

Competencies in technology-rich environments

Work-place skills

Over-Qualified or Under-Skilled?


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Numeracy

Literacy

Problem solving skills



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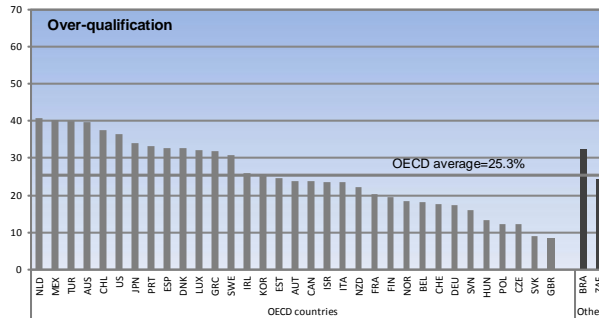
Plan of the presentation

- Objectives of the paper:
 - shed light on qualification mismatch;
 - unravel its relationship with genuine skill mismatch;
 - identify other determinants of qualification mismatch;
 - measure the consequences of mismatch;
 - provide policy recommendations;
- Order of the presentation:
 - follow the paper;
 - focus on issues not covered by Jasper.

One in four workers is over-qualified on average in OECD countries



Share of workers in jobs requiring a qualification lower than the one they hold, ESWC and ISSP 2005, OECD and enhanced-engagement countries



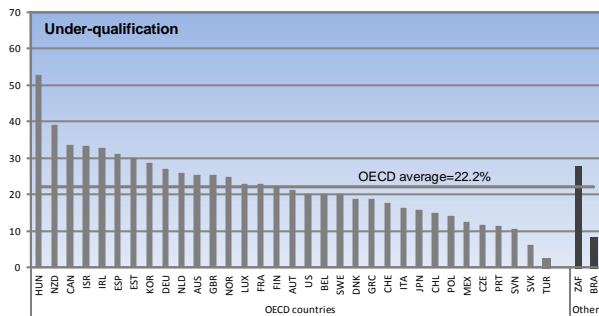
Note: required qualification is defined as the modal ISCED qualification of workers in each ISCO88 two-digit occupation

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More than one in five workers is under-qualified on average in OECD countries



Share of workers in jobs requiring a qualification lower than the one they hold, ESWC and ISSP 2005, OECD and enhanced-engagement countries



Note: required qualification is defined as the modal ISCED qualification of workers in each ISCO88 two-digit occupation

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Genuine skill mismatch only explains a small portion of qualification mismatch



Percentage of workers mismatched by qualification, OECD countries in ESWC, 2005

	Overqualified	Underqualified	Matched	Total
Overskilled	36.4	30.5	31.6	
Underskilled	14.2	12.1	13.2	
Matched	49.5	57.4	55.1	
Total	100	100	100	

Note: over-skilled workers feel they have “the skills to cope with more demanding duties”; under-skilled workers feel they “need further training to cope well with their duties”.

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Skill mismatch: important caveats



- ❑ Question makes a difference: ISSP and ECHP also measure skill mismatch
 - ❑ ISSP: “How much of your past work experience and job skills can you make use of in your present job?”
 - ❑ ECHP: “Do you think you have skills or qualifications to do a more demanding job than the one you have now?”
- ❑ But link with qualification mismatch weak in all cases

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What determines qualification mismatch?



- ❑ Socio-demographic characteristics associated with qualification mismatch;
- ❑ Workers heterogeneity: varying ability at same qualification level; differences in field of study; skills obsolescence;
- ❑ Jobs heterogeneity: varying job complexity and latitude
- ❑ Labour market events: entry in recession times; job separation

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Age, experience and immigrant status are key socio-demographic factors behind qualification mismatch



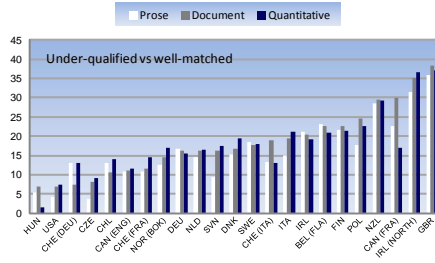
- ❑ Over-qualification declines with age and experience while under-qualification increases with both;
- ❑ Women more likely to be under-qualified than men but no difference in the likelihood of over-qualification;
- ❑ Under-qualification declines with qualifications while over-qualification increases with them. Highest incidence of over-qualification among post-secondary non-tertiary graduates;
- ❑ Immigrants are significantly more likely to be over-qualified than natives;
- ❑ No significant differences across contract types.

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Some over-qualified are of low ability for their qualification and some under-qualified are of high ability

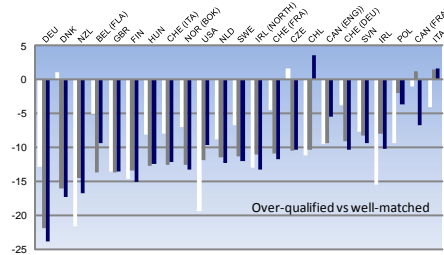


Adjusted prose, document and quantitative literacy scores of over-qualified and under-qualified vs well-matched workers



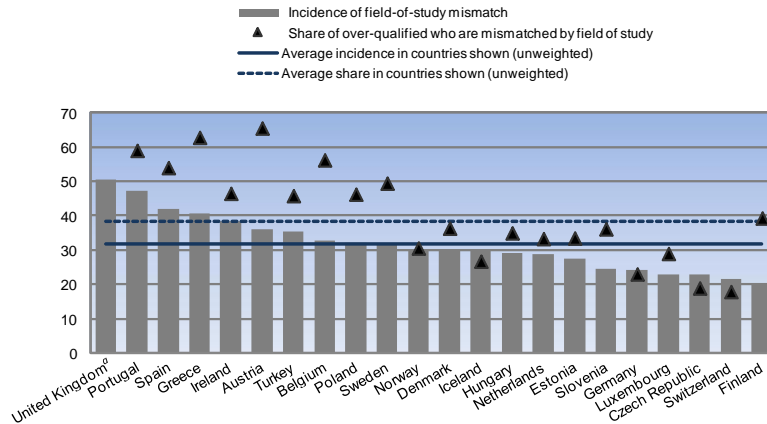
Note - Adjusted scores : residuals from regressing prose, document and quantitative literacy scores on ISCED level, gender, age, immigration status and marital status where available.

Source: IALS, 1994, 1995, 1998.



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Field-of-study mismatch affects one in three workers and explains 40% of over-qualification on average



Compared with technical and engineering subjects: teachers, medical and personal care training reduce likelihood of over-qualification while economics, social studies increase it.

Note: field-of-study mismatch based on Wolbers (2003).

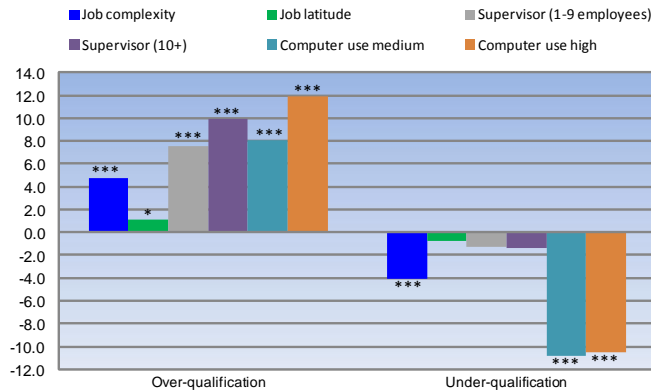
Source: ESS, 2004 – AUT, BEL, CZE, DNK, EST, FIN, DEU, GRC, HUN, ICE, IRL, LUX, NLD, NOR, POL, PRT, SLV, ESP, SWE, CHE, TUR, UK.

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The over-qualified are in more demanding jobs compared with well-matched workers in same occupation



Marginal effects of probit regressions (percentages)



Note: regressions include controls for a quadratic in age, gender, immigration status, marital status, tenure, experience, children in the household, firm size, private/public sector of employer, contract type, full-time status, occupation, industry, country dummies, job stress, working conditions, interpersonal tasks, team work.

¹¹ Source: ESWC, 2005 – EU19, Estonia, Norway, Slovenia, Switzerland, Turkey.

Some labour market events increase the likelihood of qualification and skill mismatch



- Involuntary job separations increase the likelihood of over-qualification and over-skilling, particularly in recessions:
 - Being fired raises the probability of over-qualification by 2.4% and that of over-skilling by 2.9%;
 - Losing one's job because of business closure raises the probability of over-qualification by 8.4% and that of over-skilling by 4.2%;
 - Business closure at a time of rising unemployment makes things worse. If unemployment is twice the previous 5-year average, business closure raises the likelihood of over-qualification by 18% and that of over-skilling by 11%.
 - The time between jobs increases the likelihood of over-qualification by 2.3%
- Youth who leave education in recessions are 10% more likely to become over-qualified in their first job and are still 4% more likely to be over-qualified 5 years after leaving school.

Qualification mismatch affects wages significantly but skill and field-of-study mismatch have little explanatory power



OLS regression coefficients – Dep. variable: log of gross monthly earnings

	ECHP pooled (1)	ECHP pooled (2)	ECHP Fixed Effects (3)	ECHP Random Effects ^b (4)	ESS 2005 (5)	ESS 2004 (6)	ESS 2004 (7)
Comparison group →	Well-matched workers in jobs with same qual. requirements		Workers with same qualifications but well-matched to their job				
Explanatory variables ^c ↓							
Over-qualified	0.138 ***	-0.204 ***	-0.029 ***	-0.033 ***		-0.127 ***	
Under-qualified	-0.156 ***	0.154 ***	0.027 ***	0.023 ***		0.090 ***	
Over-skilled	-0.005 *	-0.006 **	-0.013 ***	-0.010 ***			
Field-of-study mismatch					-0.047 ***	-0.021	-0.018
Over-qual. level ^d							
1							-0.029
2							-0.154 ***
3							-0.239 **
4							-0.352 *
Under-qual. level ^d							
1							0.079
2							0.133 ***
3							0.245 ***
4							0.349
Number of obs. (individuals)	128132	128132	147904 (47424)	128132 (41327)	5239	5239	5239

Note: ECHP regression include a quadratic in age, gender, immigration status, marital status, full-time status, contract type job qualification requirements (column 1), worker's qualifications (all other columns), tenure and firm size. ESS models also include field of study, job complexity and job latitude.

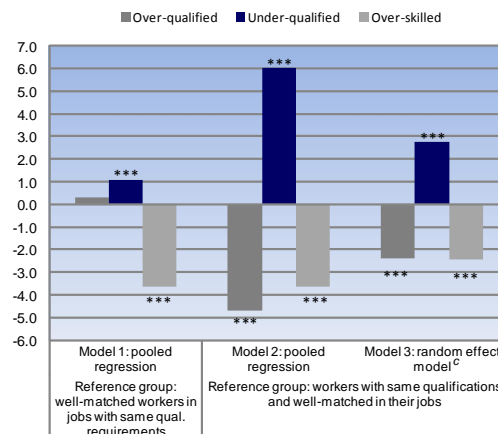
Source: ECHP, all waves – ESS, 2004.

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The over-qualified and over-skilled are less satisfied at work than their well-matched counterparts while the under-qualified are more satisfied



“How satisfied are you with your present job in terms of the type of work?”
Marginal effects of probit regressions (percentages)



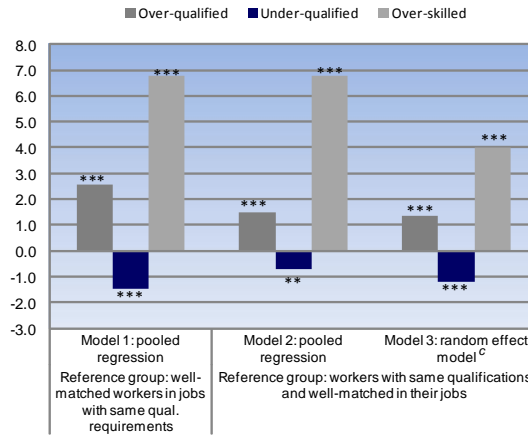
Note: The dependent variable takes value 1 if the worker is fully satisfied with the type of work they do and value 0 otherwise. Models include variables as in slide 13 as well as log of gross monthly pay.

Source: ECHP, all waves.

The over-qualified and over-skilled are more likely to look for another job while the under-qualified search less than the well-matched



“Are you currently looking for a job?”
Marginal effects of probit regressions (percentages)



Note: Models include variables as in slide 13 as well as log of gross monthly pay.
Source: ECHP, all waves.

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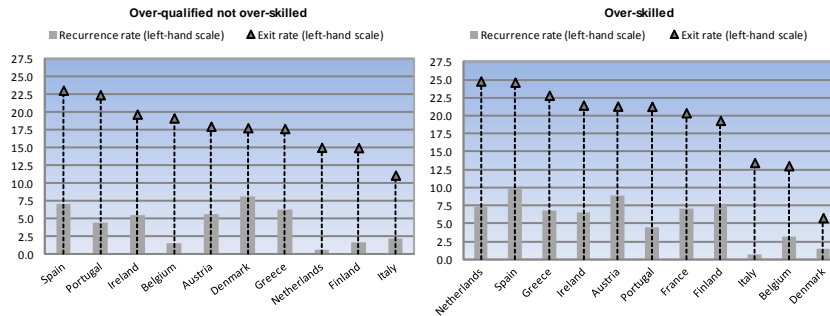
Spain has a high exit rate from over-qualification and over-skilling while mismatch is very persistent in Italy



Exit rate: share of the mismatched at time t who are well-matched at time t+1

Recurrence rate: share of workers mismatched at time t and well-matched at time t+1 who become mismatched again at t+2.

Percentages, weighted average across ECHP waves



Source: ECHP, all waves.

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Summary of key analytical findings



- ❑ In 2005, 25% of workers over-qualified (OQ) in OECD and 22% under-qualified (UQ) but significant variation across countries;
- ❑ Socio-demographics: OQ (UQ) declines (rises) with age and experience; no link with gender or contract type; OQ (UQ) increases (decreases) with qualifications;
- ❑ Skill mismatch neither necessary nor sufficient for qualification mismatch – 37% of OQ are over-skilled and 12% of UQ are under-skilled;
- ❑ Some OQ (UQ) are of low (high) ability for their qualifications; 40% of OQ are mismatched by field of study; job complexity varies within the same ISCO code; dismissal increases OQ and OS.
- ❑ OS affects wages but less than qualification mismatch; OS has larger effect on turnover than OQ; both OQ and OS reduce job satisfaction.
- ❑ Fewer than one in five workers exit OQ or OS every year and about one in twenty become OQ or OS again.

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What can be done?



- ❑ Mismatch is a multi-faceted phenomena, more than one solution envisaged:
 - ❑ Recognition of non-formal and informal learning could help under-qualified and immigrants – but systems often small scale so only targeted policies feasible for time being (good practice – Canada);
 - ❑ Career guidance can help youth make better decisions and reduce field-of-study mismatch – but guidance bodies need high-quality data on labour market conditions and experts to deliver guidance (good practice – New Zealand);

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What can be done? (cont.)



- Policies that aim to raise literacy and numeracy of poor performers in education system could reduce over-qualification – youth should leave education with skills expected of their qualification level;
- Internships and summer jobs could ensure youth leave education with skills that are required by employers and best learnt in the workplace (good practice – US, UK);
- Activation measures, life-long learning and on-the-job training can reduce skills obsolescence, hence reduce over-qualification – but evidence on cost-effectiveness of ALMP training is mixed at best and no evidence on up-grade training vs re-training;

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What can be done? (cont.)



- Frameworks for recognition of foreign qualifications before arrival can reduce over-qualification among immigrants (good practice – Australia) but targeted programmes for immigrant doctors and lawyers in low-skilled jobs can also help (good practice – Portugal, Australia, Sweden);
- Policies that affect labour market adjustments – wage bargaining institutions and employment protection regulations – have potential to affect genuine skill mismatch by helping employers adapt workforce or job content to changing economy.

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Conclusions



- ❑ Analysis has limitations:
 - ❑ Small sample size;
 - ❑ Skills mismatch only self-reported;
 - ❑ Cannot identify which skills contribute to mismatch.

- ❑ Future work:
 - ❑ PIAAC will allow better measurement of skill mismatch (good measures of individual skills and job requirements);
 - ❑ Job displacement project should help identify transferable skills and policies to fight skills obsolescence during unemployment.

Thank you