The Lisbon Council

Human Capital Leading Indicators: How Europe’s Regions and Cities Can Drive Growth and Foster Social Inclusion

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Mankiw, Romer and Weil revised...

return on human capital =

3. Human capital productivity x

1. Human capital endowment x

2. Human capital utilisation x

+ return on financial capital = GDP
Focus regions are spread across Europe

- Bratislava, Slovakia
- Emilia Romagna, Italy
- Helsinki, Finland
- Navarra, Spain
- Sofia, Bulgaria
- Stockholm, Sweden
- West Midlands, UK
Performance differences (measured by variance) between regions is higher than between countries.

- Variance between 269 regions: 95%
- Variance between 27 countries: 88%

### Graph:
- **Youth Unemployment Rates**: 51% (Red) vs. 17% (Blue)
- **Share of Complex Occupations**: 35% (Red) vs. 20% (Blue)
- **Innovation Rank**: 95% (Red) vs. 88% (Blue)
Top Performance in Human Capital Leading Indicators Closely Predicts Regional Income Differences

Correlation of Regional GDP Per Capita with Human Capital Indicators (measured by $R^2$, the coefficient of determination)

- Tertiary Education: 29%
- Human Capital Leading Indicators: 71%
- Human Capital Leading Indicators plus Additional Human Capital Indicators: 71%

Fit of Regional GDP Per Capita with Performance in Human Capital Leading Indicators

- Bottom 10% in Human Capital Leading Indicators: €11,820
- Medium 50% in Human Capital Leading Indicators: €21,798
- Top 10% in Human Capital Leading Indicators: €41,323

Source: Eurostat - European Regional and Urban Statistics Database
Four groups of regions with different preconditions
Continental densely populated regions appear less educated but are nonetheless richer than the North – why?

<table>
<thead>
<tr>
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<th>GDP PPP per capita</th>
<th>Share of complex occupations</th>
<th>Share of highly educated</th>
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</thead>
<tbody>
<tr>
<td>Northern Regions</td>
<td>29.292 Euro</td>
<td>30%</td>
<td>30%</td>
</tr>
<tr>
<td>Continental Regions</td>
<td>31.357 Euro</td>
<td>23%</td>
<td>24%</td>
</tr>
</tbody>
</table>
In densely populated regions education leads to better jobs...
...but less so in thinly populated regions.
Youth unemployment accounts for income variation – especially in thinly populated regions

1) excluding ex-communist regions
2) including two dummy variables indicating whether a region includes a capital or not and whether the region is in Northern Europe or in Continental Europe.
The four leading human capital indicators for regions

1) the number of complex jobs in a region or city

2a) the number of jobs available for young people and the ease with which young people can find employment

2b) the ability to get the unemployed back to work (thereby avoiding high levels of longterm unemployment)

3) The intensity of investment in research and development and the volume of local patent applications, as a proxy for the “innovativeness” of the region.