Skills, Inclusiveness & the Future of Europe

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Mean years of schooling

Average number of years of total schooling across all education levels for the population aged 25+

Public education expenditure as share of GDP
For Selected European Countries

Source: Tanzi & Schulte (2000)
Participation in early childhood education

% of the age group between 4 and 6 years-old, EU, 2008 - 2018

Source: Eurostat, 2019
Tertiary Educational Attainment
Population aged 30-34, EU, 2008 - 2018

Source: Eurostat, 2019
Change between 2012 and 2015 in mathematics performance

And average 3-year trend since earliest participation in PISA
PISA Average performance in OECD Countries

2000 vs 2015

Science
Mathematics
Reading
Average IQ score by birth year

Male adults, Norway, 1960-1990

Source: Bernt Bratsberg and Ole Rogeberg, “Flynn effect and its reversal are both environmentally caused”, PNAS June 26, 2018 115 (26) 6674-6678.
The IQ drop in Europe
Potential causes of the drop in IQ

Not driven by genetics

Genetics  Lifestyle  Technology  Education
The Skills Shortage
Percentage or employers reporting difficulty ‘finding the right skills or talent’ or ‘filling jobs’.

2016, 44 countries

Source: Manpower Group:
Talent shortage survey 2016/17
Percentage or employers reporting difficulty ‘finding the right skills or talent’ or ‘filling jobs’.

2016, EU

Source: Manpower Group: Talent shortage survey 2016/17
## Difficulties filling vacancies

**By bottleneck type for employers with tertiary education, 2010, EU**

<table>
<thead>
<tr>
<th>Type of recruitment bottleneck</th>
<th>% of firms with difficulty filling vacancies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Genuine skill shortage</strong></td>
<td></td>
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<tr>
<td>- Lack of applicants with the right skills and ability to offer a competitive starting salary</td>
<td>12%</td>
</tr>
<tr>
<td><strong>Apparent skill shortage</strong></td>
<td></td>
</tr>
<tr>
<td>- Lack of right skills and inability to offer a competitive starting salary</td>
<td>46%</td>
</tr>
<tr>
<td>- Lack of right skills and HRM inefficiency</td>
<td>24%</td>
</tr>
<tr>
<td><strong>Uncompetitive wage offer</strong></td>
<td></td>
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<tr>
<td>- Inability to offer a competitive starting salary</td>
<td>22%</td>
</tr>
<tr>
<td><strong>HRM inefficiency</strong></td>
<td></td>
</tr>
<tr>
<td>- Lack of offer of competitive graduate training and development programme and slow hiring process or limited resources to market vacancies</td>
<td>13%</td>
</tr>
</tbody>
</table>

Source: Cedefop, 2015
Share of adult workers underskilled at the start of their current jobs

2014, EU-28

Source: Cedefop, European skills and jobs survey, 2015.
Average skill deficit in the EU

Adult employees, 2014

Source: Cedefop, European skills and jobs survey, 2015.
Skills & Inclusiveness
Skill deficits and labour productivity

2014, EU-28

Source: Cedefop & World Bank, 2015.
How much higher the wages of high-skilled workers are than those of low-skilled workers

Countries with a higher net supply of skills have lower wage inequality.

Individuals with lower level of education have a lower life expectancy than the better educated

2013, EU

The Impact of Automation

Some Estimations

- 5 million in Europe & US by 2020
- 25 million in Germany and the UK by 2030
- 135 million in Europe by 2030
Unemployment in the UK

1881 - 2013

Source: ONS, Historical Unemployment.
Employees’ movement driven by Tech

In England & Wales, 20th century

- Muscle power workers: 23.7% in 2011 vs. 1.1% in 1871
- Caring professions: 12.2% in 2011 vs. 8.3% in 2011

‘Muscle power’ includes cleaners, domestic servants, labourers and miners. ‘Caring professions’ include health and teaching professionals and care home workers. Source: England and Wales Census records.
### Employees’ movement driven by Tech
#### In England & Wales

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th></th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weavers and knitters</td>
<td>-79%</td>
<td>Nursing auxiliaries</td>
<td>+909%</td>
</tr>
<tr>
<td>Company secretaries</td>
<td>-52%</td>
<td>Management consultants and business analysts</td>
<td>+365%</td>
</tr>
<tr>
<td>Farm workers</td>
<td>-52%</td>
<td>Teachers</td>
<td>+580%</td>
</tr>
</tbody>
</table>
Projected change by broad occupation

2016 – 2030, EU 28 + 3

Source: Cedefop, 2018
Projected change in tasks

2015 – 2030, EU

Source: Eurofound, 2018
1. Increase in demand for high-skills

The labour market polarisation in Europe & the US, so far

Source: David Autor, 2010
1. Increase in demand for high-skills

The labour market polarisation in Europe & the US, in the future

Source: Cedefop, 2018
1. Increase in demand for high-skills

The skills profile needed to reach the middle of the income distribution has increased

Source: OECD, 2019
One in-six current middle-income jobs face high risk of automation

Source: OECD, 2019
2. Quick & deep change of the skills demand

Change in demand for core-work related skills, 2015 - 2020

Source: WEF, Future of Jobs Survey, 2018
2. Quick & deep change of the skills demand

Change in technical skills too

50% of the subject knowledge acquired during the first year of a four-year technical degree will be outdated by the time the students graduate.

The incoming train crash
A visual summary

a stagnated educational & training system

a labour market in deep & fast transformation