers in the public, private and family sectors according to the type of welfare state model prevailing in the economy will increase.

Demand of care givers will increase not only because the elderly persons increase
but also because the supply of domestic female labour who in the past was taking care of the elderly declined.

See Di Bartolomeo, Kalataryan, Venturini 2016 The demand of Care givers, MPC
• The aging of the population will create a demand both of highly skilled and low skilled.
• Of permanent but also of temporary migrants.
• The mix change according to the type of welfare system in prevailing in the destination country,
• more family based South Europe (low skilled)
• more public or private based North Europe (high skilled).
• Aging of skills
• With the extension of working life
• workers have longer professional life
• Human Capital decline
Fig. 5: Distribution of the working age population by year of age in 2015 and 2035, maintaining total numbers constant in the no-migration scenario.
Figure 1.—Age Distribution of Great Innovation

Note: Data are pooled across time.
Fig 6: Immigration flows in 2010 by age - EU28

EUROSTAT Data
Defining innovation

“Innovation is the implementation of a new or significantly improved product (good or service) or process, a new marketing method or a new organizational method in business practices, workplace organization or external relations.” (OSLO Manual, OCDE 2005, page 12)

The most popular indicators of innovation are

- **The number of Patent applications**
- Innovative capacity of a country
- **Total Factor Productivity**
- Technical progress in its broadest sense
Figure 1: Trend in patent applications at the top five offices, 1983-2010.

Source: WIPO Statistical Database, October 2011.

Venturini, Fassio, Montobbio, 2013
What can be done to favour innovation?

• Invest in research? Small country versus large countries
• Invest in education? Which type of education? STEM or general?
  • What is meant for Highly skilled?
  • Only Foreigners specialized in STEM?
  • Favouring the entrance of all tertiary educated Foreigners?
  • Or only Foreign students?
Figure 13: Undergraduate Major, by Sample

- Engineering
- Physical Sciences
- Life sciences, medicine, or related field
- Math
- All other
1.1 Are highly skilled contributing to innovation?

The case of Foreign inventors
Is migration policy playing a role?

On this issue the research is very clear foreigners has a positive effect and over-perform natives

In the USA the change in Visa (H1-B) policy which favoured the entrance of highly skilled in Science and Technology migrants favoured the growth of foreign inventors

(Hunt and Gauthier-Loiselle, 2010; Kerr and Lincoln 2010 )

Note: Lissoni & al. will try to replicate their research for Europe.
Policy prescription
  More liberal entrance of S&T migrants

But other conditions are even more important:
  • High Skill Jobs available
  • Wage premium
    wage dispersion in the US is high wage 5 times low wage; France and Netherland 2.9, Demark and Switzerland 2.7 Belgium and Sweden 2.4
  • Language
  • Open «Society» culture
  • Open «Firm» Culture
• Europe need to catch up
• Also tertiary educated (HS) migrants enhance innovation
Reference Literature

- **Migrants:** migration per se can have positive effects on the productivity growth of destination countries (Ortega and Peri 2014).

- **Skilled migrants:** Positive effect for skilled migration on innovative outcomes in some European countries (Gagliardi, 2011; Bosetti, Cattaneo and Verdolini, 2015).

- **Diversity:** (Mostly) Positive effect (innovative performances of firms, regions and countries) (Alesina, Harnoss and Rapoport, 2013; Ozgen, Nijkamp and Poot, 2012).

- **Sectors:** different effects strong and positive in the hightech sector, not in the low tech (Fassio, Kalatraryan, Venturini, 2014).

!! Regional vs Sectorial approach !!
Table 6: Birthplace of Innovators, by Gender

<table>
<thead>
<tr>
<th>Birthplace</th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>516</td>
<td>56</td>
</tr>
<tr>
<td>Outside United States, Total</td>
<td>290</td>
<td>50</td>
</tr>
<tr>
<td>Europe</td>
<td>94</td>
<td>17</td>
</tr>
<tr>
<td>China</td>
<td>44</td>
<td>10</td>
</tr>
<tr>
<td>India</td>
<td>62</td>
<td>5</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>88</td>
<td>18</td>
</tr>
</tbody>
</table>
Patents filed by emigrants
2007-12*, ’000

<table>
<thead>
<tr>
<th>Nationality</th>
<th>Patents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese</td>
<td>17.2</td>
</tr>
<tr>
<td>Indian</td>
<td>48.7</td>
</tr>
<tr>
<td>German</td>
<td>7.5</td>
</tr>
<tr>
<td>British</td>
<td>20.2</td>
</tr>
<tr>
<td>Canadian</td>
<td>28.5</td>
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<tr>
<td>American</td>
<td>1.5</td>
</tr>
<tr>
<td>Italian</td>
<td>16.4</td>
</tr>
<tr>
<td>South Korean</td>
<td>4.8</td>
</tr>
<tr>
<td>Russian</td>
<td>25.9</td>
</tr>
<tr>
<td>Japanese</td>
<td>1.2</td>
</tr>
<tr>
<td>Swedish</td>
<td>7.3</td>
</tr>
<tr>
<td>Israeli</td>
<td>8.7</td>
</tr>
<tr>
<td>Swiss</td>
<td>8.5</td>
</tr>
<tr>
<td>Iranian</td>
<td>96.1</td>
</tr>
<tr>
<td>Mexican</td>
<td>32.9</td>
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<tr>
<td>Nigerian</td>
<td>90.9</td>
</tr>
<tr>
<td>Ghanaian</td>
<td>92.6</td>
</tr>
</tbody>
</table>

Source: WIPO

*To September
However not all highly skilled migrants hold an highly skilled job.
The Percentage of the highly educated among the foreign- and native-born of working age for selected European countries
Age 15-64 years old, 2013

Source: OECD, International Migration Outlook (2014), author’s elaborations.
Overqualification of among the foreign- and native-born for selected European countries
Age 15-64 in 2009-2010

Source: OECD, Settling In: OECD Indicators of Immigrant Integration 2012 - OECD 2012. author’s elaborations.
Why over education?

- Field of the degree (humanities versus science)
- Quality of the education (different quality of the education systems and school)
- Research has shown that the years of education in the country of destination has a higher return
- Lower over education for the foreign students
Foreign students as the USA

- Pre departure training as for low skilled
- Post departure training as for low skilled
To conclude

- Foreign STEM over-preform natives

First priority should be to ease the access of the STEM workers in demand with the Blue card or national HS system, the use of one of the other is not relevant, the issue is to speed the process thus to have simple implementation practices.
• Foreign HS as well favour innovation by using both measures Patents or TFP

• Have different impact according to the sector
  Difficult to learn from USA results

• Perform less than natives  In particular a 1% increase in the number of educated natives leads to a 0.3% increase in the citation-weighted number of patents, a 1% increase in the number of highly educated migrants leads to slightly less than 0.1% increase in the citation-weighted number of patents. FMV, 2015, MPV, 41
• A supply side highly skilled migration policy is not needed because the demand for HS is limited and it will produce a large brain waste and a competition with highly skilled which are in excess supply in Southern Europe and move to the North,

• thus point system or an access conditioned to an open demand is needed and easy implementation conditions.