



THE IMPERFECT MATCH

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SKILLS USE AND MISMATCH AT WORK : WHAT DOES PIAAC TELL US?

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Housekeeping

Note regarding Cyprus

Note by Turkey

The information in this document with reference to “Cyprus” relates to the southern part of the Island. There is no single authority representing both Turkish and Greek Cypriot people on the Island. Turkey recognises the Turkish Republic of Northern Cyprus (TRNC). Until a lasting and equitable solution is found within the context of the United Nations, Turkey shall preserve its position concerning the “Cyprus issue”.

Note by all the European Union Member States of the OECD and the European Union

The Republic of Cyprus is recognised by all members of the United Nations with the exception of Turkey. The information in this document relates to the area under the effective control of the Government of the Republic of Cyprus.



L'enquête d'Évaluation des Compétences des Adultes



33 countries – 215 thousand adults

Representing 815 millions 16-65 year-olds
24 countries in 2012 + 9 countries in 2015

Internationally agreed assessment in literacy, numeracy and problem solving in technology-rich environments...

Respondents with very low literacy skills were directed to a test of basic “reading

The survey also collects a range of generic skills such as collaborating with others and organising one's time, required of individuals in their work.



What is mismatch?

- Mismatch points to an imbalance between the skills a worker has or the training he/she has received and the skills or training required to perform his/her job
 - **Qualifications mismatch:** over/under
 - **Skills mismatch:** over/under
 - **Field-of-study mismatch**



Three questions

- How pervasive is mismatch?
- Why does it matter?
- What causes it?
 - Proficiency levels
 - A field's saturation and skills transferability
 - The use of skills in the workplace



Drawing from several studies

- **Quintini, G. (2011), "Right for the Job: Over-Qualified or Under-Skilled?", OECD Social, Employment and Migration Working Papers, No. 120, OECD Publishing, Paris.**
- **OECD (2016), "Skills Matter: Further results from the Survey of Adult Skills", OECD Publishing, Paris.**
- **Montt, G. (2015), "The causes and consequences of field-of-study mismatch: An analysis using PIAAC", OECD Social, Employment and Migration Working Papers, No. 167, OECD Publishing, Paris.**
- **Adalet McGowan, M and D. Andrews (2015), "Labour market mismatch and labour productivity: Evidence from PIAAC data", OECD Economics Department Working Paper, No. 1209**
- **OECD (2016), OECD Employment Outlook, "Skills use at work: why does it matter and what causes it?", Chapter 2 , OECD Publishing, Paris**



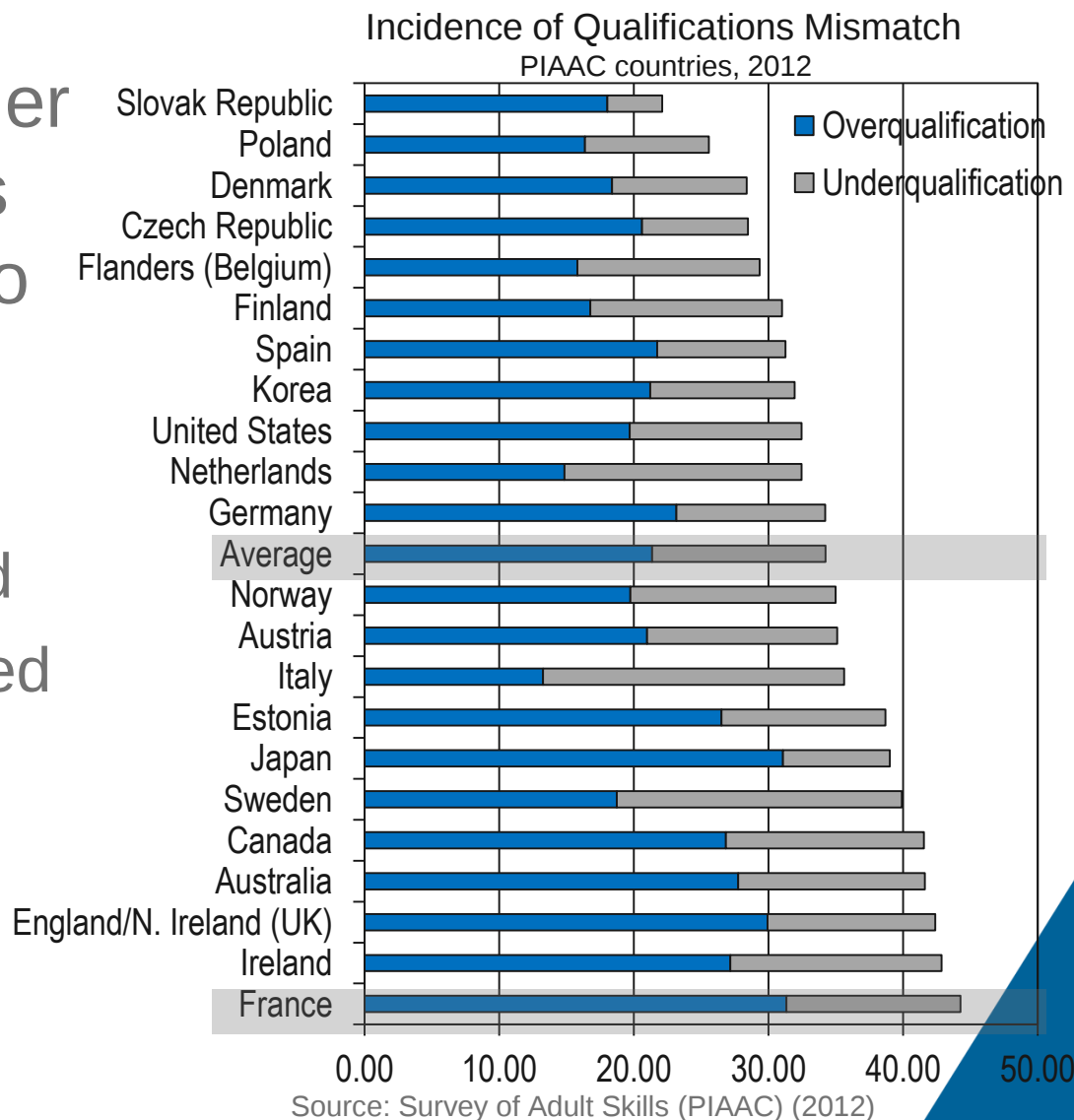
How pervasive is mismatch?



Over 1/3 workers are mismatched by qualifications

The worker has higher (lower) qualifications than those needed to get the job

- On average:
 - 21% over-qualified
 - 13% under-qualified

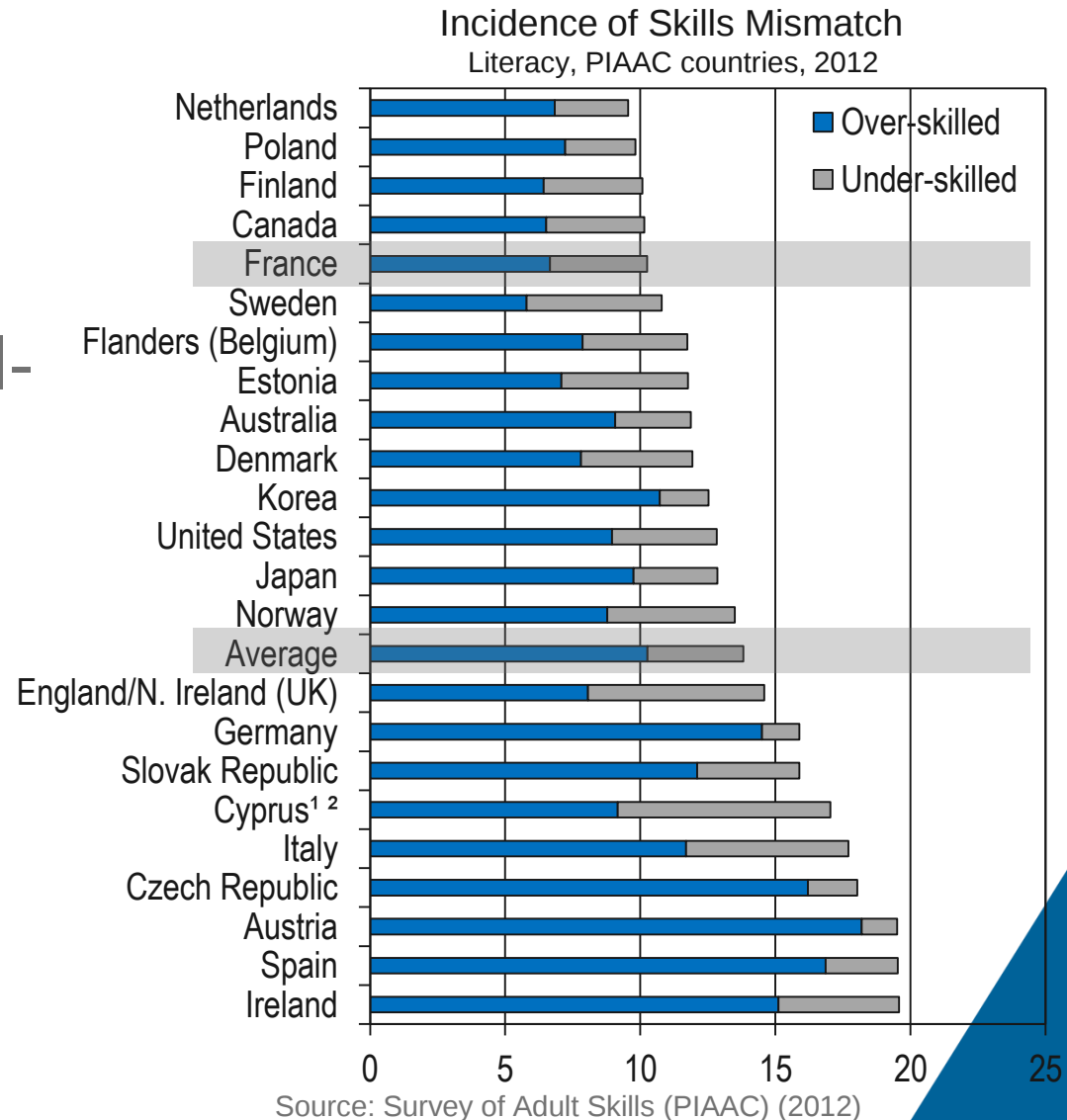




Around 1/7 workers are mismatched by literacy levels

The worker has a higher (lower) skill level than those of workers who are well-matched

- On average:
 - 10% over-skilled
 - 4% under-skilled

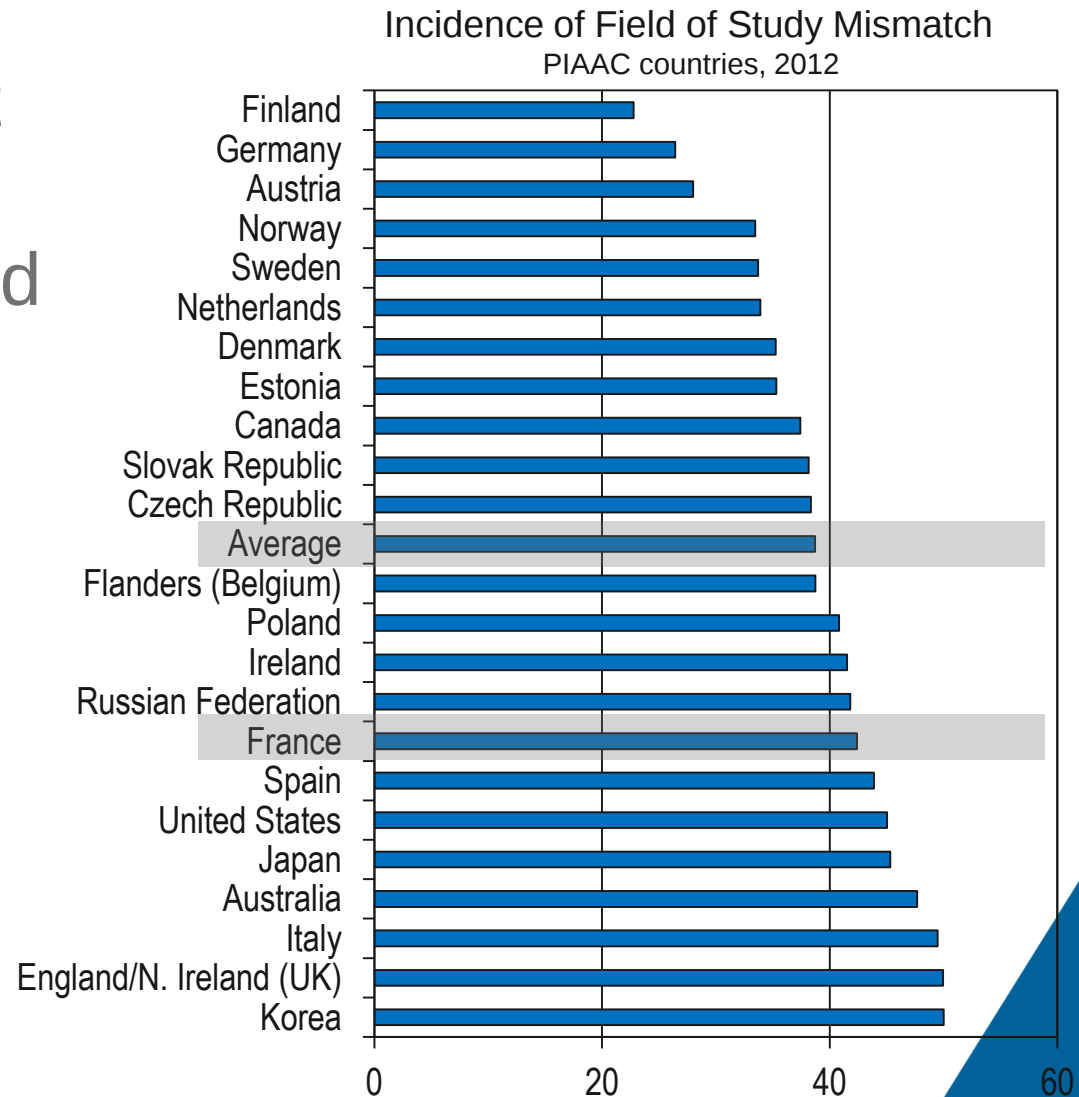




Around 4/10 workers are mismatched by field of study

The worker's highest qualification is in a field that is not related to the job

- On average:
 - 39% mismatch
 - (40% also mismatched by qualification)



Source: Survey of Adult Skills (PIAAC) (2012)



Why does mismatch matter?



Mismatch can have various adverse effects

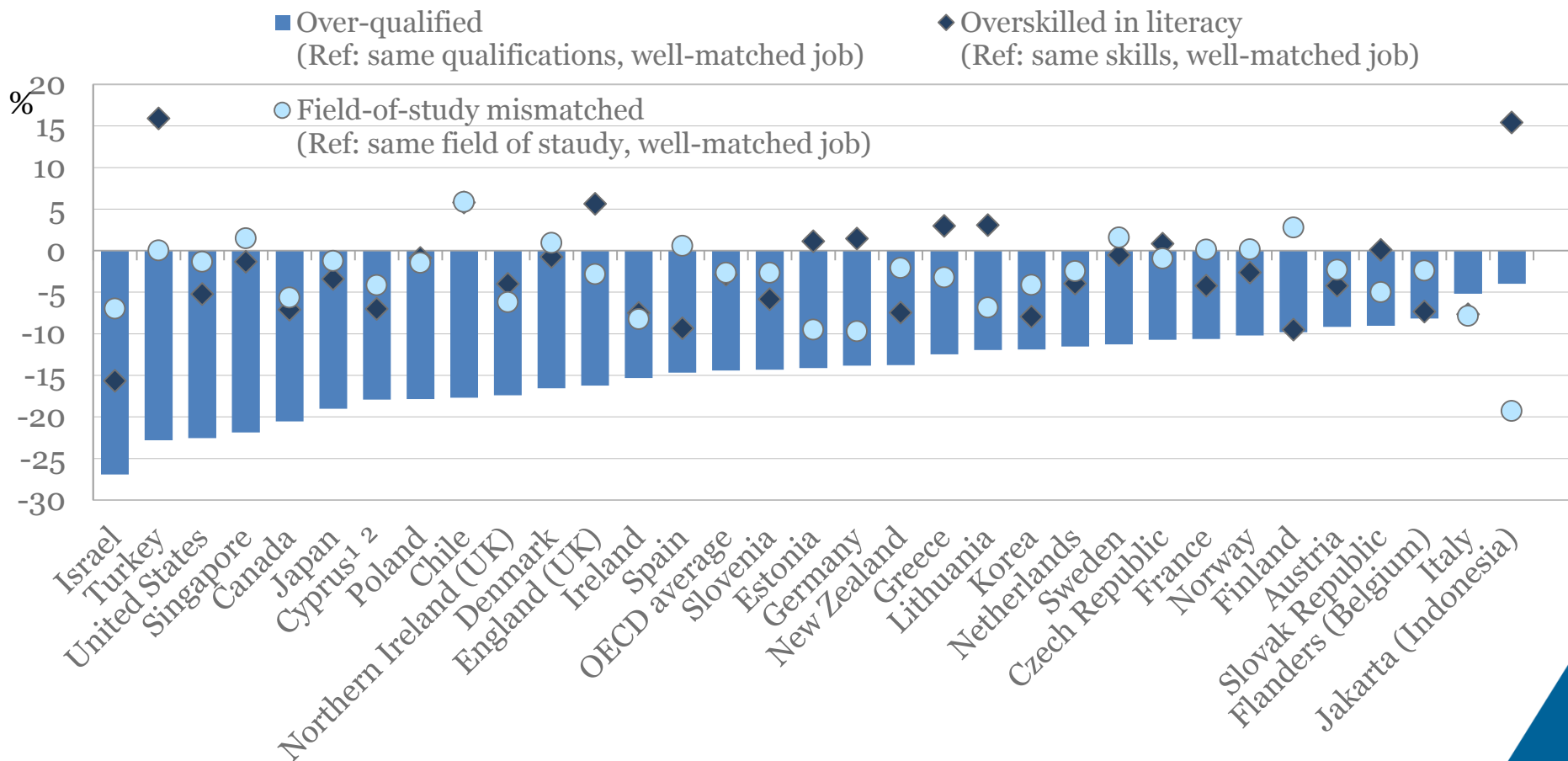
For individuals, firms and the economy:

- Lower aggregate productivity
- Lower wages for mismatched workers (field of study, over-qualification, over-skilling)
- Lower job satisfaction
- Sunk costs in skills system



Qualification, literacy and field-of-study mismatch affect wages

Percentage difference in wages between overqualified, overskilled or field-of-study mismatched workers and their well-matched counterparts

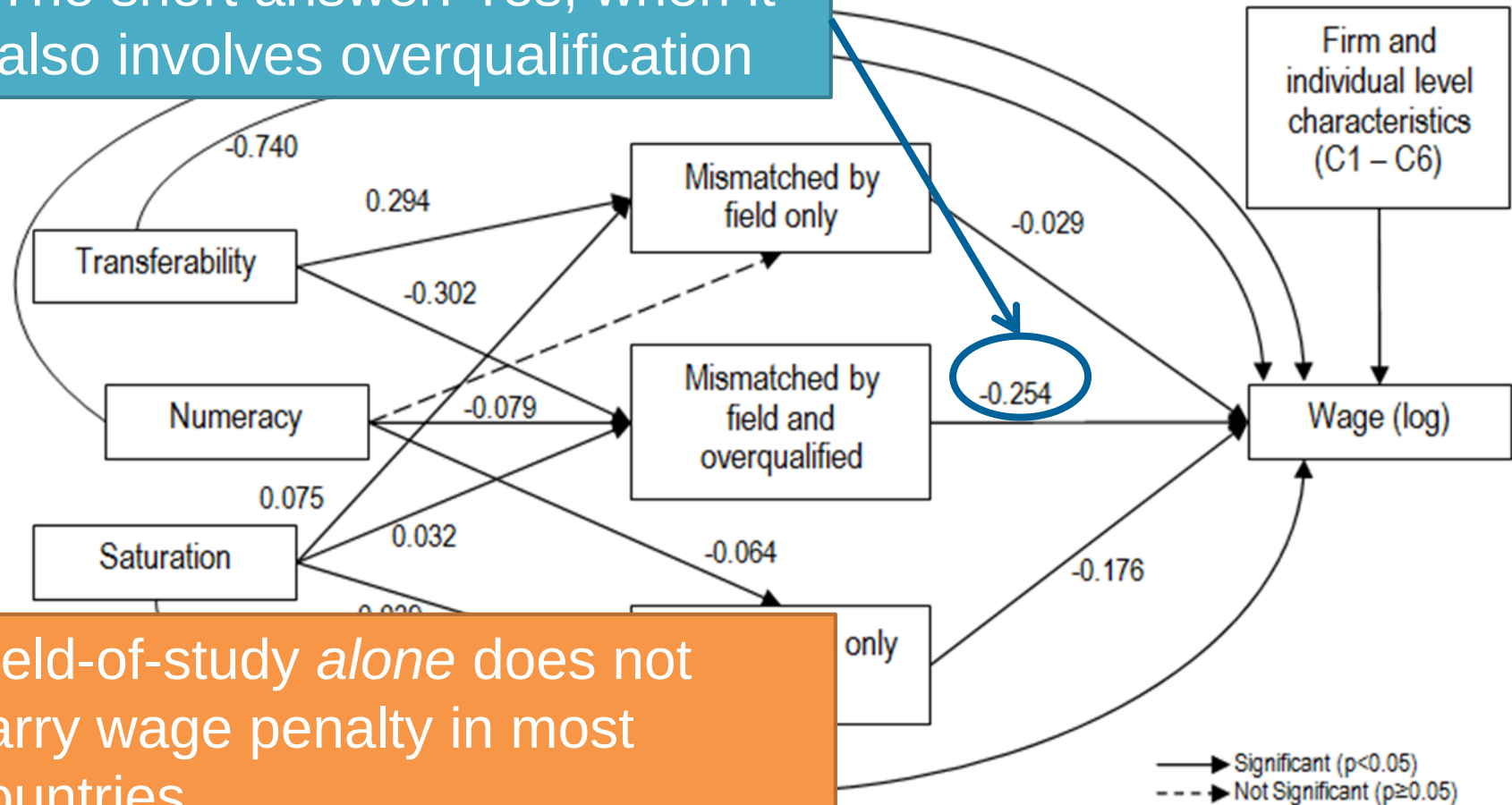


Source: Skills Matter (OECD, 2016)



Does field-of-study mismatch imply a wage penalty?

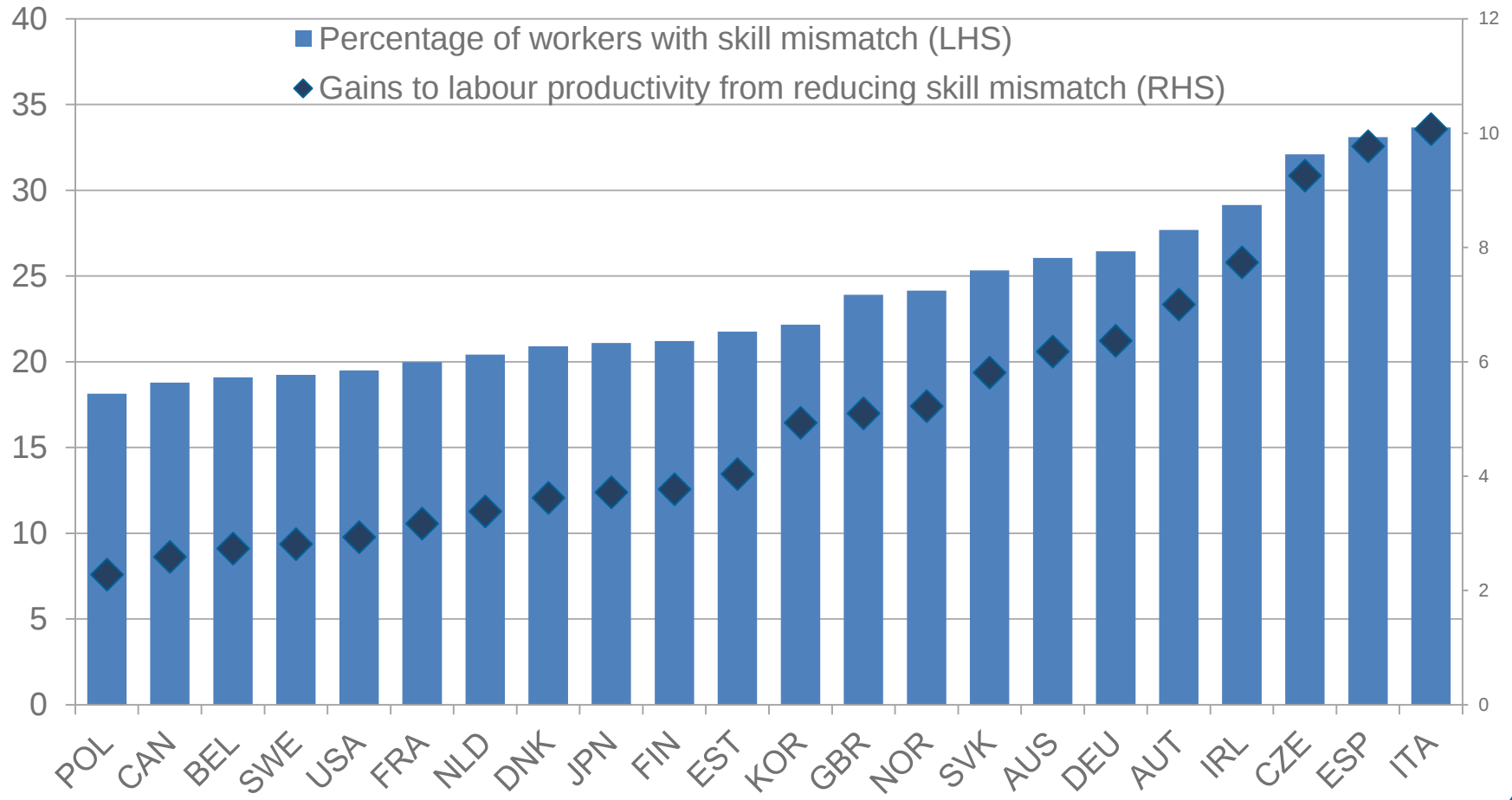
The short answer: Yes, when it also involves overqualification



Field-of-study *alone* does not carry wage penalty in most countries



Literacy mismatch and productivity





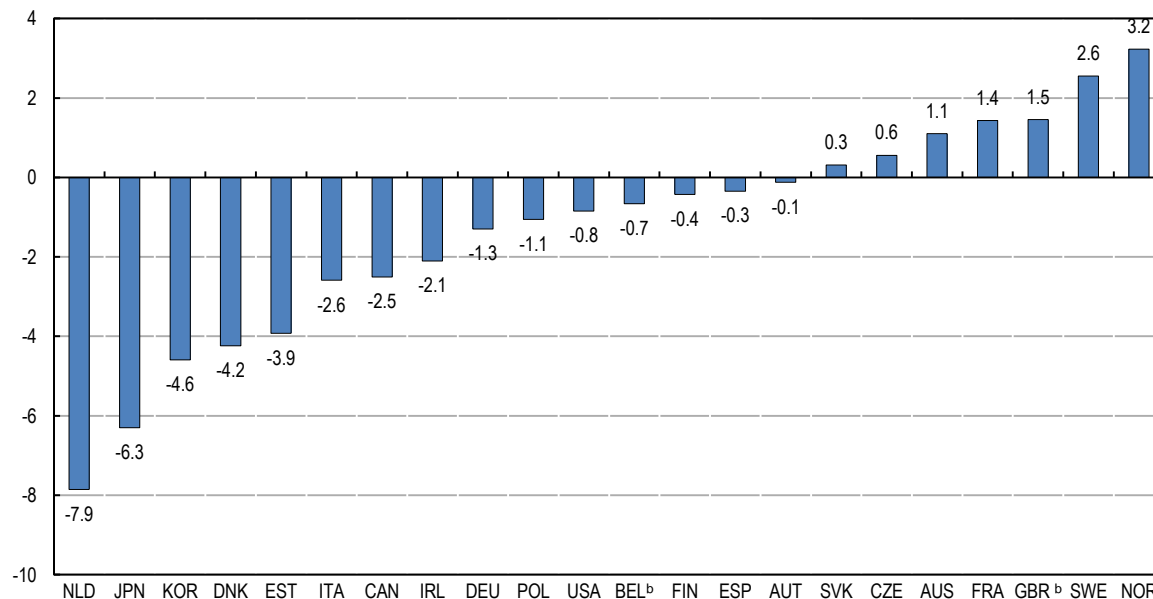
Mismatch can affect wage inequality

Ensuring a balance between the supply and demand for skills can help reduce wage inequality

- Wage inequality is lower in countries that are better at matching skill demand and supply

The impact of skills use on wage inequality

Percentage change in wage inequality (Gini) after imposing the distribution of numeracy proficiency onto that of numeracy use



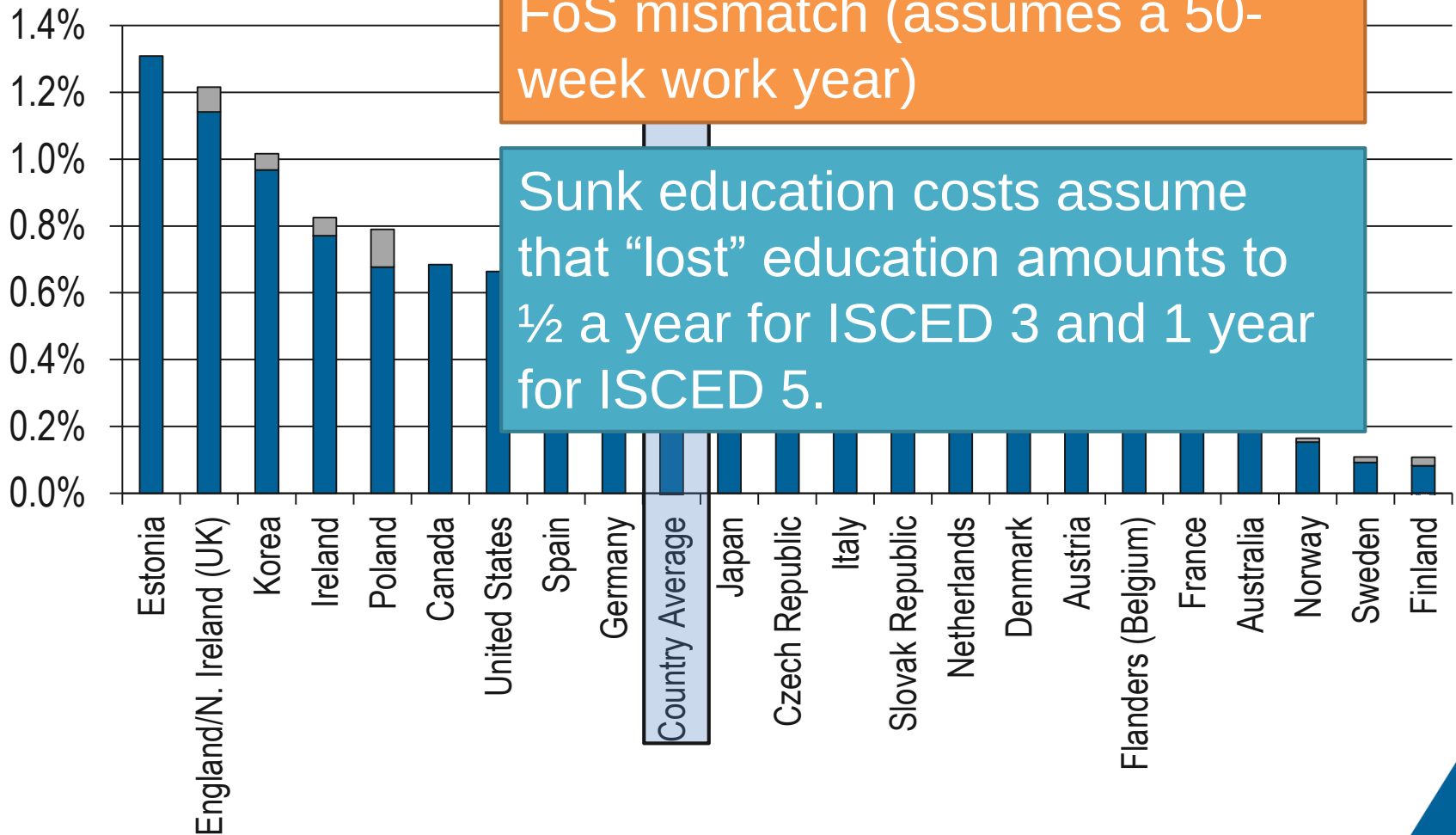


The cost of f amount to m

Highest share of costs comes from productivity costs (wages), most of which result from the overqualification associated to FoS mismatch (assumes a 50-week work year)

Sunk education costs assume that “lost” education amounts to ½ a year for ISCED 3 and 1 year for ISCED 5.

Percentage of GDP





What we know about mismatch

- Skills mismatch appears to be less common than qualification or field of study mismatch
 - Related to lower productivity levels
 - But this could be a methodological artifact
- Field of study mismatch is quite common, though not really problematic *unless* it leads to overqualification
 - Workers who move horizontally without having to downgrade do not suffer any penalty and may not be less productive in the other field
- Over-qualification brings a sizeable penalty in the field and a bigger one outside the field

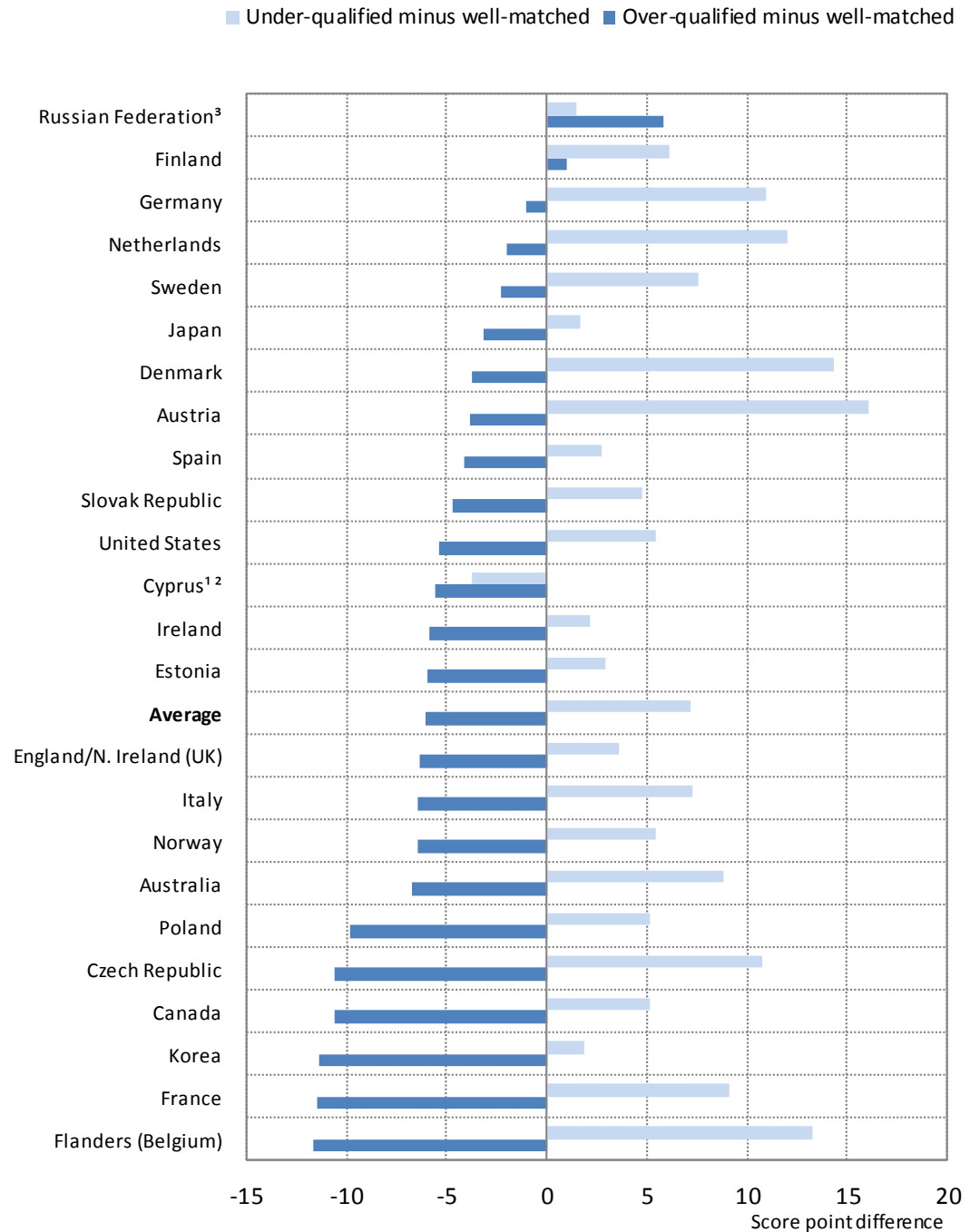


What do we know about the
causes of mismatch?





Literacy proficiency and qualification mismatch





Labour market dynamics predict over-qualification

- Workers fired or dismissed in the context of business closures are more likely to be over-qualified at re-employment than workers who quit
 - Effect stronger if job separation occurs at times of rising unemployment
- The longer the time spent out of work between two jobs, the higher the risk of over-qualification, suggesting skills obsolescence



What causes field-of-study mismatch?

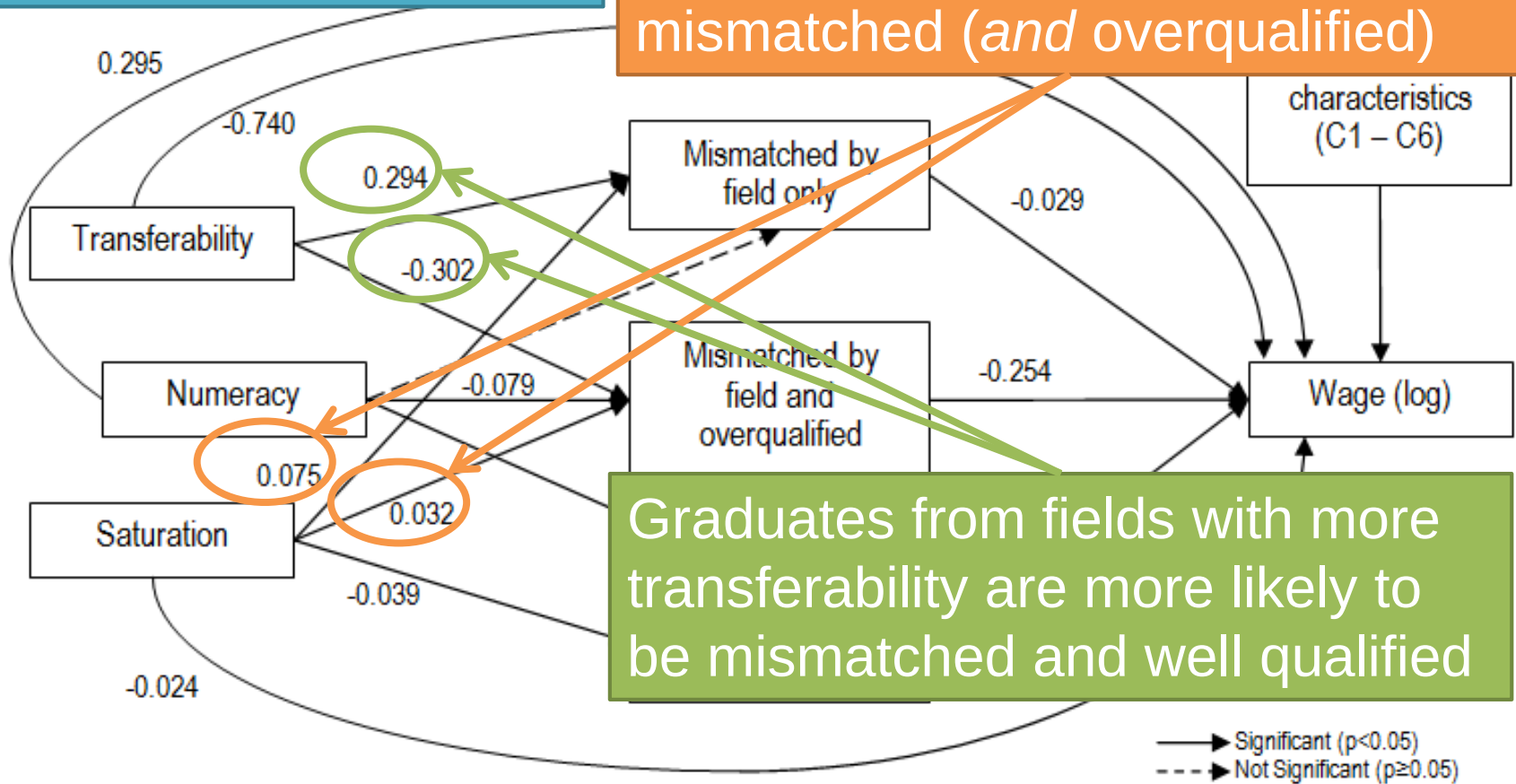
- **Saturation:** there are too many graduates from this field and fewer jobs in the corresponding sector
 - Roughly:
$$\frac{\text{Number of graduates from the field}}{\text{Number of workers in that sector}}$$
- **Skill transferability:** skills from the field are transferrable / valued in other sectors
 - Roughly:
$$\frac{\text{Number of skills well-matched in that sector}}{\text{Number of FoS mismatched in that sector}}$$



Does saturation and transferability predict field of study mismatch?

The short answer: YES

Graduates from more saturated fields are more likely to be mismatched (*and overqualified*)



Graduates from fields with more transferability are more likely to be mismatched and well qualified



The role of skills use at work

- Demand-side factors often less well understood than supply-side ones
- Findings on skills use are in line with findings on mismatch:
 - More frequent skills use associated with higher wages
 - More frequent skills use associated with higher job satisfaction
 - Higher skills use associated with higher labour productivity at the sector/country level



Use of skills at work by proficiency level

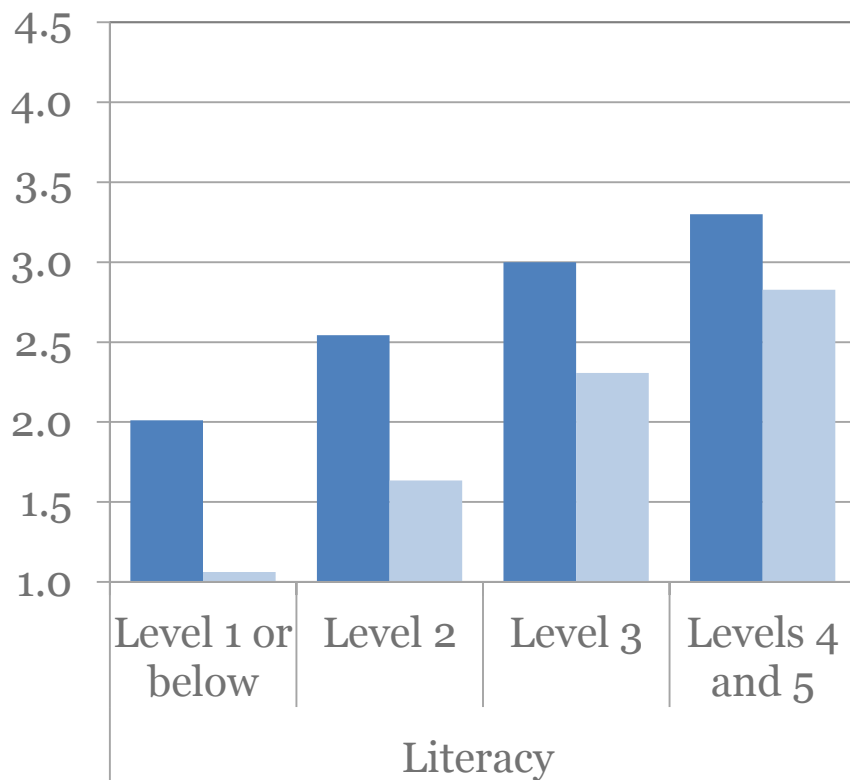
■ Reading at work

■ Writing at work

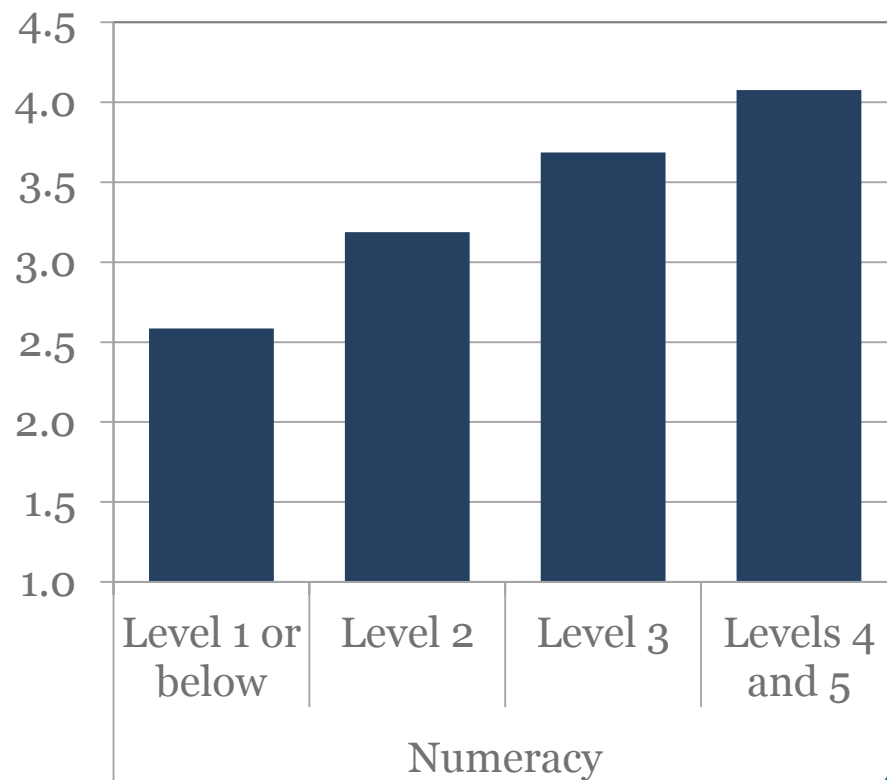
■ Numeracy at work

Most frequent use = 5

Index of use



Most frequent use = 5



Less frequent use = 1

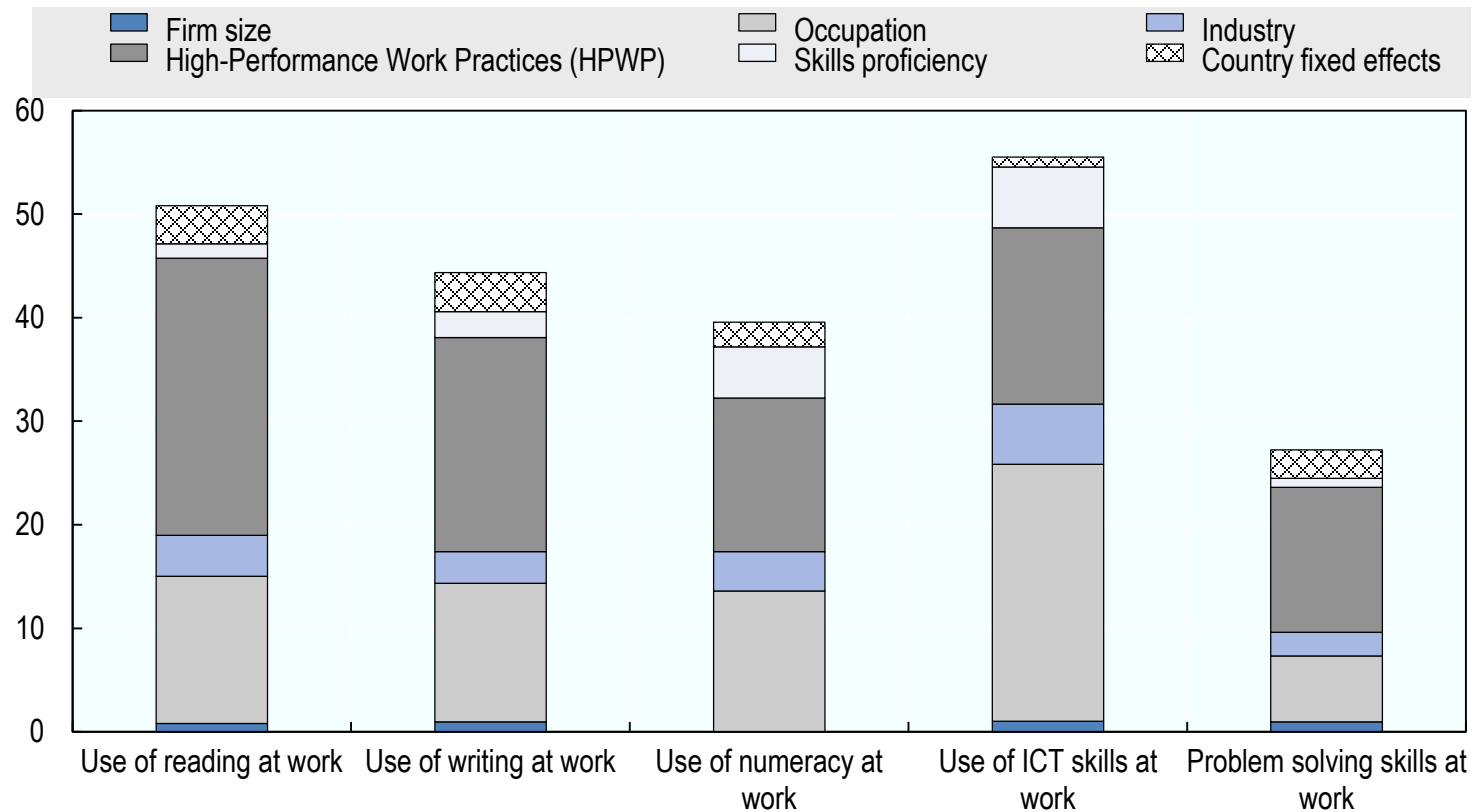
Less frequent use = 1

OECD Average



Factors explaining the variance of skills use at work

The contribution of skills proficiency and other factors to the variance of skills use at work





Skills use is associated with the use of High Performance Work Practices at work

Definition

Aspects of work organisation – team work, autonomy, task discretion, mentoring, job rotation, applying new learning;

Management practices – employee participation, incentive pay, training practices and flexibility in working hour

Variables used in PIAAC:

Flexibility in the sequence, order, speed of tasks

Organising own time and activities

Co-operating with others

Instructing, teaching or training others

Sharing information with others

Management practices: working time flexibility, training participation, bonuses

Résultats

- More frequent skills use at work is associated with the use of High Performance Work Practices

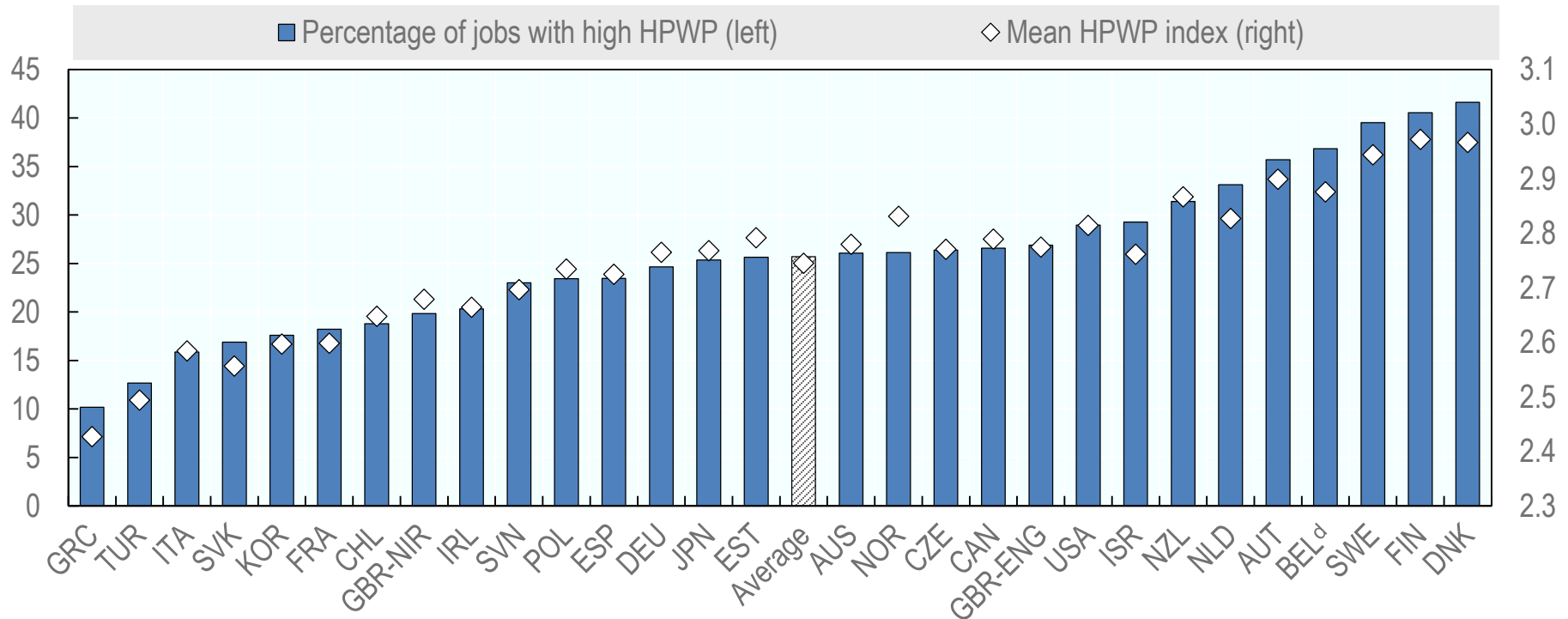
Reverse causality : many HPWP enable and/or motivate workers to use their skills better, but employers may apply HPWP particularly to jobs requiring intense use of information processing skills.



The use of HPWP varies significantly across countries

A. HPWP - All factors

Share of jobs with high HPWP^a and mean HPWP score



a) Share of workers in jobs where the summary HPWP is above the top 25th percentile of the pooled distribution.

Source: Employment Outlook (2016)



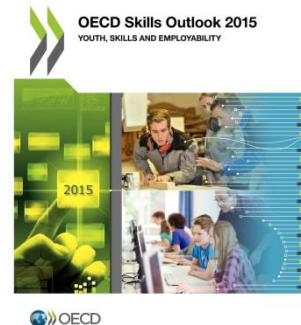
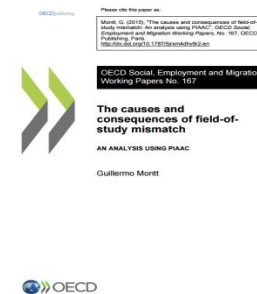
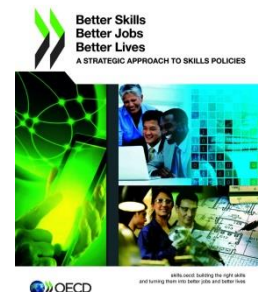
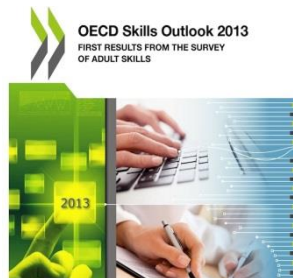
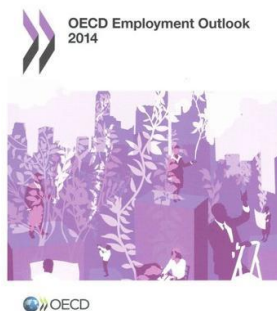
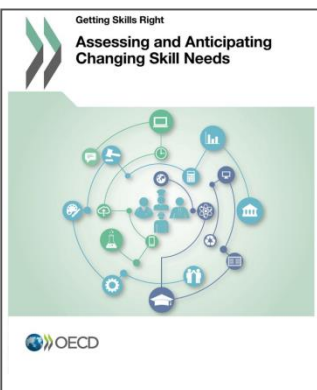
Policy-relevant messages

- Promote linkage between education provision and labour market needs
 - Skills assessment and anticipation systems linked to the definition of vacancies
- Promote skill transferability so that FoS mismatch does not bring about over-qualification
 - Competency-based occupational frameworks
 - Flexible re-skilling programmes
 - General education
- Encourage firms to adopt High Performance Work Practices that:
 - Increase internal flexibility to adapt job tasks to the skills of new hires;
 - Promote a better allocation of workers to tasks; and
 - Provide incentives for workers to deploy their skills at work more fully



What the OECD is doing:

- Getting Skills Right: Country reviews on skills anticipation systems and policies to address mismatch and shortage
- Getting Skills Right: Indicator of skills imbalances
 - Follow wage, employment and talent pressures
 - Link occupations to specific skills
- Survey of Adult Skills: Development work for Second Cycle
 - Improve measures of skills mismatch
 - Improve measures of skills use
 - Better understand work organisation through expanded module and employer survey



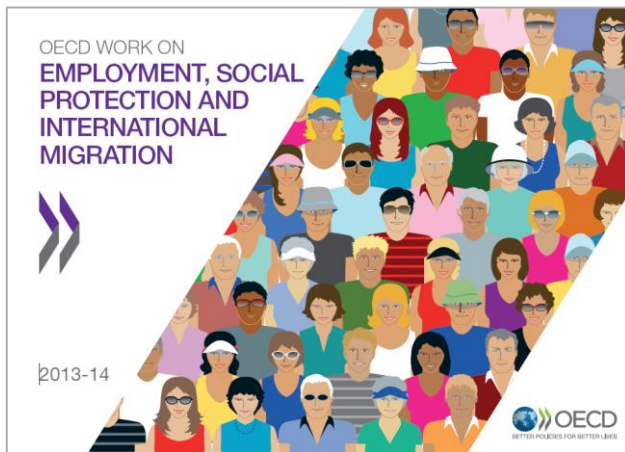


Thank you for your attention

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