



Educational requirements, educational mismatch, and skills

Giovanni Russo



CEDEFOP

European Centre for the Development
of Vocational Training

Educational mismatch: noisy measure

- Difference between educational credentials owned by employees and those required by the job
- Educational credentials influenced by age: young generations accumulate more educational credentials than older ones:
 - Increasing ease of financing education (education costs increasing over time)
 - Norms and beliefs that educational credentials protect against unemployment, recessions, and downturns (education is a positional good)
- Educational requirements reflect: the difficulty of the tasks and requirements in terms of human capital and cyclical movements in the labor supply
 - Employers increase requirements during recessions and decrease requirements when the labor market is tight
- Not influenced by training, on-the-job learning, and adult education

Fit

- Fit attains when job or organizational features match the features of the (prospect) job holder
- Person – organization fit, person – job fit, person – environment fit
- Values, personality, attitudes, and interests - organizational culture and norms
- Fit leads to positive outcomes: job satisfaction, performance and intention to stay
- Skills match: fit between job skills requirement and workers' skills
- Mismatch (underskilling and overskilling): lack of fit
- Educational mismatch: lack of fit between educational requirements and educational credentials of job holder

Educational and skills mismatch

- Vertical
 - Over: educational credentials or skills above those required by the job
 - Under: educational credentials or skills below those required by the job
- Horizontal: field of study different from the one required by the job
 - Mismatch in vocational interest
 - Combination of over and under education
- Educational mismatch $\neq$ skills mismatch, albeit correlated
 - Employees with matching qualifications may be over/under skilled
 - Employees with matching skills may be over/under educated

Different implications

- Skills mismatch
 - Overskilling: underemployment of resources, obsolescence of underused skills
 - Underskilling: training, learning, stretch goal. It tends to disappear over time under the right conditions
 - Learning: complex jobs, autonomy, managerial support and importance of human resources, employee involvement
 - attrition in case skills gap cannot be closed
- Educational mismatch linked to wages: educational credentials are easily observable and can be linked to wages, collective agreements

European Skills and Jobs Survey

- Measures of educational credentials, requirements and mismatch linked to various outcomes (multivariate model)
 - Skills deficit (H,H) -> underskilling
 - Learning (H,H)
 - Skills utilization (H,L) -> overskilling
 - Risk of task replacement (by technology) (H,L)
 - Risk of underskilling induced by technology (requiring new skills and knowledge) (H,L)
 - Risk of job loss (H,L)
 - Job satisfaction (H,H)
- Empirical approach
 - 7 dependent variables: (multivariate model)
 - Overeducation/undereducation
 - Measures of education -> 2 models one with Highest education attained, one with educational requirements
 - Controlling for country, occupation, sector, job tasks,

Educational requirements above primary education

Positive Association +

higher degree of underskilling,
higher learning,
higher skills utilization,
higher job satisfaction

higher expectations of having to develop new
knowledge and skills to cope with digital
technologies in the company where they work

No association with:

- Risk of job loss
- Expectations that digital technologies will do part of the tasks

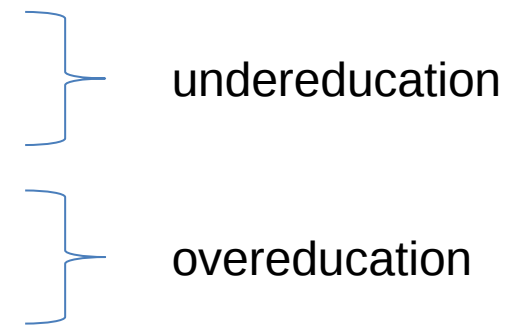
Highest educational qualifications

- No effect on any of the variables analyzed:
 - Underskilling
 - Learning
 - Skills utilization (overskilling)
 - Risk of task replacement (by technology)
 - Risk of underskilling induced by technology (requiring new skills and knowledge)
 - Risk of job loss
 - Job satisfaction

Vertical (educational) mismatch

- Overeducation (compared to matched) associated with:
 - (-) Smaller degree of underskilling, lower learning, lower skills utilization (more overskilling).
 - (+) Higher expectations that digital and computer technologies will do part of one's job and that because of them new knowledge and skills will have to be developed
 - (-) Lower job satisfaction
- Undereducation (compared to matched) associated with:
 - (+) Larger degree of underskilling
 - (+) Higher fear of losing one's job in the next year

Results: horizontal (educational) mismatch

- Reference: Matched workers
 - workers in jobs requiring the field of education they have
 - Mismatched workers, workers in jobs requiring
 - Same field or a related field,
 - A different field of education,
 - No field of education
 - Also experience
 - Larger degree of underskilling,
 - Higher fear of losing their job in the next year
 - Lower skills utilization (overskilling)
 - Lower job satisfaction
- 
- undereducation
- overeducation

Conclusions

- Organizational environment drives skills utilization (job design)
- Undereducation and horizontal mismatch are linked to larger underskilling but not reduced learning. Underskilling disappear over time: learning and selection.
- Overeducation and horizontal mismatch are linked to less skills utilization... and less job satisfaction. Overeducation is also linked to reduced learning and small underskilling.
- Overeducation is associated with beliefs that technology will replace tasks or induce the need to learn new skills. Skills hoarding?
- Policy: supply side policies aimed at skills development complemented by demand side policies aimed at increasing job requirements and skills utilization

Thank you

www.cedefop.europa.eu

Follow us on social media



CEDEFOP

European Centre for the Development
of Vocational Training